MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**DIESEL FUELS**
Revision date	08-11-2011
Version #	02
MSDS Number	102
Product use	Refinery feedstock.
Synonym(s)	Diesel Fuels All Grades, Diesel Fuel No.2, Fuel Oil No.2, High Sulfur Diesel Fuel, Low Sulfur Diesel Fuel, Ultra Low Sulfur Diesel Fuel, CARB (California Air Resource Board) Diesel Fuel, Off-Road Diesel Fuel, Dyed Diesel Fuel, X Grade Diesel Fuel, X-1 Diesel Fuel See section 16 for complete information.
Manufacturer/Supplier	Valero Marketing & Supply Company and Affiliates P.O. Box 696000 San Antonio, TX 78269-6000 General Assistance 210-345-4593
Emergency	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

2. Hazards Identification

Physical state	Liquid.
Appearance	Liquid (may be dyed red).
Emergency overview	DANGER! Combustible liquid and vapor. May be ignited by heat, sparks or flames. Heat may cause the containers to explode. Harmful if inhaled or swallowed. May be harmful if absorbed through skin. Aspiration may cause lung damage. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Suspect cancer hazard - may cause cancer. Prolonged exposure may cause chronic effects. Diesel exhaust has been reported to be an occupational hazard due to NIOSH-reported potential carcinogenic properties. Hydrogen sulfide, a highly toxic gas, may be present or released. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Contact may irritate or burn eyes. Eye contact may result in corneal injury.
Skin	May be harmful if absorbed through skin. Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Inhalation	Harmful if inhaled. Irritating to respiratory system. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. May cause breathing disorders and lung damage. May cause cancer by inhalation. Prolonged inhalation may be harmful.
Ingestion	Harmful if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Irritating to mouth, throat, and stomach.
Target organs	Blood. Eyes. Liver. Respiratory system. Skin. Kidneys. Central nervous system.
Chronic effects	Suspect cancer hazard - may cause cancer. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Signs and symptoms	Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

Potential environmental effects Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Fuels, diesel	68334-30-5	85 - 100
Biodiesel - Fatty acid methyl esters	67762-38-3	0 - 10
n-Nonane	111-84-2	1 - 3
Octane (All isomers)	111-65-9	1 - 2
Hexane (Other isomers)	96-14-0	0 - 1
Naphthalene	91-20-3	0 - 1
n-Heptane	142-82-5	0 - 1
n-Hexane	110-54-3	0 - 1

4. First Aid Measures

First aid procedures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Skin contact Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention immediately.

Notes to physician In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General advice If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire Fighting Measures

Flammable properties Combustible by OSHA criteria. Containers may explode when heated.

Extinguishing media

Suitable extinguishing media Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.

Specific methods In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products Carbon monoxide. Carbon Dioxide. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons. Hydrogen sulfide.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.

Environmental precautions

If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Flammable. Review Fire Fighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.

Methods for containment

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Local authorities should be advised if significant spillages cannot be contained. Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Use non-sparking tools and explosion-proof equipment.

Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste.

Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

Storage

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Fuels, diesel (68334-30-5)	TWA	100 mg/m3	Inhalable fraction and vapor.
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm	
	TWA	500 ppm	
Naphthalene (91-20-3)	TWA	10 ppm	
	STEL	15 ppm	
n-Heptane (142-82-5)	TWA	400 ppm	
	STEL	500 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
n-Hexane (110-54-3)	TWA	50 ppm	
n-Nonane (111-84-2)	TWA	200 ppm	
Octane (All isomers) (111-65-9)	TWA	300 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Naphthalene (91-20-3)	PEL	10 ppm 50 mg/m3
n-Heptane (142-82-5)	PEL	2000 mg/m3 500 ppm
n-Hexane (110-54-3)	PEL	1800 mg/m3 500 ppm
Octane (All isomers) (111-65-9)	PEL	2350 mg/m3 500 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Fuels, diesel (68334-30-5)	TWA	100 mg/m3
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm
	TWA	1760 mg/m3
	STEL	3500 mg/m3
	TWA	500 ppm
Naphthalene (91-20-3)	TWA	10 ppm
	STEL	15 ppm
	TWA	52 mg/m3
	STEL	79 mg/m3
n-Heptane (142-82-5)	TWA	1640 mg/m3
	STEL	2050 mg/m3
	TWA	400 ppm
	STEL	500 ppm
n-Hexane (110-54-3)	TWA	176 mg/m3 50 ppm
n-Nonane (111-84-2)	TWA	1050 mg/m3 200 ppm
Octane (All isomers) (111-65-9)	TWA	1400 mg/m3 300 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Fuels, diesel (68334-30-5)	TWA	100 mg/m3	Vapor and aerosol.
Hexane (Other isomers) (96-14-0)	TWA	200 ppm	
Naphthalene (91-20-3)	TWA	10 ppm	
	STEL	15 ppm	
n-Heptane (142-82-5)	TWA	400 ppm	
	STEL	500 ppm	
n-Hexane (110-54-3)	TWA	20 ppm	
n-Nonane (111-84-2)	TWA	200 ppm	
Octane (All isomers) (111-65-9)	TWA	300 ppm	

Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Fuels, diesel (68334-30-5)	TWA	100 mg/m3	Vapor and aerosol.
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm	
	TWA	1760 mg/m3	

Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
	STEL	3520 mg/m3	
	TWA	500 ppm	
Naphthalene (91-20-3)	TWA	10 ppm	
	STEL	15 ppm	
	TWA	52 mg/m3	
	STEL	78 mg/m3	
n-Heptane (142-82-5)	TWA	1635 mg/m3	
	STEL	2045 mg/m3	
	TWA	400 ppm	
	STEL	500 ppm	
n-Hexane (110-54-3)	TWA	176 mg/m3	
		50 ppm	
n-Nonane (111-84-2)	TWA	1050 mg/m3	
		200 ppm	
Octane (All isomers) (111-65-9)	TWA	1400 mg/m3	
	STEL	1750 mg/m3	
	TWA	300 ppm	
	STEL	375 ppm	

Canada. Quebec OELS. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm
	TWA	1760 mg/m3
	STEL	3500 mg/m3
	TWA	500 ppm
Naphthalene (91-20-3)	TWA	10 ppm
	STEL	15 ppm
	TWA	52 mg/m3
	STEL	79 mg/m3
n-Heptane (142-82-5)	TWA	1640 mg/m3
	STEL	2050 mg/m3
	TWA	400 ppm
	STEL	500 ppm
n-Hexane (110-54-3)	TWA	176 mg/m3
		50 ppm
n-Nonane (111-84-2)	TWA	1050 mg/m3
		200 ppm
Octane (All isomers) (111-65-9)	TWA	1400 mg/m3
	STEL	1750 mg/m3
	TWA	300 ppm
	STEL	375 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm
	TWA	1760 mg/m3
	STEL	3500 mg/m3
	TWA	500 ppm
Naphthalene (91-20-3)	TWA	10 ppm
	STEL	15 ppm
	TWA	50 mg/m3
	STEL	75 mg/m3
n-Heptane (142-82-5)	TWA	1600 mg/m3
	STEL	2000 mg/m3
	TWA	400 ppm
	STEL	500 ppm
n-Hexane (110-54-3)	TWA	176 mg/m3
		50 ppm
n-Nonane (111-84-2)	TWA	1050 mg/m3
	STEL	1300 mg/m3

Mexico. Occupational Exposure Limit Values

Components	Type	Value
	TWA	200 ppm
	STEL	250 ppm
Octane (All isomers) (111-65-9)	TWA	1450 mg/m3
	STEL	1800 mg/m3
	TWA	300 ppm
	STEL	375 ppm

Engineering controls Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

Personal protective equipment

Eye / face protection Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin protection Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.

Respiratory protection Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.

General hygiene considerations Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Liquid (may be dyed red).
Color	Clear. Straw.
Odor	Kerosene (strong).
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	Not available.
Melting point	Not available.
Freezing point	-60.1 °F (-51.15 °C) Estimated
Boiling point	325 - 700 °F (162.78 - 371.11 °C)
Flash point	> 100 °F (> 37.8 °C) Closed Cup
Evaporation rate	0.02
Flammability limits in air, upper, % by volume	8 %
Flammability limits in air, lower, % by volume	0.4 %
Vapor pressure	< 1 mm Hg (20°C)
Vapor density	3 (Air = 1)
Specific gravity	0.82 - 0.87 (60°F)
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	495 °F (257.2 °C)
Decomposition temperature	Not available.
Viscosity	2 - 4.5 mm^2/s

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions and recommended use.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons. Hydrogen sulfide.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Test Results
Octane (All isomers) (111-65-9)	Acute Inhalation LC50 Rat: 118 mg/l 4 Hours
n-Nonane (111-84-2)	Acute Inhalation LC50 Rat: 3200 mg/l 4 Hours
n-Heptane (142-82-5)	Acute Inhalation LC50 Rat: 103 mg/l 4 Hours
Naphthalene (91-20-3)	Acute Dermal LD50 Rabbit: > 2 g/kg
	Acute Oral LD50 Rat: 490 mg/kg

Acute effects Harmful if inhaled, absorbed through skin, or swallowed. Harmful: may cause lung damage if swallowed. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere.

Local effects

US ACGIH Threshold Limit Values: Skin designation

Fuels, diesel (CAS 68334-30-5)	Can be absorbed through the skin.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Sensitization This substance may have a potential for sensitization which may provoke an allergic reaction among sensitive individuals.

Chronic effects Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. Repeated exposure to naphthalene may cause cataracts, allergic skin rashes, destruction of red blood cells, and anemia, jaundice, kidney and liver damage. Danger of serious damage to health by prolonged exposure. Prolonged or repeated overexposure may cause central nervous system, kidney, liver, and lung damage.

Subchronic effects Liver and kidney damage may occur after prolonged and repeated exposure.

Carcinogenicity Diesel exhaust has been reported to be an occupational hazard due to NIOSH-reported potential carcinogenic properties.

ACGIH Carcinogens

Fuels, diesel (CAS 68334-30-5)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Naphthalene (CAS 91-20-3)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Naphthalene (CAS 91-20-3)	2B Possibly carcinogenic to humans.

US NTP Report on Carcinogens: Anticipated carcinogen

Naphthalene (CAS 91-20-3)	Anticipated carcinogen.

Epidemiology Studies have shown a risk of spontaneous abortions in women exposed to high concentrations of organic solvents during pregnancy. Pre-existing skin conditions including dermatitis might be aggravated by exposure to this product.

Mutagenicity No component of this product present at levels greater than or equal to 0.1% is identified as a mutagen by OSHA.

Neurological effects	Chronic exposure to high concentrations of various hydrocarbon blends may lead to polyneuropathy (peripheral nerve damage), characterized by progressive weakness and numbness in the extremities, loss of deep tendon reflexes and reduction of motor nerve conduction velocity. Numerous cases of polyneuritis have been reported following prolonged exposures to a petroleum fraction containing various isomers of heptane as major ingredients. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue) and/or damage.
Reproductive effects	Napthalene interferes with embryo development in experimental animals at dose levels that cause maternal toxicity. In humans, excessive exposure to this agent may cause hemolytic anemia in the mother and fetus.
Teratogenicity	The components of this product are not reported to cause teratogenic effects in humans. Based on best current information, there is no known teratogenicity associated with this product.
Further information	Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components	**Test Results**
n-Hexane (110-54-3)	LC50 Fathead minnow (Pimephales promelas): 2.101 - 2.981 mg/l 96 hours
n-Heptane (142-82-5)	LC50 Mozambique tilapia (Tilapia mossambica): 375 mg/l 96 hours
Naphthalene (91-20-3)	EC50 Water flea (Daphnia magna): 1.09 - 3.4 mg/l 48 hours LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss): 0.91 - 2.82 mg/l 96 hours

Ecotoxicity	Contains a substance which causes risk of hazardous effects to the environment.
Environmental effects	The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.
Aquatic toxicity	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Persistence and degradability	Not available.
Bioaccumulation / Accumulation	No data available.
Partition coefficient (n-octanol/water)	Not available.
Mobility in environmental media	No data available.

13. Disposal Considerations

Waste codes	D001: Waste Flammable material with a flash point <140 °F
Disposal instructions	Dispose in accordance with all applicable regulations. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

14. Transport Information

DOT

Basic shipping requirements:

UN number	NA1202
Proper shipping name	Diesel fuel
Hazard class	Combustible Liquid
Packing group	III
Labels required	Combustible liquid
Additional information:	
Special provisions	144, B1, IB3, T2, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

Basic shipping requirements:

UN number	1202
Proper shipping name	Diesel fuel
Hazard class	3
Packing group	III
Additional information:	
ERG code	3L

IMDG

Basic shipping requirements:

UN number	1202
Proper shipping name	Diesel fuel
Hazard class	3
Packing group	III
EmS No.	F-E, S-E

TDG

Basic shipping requirements:

Proper shipping name	Diesel fuel
Hazard class	3
UN number	UN1202
Packing group	III

15. Regulatory Information

US federal regulations

TSCA Section 12(b) Export Notification(40 CFR 707, Subpt. D)

NAPHTHALENE (CAS 91-20-3)	0.1 % One-Time Export Notification only.
N-HEPTANE (CAS 142-82-5)	1.0 % One-Time Export Notification only.
NONANE (CAS 111-84-2)	1.0 % One-Time Export Notification only.

US CAA Section 112 Hazardous Air Pollutants (HAPs) List

HEXANE (N-HEXANE) (CAS 110-54-3)
NAPHTHALENE (CAS 91-20-3)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Naphthalene (CAS 91-20-3)	0.1 %
n-Hexane (CAS 110-54-3)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Naphthalene (CAS 91-20-3)	Listed.
n-Hexane (CAS 110-54-3)	Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

n-Nonane: 100
Octane (All isomers): 100
Hexane (Other isomers): 100
Naphthalene: 100
n-Heptane: 100
n-Hexane: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance (40 CRF 355, Appendix A)	No
Section 311/312 (40 CFR 370)	No
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)	Not controlled
WHMIS status	Controlled

WHMIS classification

B3 - Flammable/Combustible
D2B - Other Toxic Effects-TOXIC

WHMIS labeling

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

US - California Hazardous Substances (Director's): Listed substance

Hexane (Other isomers) (CAS 96-14-0)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)	Listed.
Toluene (CAS 108-88-3)	Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2)	Listed: February 27, 1987 Carcinogenic.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Developmental toxin.
Toluene (CAS 108-88-3)	Listed: January 1, 1991 Developmental toxin.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)	Listed: August 7, 2009 Female reproductive toxin.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Male reproductive toxin.

US - Massachusetts RTK - Substance: Listed substance

Hexane (Other isomers) (CAS 96-14-0)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

Naphthalene (CAS 91-20-3)	500 LBS
n-Hexane (CAS 110-54-3)	500 LBS

US - New Jersey RTK - Substances: Listed substance

Naphthalene (CAS 91-20-3)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.

Octane (All isomers) (CAS 111-65-9)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Fuels, diesel (CAS 68334-30-5)	Listed.
Hexane (Other isomers) (CAS 96-14-0)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

Other information

Note: This Material Safety Data Sheet applies to the listed products and synonym descriptions for Hazard Communication purposes only. Technical Specifications vary greatly depending on the products and are not reflected in this document. Consult specification sheets for technical information.

HMIS® ratings

Health: 2*
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 2
Instability: 0

Disclaimer

This Material Safety Data Sheet (MSDS) was prepared in accordance with 29 CFR 1910.1200 by Valero Marketing & Supply Co., ("VALERO"). VALERO does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this MSDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use , the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.

Issue date

08-11-2011

MATERIAL SAFETY DATA SHEET

Propane

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Propane
Synonyms:	Commercial Propane HD5 Propane LP-Gas Liquefied Petroleum Gas Odorized Propane Propane (Unstenched) Propane Commercial Propane Motor Fuel Propane for Process Stenched Propane Unodorized Propane
Intended Use:	Fuel
Chemical Family:	Petroleum Gas
Responsible Party:	ConocoPhillips 600 N. Dairy Ashford Houston, Texas 77079-1175
MSDS Information:	800-762-0942 MSDS@conocophillips.com
Customer Service:	281-293-2471
Technical Information:	580-767-5611

Emergency Overview

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident Call CHEMTREC:
North America: (800) 424-9300
Others: (703) 527-3887 (collect)

California Poison Control System: (800) 356-3219

Health Hazards/Precautionary Measures: Gas may reduce oxygen available for breathing. Liquefied gas may cause eye and skin burns and frostbite. Use with ventilation adequate to keep exposure below recommended limits, if any. Avoid contact with eyes, skin and clothing.

Physical Hazards/Precautionary Measures: Flammable gas. Can cause flash fire. Liquefied petroleum gas. Contents under pressure. Keep away from heat, sparks, flames, static electricity or other sources of ignition. Do not enter storage areas or confined space unless adequately ventilated.

Appearance:	Colorless
Physical Form:	Gas or Liquid (Under Pressure)
Odor:	Odorless (or skunk, rotten egg or garlic if odorant added)

NFPA 704 Hazard Class:

Health:	2 (Moderate)
Flammability:	4 (Extreme)
Instability:	0 (Least)

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS					
Component / CAS No:	**Concentration (wt %)**	**ACGIH:**	**OSHA:**	**NIOSH:**	**Other:**
Propane 74-98-6	80 - 100	1000 ppm TWA	1000 ppm TWA 1800 mg/m³ TWA	2100 ppm IDLH	as Aliphatic Hydrocarbon Gases: Alkane (C1-C4)
Propylene 115-07-1	<20	1000 ppm TWA	NE	NE	as Aliphatic Hydrocarbon Gases: Alkane (C1-C4)
Ethane 74-84-0	< 6	1000 ppm TWA	NE	NE	as Aliphatic Hydrocarbon Gases: Alkane (C1-C4)
n-Pentane 109-66-0	<2.5	600 ppm TWA	1000 ppm TWA	1500 ppm IDLH	—

Odorized products contain small quantities (<0.1%) ethyl mercaptan as an olfactory indicator. Contains less than 2.5% total butanes and higher.

HD-5 COMPOSITION: Propane >90%, Propylene <5%

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

1%=10,000 PPM.
NE=Not Established

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye: Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.

Skin: Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn).This material is a gas under normal atmospheric conditions. No harmful effects from skin absorption are expected.

Inhalation (Breathing): Asphyxiant. High concentrations in confined spaces may limit oxygen available for breathing. See Signs and Symptoms.

Ingestion (Swallowing): This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Signs and Symptoms: Light hydrocarbon gases are simple asphyxiants and can cause anesthetic effects at high concentrations. Symptoms of overexposure, which are reversible if exposure is stopped, can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting. Continued exposure can lead to hypoxia (inadequate oxygen), cyanosis (bluish discoloration of the skin), numbness of the extremities, unconsciousness and death.

Cancer: There is inadequate information to evaluate the cancer hazard of this material. See Section 11 for information on the individual components, if any.

Target Organs: Inadequate data available for this material.

Developmental: No data available for this material.

Other Comments: High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus. Exposure during pregnancy to high concentrations of carbon monoxide or carbon dioxide, which are produced during the combustion of hydrocarbon gases, can also cause harm to the developing fetus.

For products that have been odorized, the intensity of ethyl mercaptan stench (its odor) may fade due to chemical oxidation (in the presence of rust, air or moisture), adsorption or absorption. Some people have nasal perception problems and may not be able to smell the ethyl mercaptan stench. Other odors may mask or hide the ethyl mercaptan stench. While ethyl mercaptan may not warn of the presence of propane in every instance, it is generally effective in a majority of situations.

Pre-Existing Medical Conditions: Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect (see Section 4 - Note to Physicians).

4. FIRST AID MEASURES

Eye: For contact with the liquefied gas, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

Skin: Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

5. FIRE-FIGHTING MEASURES

Flammable Properties:

Flash Point:	-156°F / -104°C
Test Method:	Tag Closed Cup (TCC), ASTM D56
OSHA Flammability Class:	Flammable Gas
LEL%:	2.1
UEL%:	9.5
Autoignition Temperature:	842°F / 432°C

Unusual Fire & Explosion Hazards: This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire. Closed containers exposed to extreme heat can rupture due to pressure buildup.

Extinguishing Media: Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Stay away from ends of container. Stop spill/release if it can be done with minimal risk. If this cannot be done, allow fire to burn. Cool equipment exposed to fire with water, if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk.

6. ACCIDENTAL RELEASE MEASURES

Flammable. Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof electrical equipment is recommended.

Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Water spray may be useful in minimizing or dispersing vapors (see Section 5). Notify fire authorities and appropriate federal, state, and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Contents under pressure. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-704 and/or API RP 2003 for specific bonding/grounding requirements.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Use good personal hygiene practices.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

Personal Protective Equipment (PPE):

Respiratory: Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode in oxygen deficient environments (oxygen content <19.5%) or if exposure concentration is unknown or if conditions immediately dangerous to life or health (IDLH) exist.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of thermally resistant gloves is recommended.

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance:	Colorless
Physical Form:	Gas or Liquid (Under Pressure)
Odor:	Odorless (or skunk, rotten egg or garlic if odorant added)
Odor Threshold:	No data
pH:	Not applicable
Vapor Pressure (mm Hg):	208 psi @ 100°F (38°C) (maximum)
Vapor Density (air=1):	No data
Boiling Point:	-44°F / -42°C
Melting/Freezing Point:	-309°F / -190°C
Solubility in Water:	Negligible

9. PHYSICAL AND CHEMICAL PROPERTIES

Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	0.50-0.51@ 60°F (15.6°C)
Percent Volatile:	100%
Evaporation Rate (nBuAc=1):	>1
Flash Point:	-156°F / -104°C
Test Method:	Tag Closed Cup (TCC), ASTM D56
LEL%:	2.1
UEL%:	9.5
Autoignition Temperature:	842°F / 432°C

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Flammable gas.

Conditions to Avoid: Avoid high temperatures and all sources of ignition (see Sections 5 and 7).

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield carbon dioxide, carbon monoxide.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Chronic Data:

No definitive information available on carcinogenicity, mutagenicity, target organ, or developmental toxicity.

Acute Data:

12. ECOLOGICAL INFORMATION

There is no information available on the ecotoxicological effects of petroleum gases. Because of their high volatility, they are unlikely to cause ground or water pollution. Petroleum gases released into the environment will rapidly disperse into the atmosphere and undergo photochemical degradation.

13. DISPOSAL CONSIDERATIONS

This material is a gas and is not typically managed as a RCRA solid waste.

14. TRANSPORT INFORMATION

DOT

Shipping Description: Propane, 2.1, UN1978
Non-Bulk Package Marking: Propane, UN1978
Non-Bulk Package Labeling: Flammable gas
Bulk Package/Placard Marking: Flammable gas/1978
Packaging - References (Exceptions, Non-Bulk, Bulk): 49 CFR 173.304, 173.306, 173.314, 173.315
Hazardous Substance: None
Emergency Response Guide: 115
Note: See 172.102, special provisions, code 19 for domestic ID number exception

IMDG

Shipping Description: UN1978, Propane, 2.1
Non-Bulk Package Marking: Propane, UN1978
Labels: Flammable gas
Placards/Marking (Bulk): Flammable gas/1978
Packaging - Non-Bulk: P200

14. TRANSPORT INFORMATION

EMS: F-D, S-U

ICAO/IATA

UN/ID #: UN1978
Proper Shipping Name: Propane
Hazard Class/Division: 2.1
Packing Group: None
Subsidiary risk: None
Non-Bulk Package Marking: Propane, UN1978
Labels: Flammable gas
Note: Section A4, special provision A1 applies to this product

	LTD. QTY.	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	None	Forbidden	200
Max. Net Qty. Per Package:	None	Forbidden	150 kg

15. REGULATORY INFORMATION

U.S. Regulations:

EPA SARA 311/312 (Title III Hazard Categories)

Acute Health:	Yes
Chronic Health:	No
Fire Hazard:	Yes
Pressure Hazard:	Yes
Reactive Hazard:	No

SARA - Section 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:
Propylene.....115-07-1.....<20%

EPA (CERCLA) Reportable Quantity (lb pounds):
EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (lb pounds):
This material contains the following chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372:
-- None Known --

California Proposition 65:
Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):
-- None Known --

Carcinogen Identification:
This material has not been identified as a carcinogen by NTP, IARC, or OSHA.

TSCA:
All components are listed on the TSCA inventory.

International Regulations:

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Domestic Substances List: Listed

WHMIS Hazard Class:
A - Compressed Gas
B1 - Flammable Gases

16. OTHER INFORMATION

Issue Date:	21-Mar-2006
Previous Issue Date:	01-Jun-2005
Product Code:	1051357, 1051358
Previous Product Code:	None
Revised Sections or Basis for Revision:	Composition (Section 2) Physical Properties (Section 9)
MSDS Code:	169570

Disclaimer of Expressed and Implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

Material Safety Data Sheet

Date of issue 14 July 2012
Version 10

1. Product and company identification

Product name : GRAY 2K EPOXY PRIMER
Code : QAP581
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

2. Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. SANDING AND GRINDING DUSTS MAY BE HARMFUL IF INHALED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. May form explosive peroxides. Risk of explosion by shock, friction, fire or other sources of ignition.

This material increases the risk of fire and may aid combustion. Keep away from heat, sparks and flame. Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Keep away from combustible material. Do not swallow. Do not get on skin or clothing. Avoid breathing vapor or mist. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion : May be harmful if swallowed.
Skin : Harmful in contact with skin. Irritating to skin. May cause an allergic skin reaction.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

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3 . Composition/information on ingredients

Name	CAS number	%
Epoxy Resin (MW<=700)	25068-38-6	10 - 30
titanium dioxide	13463-67-7	10 - 30
1-methoxy-2-propanol	107-98-2	10 - 30
tert-butyl acetate	540-88-5	10 - 30
heptan-2-one	110-43-0	1 - 5
aluminium orthophosphate	7784-30-7	1 - 5
xylene	1330-20-7	1 - 5
ethyl 3-ethoxypropionate	763-69-9	1 - 5
2-(2-butoxyethoxy)ethanol	112-34-5	0.5 - 1.5
silicon dioxide	7631-86-9	0.5 - 1.5
2-methoxy-1-methylethyl acetate	108-65-6	0.5 - 1.5
ethylbenzene	100-41-4	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Flammability of the product : Flammable liquid. Risk of explosion by shock, friction, fire or other sources of ignition. May form explosive peroxide. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Avoid shock and friction. Keep away from heat, sparks and flame.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

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9 . Physical and chemical properties

Physical state	:	Liquid.
Flash point	:	Closed cup: 17.78°C (64°F)
Explosion limits	:	Lower: 1.4%
Color	:	Not available.
Odor	:	Not available.
pH	:	Not available.
Boiling/condensation point	:	>37.78°C (>100°F)
Melting/freezing point	:	Not available.
Specific gravity	:	1.28
Density (lbs / gal)	:	10.68
Vapor pressure	:	0.85 kPa (6.4 mm Hg) [room temperature]
Vapor density	:	Not available.
Volatility	:	60% (v/v), 41.31% (w/w)
Evaporation rate	:	0.38 (butyl acetate = 1)
Partition coefficient: n-octanol/water	:	Not available.
% Solid. (w/w)	:	58.69

10 . Stability and reactivity

Stability	:	Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid	:	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Drying on clothing or other combustible materials may cause fire.
Materials to avoid	:	Reactive or incompatible with the following materials:,water,combustible materials, organic materials,metals,acids,alkalis,oxidizing materials,reducing materials
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Epoxy Resin (MW<=700)	LD50 Oral	Rat	>2 g/kg	-
	LD50 Dermal	Rabbit	>2 g/kg	-
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
1-methoxy-2-propanol	LD50 Oral	Rat	5.2 g/kg	-
	LD50 Dermal	Rabbit	13 g/kg	-
tert-butyl acetate	LD50 Oral	Rat	4100 mg/kg	-
heptan-2-one	LD50 Oral	Rat	1.6 g/kg	-
	LD50 Dermal	Rabbit	10.206 g/kg	-
xylene	LD50 Oral	Rat	4.3 g/kg	-
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
ethyl 3-ethoxypropionate	LD50 Oral	Rat	3200 mg/kg	-
	LD50 Dermal	Rabbit	10 mL/kg	-
2-(2-butoxyethoxy)ethanol	LD50 Oral	Rat	4500 mg/kg	-
	LD50 Dermal	Rabbit	2700 mg/kg	-
2-methoxy-1-methylethyl acetate	LD50 Oral	Rat	8532 mg/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
ethylbenzene	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: QAP581 2K GRAY PRIMER

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		10.70 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.43 lbs/gal
	Weight	Volume
NON-VOLATILE:	58.69 %	40.53 %
VOLATILE:	41.31 %	59.47 %
PERCENT OF WATER:	0.10 %	0.13 %
PERCENT OF EXEMPTS:	13.77 %	20.41 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	3.68 lbs/gal	440.86 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	2.92 lbs/gal	349.82 g/ltr
VOC PER GALLON OF SOLIDS:	7.20 lbs/gal	862.56 g/ltr
VOC PER POUND OF SOLIDS:	0.47 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 5 III = 1 IV = 6

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
107-98-2	PROPYLENE GLYCOL MONOMETHYL ETHER	16.96	23.68
540-88-5	TERT-BUTYL ACETATE	13.77	20.41
110-43-0	HEPTAN-2-ONE	3.28	5.16
1330-20-7	XYLENES	2.18	3.22
763-69-9	ETHYL-3-ETHOXYPROPIONATE	1.81	2.45
112-34-5	2-(2-BUTOXYETHOXY)ETHANOL	1.44	1.93
108-65-6	1-METHOXY-2-PROPYL ACETATE	1.03	1.37
100-41-4	ETHYLBENZENE	0.40	0.59
64-19-7	ACETIC ACID	0.14	0.21
7732-18-5	WATER	0.10	0.15

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: QAP581 2K GRAY PRIMER

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
100-41-4	ETHYLBENZENE	0.04	0.02	Yes	Yes
1330-20-7	XYLENES	0.23	0.10	Yes	Yes
*******	GLYCOL ETHERS (SARA REGULATED)	0.15	0.07	No	Yes
*******	GLYCOL ETHERS-HAPS REGULATED	0.15	0.07	Yes	No
*******	ZINC COMPOUNDS	0.93	0.42	No	Yes
*******	ZINC IN ZINC COMPOUNDS	0.41	0.19	No	Yes
EXEMPT VOC, t-BUTYL ACETATE					
540-88-5	t-BUTYL ACETATE	1.47			

POUND OF ORGANIC HAPS PER POUND OF SOLIDS: 0.069
POUND OF ORGANIC HAPS PER GALLON OF SOLIDS: 1.061
POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.430
PERCENT OF ORGANIC HAPS (VHAP): 4.02 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

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The information in this Environmental Data Sheet is not intended to and does not create legal rights or obligations. This information is provided for the sole use of PPG customers and is not for disclosure to competitors of PPG. PPG customers have an independent obligation to determine proper use of the information and that their use of the information is consistent with federal, state and local laws, rules and regulations.

Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values. Under USEPA regulation 40CFR51.000(s), **t-butyl acetate** is a not a VOC for purposes of VOC emissions limitations or VOC content requirements. It is a VOC for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling and inventory requirements.

Material Safety Data Sheet

Date of issue 16 June 2012
Version 16

1. Product and company identification

Product name : EPOXY PRIMER ACTIVATOR
Code : QAP582
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

2. Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY REACTION. MAY BE HARMFUL IF INHALED OR SWALLOWED. SANDING AND GRINDING DUSTS MAY BE HARMFUL IF INHALED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. May form explosive peroxides. Risk of explosion by shock, friction, fire or other sources of ignition.

This material increases the risk of fire and may aid combustion. Keep away from heat, sparks and flame. Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Keep away from combustible material. Do not breathe vapor or mist. Do not swallow. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Severely irritating to the respiratory system. Can irritate eyes, nose, mouth and throat. May cause sensitization by inhalation.
Ingestion : May be harmful if swallowed.
Skin : Irritating to skin.
Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing respiratory disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

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3 . Composition/information on ingredients

Name	CAS number	%
barium sulfate	7727-43-7	15 - 40
tert-butyl acetate	540-88-5	10 - 30
Talc , not containing asbestiform fibres	14807-96-6	7 - 13
1-methoxy-2-propanol	107-98-2	3 - 7
butan-1-ol	71-36-3	1 - 5
ethyl 3-ethoxypropionate	763-69-9	1 - 5
heptan-2-one	110-43-0	1 - 5
xylene	1330-20-7	0.1 - 1
3,6-diazaoctanethylenediamin	112-24-3	0.1 - 1
ethylbenzene	100-41-4	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Flammable liquid. Risk of explosion by shock, friction, fire or other sources of ignition. May form explosive peroxide. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Avoid shock and friction. Keep away from heat, sparks and flame.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
sulfur oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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8 . Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Chemical splash goggles.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: butyl rubber, nitrile rubber

Respiratory : By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 21°C (69.8°F)

Explosion limits : Lower: 1.4%

Material supports combustion. : Yes.

Color : Not available.

Odor : Not available.

pH : Not available.

Boiling/condensation point : >37.78°C (>100°F)

Melting/freezing point : Not available.

Specific gravity : 1.39

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9 . Physical and chemical properties

Density (lbs / gal) : 11.6
Vapor pressure : 0.4 kPa (3 mm Hg) [room temperature]
Vapor density : Not available.
Volatility : 70% (v/v), 43.75% (w/w)
Evaporation rate : 0.18 (butyl acetate = 1)
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 56.25

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Drying on clothing or other combustible materials may cause fire.
Materials to avoid : Reactive or incompatible with the following materials:,combustible materials,organic materials,metals,acids,alkalis,oxidizing materials,reducing materials
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
tert-butyl acetate	LD50 Oral	Rat	4100 mg/kg	-
1-methoxy-2-propanol	LD50 Oral	Rat	5.2 g/kg	-
	LD50 Dermal	Rabbit	13 g/kg	-
butan-1-ol	LD50 Oral	Rat	0.79 g/kg	-
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LC50 Inhalation Vapor	Rat	8000 ppm	4 hours
ethyl 3-ethoxypropionate	LD50 Oral	Rat	3200 mg/kg	-
	LD50 Dermal	Rabbit	10 mL/kg	-
heptan-2-one	LD50 Oral	Rat	1.6 g/kg	-
	LD50 Dermal	Rabbit	10.206 g/kg	-
xylene	LD50 Oral	Rat	4.3 g/kg	-
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
3,6-diazaoctanethylenediamin	LD50 Oral	Rat	2500 mg/kg	-
	LD50 Dermal	Rabbit	805 mg/kg	-
ethylbenzene	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: QAP582 2K EPOXY ACTIVATOR

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		11.64 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.36 lbs/gal
	Weight	Volume
NON-VOLATILE:	56.25 %	30.81 %
VOLATILE:	43.75 %	69.19 %
PERCENT OF WATER:	0.16 %	0.22 %
PERCENT OF EXEMPTS:	28.73 %	46.32 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	3.19 lbs/gal	382.16 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	1.68 lbs/gal	201.26 g/ltr
VOC PER GALLON OF SOLIDS:	5.45 lbs/gal	652.91 g/ltr
VOC PER POUND OF SOLIDS:	0.26 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 0 III = 0 IV = 0

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
540-88-5	TERT-BUTYL ACETATE	28.73	46.32
107-98-2	PROPYLENE GLYCOL MONOMETHYL ETHER	6.96	10.58
71-36-3	1-BUTANOL	2.82	4.86
763-69-9	ETHYL-3-ETHOXYPROPIONATE	2.03	2.98
110-43-0	HEPTAN-2-ONE	1.97	3.37
1330-20-7	XYLENES	0.49	0.79
64-19-7	ACETIC ACID	0.29	0.47
7732-18-5	WATER	0.16	0.26
75-65-0	TERT-BUTYL ALCOHOL / 2-METHYLPROPAN	0.15	0.24
100-41-4	ETHYLBENZENE	0.11	0.17

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: QAP582 2K EPOXY ACTIVATOR

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
71-36-3	1-BUTANOL	0.33	0.15	No	Yes
EXEMPT VOC, t-BUTYL ACETATE					
540-88-5	t-BUTYL ACETATE	3.34			

POUND OF ORGANIC HAPS PER POUND OF SOLIDS: 0.002
POUND OF ORGANIC HAPS PER GALLON OF SOLIDS: 0.042
POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.013
PERCENT OF ORGANIC HAPS (VHAP): 0.11 %

DISCLAIMER

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Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values. Under USEPA regulation 40CFR51.000(s), **t-butyl acetate** is a not a VOC for purposes of VOC emissions limitations or VOC content requirements. It is a VOC for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling and inventory requirements.

Material Safety Data Sheet

Date of issue 23 June 2012
Version 4

1 . Product and company identification

Product name : JET BLUE POLYUREA
Code : Q900BL413
Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (724) 274-7900 (SPRINGDALE, PA) 8:00 a.m. - 5:00 p.m. EST

2 . Hazards identification

Emergency overview : DANGER!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF INHALED OR SWALLOWED. SANDING AND GRINDING DUSTS MAY BE HARMFUL IF INHALED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. MAY CAUSE EYE IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Keep away from heat, sparks and flame. Do not swallow. Do not get on skin or clothing. Avoid breathing vapor or mist. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin : May cause skin dryness and irritation. May cause an allergic skin reaction.
Eyes : Moderately irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications.

Medical conditions aggravated by over-exposure : Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

Powered by ATRION

3 . Composition/information on ingredients

Name	CAS number	%
heptan-2-one	110-43-0	10 - 30
barium sulfate	7727-43-7	10 - 30
titanium dioxide	13463-67-7	3 - 7
29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32 copper	147-14-8	3 - 7
Distillates (petroleum), hydrotreated light	64742-47-8	1 - 5
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	41556-26-7	1 - 5
Quartz (SiO2) (<10 microns)	14808-60-7	0.1 - 1
Carbon black	1333-86-4	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Flammability of the product : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
sulfur oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Powered by ATRION

8 . Exposure controls/personal protection

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Respiratory : If workers are exposed to concentrations above he exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 40.56°C (105°F)

Explosion limits : Lower: 1.1%

Color : Not available.

Odor : Not available.

pH : Not available.

Boiling/condensation point : >37.78°C (>100°F)

Melting/freezing point : Not available.

Specific gravity : 1.24

Density (lbs / gal) : 10.35

Vapor pressure : 0.28 kPa (2.1 mm Hg) [room temperature]

Vapor density : Not available.

Volatility : 43% (v/v), 28% (w/w)

Evaporation rate : 0.4 (butyl acetate = 1)

Partition coefficient: n-octanol/water : Not available.

% Solid. (w/w) : 72

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see Section 7).

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Materials to avoid : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Powered by ATRION

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: Q900BL413 JET BLUE POLYUREA

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		10.35 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		6.80 lbs/gal
	Weight	Volume
NON-VOLATILE:	72.00 %	57.38 %
VOLATILE:	28.00 %	42.62 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	2.90 lbs/gal	347.42 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	2.90 lbs/gal	347.42 g/ltr
VOC PER GALLON OF SOLIDS:	5.05 lbs/gal	604.99 g/ltr
VOC PER POUND OF SOLIDS:	0.39 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 0 III = 0 IV = 0

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
110-43-0	HEPTAN-2-ONE	28.00	42.62

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: Q900BL413 JET BLUE POLYUREA

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
*******	COPPER COMPOUNDS	0.54	0.24	No	Yes

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

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Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 28 June 2011
Version 4

1 . Product and company identification

Product name : POLYUREA ACTIVATOR
Code : Q9001
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (724) 274-7900 (SPRINGDALE, PA) 8:00 a.m. - 5:00 p.m. EST

2 . Hazards identification

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not swallow. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : Harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed.
Skin : Irritating to skin. May cause an allergic skin reaction.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

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3 . Composition/information on ingredients

Name	CAS number	%
hexamethylene diisocyanate prepolymer	Not available.	60 - 100
heptan-2-one	110-43-0	10 - 30

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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8 . Exposure controls/personal protection

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Gloves : butyl rubber

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 40.56°C (105°F)

Explosion limits : Lower: 1.1%

Color : Not available.

Odor : Not available.

pH : Not available.

Boiling/condensation point : >37.78°C (>100°F)

Melting/freezing point : Not available.

Specific gravity : 1.02

Density (lbs / gal) : 8.51

Vapor pressure : 0.28 kPa (2.1 mm Hg) [20°C]

Vapor density : Not available.

Volatility : 22% (v/v), 18% (w/w)

Evaporation rate : 40 (butyl acetate = 1)

Partition coefficient: n-octanol/water : Not available.

% Solid. (w/w) : 82

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: Q9001 POLYUREA ACTIVATOR

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		8.50 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		6.80 lbs/gal
	Weight	Volume
NON-VOLATILE:	82.00 %	77.50 %
VOLATILE:	18.00 %	22.50 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	1.53 lbs/gal	183.29 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	1.53 lbs/gal	183.29 g/ltr
VOC PER GALLON OF SOLIDS:	1.97 lbs/gal	236.01 g/ltr
VOC PER POUND OF SOLIDS:	0.22 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 0 III = 0 IV = 0

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
110-43-0	HEPTAN-2-ONE	18.00	22.50

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: Q9001 POLYUREA ACTIVATOR

NO REGULATORY DATA TO REPORT FOR THIS PRODUCT

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

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Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 15 August 2012
Version 17

1 . Product and company identification

Product name : H/S POLYIOTHANE WHT BASE
Code : QT380HW
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2 . Hazards identification

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from heat, sparks and flame. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed.
Skin : May cause skin dryness and irritation.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	%
titanium dioxide	13463-67-7	15 - 40
heptan-2-one	110-43-0	10 - 30
Limestone	1317-65-3	1 - 5
2-methoxy-1-methylethyl acetate	108-65-6	1 - 5
aluminium hydroxide	21645-51-2	0.5 - 1.5
1,2,4-trimethylbenzene	95-63-6	0.1 - 1

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9 . Physical and chemical properties

Physical state : Liquid.
Flash point : Closed cup: 43.33°C (110°F)
Explosion limits : Lower: 1.2%
Color : Not available.
Odor : Not available.
pH : Not available.
Boiling/condensation point : >37.78°C (>100°F)
Melting/freezing point : Not available.
Specific gravity : 1.41
Density (lbs / gal) : 11.77
Vapor pressure : 0.33 kPa (2.5 mm Hg) [room temperature]
Vapor density : Not available.
Volatility : 47% (v/v), 28.28% (w/w)
Evaporation rate : 37 (butyl acetate = 1)
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 71.72

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid : Reactive or incompatible with the following materials:,water,acids,oxidizing materials, strong alkalis
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
heptan-2-one	LD50 Oral	Rat	1.6 g/kg	-
	LD50 Dermal	Rabbit	10.206 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Oral	Rat	8532 mg/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
1,2,4-trimethylbenzene	LD50 Oral	Rat	5 g/kg	-
	LC50 Inhalation	Rat	18000 mg/m3	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Target organs : Contains material which causes damage to the following organs: lungs, brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: kidneys, peripheral nervous system, upper respiratory tract, skin, eye, lens or cornea, nose/sinuses, throat.

Carcinogenicity

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: QT380HW H/S POLYIOTHANE WHITE BASE

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		11.84 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.02 lbs/gal
	Weight	Volume
NON-VOLATILE:	71.73 %	52.36 %
VOLATILE:	28.27 %	47.64 %
PERCENT OF WATER:	0.04 %	0.06 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	3.34 lbs/gal	400.13 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	3.34 lbs/gal	400.13 g/ltr
VOC PER GALLON OF SOLIDS:	6.38 lbs/gal	764.32 g/ltr
VOC PER POUND OF SOLIDS:	0.39 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 2 III = 0 IV = 2

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
110-43-0	HEPTAN-2-ONE	21.96	38.24
108-65-6	1-METHOXY-2-PROPYL ACETATE	3.94	5.82
123-54-6	PENTANE-2;4-DIONE / ACETYLACETONE	0.37	0.54
64742-95-6	SOLVENT NAPHTHA (PETROLEUM), LIGHT	0.37	0.60
34590-94-8	DIPROPYLENE GLYCOL MONOMETHYL ETHER	0.34	0.51
95-63-6	1,2,4-TRIMETHYLBENZENE	0.11	0.17

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: QT380HW H/S POLYIOTHANE WHITE BASE

NO REGULATORY DATA TO REPORT FOR THIS PRODUCT

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

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Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

EMERGENCY PHONE NUMBERS (24 hours/day): **(412) 434-4515 (U.S.)**
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
0532-83889090 (China)

TECHNICAL INFORMATION: 1-800-441-9695 (8:00 am to 5:00 pm EST)

PRODUCT SAFETY/MSDS INFORMATION: (412) 492-5555 7:00 a.m. - 4:30 p.m. EST

Product ID: DM18996 (0814-F1)
PRODUCT NAME: IOTHANE CURING AGENT COMP
SYNONYMS: None
ISSUE DATE: 01/11/2007
EDITION NO.: 1
CHEMICAL FAMILY: ISOCYANATE

EMERGENCY OVERVIEW:

Combustible. Keep away from heat, sparks, flames, and other sources of ignition. Do not smoke.CAUSES SEVERE EYE IRRITATION. MAY CAUSE MODERATE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE AN ALLERGIC SKIN REACTION.VAPOR AND/OR SPRAY MIST MAY BE HARMFUL IF INHALED. MAY CAUSE IRRITATION AND/OR ALLERGIC RESPIRATORY REACTION IN LUNGS. VAPOR IRRITATES EYES, NOSE, AND THROAT.HARMFUL IF SWALLOWED. STABLE - HAZARDOUS REACTIONS POSSIBLE AT EXTREMELY HIGH TEMPERATURES/PRESSURES.

SECTION 2 - COMPOSITION INFORMATION

The following ingredient(s) marked with an "x" are considered hazardous under applicable U.S. OSHA and/or Canadian WHMIS regulations. If no ingredients are listed, then there are no U.S. OSHA and/or Canadian WHMIS hazardous ingredients in this product.

Material/ CAS Number	Percent	Hazardous	
HEXANE-1,6-DI-ISOCYANATE POLYMER 28182-81-2	60- 100	X	
METHYL (N-AMYL) KETONE 110-43-0	10 - 30	X	
HEXAMETHYLENE-DI-ISOCYANATE 822-06-0	0.1-1.0	X	
(As Diisocyanates) 822-06-0	*	X	See Sections 8 and 15 for information.

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:
Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:
May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:
Skin absorption not expected to occur. Prolonged or repeated contact may cause an allergic skin reaction.

INHALATION:
Vapor and/or spray mist may be harmful if inhaled. May cause irritation and/or allergic respiratory reaction in lungs. Vapor irritates eyes, nose, and throat.

INGESTION:
Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:
Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Do not use if you have chronic (long-term) lung or breathing problems, or if you have ever had a reaction to isocyanates.

CHRONIC OVEREXPOSURE EFFECTS
Avoid long-term and repeated contact.
Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.
Prolonged inhalation of an ingredient(s) in this product may cause lung sensitivity leading to pneumonitis. This product contains isocyanates. Inhalation may cause a burning sensation of the nose, throat and lungs. Allergic respiratory reactions to these materials are characterized by asthma-like symptoms such as chest tightness, wheezing, shortness of breath and coughing. These symptoms may follow repeated exposure or a single massive exposure and may be delayed.
The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:
Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:
Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:
Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:
Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be necessary.

SECTION 5 - FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASHPOINT: 102 Degrees F (39 Degrees C)
FLASHPOINT TEST METHOD:
Pensky-Martens Closed Cup

UEL: Not Available.
LEL: 1.1
AUTOIGNITION TEMPERATURE:
Not Available.
EXTINGUISHING MEDIA:
Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class II combustible liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.
PROTECTION OF FIREFIGHTERS:
Fire-fighters should wear self-contained breathing apparatus and full protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Keep this product away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:
Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.
STORAGE:
Do not store above 120 degrees F.(48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class II combustible liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:
Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT
EYES:
Wear chemical-type splash goggles and full face shield when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:
Wear protective clothing sufficient to cover exposed skin surfaces. For applications where skin contact is likely and impermeable clothing is necessary, select clothing constructed of: butyl rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. The decision whether to clean or discard contaminated clothing should be based on the chemicals contaminating them. Some chemicals can cause skin irritation, sensitization or other health effects if the cleaning process does not remove all traces of them. Consult a safety professional to determine whether clothing contaminated with this product can be safely cleaned and reused.
RESPIRATOR:
Where vapors or overspray are present, use a NIOSH approved, positive-pressure, air- supplied respirator for the entire time of spraying and until all vapors and mists are gone. Follow the respirator manufacturer's directions for respirator use. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.
GENERAL HYGIENE - ESTABLISHED EXPOSURE LIMITS
If Threshold Limit Values (TLVs) have been established by ACGIH, OSHA, Ontario or PPG, they will be listed below. These limits are intended for use in the practice of industrial hygiene as guidelines or recommendations in the control of potential workplace health hazards. These limits are not a relative index of toxicity and should not be used by anyone without industrial hygiene training.

Material/ CAS Number	Percent	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL
METHYL (N-AMYL) KETONE 110-43-0	10 - 30	50 ppm	Not established	100 ppm	Not established
HEXAMETHYLENE-DI-ISOCYANATE 822-06-0	0.1-1.0	0.005 ppm	Not established	Not established	Not established

Material/ CAS Number	Percent	Ontario TWA	Ontario STEL	PPG IPEL	PPG STEL
HEXANE-1,6-DI-ISOCYANATE POLYMER 28182-81-2	60- 100	Not established	Not established	0.5 mg/m^3	1 mg/m^3
METHYL (N-AMYL) KETONE 110-43-0	10 - 30	25 ppm	Not established	Not established	Not established
HEXAMETHYLENE-DI-ISOCYANATE 822-06-0	0.1-1.0	C- 0.02 PPM	Not established	Not established	Not established

Key: ACGIH=American Conference of Governmental Industrial Hygienists; OSHA=Occupational Safety and Health Administration; TLV=Threshold Limit Value; TWA=Time Weighted Average; PEL=Permissible Exposure Limit (1989 Vacated values); IPEL=Internal Permissible Exposure Limit; Ceiling=TLV or PEL Ceiling Limit; STEL=TLV or PEL Short-Term Exposure Limit; Skin= Skin Absorption Designation. [C- Ceiling Limit; S-Potential Skin Absorption; R-Respirable Dust]
Additional Information Not applicable.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	1.045
PHYSICAL STATE:	Liquid
Percent Solids:	72.41
Percent Volatile by Volume:	35.350

pH:	Not available.
ODOR THRESHOLD:	Not available.
Vapour Pressure:	2.1 mmHg
ODOR/APPEARANCE:	Viscous liquid with an odor characteristic of the solvents listed in Section 2.
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	40
BOILING POINT OR RANGE:	300- 304Degrees F
Freezing Point or Range:	Not Applicable.
Melting Point or Range(°C):	Not Applicable.
Partition coefficient (n-octanol/water):	Not Applicable.
WEIGHT PER GALLON:	8.71 (U.S.) / 10.4 (IMPERIAL)

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:
This product is normally stable but may undergo hazardous reactions at extremely high temperatures and pressures.
CONDITIONS TO AVOID:
None Known.
INCOMPATIBLE MATERIALS:
Avoid contact with strong alkalies, strong mineral acids, or strong oxidizing agents. Avoid water and alcohols.
HAZARDOUS POLYMERIZATION:
None Known.
HAZARDOUS DECOMPOSITION PRODUCTS:
- Carbon monoxide - Carbon dioxide - Traces of isocyanate - Oxides of nitrogen - Hydrogen cyanide - Lower molecular weight polymer fractions

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Material/ CAS Number	Percent	ORAL LD50 (g/kg)	DERMAL LD50 (g/kg)	INHALATION LC50 (mg/l)
METHYL (N-AMYL) KETONE 110-43-0	10 - 30	1.60 g/kg	10.21 g/kg	Not Available
HEXAMETHYLENE-DI-ISOCYANATE 822-06-0	0.1-1.0	.71 g/kg	.57 g/kg	.15 g/L. 4 hr.

CHRONIC TOXICITY
Ingredient Target Organ/Chronic Effects:
- Brain - Central nervous system - Respiratory sensitizer - Lung

Mutagenicity Toxicity:
This has not been tested for this product.
Reproductive Toxicity:
This has not been tested for this product.

SUPPLEMENTAL HEALTH INFORMATION:

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS
Ecotoxicity: No Information Available.

ENVIRONMENTAL FATE
Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No Information Available.

PHYSICAL/CHEMICAL
Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.
Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Proper Shipping Name:	NOT AVAILABLE
NOS Technical Name:	NOT AVAILABLE
Hazard Class:	N.A.
Subsidiary Class(es):	N.A.
UN Number:	N.A.
Packing Group:	N.A.
USA - RQ Hazardous Substances:	NOT AVAILABLE
USA-RQ Hazardous Substance	NOT AVAILABLE
Threshold Ship Weight:	
Marine Pollutant Name:	NOT AVAILABLE

SECTION 15 - REGULATORY INFORMATION

INVENTORY STATUS
U.S. TSCA: This product and/or all of its components are listed on the U.S. TSCA Inventory or is otherwise exempt from TSCA Inventory reporting requirements.
FEDERAL REGULATIONS
US Regulations

Material/ CAS Number	Percent	CERCLA HS - RQ (LBS)	SARA EHS-TPQ (LBS)	SARA 313
HEXANE-1,6-DI-ISOCYANATE POLYMER 28182-81-2	60- 100	Not Listed	Not Listed	Not Listed
METHYL (N-AMYL) KETONE 110-43-0	10 - 30	Not Listed	Not Listed	Not Listed
HEXAMETHYLENE-DI-ISOCYANATE 822-06-0	0.1-1.0	100 LBS	Not Listed	Not Listed
(As Diisocyanates) 822-06-0	*	Not Listed	Not Listed	Listed

SARA 311/312

Health (acute):	Yes
Health (chronic):	Yes
Fire (flammable):	Yes
Pressure:	No
Reactivity:	No

WHMIS HAZARD CLASS: - Class B, Division 3 - Class D, Division 2, Subdivision A - Class D, Division 2, Subdivision B

STATE/PROVINCIAL REGULATIONS
Additional Information

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: DM18996

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		8.71 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		6.80 lbs/gal
	Weight	Volume
NON-VOLATILE:	72.20 %	64.41 %
VOLATILE:	27.80 %	35.59 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	2.42 lbs/gal	289.92 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	2.42 lbs/gal	289.92 g/ltr
VOC PER GALLON OF SOLIDS:	3.76 lbs/gal	450.45 g/ltr
VOC PER POUND OF SOLIDS:	0.39 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 0 III = 0 IV = 0

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
110-43-0	HEPTAN-2-ONE	27.80	35.61

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: DM18996

NO REGULATORY DATA TO REPORT FOR THIS PRODUCT

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

The data contained in this Environmental Data Sheet is based on information provided to PPG by its suppliers and PPG's knowledge of PPG product formulations. PPG makes no representation or warranty regarding the accuracy of supplier furnished information or that this information or data will not change.

The information in this Environmental Data Sheet is not intended to and does not create legal rights or obligations. This information is provided for the sole use of PPG customers and is not for disclosure to competitors of PPG. PPG customers have an independent obligation to determine proper use of the information and that their use of the information is consistent with federal, state and local laws, rules and regulations.

Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 15 August 2012
Version 15.01

1 . Product and company identification

Product name : POLY HS SUP WHITE PRIMER
Code : DM19147
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2 . Hazards identification

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. SANDING AND GRINDING DUSTS MAY BE HARMFUL IF INHALED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Severely irritating to the respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed.
Skin : May cause skin dryness and irritation.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

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3 . Composition/information on ingredients

Name	CAS number	%
heptan-2-one	110-43-0	10 - 30
Limestone	1317-65-3	10 - 30
titanium dioxide	13463-67-7	10 - 30
Talc , not containing asbestiform fibres	14807-96-6	5 - 10
Additive	Not available.	3 - 7
2-methoxy-1-methylethyl acetate	108-65-6	1 - 5
Quartz (SiO2) (<10 microns)	14808-60-7	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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8 . Exposure controls/personal protection

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.
Flash point : Closed cup: 43.33°C (110°F)
Explosion limits : Lower: 1.2%
Color : Not available.
Odor : Not available.
pH : Not available.
Boiling/condensation point : >37.78°C (>100°F)
Melting/freezing point : Not available.
Specific gravity : 1.5
Density (lbs / gal) : 12.52
Vapor pressure : 0.31 kPa (2.3 mm Hg) [room temperature]
Vapor density : Not available.
Volatility : 47% (v/v), 25.99% (w/w)
Evaporation rate : 0.39 (butyl acetate = 1)
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 74.01

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: DM19147 POLY HS SUP WHITE PRIMER

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		12.51 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		6.98 lbs/gal
	Weight	Volume
NON-VOLATILE:	74.01 %	53.42 %
VOLATILE:	25.99 %	46.58 %
PERCENT OF WATER:	0.03 %	0.05 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	3.25 lbs/gal	389.35 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	3.25 lbs/gal	389.35 g/ltr
VOC PER GALLON OF SOLIDS:	6.08 lbs/gal	728.38 g/ltr
VOC PER POUND OF SOLIDS:	0.35 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 1 III = 0 IV = 1

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
110-43-0	HEPTAN-2-ONE	21.37	39.31
108-65-6	1-METHOXY-2-PROPYL ACETATE	3.19	4.97
123-54-6	PENTANE-2;4-DIONE / ACETYLACETONE	0.32	0.49
64742-95-6	SOLVENT NAPHTHA (PETROLEUM), LIGHT	0.11	0.19

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: DM19147 POLY HS SUP WHITE PRIMER

NO REGULATORY DATA TO REPORT FOR THIS PRODUCT

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

The data contained in this Environmental Data Sheet is based on information provided to PPG by its suppliers and PPG's knowledge of PPG product formulations. PPG makes no representation or warranty regarding the accuracy of supplier furnished information or that this information or data will not change.

The information in this Environmental Data Sheet is not intended to and does not create legal rights or obligations. This information is provided for the sole use of PPG customers and is not for disclosure to competitors of PPG. PPG customers have an independent obligation to determine proper use of the information and that their use of the information is consistent with federal, state and local laws, rules and regulations.

Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 29 February 2012
Version 15

1 . Product and company identification

Product name : BLACK POLY IOTHANE COMP A
Code : DM19040
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2 . Hazards identification

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from heat, sparks and flame. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed.
Skin : May cause skin dryness and irritation.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

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3 . Composition/information on ingredients

Name	CAS number	%
heptan-2-one	110-43-0	15 - 40
2-methoxy-1-methylethyl acetate	108-65-6	3 - 7
Carbon black	1333-86-4	1 - 5
Additive	Not available.	1 - 5
Limestone	1317-65-3	1 - 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Powered by ATRION

8 . Exposure controls/personal protection

Additive	TWA	Not established	5 mg/m3 R	Not established	Not established	Not established
Limestone	TWA	Not established	5 mg/m³ R 15 mg/m³ TD	Not established	10 mg/m³	Not established
	STEL	Not established	Not established	Not established	20 mg/m³	Not established

Key to abbreviations

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	SS	= Skin sensitization
F	= Fume	STEL	= Short term Exposure limit values
IPEL	= Internal Permissible Exposure Limit	TD	= Total dust
OSHA	= Occupational Safety and Health Administration.	TLV	= Threshold Limit Value
R	= Respirable	TWA	= Time Weighted Average
Z	= OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances		

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 43.33°C (110°F)

Explosion limits : Lower: 1.2%

Color : Not available.

Odor : Not available.

pH : Not available.

Powered by ATRION

9 . Physical and chemical properties

Boiling/condensation point : >37.78°C (>100°F)
Melting/freezing point : Not available.
Specific gravity : 1.02
Density (lbs / gal) : 8.51
Vapor pressure : 0.31 kPa (2.3 mm Hg) [20°C]
Vapor density : Not available.
Volatility : 55% (v/v), 45.23% (w/w)
Evaporation rate : 0.38 (butyl acetate = 1)
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 54.77

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
heptan-2-one	LD50 Oral	Rat	1.6 g/kg	-
	LD50 Dermal	Rabbit	10.206 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Oral	Rat	8532 mg/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
Carbon black	LD50 Oral	Rat	>15400 mg/kg	-
	LD50 Dermal	Rabbit	>3 g/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: kidneys, lungs, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea, nose/sinuses, throat.

Carcinogenicity

Carcinogenicity : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Carbon black	A3	2B	-	+	-	-

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: DM19040 BLACK POLY IOTHANE COMP A

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		8.53 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.00 lbs/gal
	Weight	Volume
NON-VOLATILE:	54.77 %	44.92 %
VOLATILE:	45.23 %	55.08 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	3.86 lbs/gal	462.43 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	3.86 lbs/gal	462.43 g/ltr
VOC PER GALLON OF SOLIDS:	8.59 lbs/gal	1,029.08 g/ltr
VOC PER POUND OF SOLIDS:	0.83 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 1 III = 0 IV = 1

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
110-43-0	HEPTAN-2-ONE	36.28	45.51
108-65-6	1-METHOXY-2-PROPYL ACETATE	5.93	6.30
34590-94-8	DIPROPYLENE GLYCOL MONOMETHYL ETHER	0.72	0.77
123-54-6	PENTANE-2;4-DIONE / ACETYLACETONE	0.50	0.53
64742-95-6	SOLVENT NAPHTHA (PETROLEUM), LIGHT	0.36	0.42

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: DM19040 BLACK POLY IOTHANE COMP A

NO REGULATORY DATA TO REPORT FOR THIS PRODUCT

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

The data contained in this Environmental Data Sheet is based on information provided to PPG by its suppliers and PPG's knowledge of PPG product formulations. PPG makes no representation or warranty regarding the accuracy of supplier furnished information or that this information or data will not change.

The information in this Environmental Data Sheet is not intended to and does not create legal rights or obligations. This information is provided for the sole use of PPG customers and is not for disclosure to competitors of PPG. PPG customers have an independent obligation to determine proper use of the information and that their use of the information is consistent with federal, state and local laws, rules and regulations.

Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 15 August 2012
Version 17

1. Product and company identification

Product name : FD IND GRAY PRIMER
Code : DM18998
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2. Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. SANDING AND GRINDING DUSTS MAY BE HARMFUL IF INHALED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not breathe vapor or mist. Do not swallow. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Severely irritating to the respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin : Harmful in contact with skin. Irritating to skin.
Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

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3 . Composition/information on ingredients

Name	CAS number	%
xylene	1330-20-7	15 - 40
Limestone	1317-65-3	7 - 13
ethylbenzene	100-41-4	5 - 10
titanium dioxide	13463-67-7	3 - 7
Ligroine	8032-32-4	1 - 5
heptan-2-one	110-43-0	1 - 5
Talc , not containing asbestiform fibres	14807-96-6	1 - 5
Additive	Not available.	1 - 5
butan-1-ol	71-36-3	0.5 - 1.5
1,2,4-trimethylbenzene	95-63-6	0.1 - 1
methanol	67-56-1	0.1 - 1
Quartz (SiO2) (<10 microns)	14808-60-7	0.1 - 1
2-butanone oxime	96-29-7	0.1 - 1
toluene	108-88-3	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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8 . Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.
Flash point : Open cup: 7.22°C (45°F)
Explosion limits : Lower: 1%
Color : Not available.
Odor : Not available.
pH : Not available.
Boiling/condensation point : >37.78°C (>100°F)
Melting/freezing point : Not available.
Specific gravity : 1.1
Density (lbs / gal) : 9.18
Vapor pressure : 1.1 kPa (8 mm Hg) [room temperature]
Vapor density : Not available.
Volatility : 71% (v/v), 54.92% (w/w)
Evaporation rate : 0.66 (butyl acetate = 1)
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 45.08

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Oral	Rat	4.3 g/kg	-
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
ethylbenzene	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
Ligroine	LC50 Inhalation	Rat	3400 ppm	4 hours
heptan-2-one	LD50 Oral	Rat	1.6 g/kg	-
	LD50 Dermal	Rabbit	10.206 g/kg	-
butan-1-ol	LD50 Oral	Rat	0.79 g/kg	-
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LC50 Inhalation	Rat	8000 ppm	4 hours

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: DM18998 FD IND GRAY PRIMER

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		9.17 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.10 lbs/gal
	Weight	Volume
NON-VOLATILE:	45.08 %	29.07 %
VOLATILE:	54.92 %	70.93 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	5.04 lbs/gal	603.79 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	5.04 lbs/gal	603.79 g/ltr
VOC PER GALLON OF SOLIDS:	17.34 lbs/gal	2,077.33 g/ltr
VOC PER POUND OF SOLIDS:	1.22 lb/lb	

Product is photochemically reactive as per SCAQMD rule 102
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 41 III = 6 IV = 47

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
1330-20-7	XYLENES	36.23	46.01
100-41-4	ETHYLBENZENE	7.32	9.30
8032-32-4	V.M. AND P. NAPHTHA	4.28	6.23
110-43-0	HEPTAN-2-ONE	2.94	3.96
71-36-3	1-BUTANOL	1.43	1.94
64742-95-6	SOLVENT NAPHTHA (PETROLEUM), LIGHT	0.98	1.24
95-63-6	1,2,4-TRIMETHYLBENZENE	0.50	0.62
108-65-6	1-METHOXY-2-PROPYL ACETATE	0.32	0.37
67-56-1	METHYL ALCOHOL	0.22	0.31
96-29-7	METHYL ETHYL KETOXIME	0.16	0.19
108-88-3	TOLUENE	0.14	0.18

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: DM18998 FD IND GRAY PRIMER

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
100-41-4	ETHYLBENZENE	0.67	0.30	Yes	Yes
1330-20-7	XYLENES	3.32	1.51	Yes	Yes
71-36-3	1-BUTANOL	0.13	0.06	No	Yes

POUND OF ORGANIC HAPS PER POUND OF SOLIDS: 0.966
POUND OF ORGANIC HAPS PER GALLON OF SOLIDS: 13.739
POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 3.994
PERCENT OF ORGANIC HAPS (VHAP): 43.56 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

The data contained in this Environmental Data Sheet is based on information provided to PPG by its suppliers and PPG's knowledge of PPG product formulations. PPG makes no representation or warranty regarding the accuracy of supplier furnished information or that this information or data will not change.

The information in this Environmental Data Sheet is not intended to and does not create legal rights or obligations. This information is provided for the sole use of PPG customers and is not for disclosure to competitors of PPG. PPG customers have an independent obligation to determine proper use of the information and that their use of the information is consistent with federal, state and local laws, rules and regulations.

Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of Issue 30 March 2011
Version 17

1. Product and company identification

Product name : FD IND SG BLACK ENAMAL

Code : DM19318

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)

Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2. Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY REACTION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not breathe vapor or mist. Do not swallow. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Severely irritating to the respiratory system. Can irritate eyes, nose, mouth and throat. May cause sensitization by inhalation.

Ingestion : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Skin : Harmful in contact with skin. Severely irritating to the skin.

Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing respiratory disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

Powered by ATRION

3 . Composition/information on ingredients

Name	CAS number	%
xylene	1330-20-7	10 - 30
1-propoxypropan-2-ol	1569-01-3	10 - 30
Ligroine	8032-32-4	7 - 13
ethylbenzene	100-41-4	3 - 7
Talc , not containing asbestiform fibres	14807-96-6	3 - 7
Solvent naphtha (petroleum), heavy arom.	64742-94-5	1 - 5
Carbon black	1333-86-4	1 - 5
Naphthalene	91-20-3	0.1 - 1
Methanol	67-56-1	0.1 - 1
Di-(2-ethylhexyl) phthalate	117-81-7	0.1 - 1
2-butanone oxime	96-29-7	0.1 - 1
Toluene	108-88-3	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Chemical splash goggles.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Gloves : nitrile, neoprene

Respiratory : By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 15.56°C (60°F)

Explosion limits : Lower: 1%

Color : Not available.

Odor : Not available.

pH : Not available.

Boiling/condensation point : >37.78°C (>100°F)

Melting/freezing point : Not available.

Specific gravity : 0.97

Density (lbs / gal) : 8.1

Vapor pressure : 0.99 kPa (7.4 mm Hg) [20°C]

Vapor density : Not available.

Volatility : 73% (v/v), 64.14% (w/w)

Odor threshold : Not available.

Evaporation rate : 62 (butyl acetate = 1)

Partition coefficient: n-octanol/water : Not available.

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9 . Physical and chemical properties

% Solid. (w/w) : 35.86

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see section 7).

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Materials to avoid : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Oral	Rat	4.3 g/kg	-
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
1-propoxypropan-2-ol	LD50 Oral	Rat	2504 mg/kg	-
	LD50 Dermal	Rabbit	3.55 g/kg	-
Ligroine	LC50 Inhalation	Rat	3400 ppm	4 hours
ethylbenzene	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
Solvent naphtha (petroleum), heavy arom.	LD50 Oral	Rat	3.2 g/kg	-
	LD50 Dermal	Rabbit	>1.693 g/kg	-
	LC50 Inhalation	Rat	>590 mg/m3	4 hours
Carbon black	LD50 Oral	Rat	>15400 mg/kg	-
	LD50 Dermal	Rabbit	>3 g/kg	-
Naphthalene	LD50 Oral	Rat	490 mg/kg	-
	LD50 Dermal	Rabbit	>20 g/kg	-
Methanol	LD50 Oral	Rat	5600 mg/kg	-
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LC50 Inhalation Vapor	Rat	64000 ppm	4 hours
	LC50 Inhalation	Rat	145000 ppm	1 hours
Di-(2-ethylhexyl) phthalate	LD50 Oral	Rat	30 g/kg	-
	LD50 Dermal	Rabbit	25 g/kg	-
2-butanone oxime	LD50 Oral	Rat	930 mg/kg	-
	LD50 Dermal	Rabbit	200 uL/kg	-
Toluene	LD50 Oral	Rat	636 mg/kg	-
	LD50 Dermal	Rabbit	8.39 g/kg	-
	LC50 Inhalation	Rat	49 g/m3	4 hours

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Powered by ATRION

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: DM19318 FD IND SG BLACK ENAMEL

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		8.10 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.06 lbs/gal
	Weight	Volume
NON-VOLATILE:	35.87 %	26.47 %
VOLATILE:	64.13 %	73.53 %
PERCENT OF WATER:	0.02 %	0.02 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	5.20 lbs/gal	622.96 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	5.20 lbs/gal	622.96 g/ltr
VOC PER GALLON OF SOLIDS:	19.64 lbs/gal	2,352.87 g/ltr
VOC PER POUND OF SOLIDS:	1.79 lb/lb	

Product is photochemically reactive as per SCAQMD rule 102
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 12 III = 1 IV = 13

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
1330-20-7	XYLENES	22.49	25.23
1569-01-3	PROPYLENE GLYCOL MONOPROPYL ETHER	17.39	19.11
8032-32-4	V.M. AND P. NAPHTHA	12.13	15.62
100-41-4	ETHYLBENZENE	5.19	5.82
64742-94-5	SOLVENT NAPHTHA (PETROLEUM), HEAVY	4.80	5.24
91-20-3	NAPHTHALENE	0.54	0.59
67-56-1	METHYL ALCOHOL	0.36	0.44
96-29-7	METHYL ETHYL KETOXIME	0.15	0.15
108-88-3	TOLUENE	0.13	0.14

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: DM19318 FD IND SG BLACK ENAMEL

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
100-41-4	ETHYLBENZENE	0.42	0.19	Yes	Yes
1330-20-7	XYLENES	1.82	0.83	Yes	Yes
91-20-3	NAPHTHALENE	0.04	0.02	Yes	Yes

POUND OF ORGANIC HAPS PER POUND OF SOLIDS: 0.791
POUND OF ORGANIC HAPS PER GALLON OF SOLIDS: 8.689
POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 2.300
PERCENT OF ORGANIC HAPS (VHAP): 28.40 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

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The information in this Environmental Data Sheet is not intended to and does not create legal rights or obligations. This information is provided for the sole use of PPG customers and is not for disclosure to competitors of PPG. PPG customers have an independent obligation to determine proper use of the information and that their use of the information is consistent with federal, state and local laws, rules and regulations.

Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 20 December 2011
Version 13.01

1 . Product and company identification

Product name : FD IND HV CLEAR TB
Code : DM19152
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2 . Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin : Harmful in contact with skin. Irritating to skin.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

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3 . Composition/information on ingredients

Name	CAS number	%
xylene	1330-20-7	15 - 40
heptan-2-one	110-43-0	7 - 13
toluene	108-88-3	5 - 10
ethylbenzene	100-41-4	3 - 7
Solvent naphtha (petroleum), heavy arom.	64742-94-5	3 - 7
Ligroine	8032-32-4	1 - 5
naphthalene	91-20-3	0.1 - 1
1,2,4-trimethylbenzene	95-63-6	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials: carbon oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

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8 . Exposure controls/personal protection

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.
Flash point : Closed cup: 15.56°C (60°F)
Explosion limits : Lower: 1.1%
Color : Not available.
Odor : Not available.
pH : Not available.
Boiling/condensation point : >37.78°C (>100°F)
Melting/freezing point : Not available.
Specific gravity : 0.93
Density (lbs / gal) : 7.76
Vapor pressure : 0.91 kPa (6.8 mm Hg) [20°C]
Vapor density : Not available.
Volatility : 74% (v/v), 67.91% (w/w)
Evaporation rate : 0.76 (butyl acetate = 1)
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 32.09

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid : Reactive or incompatible with the following materials:,oxidizing materials,strong acids,strong alkalis
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Oral	Rat	4.3 g/kg	-
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
heptan-2-one	LD50 Oral	Rat	1.6 g/kg	-
	LD50 Dermal	Rabbit	10.206 g/kg	-
toluene	LD50 Oral	Rat	636 mg/kg	-
	LD50 Dermal	Rabbit	8.39 g/kg	-

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: DM19152 FD IND HV CLEAR TB

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		7.79 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.11 lbs/gal
	Weight	Volume
NON-VOLATILE:	32.10 %	25.64 %
VOLATILE:	67.90 %	74.36 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	5.29 lbs/gal	633.74 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	5.29 lbs/gal	633.74 g/ltr
VOC PER GALLON OF SOLIDS:	20.63 lbs/gal	2,471.47 g/ltr
VOC PER POUND OF SOLIDS:	2.12 lb/lb	

Product is photochemically reactive as per SCAQMD rule 102
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 23 III = 12 IV = 35

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
1330-20-7	XYLENES	30.55	32.96
110-43-0	HEPTAN-2-ONE	10.27	11.77
108-88-3	TOLUENE	7.31	7.90
100-41-4	ETHYLBENZENE	6.72	7.25
64742-94-5	SOLVENT NAPHTHA (PETROLEUM), HEAVY	6.69	7.02
8032-32-4	V.M. AND P. NAPHTHA	3.91	4.84
34590-94-8	DIPROPYLENE GLYCOL MONOMETHYL ETHER	0.89	0.88
91-20-3	NAPHTHALENE	0.75	0.79
95-63-6	1,2,4-TRIMETHYLBENZENE	0.20	0.22
64742-95-6	SOLVENT NAPHTHA (PETROLEUM), LIGHT	0.14	0.15

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: DM19152 FD IND HV CLEAR TB

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
100-41-4	ETHYLBENZENE	0.52	0.24	Yes	Yes
108-88-3	TOLUENE	0.57	0.26	Yes	Yes
1330-20-7	XYLENES	2.38	1.08	Yes	Yes
91-20-3	NAPHTHALENE	0.06	0.03	Yes	Yes

POUND OF ORGANIC HAPS PER POUND OF SOLIDS: 1.412
POUND OF ORGANIC HAPS PER GALLON OF SOLIDS: 13.771
POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 3.531
PERCENT OF ORGANIC HAPS (VHAP): 45.33 %

DISCLAIMER

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Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 20 December 2011
Version 17

1 . Product and company identification

Product name : FD IND SG BLACK ENAMAL
Code : DM19126
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2 . Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Severely irritating to the respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin : Harmful in contact with skin. Irritating to skin.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

Powered by ATRION

3 . Composition/information on ingredients

Name	CAS number	%
xylene	1330-20-7	30 - 60
ethylbenzene	100-41-4	5 - 10
Talc , not containing asbestiform fibres	14807-96-6	3 - 7
Solvent naphtha (petroleum), heavy arom.	64742-94-5	1 - 5
Additive	Not available.	1 - 5
Carbon black	1333-86-4	1 - 5
naphthalene	91-20-3	0.1 - 1
methanol	67-56-1	0.1 - 1
2-butanone oxime	96-29-7	0.1 - 1
toluene	108-88-3	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Powered by ATRION

8 . Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: foil, fluor rubber

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 15.56°C (60°F)

Explosion limits : Lower: 1.1%

Color : Not available.

Odor : Not available.

pH : Not available.

Boiling/condensation point : >37.78°C (>100°F)

Melting/freezing point : Not available.

Specific gravity : 1.02

Density (lbs / gal) : 8.51

Vapor pressure : 0.84 kPa (6.3 mm Hg) [20°C]

Vapor density : Not available.

Volatility : 72% (v/v), 60.89% (w/w)

Evaporation rate : 0.58 (butyl acetate = 1)

Partition coefficient: n-octanol/water : Not available.

% Solid. (w/w) : 39.11

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see section 7).

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Materials to avoid : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Powered by ATRION

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: DM19126 FD IND SG BLACK ENAMEL

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
100-41-4	ETHYLBENZENE	0.77	0.35	Yes	Yes
1330-20-7	XYLENES	3.78	1.71	Yes	Yes
91-20-3	NAPHTHALENE	0.04	0.02	Yes	Yes

POUND OF ORGANIC HAPS PER POUND OF SOLIDS: 1.380
POUND OF ORGANIC HAPS PER GALLON OF SOLIDS: 16.207
POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 4.593
PERCENT OF ORGANIC HAPS (VHAP): 53.97 %

DISCLAIMER

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Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 4 August 2012
Version 20

1 . Product and company identification

Product name : SATIN BLACK ALKYD ENAMEL
Code : QT110BK259
Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (905) 823-1100 (MISSISSAUGA ,ONTARIO, CANADA) 8:00 a.m. - 4:30 p.m. Eastern

2 . Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Severely irritating to the respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin : Harmful in contact with skin. Irritating to skin.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

Powered by ATRION

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: QT110BK259 SATIN BLACK ALKYD ENAMEL

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		8.71 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.01 lbs/gal
	Weight	Volume
NON-VOLATILE:	47.44 %	34.71 %
VOLATILE:	52.56 %	65.29 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	4.58 lbs/gal	548.68 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	4.58 lbs/gal	548.68 g/ltr
VOC PER GALLON OF SOLIDS:	13.20 lbs/gal	1,581.36 g/ltr
VOC PER POUND OF SOLIDS:	1.11 lb/lb	

Product is photochemically reactive as per SCAQMD rule 102
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 53 III = 13 IV = 66

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
1330-20-7	XYLENES	27.65	33.36
100-41-4	ETHYLBENZENE	5.94	7.14
64742-95-6	SOLVENT NAPHTHA (PETROLEUM), LIGHT	3.12	3.73
64742-48-9	NAPHTHA (PETROLEUM); HYDROTREATED H	2.52	3.37
95-63-6	1,2,4-TRIMETHYLBENZENE	1.57	1.88
96-29-7	METHYL ETHYL KETOXIME	0.12	0.14
111-76-2	2-BUTOXY ETHANOL	0.12	0.14

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: QT110BK259 SATIN BLACK ALKYD ENAMEL

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
100-41-4	ETHYLBENZENE	0.52	0.24	Yes	Yes
1330-20-7	XYLENES	2.41	1.09	Yes	Yes
95-63-6	1,2,4-TRIMETHYLBENZENE	0.14	0.06	No	Yes

POUND OF ORGANIC HAPS PER POUND OF SOLIDS: 0.708
POUND OF ORGANIC HAPS PER GALLON OF SOLIDS: 8.430
POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 2.926
PERCENT OF ORGANIC HAPS (VHAP): 33.59 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

The data contained in this Environmental Data Sheet is based on information provided to PPG by its suppliers and PPG's knowledge of PPG product formulations. PPG makes no representation or warranty regarding the accuracy of supplier furnished information or that this information or data will not change.

The information in this Environmental Data Sheet is not intended to and does not create legal rights or obligations. This information is provided for the sole use of PPG customers and is not for disclosure to competitors of PPG. PPG customers have an independent obligation to determine proper use of the information and that their use of the information is consistent with federal, state and local laws, rules and regulations.

Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 21 December 2011
Version 22

1. Product and company identification

Product name : NEUTRAL ALKYD ENAMEL BASE
Code : QT110HC
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2. Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin : Harmful in contact with skin. Irritating to skin.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

Powered by ATRION

3 . Composition/information on ingredients

Name	CAS number	%
xylene	1330-20-7	15 - 40
Solvent naphtha (petroleum), medium aliph.	64742-88-7	7 - 13
ethylbenzene	100-41-4	5 - 10
Solvent naphtha (petroleum), light arom.	64742-95-6	1 - 5
1,2,4-trimethylbenzene	95-63-6	0.1 - 1
2-butanone oxime	96-29-7	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Powered by ATRION

9 . Physical and chemical properties

Physical state	: Liquid.
Flash point	: Closed cup: 27.22°C (81°F)
Explosion limits	: Lower: 1%
Material supports combustion.	: Yes.
Color	: Not available.
Odor	: Not available.
pH	: Not available.
Boiling/condensation point	: >37.78°C (>100°F)
Melting/freezing point	: Not available.
Specific gravity	: 0.95
Density (lbs / gal)	: 7.93
Vapor pressure	: 0.63 kPa (4.7 mm Hg) [20°C]
Vapor density	: Not available.
Volatility	: 64% (v/v), 56.84% (w/w)
Evaporation rate	: 0.52 (butyl acetate = 1)
Partition coefficient: n-octanol/water	: Not available.
% Solid. (w/w)	: 43.16

10 . Stability and reactivity

Stability	: Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	: Reactive or incompatible with the following materials:,oxidizing materials,strong acids,strong alkalis
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Oral	Rat	4.3 g/kg	-
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
Solvent naphtha (petroleum), medium aliph.	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rabbit	>3000 mg/kg	-
ethylbenzene	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
Solvent naphtha (petroleum), light arom.	LD50 Oral	Rat	8400 mg/kg	-
	LD50 Dermal	Rabbit	3.48 g/kg	-
1,2,4-trimethylbenzene	LD50 Oral	Rat	5 g/kg	-
	LC50 Inhalation	Rat	18000 mg/m3	4 hours
2-butanone oxime	LD50 Oral	Rat	930 mg/kg	-
	LD50 Dermal	Rabbit	200 uL/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Powered by ATRION

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: QT110HC NEUTRAL ALKYD ENAMEL BASE

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		7.96 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.08 lbs/gal
	Weight	Volume
NON-VOLATILE:	43.16 %	36.11 %
VOLATILE:	56.84 %	63.89 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	4.53 lbs/gal	542.69 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	4.53 lbs/gal	542.69 g/ltr
VOC PER GALLON OF SOLIDS:	12.55 lbs/gal	1,503.49 g/ltr
VOC PER POUND OF SOLIDS:	1.32 lb/lb	

Product is photochemically reactive as per SCAQMD rule 102
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 70 III = 11 IV = 81

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
1330-20-7	XYLENES	35.96	39.65
64742-88-7	SOLVENT NAPHTHA (PETROLEUM), MEDIUM	10.23	12.33
100-41-4	ETHYLBENZENE	7.35	8.11
64742-95-6	SOLVENT NAPHTHA (PETROLEUM), LIGHT	1.69	1.84
95-63-6	1,2,4-TRIMETHYLBENZENE	0.77	0.84
108-32-7	PROPYLENE CARBONATE	0.21	0.16
111-76-2	2-BUTOXY ETHANOL	0.10	0.11
96-29-7	METHYL ETHYL KETOXIME	0.10	0.11

Material Safety Data Sheet

Date of Issue 27 September 2011
Version 6.02

1 . Product and company identification

Product name : METHYL AMYL KETONE
Code : Q70
Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)

Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

2 . Hazards identification

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE EYE IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from heat, sparks and flame. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.

Ingestion : May be harmful if swallowed.

Skin : May cause skin dryness and irritation.

Eyes : Moderately irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	%
heptan-2-one	110-43-0	60 - 100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Powered by ATRION

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: Q70 METHYL AMYL KETONE SOLVENT

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		6.80 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		6.80 lbs/gal
	Weight	Volume
NON-VOLATILE:	0.00 %	0.00 %
VOLATILE:	100.00 %	100.00 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	6.80 lbs/gal	814.64 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	6.80 lbs/gal	814.64 g/ltr
VOC PER GALLON OF SOLIDS:	0 lbs/gal	0.00 g/ltr
VOC PER POUND OF SOLIDS:	0 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 0 III = 0 IV = 0

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
110-43-0	HEPTAN-2-ONE	100.00	100.00

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: Q70 METHYL AMYL KETONE SOLVENT

NO REGULATORY DATA TO REPORT FOR THIS PRODUCT

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

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Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **AROMATIC 150/ANTI-STATIC**
Product Description: Aromatic Hydrocarbon

Intended Use: Solvent

COMPANY IDENTIFICATION

Supplier: **EXXONMOBIL CHEMICAL COMPANY**
P.O. BOX 3272
HOUSTON, TX. 77253-3272 USA

24 Hour Health Emergency	(800) 726-2015
Transportation Emergency Phone	(800) 424-9300 or (703) 527-3887 CHEMTREC
Product Technical Information	(281) 870-6000/Health & Medical (281) 870-6884
Supplier General Contact	(281) 870-6000

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC	64742-94-5	> 99%

Hazardous Constituent(s) Contained in Complex Substance(s)

Name	CAS#	Concentration*
NAPHTHALENE	91-20-3	< 9.9%
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)	95-63-6	< 1.7%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

NOTE: This product contains STADIS 450 Conductivity Improver. The typical concentration is < 15 ppm.

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS

Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an ignition.

POTENTIAL HEALTH EFFECTS

Possible human cancer hazard. If swallowed, may be aspirated and cause lung damage. May be irritating to the eyes, nose, throat, and lungs. Repeated exposure may cause skin dryness or cracking. May cause central nervous system depression.

ENVIRONMENTAL HAZARDS

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.
Control measures to consider:
Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
Half-face filter respirator

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Form: Clear

Color: Colorless
Odor: Aromatic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.897
Density (at 15 °C): 898 kg/m³ (7.49 lbs/gal, 0.9 kg/dm³)
Flash Point [Method]: 63C (145F) [ASTM D-56]
Flammable Limits (Approximate volume % in air): LEL: 0.8 UEL: 5.9
Autoignition Temperature: 455°C (851°F)
Boiling Point / Range: 179C (354F) - 203C (397F)
Vapor Density (Air = 1): 4.7 at 101 kPa
Vapor Pressure: 0.078 kPa (0.59 mm Hg) at 20 C | 0.26 kPa (1.95 mm Hg) at 38C
Evaporation Rate (n-butyl acetate = 1): < 0.1
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: 1.11 cSt (1.11 mm2/sec) at 40 C | 1.34 cSt (1.34 mm2/sec) at 25C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: -2°C (28°F)
Melting Point: N/A
Molecular Weight: 134
Hygroscopic: No
Coefficient of Thermal Expansion: 0.0008 V/VDEGC

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources.

MATERIALS TO AVOID: Strong Acids, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: Data available.	Minimally Toxic. Based on test data for the material.
Irritation: Data available.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Based on test data for structurally similar materials.
Ingestion	
Toxicity: LD50 > 6000 mg/kg	Minimally Toxic. Based on test data for the material.

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 23, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: Q160 AROMATIC 150

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		7.43 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.43 lbs/gal
	Weight	Volume
NON-VOLATILE:	0.00 %	0.00 %
VOLATILE:	100.00 %	100.00 %
PERCENT OF WATER:	0.00 %	0.00 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	7.43 lbs/gal	890.11 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	7.43 lbs/gal	890.11 g/ltr
VOC PER GALLON OF SOLIDS:	0 lbs/gal	0.00 g/ltr
VOC PER POUND OF SOLIDS:	0 lb/lb	

Product is photochemically reactive as per SCAQMD rule 102
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 99 III = 0 IV = 99

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
64742-94-5	SOLVENT NAPHTHA (PETROLEUM), HEAVY	88.40	88.44
91-20-3	NAPHTHALENE	9.90	9.90
95-63-6	1,2,4-TRIMETHYLBENZENE	1.70	1.70

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 23, 2012

PRODUCT: Q160 AROMATIC 150

REGULATORY INFORMATION BASED ON 1 GALLON SUPPLIED:

CAS #	Composition	LBS	KGS	HAPS	SARA
91-20-3	NAPHTHALENE	0.74	0.34	Yes	Yes
95-63-6	1,2,4-TRIMETHYLBENZENE	0.13	0.06	No	Yes

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.736
PERCENT OF ORGANIC HAPS (VHAP): 9.91 %

DISCLAIMER

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Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 27 September 2011
Version 11

1 . Product and company identification

Product name : METHYL ETHYL KETONE
Code : Q60
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)

Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

2 . Hazards identification

Emergency overview : WARNING!

FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed.
Skin : May cause skin dryness and irritation.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	%
butanone	78-93-3	60 - 100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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8 . Exposure controls/personal protection

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.
Flash point : Closed cup: -6.11°C (21°F)
Explosion limits : Lower: 1.8%
Color : Not available.
Odor : Not available.
pH : Not available.
Boiling/condensation point : >37.78°C (>100°F)
Melting/freezing point : Not available.
Specific gravity : 0.8
Density (lbs / gal) : 6.68
Vapor pressure : 9.5 kPa (71.3 mm Hg) [20°C]
Vapor density : Not available.
Volatility : 100% (v/v), 100% (w/w)
Evaporation rate : 7.52 (butyl acetate = 1)
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 0

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid : Reactive or incompatible with the following materials:,oxidizing materials,strong acids,strong alkalis
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
butanone	LD50 Oral LD50 Dermal LC50 Inhalation Vapor	Rat Rabbit Rat	2737 mg/kg 6480 mg/kg 11243 ppm	- - 4 hours

Conclusion/Summary : Not available.
Chronic toxicity

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: Q60 METHYL ETHYL KETONE SOLVENT

NO REGULATORY DATA TO REPORT FOR THIS PRODUCT

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

The data contained in this Environmental Data Sheet is based on information provided to PPG by its suppliers and PPG's knowledge of PPG product formulations. PPG makes no representation or warranty regarding the accuracy of supplier furnished information or that this information or data will not change.

The information in this Environmental Data Sheet is not intended to and does not create legal rights or obligations. This information is provided for the sole use of PPG customers and is not for disclosure to competitors of PPG. PPG customers have an independent obligation to determine proper use of the information and that their use of the information is consistent with federal, state and local laws, rules and regulations.

Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

Material Safety Data Sheet

Date of issue 15 August 2012
Version 19

1. Product and company identification

Product name : 4F H.S WHITE POLY COMP A
Code : DM19087
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

2. Hazards identification

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from heat, sparks and flame. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed.
Skin : May cause skin dryness and irritation.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
titanium dioxide	13463-67-7	15 - 40
heptan-2-one	110-43-0	10 - 30
Limestone	1317-65-3	1 - 5
2-methoxy-1-methylethyl acetate	108-65-6	1 - 5
aluminium hydroxide	21645-51-2	0.5 - 1.5
1,2,4-trimethylbenzene	95-63-6	0.1 - 1

Powered by ATRION

9 . Physical and chemical properties

Physical state	: Liquid.
Flash point	: Closed cup: 43.33°C (110°F)
Explosion limits	: Lower: 1.2%
Color	: Not available.
Odor	: Not available.
pH	: Not available.
Boiling/condensation point	: >37.78°C (>100°F)
Melting/freezing point	: Not available.
Specific gravity	: 1.41
Density (lbs / gal)	: 11.77
Vapor pressure	: 0.33 kPa (2.5 mm Hg) [room temperature]
Vapor density	: Not available.
Volatility	: 47% (v/v), 28.28% (w/w)
Evaporation rate	: 37 (butyl acetate = 1)
Partition coefficient: n-octanol/water	: Not available.
% Solid. (w/w)	: 71.72

10 . Stability and reactivity

Stability	: Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	: Reactive or incompatible with the following materials:,water,acids,oxidizing materials, strong alkalis
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
heptan-2-one	LD50 Oral	Rat	1.6 g/kg	-
	LD50 Dermal	Rabbit	10.206 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Oral	Rat	8532 mg/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
1,2,4-trimethylbenzene	LD50 Oral	Rat	5 g/kg	-
	LC50 Inhalation	Rat	18000 mg/m3	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Target organs : Contains material which causes damage to the following organs: lungs, brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: kidneys, peripheral nervous system, upper respiratory tract, skin, eye, lens or cornea, nose/sinuses, throat.

Carcinogenicity

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PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

Customer: PPG TrueFinish Industrial Coatings
5500 Corporate Drive; Suite 500
Pittsburgh Pa 15237

PRODUCT: DM19087 4F H.S WHITE POLY COMP A

PRODUCT PHYSICAL CHARACTERISTICS:

WEIGHT PER GALLON:		11.84 lbs/gal
DENSITY OF ORGANIC SOLVENT BLEND:		7.02 lbs/gal
	Weight	Volume
NON-VOLATILE:	71.73 %	52.36 %
VOLATILE:	28.27 %	47.64 %
PERCENT OF WATER:	0.04 %	0.06 %
PERCENT OF EXEMPTS:	0.00 %	0.00 %

VOC INFORMATION:

VOC/GAL LESS WATER (LESS EXEMPTS):	3.34 lbs/gal	400.13 g/ltr
ACTUAL VOC/GAL (WITH WATER WITH EXEMPTS):	3.34 lbs/gal	400.13 g/ltr
VOC PER GALLON OF SOLIDS:	6.38 lbs/gal	764.32 g/ltr
VOC PER POUND OF SOLIDS:	0.39 lb/lb	

*Product is **not** photochemically reactive as per SCAQMD rule 102*
SOLVENT BLEND COMPOSITION PER CLASSIFICATION: I = 0 II = 2 III = 0 IV = 2

VOLATILE COMPOSITION: PERCENT OF TOTAL FORMULA:

CAS #	Composition	Weight	Volume
110-43-0	HEPTAN-2-ONE	21.96	38.24
108-65-6	1-METHOXY-2-PROPYL ACETATE	3.94	5.82
123-54-6	PENTANE-2;4-DIONE / ACETYLACETONE	0.37	0.54
64742-95-6	SOLVENT NAPHTHA (PETROLEUM), LIGHT	0.37	0.60
34590-94-8	DIPROPYLENE GLYCOL MONOMETHYL ETHER	0.34	0.51
95-63-6	1,2,4-TRIMETHYLBENZENE	0.11	0.17

PPG INDUSTRIES, INC.

Environmental Data Sheet

Thursday, August 16, 2012

PRODUCT: DM19087 4F H.S WHITE POLY COMP A

NO REGULATORY DATA TO REPORT FOR THIS PRODUCT

POUND OF ORGANIC HAPS PER GALLON OF PRODUCT: 0.000
PERCENT OF ORGANIC HAPS (VHAP): 0.00 %

DISCLAIMER

This Environmental Data Sheet is not intended to replace the product's Material Safety Data Sheet.

The data contained in this Environmental Data Sheet is based on information provided to PPG by its suppliers and PPG's knowledge of PPG product formulations. PPG makes no representation or warranty regarding the accuracy of supplier furnished information or that this information or data will not change.

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Trace constituents present at levels less than 0.01 LBS or KLGS are not included in the Regulatory Information section of this Environmental Data Sheet. Volatile HAPS present at levels less than 0.1% by weight for carcinogens and 1.0% for non-carcinogens will not be shown or will be indicated by a "No" in the Regulatory Section (under HAPS) of this Environmental Data Sheet.

Trace volatiles present at levels less than 0.1% by weight are not included in the Volatile Section of this Environmental Data Sheet.

Chemical compounds generated as a result of the curing process of this coating are not included on this Environmental Data Sheet.

The USEPA listing of VOC exempt compounds [40CFR51.000(s)] is used in calculating VOC values.

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**DIESEL FUELS**
Revision date	08-11-2011
Version #	02
MSDS Number	102
Product use	Refinery feedstock.
Synonym(s)	Diesel Fuels All Grades, Diesel Fuel No.2, Fuel Oil No.2, High Sulfur Diesel Fuel, Low Sulfur Diesel Fuel, Ultra Low Sulfur Diesel Fuel, CARB (California Air Resource Board) Diesel Fuel, Off-Road Diesel Fuel, Dyed Diesel Fuel, X Grade Diesel Fuel, X-1 Diesel Fuel See section 16 for complete information.
Manufacturer/Supplier	Valero Marketing & Supply Company and Affiliates P.O. Box 696000 San Antonio, TX 78269-6000 General Assistance 210-345-4593
Emergency	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

2. Hazards Identification

Physical state	Liquid.
Appearance	Liquid (may be dyed red).
Emergency overview	DANGER! Combustible liquid and vapor. May be ignited by heat, sparks or flames. Heat may cause the containers to explode. Harmful if inhaled or swallowed. May be harmful if absorbed through skin. Aspiration may cause lung damage. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Suspect cancer hazard - may cause cancer. Prolonged exposure may cause chronic effects. Diesel exhaust has been reported to be an occupational hazard due to NIOSH-reported potential carcinogenic properties. Hydrogen sulfide, a highly toxic gas, may be present or released. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Contact may irritate or burn eyes. Eye contact may result in corneal injury.
Skin	May be harmful if absorbed through skin. Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Inhalation	Harmful if inhaled. Irritating to respiratory system. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. May cause breathing disorders and lung damage. May cause cancer by inhalation. Prolonged inhalation may be harmful.
Ingestion	Harmful if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Irritating to mouth, throat, and stomach.
Target organs	Blood. Eyes. Liver. Respiratory system. Skin. Kidneys. Central nervous system.
Chronic effects	Suspect cancer hazard - may cause cancer. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Signs and symptoms	Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

Potential environmental effects Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Fuels, diesel	68334-30-5	85 - 100
Biodiesel - Fatty acid methyl esters	67762-38-3	0 - 10
n-Nonane	111-84-2	1 - 3
Octane (All isomers)	111-65-9	1 - 2
Hexane (Other isomers)	96-14-0	0 - 1
Naphthalene	91-20-3	0 - 1
n-Heptane	142-82-5	0 - 1
n-Hexane	110-54-3	0 - 1

4. First Aid Measures

First aid procedures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Skin contact Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention immediately.

Notes to physician In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General advice If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire Fighting Measures

Flammable properties Combustible by OSHA criteria. Containers may explode when heated.

Extinguishing media

Suitable extinguishing media Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/Instructions Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.

Specific methods In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products Carbon monoxide. Carbon Dioxide. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons. Hydrogen sulfide.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.

Environmental precautions

If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Flammable. Review Fire Fighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.

Methods for containment

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Local authorities should be advised if significant spillages cannot be contained. Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Use non-sparking tools and explosion-proof equipment.

Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste.

Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

Storage

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Fuels, diesel (68334-30-5)	TWA	100 mg/m3	Inhalable fraction and vapor.
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm	
	TWA	500 ppm	
Naphthalene (91-20-3)	TWA	10 ppm	
	STEL	15 ppm	
n-Heptane (142-82-5)	TWA	400 ppm	
	STEL	500 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
n-Hexane (110-54-3)	TWA	50 ppm	
n-Nonane (111-84-2)	TWA	200 ppm	
Octane (All isomers) (111-65-9)	TWA	300 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Naphthalene (91-20-3)	PEL	10 ppm 50 mg/m3
n-Heptane (142-82-5)	PEL	2000 mg/m3 500 ppm
n-Hexane (110-54-3)	PEL	1800 mg/m3 500 ppm
Octane (All isomers) (111-65-9)	PEL	2350 mg/m3 500 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Fuels, diesel (68334-30-5)	TWA	100 mg/m3
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm
	TWA	1760 mg/m3
	STEL	3500 mg/m3
	TWA	500 ppm
Naphthalene (91-20-3)	TWA	10 ppm
	STEL	15 ppm
	TWA	52 mg/m3
	STEL	79 mg/m3
n-Heptane (142-82-5)	TWA	1640 mg/m3
	STEL	2050 mg/m3
	TWA	400 ppm
	STEL	500 ppm
n-Hexane (110-54-3)	TWA	176 mg/m3 50 ppm
n-Nonane (111-84-2)	TWA	1050 mg/m3 200 ppm
Octane (All isomers) (111-65-9)	TWA	1400 mg/m3 300 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Fuels, diesel (68334-30-5)	TWA	100 mg/m3	Vapor and aerosol.
Hexane (Other isomers) (96-14-0)	TWA	200 ppm	
Naphthalene (91-20-3)	TWA	10 ppm	
	STEL	15 ppm	
n-Heptane (142-82-5)	TWA	400 ppm	
	STEL	500 ppm	
n-Hexane (110-54-3)	TWA	20 ppm	
n-Nonane (111-84-2)	TWA	200 ppm	
Octane (All isomers) (111-65-9)	TWA	300 ppm	

Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Fuels, diesel (68334-30-5)	TWA	100 mg/m3	Vapor and aerosol.
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm	
	TWA	1760 mg/m3	

Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
	STEL	3520 mg/m3	
	TWA	500 ppm	
Naphthalene (91-20-3)	TWA	10 ppm	
	STEL	15 ppm	
	TWA	52 mg/m3	
	STEL	78 mg/m3	
n-Heptane (142-82-5)	TWA	1635 mg/m3	
	STEL	2045 mg/m3	
	TWA	400 ppm	
	STEL	500 ppm	
n-Hexane (110-54-3)	TWA	176 mg/m3	
		50 ppm	
n-Nonane (111-84-2)	TWA	1050 mg/m3	
		200 ppm	
Octane (All isomers) (111-65-9)	TWA	1400 mg/m3	
	STEL	1750 mg/m3	
	TWA	300 ppm	
	STEL	375 ppm	

Canada. Quebec OELS. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm
	TWA	1760 mg/m3
	STEL	3500 mg/m3
	TWA	500 ppm
Naphthalene (91-20-3)	TWA	10 ppm
	STEL	15 ppm
	TWA	52 mg/m3
	STEL	79 mg/m3
n-Heptane (142-82-5)	TWA	1640 mg/m3
	STEL	2050 mg/m3
	TWA	400 ppm
	STEL	500 ppm
n-Hexane (110-54-3)	TWA	176 mg/m3
		50 ppm
n-Nonane (111-84-2)	TWA	1050 mg/m3
		200 ppm
Octane (All isomers) (111-65-9)	TWA	1400 mg/m3
	STEL	1750 mg/m3
	TWA	300 ppm
	STEL	375 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Hexane (Other isomers) (96-14-0)	STEL	1000 ppm
	TWA	1760 mg/m3
	STEL	3500 mg/m3
	TWA	500 ppm
Naphthalene (91-20-3)	TWA	10 ppm
	STEL	15 ppm
	TWA	50 mg/m3
	STEL	75 mg/m3
n-Heptane (142-82-5)	TWA	1600 mg/m3
	STEL	2000 mg/m3
	TWA	400 ppm
	STEL	500 ppm
n-Hexane (110-54-3)	TWA	176 mg/m3
		50 ppm
n-Nonane (111-84-2)	TWA	1050 mg/m3
	STEL	1300 mg/m3

Mexico. Occupational Exposure Limit Values

Components	Type	Value
	TWA	200 ppm
	STEL	250 ppm
Octane (All isomers) (111-65-9)	TWA	1450 mg/m3
	STEL	1800 mg/m3
	TWA	300 ppm
	STEL	375 ppm

Engineering controls Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

Personal protective equipment

Eye / face protection Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin protection Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.

Respiratory protection Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.

General hygiene considerations Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Liquid (may be dyed red).
Color	Clear. Straw.
Odor	Kerosene (strong).
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	Not available.
Melting point	Not available.
Freezing point	-60.1 °F (-51.15 °C) Estimated
Boiling point	325 - 700 °F (162.78 - 371.11 °C)
Flash point	> 100 °F (> 37.8 °C) Closed Cup
Evaporation rate	0.02
Flammability limits in air, upper, % by volume	8 %
Flammability limits in air, lower, % by volume	0.4 %
Vapor pressure	< 1 mm Hg (20°C)
Vapor density	3 (Air = 1)
Specific gravity	0.82 - 0.87 (60°F)
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	495 °F (257.2 °C)
Decomposition temperature	Not available.
Viscosity	2 - 4.5 mm²/s

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions and recommended use.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons. Hydrogen sulfide.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Test Results
Octane (All isomers) (111-65-9)	Acute Inhalation LC50 Rat: 118 mg/l 4 Hours
n-Nonane (111-84-2)	Acute Inhalation LC50 Rat: 3200 mg/l 4 Hours
n-Heptane (142-82-5)	Acute Inhalation LC50 Rat: 103 mg/l 4 Hours
Naphthalene (91-20-3)	Acute Dermal LD50 Rabbit: > 2 g/kg
	Acute Oral LD50 Rat: 490 mg/kg

Acute effects Harmful if inhaled, absorbed through skin, or swallowed. Harmful: may cause lung damage if swallowed. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere.

Local effects

US ACGIH Threshold Limit Values: Skin designation

Fuels, diesel (CAS 68334-30-5)	Can be absorbed through the skin.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Sensitization This substance may have a potential for sensitization which may provoke an allergic reaction among sensitive individuals.

Chronic effects Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. Repeated exposure to naphthalene may cause cataracts, allergic skin rashes, destruction of red blood cells, and anemia, jaundice, kidney and liver damage. Danger of serious damage to health by prolonged exposure. Prolonged or repeated overexposure may cause central nervous system, kidney, liver, and lung damage.

Subchronic effects Liver and kidney damage may occur after prolonged and repeated exposure.

Carcinogenicity Diesel exhaust has been reported to be an occupational hazard due to NIOSH-reported potential carcinogenic properties.

ACGIH Carcinogens

Fuels, diesel (CAS 68334-30-5)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Naphthalene (CAS 91-20-3)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Naphthalene (CAS 91-20-3)	2B Possibly carcinogenic to humans.

US NTP Report on Carcinogens: Anticipated carcinogen

Naphthalene (CAS 91-20-3)	Anticipated carcinogen.

Epidemiology Studies have shown a risk of spontaneous abortions in women exposed to high concentrations of organic solvents during pregnancy. Pre-existing skin conditions including dermatitis might be aggravated by exposure to this product.

Mutagenicity No component of this product present at levels greater than or equal to 0.1% is identified as a mutagen by OSHA.

Neurological effects	Chronic exposure to high concentrations of various hydrocarbon blends may lead to polyneuropathy (peripheral nerve damage), characterized by progressive weakness and numbness in the extremities, loss of deep tendon reflexes and reduction of motor nerve conduction velocity. Numerous cases of polyneuritis have been reported following prolonged exposures to a petroleum fraction containing various isomers of heptane as major ingredients. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue) and/or damage.
Reproductive effects	Napthalene interferes with embryo development in experimental animals at dose levels that cause maternal toxicity. In humans, excessive exposure to this agent may cause hemolytic anemia in the mother and fetus.
Teratogenicity	The components of this product are not reported to cause teratogenic effects in humans. Based on best current information, there is no known teratogenicity associated with this product.
Further information	Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components	**Test Results**
n-Hexane (110-54-3)	LC50 Fathead minnow (Pimephales promelas): 2.101 - 2.981 mg/l 96 hours
n-Heptane (142-82-5)	LC50 Mozambique tilapia (Tilapia mossambica): 375 mg/l 96 hours
Naphthalene (91-20-3)	EC50 Water flea (Daphnia magna): 1.09 - 3.4 mg/l 48 hours
	LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss): 0.91 - 2.82 mg/l 96 hours

Ecotoxicity	Contains a substance which causes risk of hazardous effects to the environment.
Environmental effects	The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.
Aquatic toxicity	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Persistence and degradability	Not available.
Bioaccumulation / Accumulation	No data available.
Partition coefficient (n-octanol/water)	Not available.
Mobility in environmental media	No data available.

13. Disposal Considerations

Waste codes	D001: Waste Flammable material with a flash point <140 °F
Disposal instructions	Dispose in accordance with all applicable regulations. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

14. Transport Information

DOT

Basic shipping requirements:

UN number	NA1202
Proper shipping name	Diesel fuel
Hazard class	Combustible Liquid
Packing group	III
Labels required	Combustible liquid
Additional information:	
Special provisions	144, B1, IB3, T2, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

Basic shipping requirements:

UN number	1202
Proper shipping name	Diesel fuel
Hazard class	3
Packing group	III
Additional information:	
ERG code	3L

IMDG

Basic shipping requirements:

UN number	1202
Proper shipping name	Diesel fuel
Hazard class	3
Packing group	III
EmS No.	F-E, S-E

TDG

Basic shipping requirements:

Proper shipping name	Diesel fuel
Hazard class	3
UN number	UN1202
Packing group	III

15. Regulatory Information

US federal regulations

TSCA Section 12(b) Export Notification(40 CFR 707, Subpt. D)

NAPHTHALENE (CAS 91-20-3)	0.1 % One-Time Export Notification only.
N-HEPTANE (CAS 142-82-5)	1.0 % One-Time Export Notification only.
NONANE (CAS 111-84-2)	1.0 % One-Time Export Notification only.

US CAA Section 112 Hazardous Air Pollutants (HAPs) List

HEXANE (N-HEXANE) (CAS 110-54-3)
NAPHTHALENE (CAS 91-20-3)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Naphthalene (CAS 91-20-3)	0.1 %
n-Hexane (CAS 110-54-3)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Naphthalene (CAS 91-20-3)	Listed.
n-Hexane (CAS 110-54-3)	Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

n-Nonane: 100
Octane (All isomers): 100
Hexane (Other isomers): 100
Naphthalene: 100
n-Heptane: 100
n-Hexane: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance (40 CRF 355, Appendix A)	No
Section 311/312 (40 CFR 370)	No
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)	Not controlled
WHMIS status	Controlled

WHMIS classification

B3 - Flammable/Combustible
D2B - Other Toxic Effects-TOXIC

WHMIS labeling

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

US - California Hazardous Substances (Director's): Listed substance

Hexane (Other isomers) (CAS 96-14-0)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)	Listed.
Toluene (CAS 108-88-3)	Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2)	Listed: February 27, 1987 Carcinogenic.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Developmental toxin.
Toluene (CAS 108-88-3)	Listed: January 1, 1991 Developmental toxin.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)	Listed: August 7, 2009 Female reproductive toxin.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Male reproductive toxin.

US - Massachusetts RTK - Substance: Listed substance

Hexane (Other isomers) (CAS 96-14-0)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

Naphthalene (CAS 91-20-3)	500 LBS
n-Hexane (CAS 110-54-3)	500 LBS

US - New Jersey RTK - Substances: Listed substance

Naphthalene (CAS 91-20-3)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.

Octane (All isomers) (CAS 111-65-9)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Fuels, diesel (CAS 68334-30-5)	Listed.
Hexane (Other isomers) (CAS 96-14-0)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

Other information

Note: This Material Safety Data Sheet applies to the listed products and synonym descriptions for Hazard Communication purposes only. Technical Specifications vary greatly depending on the products and are not reflected in this document. Consult specification sheets for technical information.

HMIS® ratings

Health: 2*
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 2
Instability: 0

Disclaimer

This Material Safety Data Sheet (MSDS) was prepared in accordance with 29 CFR 1910.1200 by Valero Marketing & Supply Co., ("VALERO"). VALERO does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this MSDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use , the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.

Issue date

08-11-2011

MATERIAL SAFETY DATA SHEET

Propane

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Propane
Synonyms:	Commercial Propane HD5 Propane LP-Gas Liquefied Petroleum Gas Odorized Propane Propane (Unstenched) Propane Commercial Propane Motor Fuel Propane for Process Stenched Propane Unodorized Propane
Intended Use:	Fuel
Chemical Family:	Petroleum Gas
Responsible Party:	ConocoPhillips 600 N. Dairy Ashford Houston, Texas 77079-1175
MSDS Information:	800-762-0942 MSDS@conocophillips.com
Customer Service:	281-293-2471
Technical Information:	580-767-5611

Emergency Overview

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident Call CHEMTREC:
North America: (800) 424-9300
Others: (703) 527-3887 (collect)

California Poison Control System: (800) 356-3219

Health Hazards/Precautionary Measures: Gas may reduce oxygen available for breathing. Liquefied gas may cause eye and skin burns and frostbite. Use with ventilation adequate to keep exposure below recommended limits, if any. Avoid contact with eyes, skin and clothing.

Physical Hazards/Precautionary Measures: Flammable gas. Can cause flash fire. Liquefied petroleum gas. Contents under pressure. Keep away from heat, sparks, flames, static electricity or other sources of ignition. Do not enter storage areas or confined space unless adequately ventilated.

Appearance:	Colorless
Physical Form:	Gas or Liquid (Under Pressure)
Odor:	Odorless (or skunk, rotten egg or garlic if odorant added)

NFPA 704 Hazard Class:

Health:	2 (Moderate)
Flammability:	4 (Extreme)
Instability:	0 (Least)

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS					
Component / CAS No:	**Concentration (wt %)**	**ACGIH:**	**OSHA:**	**NIOSH:**	**Other:**
Propane 74-98-6	80 - 100	1000 ppm TWA	1000 ppm TWA 1800 mg/m³ TWA	2100 ppm IDLH	as Aliphatic Hydrocarbon Gases: Alkane (C1-C4)
Propylene 115-07-1	<20	1000 ppm TWA	NE	NE	as Aliphatic Hydrocarbon Gases: Alkane (C1-C4)
Ethane 74-84-0	< 6	1000 ppm TWA	NE	NE	as Aliphatic Hydrocarbon Gases: Alkane (C1-C4)
n-Pentane 109-66-0	<2.5	600 ppm TWA	1000 ppm TWA	1500 ppm IDLH	---

Odorized products contain small quantities (<0.1%) ethyl mercaptan as an olfactory indicator. Contains less than 2.5% total butanes and higher.

HD-5 COMPOSITION: Propane >90%, Propylene <5%

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

1%=10,000 PPM.
NE=Not Established

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye: Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.

Skin: Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn).This material is a gas under normal atmospheric conditions. No harmful effects from skin absorption are expected.

Inhalation (Breathing): Asphyxiant. High concentrations in confined spaces may limit oxygen available for breathing. See Signs and Symptoms.

Ingestion (Swallowing): This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Signs and Symptoms: Light hydrocarbon gases are simple asphyxiants and can cause anesthetic effects at high concentrations. Symptoms of overexposure, which are reversible if exposure is stopped, can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting. Continued exposure can lead to hypoxia (inadequate oxygen), cyanosis (bluish discoloration of the skin), numbness of the extremities, unconsciousness and death.

Cancer: There is inadequate information to evaluate the cancer hazard of this material. See Section 11 for information on the individual components, if any.

Target Organs: Inadequate data available for this material.

Developmental: No data available for this material.

Other Comments: High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus. Exposure during pregnancy to high concentrations of carbon monoxide or carbon dioxide, which are produced during the combustion of hydrocarbon gases, can also cause harm to the developing fetus.

For products that have been odorized, the intensity of ethyl mercaptan stench (its odor) may fade due to chemical oxidation (in the presence of rust, air or moisture), adsorption or absorption. Some people have nasal perception problems and may not be able to smell the ethyl mercaptan stench. Other odors may mask or hide the ethyl mercaptan stench. While ethyl mercaptan may not warn of the presence of propane in every instance, it is generally effective in a majority of situations.

Pre-Existing Medical Conditions: Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect (see Section 4 - Note to Physicians).

4. FIRST AID MEASURES

Eye: For contact with the liquefied gas, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

Skin: Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

5. FIRE-FIGHTING MEASURES

Flammable Properties:

Flash Point:	-156°F / -104°C
Test Method:	Tag Closed Cup (TCC), ASTM D56
OSHA Flammability Class:	Flammable Gas
LEL%:	2.1
UEL%:	9.5
Autoignition Temperature:	842°F / 432°C

Unusual Fire & Explosion Hazards: This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire. Closed containers exposed to extreme heat can rupture due to pressure buildup.

Extinguishing Media: Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Stay away from ends of container. Stop spill/release if it can be done with minimal risk. If this cannot be done, allow fire to burn. Cool equipment exposed to fire with water, if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk.

6. ACCIDENTAL RELEASE MEASURES

Flammable. Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof electrical equipment is recommended.

Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Water spray may be useful in minimizing or dispersing vapors (see Section 5). Notify fire authorities and appropriate federal, state, and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Contents under pressure. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-704 and/or API RP 2003 for specific bonding/grounding requirements.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Use good personal hygiene practices.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

Personal Protective Equipment (PPE):

Respiratory: Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode in oxygen deficient environments (oxygen content <19.5%) or if exposure concentration is unknown or if conditions immediately dangerous to life or health (IDLH) exist.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of thermally resistant gloves is recommended.

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance:	Colorless
Physical Form:	Gas or Liquid (Under Pressure)
Odor:	Odorless (or skunk, rotten egg or garlic if odorant added)
Odor Threshold:	No data
pH:	Not applicable
Vapor Pressure (mm Hg):	208 psi @ 100°F (38°C) (maximum)
Vapor Density (air=1):	No data
Boiling Point:	-44°F / -42°C
Melting/Freezing Point:	-309°F / -190°C
Solubility in Water:	Negligible

9. PHYSICAL AND CHEMICAL PROPERTIES

Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	0.50-0.51@ 60°F (15.6°C)
Percent Volatile:	100%
Evaporation Rate (nBuAc=1):	>1
Flash Point:	-156°F / -104°C
Test Method:	Tag Closed Cup (TCC), ASTM D56
LEL%:	2.1
UEL%:	9.5
Autoignition Temperature:	842°F / 432°C

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Flammable gas.

Conditions to Avoid: Avoid high temperatures and all sources of ignition (see Sections 5 and 7).

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield carbon dioxide, carbon monoxide.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Chronic Data:

No definitive information available on carcinogenicity, mutagenicity, target organ, or developmental toxicity.

Acute Data:

12. ECOLOGICAL INFORMATION

There is no information available on the ecotoxicological effects of petroleum gases. Because of their high volatility, they are unlikely to cause ground or water pollution. Petroleum gases released into the environment will rapidly disperse into the atmosphere and undergo photochemical degradation.

13. DISPOSAL CONSIDERATIONS

This material is a gas and is not typically managed as a RCRA solid waste.

14. TRANSPORT INFORMATION

DOT

Shipping Description: Propane, 2.1, UN1978
Non-Bulk Package Marking: Propane, UN1978
Non-Bulk Package Labeling: Flammable gas
Bulk Package/Placard Marking: Flammable gas/1978
Packaging - References (Exceptions, Non-Bulk, Bulk): 49 CFR 173.304, 173.306, 173.314, 173.315
Hazardous Substance: None
Emergency Response Guide: 115
Note: See 172.102, special provisions, code 19 for domestic ID number exception

IMDG

Shipping Description: UN1978, Propane, 2.1
Non-Bulk Package Marking: Propane, UN1978
Labels: Flammable gas
Placards/Marking (Bulk): Flammable gas/1978
Packaging - Non-Bulk: P200

14. TRANSPORT INFORMATION

EMS: F-D, S-U

ICAO/IATA

UN/ID #: UN1978
Proper Shipping Name: Propane
Hazard Class/Division: 2.1
Packing Group: None
Subsidiary risk: None
Non-Bulk Package Marking: Propane, UN1978
Labels: Flammable gas
Note: Section A4, special provision A1 applies to this product

	LTD. QTY.	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	None	Forbidden	200
Max. Net Qty. Per Package:	None	Forbidden	150 kg

15. REGULATORY INFORMATION

U.S. Regulations:

EPA SARA 311/312 (Title III Hazard Categories)

Acute Health:	Yes
Chronic Health:	No
Fire Hazard:	Yes
Pressure Hazard:	Yes
Reactive Hazard:	No

SARA - Section 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:
Propylene.....115-07-1.....<20%

EPA (CERCLA) Reportable Quantity (in pounds):
EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material contains the following chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372:
– None Known –

California Proposition 65:
Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):
-- None Known –

Carcinogen Identification:
This material has not been identified as a carcinogen by NTP, IARC, or OSHA.

TSCA:
All components are listed on the TSCA inventory.

International Regulations:

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Domestic Substances List: Listed

WHMIS Hazard Class:
A - Compressed Gas
B1 - Flammable Gases

16. OTHER INFORMATION

Issue Date:	21-Mar-2006
Previous Issue Date:	01-Jun-2005
Product Code:	1051357, 1051358
Previous Product Code:	None
Revised Sections or Basis for Revision:	Composition (Section 2) Physical Properties (Section 9)
MSDS Code:	169570

Disclaimer of Expressed and Implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

GALAXY ASSOCIATES, INC.

4370 Malsbary Road, Suite 200
Cincinnati, Ohio 45242-5653

CHEMTREC Emergency Number: 800-424-9300 Customer Service Number: 800-661-9443
Health Emergency Number: 513-244-1211

The information on this Material Safety Data Sheet is in compliance with OSHA Hazard Communication Standard 29CFR 1910.1200. Information pertains to product as received in original container.

1. PRODUCT IDENTIFICATION

PRODUCT:	**GF PREP 508TP**

HMIS RATING:

HEALTH:	1
FLAMMABILITY:	0
REACTIVITY:	0
OTHER:	

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Severe

2. HAZARDOUS INGREDIENT INFORMATION

The following ingredients have been found to be hazardous according to OSHA 1910.1200. Please refer to additional information in Section 16 for details on the hazards of these ingredients.

Hazardous Ingredient	CAS Number	% w/w	TLV
Phosphoric Acid	7664-38-2	1-5	1 mg/m3
Hydrofluoboric Acid	6872-11-0	1-5	2.5 mg/m3 as F
Ethoxylated Nonylphenol	68412-54-4	1-5	N/AP

3. HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE: Eye, Skin

HUMAN HEALTH HAZARDS: Corrosive. Will cause eye burns and permanent tissue damage. May cause severe skin irritation or tissue damage depending on the length of exposure. Ingestion causes chemical burns to the mouth, throat and stomach. Inhalation in high concentrations, is irritating to eyes, nose, throat and lungs.

GALAXY ASSOCIATES, INC. believes the information contained in Material Safety Data Sheet is current. Since the use of this information and the conditions of the use of this product are not within the control of GALAXY ASSOCIATES, INC., it is the user's obligation to determine the safe use conditions of the product.

GALAXY ASSOCIATES, INC.
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4. FIRST AID MEASURES

For eye contact, immediately flush eyes with water for at least 15 minutes holding eyelids apart. Get immediate medical attention. For skin contact, immediately flush with plenty of water for at least 15 minutes. Remove contaminated clothing. Wash affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use If ingested, DO NOT INDUCE VOMITING. If conscious, give large quantities of water. Get immediate medical attention. For inhalation, remove to fresh air. Treat symptoms. Get medical attention.

Note to Physician:
Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASHPOINT: None

EXTINGUISHING MEDIA: Carbon dioxide, Foam, Dry powder. Use extinguishing media appropriate to surrounding fire. Water mist may be used to cool closed containers.

FIRE AND EXPLOSION HAZARDS: Not flammable or combustible. May evolve oxides of phosphorus and carbon under fire conditions.

PROTECTIVE EQUIPMENT FOR EMERGENCY RESPONSE: In case of fire, wear self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

EMERGENCY RESPONSE RECOMMENDATIONS: Restrict access to area. Ventilate area. Do not touch spilled material. Clean-up should be conducted by trained personnel only. Stop leaks. Use proper personal protective equipment.

CLEAN UP RECOMMENDATIONS: Small Spills – Soak up spill with absorbent material. Place residues in suitable, covered, properly labeled container. Wash affected area. Large Spills – Contain liquid using absorbent material or by diking. Reclaim into recovery drums for proper disposal. Wash area thoroughly with water. Contact approved waste hauler for proper disposal. Dispose of material in compliance with local, state and federal regulations. Do not contaminate surface water.

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7. HANDLING AND STORAGE

HANDLING AND STORAGE: Do not get in eyes, on skin, or on clothing. Do not take internally. Use with adequate ventilation. Avoid generating mists or aerosols. Keep containers closed when not in use. Store separately from bases.

8. PERSONAL PROTECTION RECOMMENDATIONS

Respiratory Protection: Not generally required. If mists, vapors or aerosols are generated, use a NIOSH approved respirator. If necessary, use SCBA protective equipment.

Eye Protection: Face shield with chemical goggles

Hand Protection: Chemical resistant gloves, Neoprene, rubber

Protective Equipment: Eye wash and safety shower. If clothing is contaminated, remove clothing and thoroughly was affected area. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear yellow
Odor	Surfactant
Solubility in Water	Complete
pH (1%)	3.1
Density	9.10 lb/gal.

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: High temperatures, direct sunlight

MATERIALS TO AVOID: Contact with strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide, potassium hydroxide, calcium hydroxide, cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon, nitrogen and phosphorus under fire conditions.

GALAXY ASSOCIATES, INC. believes the information contained in Material Safety Data Sheet is current. Since the use of this information and the conditions of the use of this product are not within the control of GALAXY ASSOCIATES, INC., it is the user's obligation to determine the safe use conditions of the product.

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CHEMTREC Emergency Number: 800-424-9300 Customer Service Number: 800-661-9443
Health Emergency Number: 513-244-1211

11. TOXICOLOGICAL DATA

No toxicity studies have been conducted on this product.

The following information is for ingredients in this product.

Phosphoric Acid: Dermal – LD50 –2740 mg/kg Rabbit
Oral – LD50 – 1530 mg/kg Rat

CARCINOGENICITY: This product does not contain ingredients listed as carcinogens by IARC (International Agency for Research on Cancer), the NTP (National Toxicology Program), or ACGIH (American Conference of Governmental Industrial Hygienists).

12. ECOLOGICAL INFORMATION

ECOLOGICAL EFFECTS:

No toxicity studies have been conducted on this product.

13. DISPOSAL CONSIDERATIONS

This product is corrosive. Contact a licensed hazardous waste transporter for proper treatment and disposal. Consult local, state, and federal regulations for specific requirements.

14. TRANSPORTATION INFORMATION

The Proper Shipping Name listed below is based on DOT regulations and may vary by package size and mode of transportation. This information is for informational purposes and should not replace the Bill of Lading (shipping paper) .

LAND TRANSPORT: UN1760, Corrosive Liquids,N.O.S. (Phosphoric Acid) 8, PGII

15. REGULATORY INFORMATION

The following information is based on national regulations:

TSCA: All ingredients used in the make up of this product are listed on TSCA (Toxic Substance Control Act).

GALAXY ASSOCIATES, INC. believes the information contained in Material Safety Data Sheet is current. Since the use of this information and the conditions of the use of this product are not within the control of GALAXY ASSOCIATES, INC., it is the user's obligation to determine the safe use conditions of the product.

GALAXY ASSOCIATES, INC.
4370 Malsbary Road, Suite 200
Cincinnati, Ohio 45242-5653

CHEMTREC Emergency Number: 800-424-9300 Customer Service Number: 800-661-9443
Health Emergency Number: 513-244-1211

WHMIS Classification: Class E

CERCLA/SUPERFUND, 40 CFR 117.302: This product does not contain any reportable substance.

SARA Title III, Section 302, Extremely Hazardous Substances , 40 CFR 355:
This product does not contain Extremely Hazardous Substances.

SARA Title III, Sections 311 and 312, Material Safety Data Sheet Requirements, 40 CFR 370: Immediate (Acute) Health Hazard

SARA Title III, Section 313, List of Toxic Chemicals, 40 CFR 372:
This product does not contain substances which appear on the List of Toxic Chemicals.

State Right to Know Laws (Reportable Chemicals):
This product contains the following reportable substances.

Phosphoric Acid

16. Other Pertinent Product Information

CAUTION STATEMENT

DANGER: Acidic Product. Liquid. Corrosive. Can irritate or burn eyes. Can cause severe skin irritation. Harmful if swallowed. Do not get in eyes or on skin or clothing. Do not take internally.

In case of eye and skin contact, flush with plenty of cool water for at least 15 minutes. Get immediate medical attention. Remove contaminated clothing. Wash affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use If ingested, DO NOT INDUCE VOMITING. If conscious, give large quantities of water. Get immediate medical attention. For inhalation, remove to fresh air. Treat symptoms. Get medical attention.

Do not store in direct sunlight or hot area. Open drums slowly to vent. Handle with rubber gloves, rubber apron, chemical goggles, face mask, and rubber boots. Avoid breathing vapor or mist. Eye wash and safety shower, or some other means of washing product off personnel, must be immediately available. Personnel handling this product should be acquainted with its characteristics and dangers. Keep out of reach of children. Not for manual use.

L02-07

Prepared by: Product Safety Group

Date Prepared: 9/9/2010
Supercedes: 5/19/2008

GALAXY ASSOCIATES, INC. believes the information contained in Material Safety Data Sheet is current. Since the use of this information and the conditions of the use of this product are not within the control of GALAXY ASSOCIATES, INC., it is the user's obligation to determine the safe use conditions of the product.

Webber, Robert

From: Jim Harral <jharral@thurstonmfgco.com>
Sent: Friday, January 30, 2015 1:34 PM
To: Webber, Robert
Subject: SDS's from PPG Industries
Attachments: QT110HC_SDS.pdf; Q3890-9253_SDS.pdf; QT380HC_SDS.pdf; 6-500_SDS.pdf; QT380HW_SDS.pdf; DM19040_SDS.pdf; DM19147_SDS.pdf; DM18996_SDS.pdf; QAP582_SDS.pdf; QAP581_SDS.pdf; Q9001_SDS.pdf; Q900BK463_SDS.pdf

Jim Harral
Safety Director
Thurston Manufacturing Company
www.thurstonmfgco.com
Phone: 402-385-3041
Fax: 402-385-3043


Thurston Manufacturing Company

Blu-Jet

Circle-R Side-Dump

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Webber, Robert

From: Jim Harral <jharral@thurstonmfgco.com>
Sent: Friday, January 30, 2015 1:34 PM
To: Webber, Robert
Subject: SDS's from PPG Industries
Attachments: QT110HC_SDS.pdf; Q3890-9253_SDS.pdf; QT380HC_SDS.pdf; 6-500_SDS.pdf; QT380HW_SDS.pdf; DM19040_SDS.pdf; DM19147_SDS.pdf; DM18996_SDS.pdf; QAP582_SDS.pdf; QAP581_SDS.pdf; Q9001_SDS.pdf; Q900BK463_SDS.pdf

Jim Harral
Safety Director
Thurston Manufacturing Company
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Phone: 402-385-3041
Fax: 402-385-3043

Thurston Manufacturing Company
Blu-Jet
Circle-R Side-Dump

Webber Notes - SDS Attachments:

BLACK POLYASPARTIC Q900BK463
POLYUREA ACTIVATOR - Q9001
GRAY 2K EPOXY PRIMER - QAP581
EPOXY PRIMER ACTIVATOR - QAP582
POLY IO CURING AGENT COMP - DM18996
POLY HS SUP WHITE PRIMER - DM19147
BLACK POLY IOTHANE COMP A - DM19040
H/S POLYIOTHANE WHT BASE - QT380HW
SPEEDHIDE INT S/G WHITE/PASTEL - 6-500
HS CLEAR BASE - QT380HC
THURSTON LIGHT SLATE METALLIC Q3890-9253
NEUTRAL ALKYD ENAMEL BASE QT110HC

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SAFETY DATA SHEET

Date of issue/Date of revision 24 September 2014
Version 1

Section 1. Identification

Product name : BLACK POLYASPARTIC
Product code : Q900BK463
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 1.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Highly flammable liquid and vapor.
May cause an allergic skin reaction.
Suspected of causing cancer.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : BLACK POLYASPARTIC

Ingredient name	%	CAS number
tetraethylN,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	15 - 40	136210-30-5
bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	10 - 30	136210-32-7
tert-butyl acetate	10 - 30	540-88-5
heptan-2-one	7 - 13	110-43-0
carbon black, respirable powder	3 - 7	1333-86-4
α-[3-[3-(2H-benzotriazol-2-yl) derivatives	0.5 - 1.5	104810-48-2
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	0.5 - 1.5	41556-26-7
ω-[3-[3-(2H-benzotriazol-2-yl) derivatives	0.5 - 1.5	104810-47-1

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
tert-butyl acetate	**ACGIH TLV (United States, 6/2013).** TWA: 950 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 950 mg/m³ 8 hours. TWA: 200 ppm 8 hours.
heptan-2-one	**ACGIH TLV (United States, 6/2013).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
carbon black, respirable powder	**ACGIH TLV (United States, 6/2013).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 18.33°C (65°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%

Evaporation rate : 0.2 (butyl acetate = 1)

Vapor pressure : 0.2 kPa (1.5 mm Hg) [room temperature]

Section 9. Physical and chemical properties

Vapor density : Not available.

Relative density : 1.02

Density (lbs / gal) : 8.51

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 36% (v/v), 29.84% (w/w)

% Solid. (w/w) : 70.16

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
tetraethylN,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	LD50 Oral	Rat	>2000 mg/kg	-
bis(4-(1,2-bis(ethoxycarbonyl) ethylamino) -3-methylcyclohexyl)methane	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
tert-butyl acetate	LD50 Oral	Rat	4100 mg/kg	-
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
carbon black, respirable powder	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-

Section 11. Toxicological information

α-[3-[3-(2H-benzotriazol-2-yl) derivatives	LC50 Inhalation Vapor	Rat	5800 mg/m³	4 hours
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	LD50 Oral	Rat	3.125 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
carbon black, respirable powder	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: lungs, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	8424.7 mg/kg
Inhalation (gases)	35301.9 ppm
Inhalation (vapors)	70.74 mg/l
Inhalation (dusts and mists)	11.77 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
bis(4-(1,2-bis(ethoxycarbonyl) ethylamino) -3-methylcyclohexyl)methane	Acute EC50 88.6 mg/l	Daphnia - Daphnia magna	48 hours
	Acute IC50 113 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute LC50 66 mg/l	Fish - Danio rerio	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
tetraethylN,N'-(methylenedicyclohexane-4, 1-diyl)bis-dl-aspartate	5.16	0.25	low
tert-butyl acetate	1.76	-	low
heptan-2-one	1.98	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered

Section 13. Disposal considerations

when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	II	II	II
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	22127.4	Not applicable.	Not applicable.
RQ substances	(xylene, tert-butyl acetate)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.

Australia inventory (AICS) : At least one component is not listed.

Canada inventory (DSL) : At least one component is not listed in DSL but all such components are listed in NDSL.

China inventory (IECSC) : At least one component is not listed.

Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.

Section 15. Regulatory information

Japan inventory (ENCS) : At least one component is not listed.

Korea inventory (KECI) : All components are listed or exempted.

New Zealand (NZIoC) : At least one component is not listed.

Philippines inventory (PICCS) : At least one component is not listed.

United States

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
tetraethylN,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	No.	No.	No.	Yes.	No.
bis(4-(1,2-bis(ethoxycarbonyl) ethylamino)-3-methylcyclohexyl) methane	No.	No.	No.	Yes.	No.
tert-butyl acetate	Yes.	No.	No.	No.	No.
heptan-2-one	Yes.	No.	No.	Yes.	No.
carbon black, respirable powder	Yes.	No.	No.	No.	Yes.
α-[3-[3-(2H-benzotriazol-2-yl) derivatives	No.	No.	No.	Yes.	No.
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	No.	No.	No.	Yes.	No.
ω-[3-[3-(2H-benzotriazol-2-yl) derivatives	No.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 3 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 3 **Instability** : 0

Date of previous issue : **No previous validation.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 24 September 2014
Version 1

Section 1. Identification

Product name : POLYUREA ACTIVATOR
Product code : Q9001
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (724) 274-7900 (SPRINGDALE, PA) 8:00 a.m. - 5:00 p.m. EST

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

GHS label elements
Hazard pictograms :

Section 2. Hazards identification

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Toxic in contact with skin.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.
May cause respiratory irritation.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : POLYUREA ACTIVATOR

Ingredient name	%	CAS number
hexamethylene diisocyanate prepolymer	60 - 100	Not available.
heptan-2-one	10 - 30	110-43-0

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Toxic in contact with skin. Causes skin irritation. Defatting to the skin.

Ingestion : Harmful if swallowed. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
heptan-2-one	**ACGIH TLV (United States, 6/2013).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak
ACGIH	=	American Conference of Governmental Industrial Hygienists.
C	=	Ceiling Limit
F	=	Fume
IPEL	=	Internal Permissible Exposure Limit
OSHA	=	Occupational Safety and Health Administration.
R	=	Respirable
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances
S	=	Potential skin absorption
SR	=	Respiratory sensitization
SS	=	Skin sensitization
STEL	=	Short term Exposure limit values
TD	=	Total dust
TLV	=	Threshold Limit Value
TWA	=	Time Weighted Average

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 40.56°C (105°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.1%

Evaporation rate : 0.4 (butyl acetate = 1)

Vapor pressure : 0.28 kPa (2.1 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.02

Density (lbs / gal) : 8.51

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Section 9. Physical and chemical properties

Volatility : 22% (v/v), 18% (w/w)

% Solid. (w/w) : 82

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
heptan-2-one	LD50 Dermal LD50 Oral	Rabbit Rat	10.206 g/kg 1.6 g/kg	- -

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
hexamethylene diisocyanate prepolymer	Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Toxic in contact with skin. Causes skin irritation. Defatting to the skin.

Ingestion : Harmful if swallowed. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting.

Section 11. Toxicological information

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	570.6 mg/kg
Dermal	365.9 mg/kg
Inhalation (gases)	25000 ppm
Inhalation (vapors)	61.11 mg/l
Inhalation (dusts and mists)	8.333 mg/l

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
heptan-2-one	1.98	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	1866	1866	1866
UN proper shipping name	RESIN SOLUTION	RESIN SOLUTION	RESIN SOLUTION
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : Not determined.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : Not determined.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : Not determined.
Korea inventory (KECI) : Not determined.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : Not determined.

United States

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
hexamethylene diisocyanate prepolymer	No.	No.	No.	Yes.	No.
heptan-2-one	Yes.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 **Flammability** : 2 **Physical hazards** : 0
(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 2 **Instability** : 0

Date of previous issue : **No previous validation.**

Section 16. Other information

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 3 January 2015
Version 2

Section 1. Identification

Product name : GRAY 2K EPOXY PRIMER
Product code : QAP581
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 12.9%

GHS label elements
Hazard pictograms :

Section 2. Hazards identification

Signal word : Danger

Hazard statements : Highly flammable liquid and vapor.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : May form explosive peroxides. Hazardous reactions or instability may occur under certain conditions of storage or use. Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : GRAY 2K EPOXY PRIMER

Ingredient name	%	CAS number
Epoxy resin (700<MW<1100)	10 - 30	25068-38-6
titanium dioxide	10 - 30	13463-67-7
1-methoxy-2-propanol	10 - 30	107-98-2
tert-butyl acetate	10 - 30	540-88-5
heptan-2-one	1 - 5	110-43-0
aluminium orthophosphate	1 - 5	7784-30-7
xylene	1 - 5	1330-20-7
ethyl 3-ethoxypropionate	1 - 5	763-69-9

Section 3. Composition/information on ingredients

2-(2-butoxyethoxy)ethanol	0.5 - 1.5	112-34-5
2-methoxy-1-methylethyl acetate	0.5 - 1.5	108-65-6
ethylbenzene	0.1 - 1	100-41-4

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
phosphorus oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. May form explosive peroxides. Keep away from combustible materials. Avoid shock and friction. Avoid all possible sources of ignition (spark or flame). If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours.
1-methoxy-2-propanol	**ACGIH TLV (United States, 4/2014).** STEL: 369 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 184 mg/m³ 8 hours. TWA: 50 ppm 8 hours.
tert-butyl acetate	**ACGIH TLV (United States, 4/2014).** TWA: 950 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 950 mg/m³ 8 hours. TWA: 200 ppm 8 hours.
heptan-2-one	**ACGIH TLV (United States, 4/2014).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
aluminium orthophosphate	**ACGIH TLV (United States, 4/2014).** TWA: 1 mg/m³ 8 hours. Form: Respirable fraction
xylene	**ACGIH TLV (United States, 4/2014).** STEL: 651 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 434 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

	TWA: 100 ppm 8 hours.
ethyl 3-ethoxypropionate	**IPEL (PPG).** TWA: 50 ppm STEL: 100 ppm
2-(2-butoxyethoxy)ethanol	**ACGIH TLV (United States, 4/2014).** TWA: 10 ppm 8 hours. Form: Inhalable fraction and vapor
2-methoxy-1-methylethyl acetate	**IPEL (PPG, 4/2009).** TWA: 50 ppm
ethylbenzene	**ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 17.78°C (64°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.4%

Evaporation rate : 0.38 (butyl acetate = 1)

Vapor pressure : 0.85 kPa (6.4 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.28

Density (lbs / gal) : 10.68

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Section 9. Physical and chemical properties

Volatility : 60% (v/v), 41.31% (w/w)

% Solid. (w/w) : 58.69

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Epoxy resin (700<MW<1100)	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	>2 g/kg	-
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
1-methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	5.2 g/kg	-
tert-butyl acetate	LD50 Oral	Rat	4100 mg/kg	-
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
xylene	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
ethyl 3-ethoxypropionate	LD50 Dermal	Rabbit	10 g/kg	-
	LD50 Oral	Rat	3200 mg/kg	-
2-(2-butoxyethoxy)ethanol	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
ethylbenzene	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-
xylene	-	3	-
ethylbenzene	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
1-methoxy-2-propanol	Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
1-methoxy-2-propanol	Category 2
ethylbenzene	Category 2

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, liver, heart, peripheral nervous system, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Section 11. Toxicological information

Name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Section 11. Toxicological information

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	12800.4 mg/kg
Dermal	34648.9 mg/kg
Inhalation (gases)	82514.8 ppm
Inhalation (vapors)	175.5 mg/l
Inhalation (dusts and mists)	23.94 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
1-methoxy-2-propanol	Acute LC50 23300 mg/l	Daphnia	48 hours
	Acute LC50 >4500 mg/l Fresh water	Fish	96 hours
2-methoxy-1-methylethyl acetate	Acute LC50 161 mg/l Fresh water	Fish	96 hours
ethylbenzene	Acute LC50 150 to 200 mg/l Fresh water	Fish - Lepomis macrochirus - Young of the year	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
tert-butyl acetate	1.76	-	low
heptan-2-one	1.98	-	low
xylene	3.16	7.4 to 18.5	low
2-(2-butoxyethoxy)ethanol	0.56	-	low
2-methoxy-1-methylethyl acetate	0.56	-	low
ethylbenzene	3.15	79.43	low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	II	II	II
Environmental hazards	No.	Yes.	No.
Marine pollutant substances	Not applicable.	(trizinc bis(orthophosphate))	Not applicable.
Product RQ (lbs)	4595.5	Not applicable.	Not applicable.
RQ substances	(xylene, tert-butyl acetate)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : Not determined.
Canada inventory (DSL) : At least one component is not listed.
China inventory (IECSC) : Not determined.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : At least one component is not listed.
Korea inventory (KECI) : Not determined.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : Not determined.

United States

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Epoxy resin (700<MW<1100)	No.	No.	No.	Yes.	No.
titanium dioxide	No.	No.	No.	No.	Yes.
1-methoxy-2-propanol	Yes.	No.	No.	Yes.	Yes.
tert-butyl acetate	Yes.	No.	No.	No.	No.
heptan-2-one	Yes.	No.	No.	Yes.	No.
xylene	Yes.	No.	No.	Yes.	No.
ethyl 3-ethoxypropionate	Yes.	No.	No.	Yes.	No.
2-(2-butoxyethoxy)ethanol	Yes.	No.	No.	Yes.	No.
2-methoxy-1-methylethyl acetate	Yes.	No.	No.	Yes.	No.
ethylbenzene	Yes.	No.	No.	Yes.	Yes.

SARA 313

Chemical name	CAS number	Concentration

Section 15. Regulatory information

Supplier notification :

trizinc bis(orthophosphate)	7779-90-0	5 - 10
xylene	1330-20-7	1 - 5
2-(2-butoxyethoxy)ethanol	112-34-5	0.5 - 1.5
ethylbenzene	100-41-4	0.1 - 1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 3 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 3 **Instability** : 0

Date of previous issue : **9/24/2014.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 3 January 2015
Version 3

Section 1. Identification

Product name : EPOXY PRIMER ACTIVATOR
Product code : QAP582
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 52.1%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Highly flammable liquid and vapor.
Causes serious eye irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Do not breathe vapor. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : May form explosive peroxides. Hazardous reactions or instability may occur under certain conditions of storage or use. Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : EPOXY PRIMER ACTIVATOR

Ingredient name	%	CAS number
barium sulfate	15 - 40	7727-43-7
tert-butyl acetate	15 - 40	540-88-5
Talc , not containing asbestiform fibres	7 - 13	14807-96-6
1-methoxy-2-propanol	3 - 7	107-98-2
butan-1-ol	1 - 5	71-36-3
ethyl 3-ethoxypropionate	1 - 5	763-69-9
heptan-2-one	1 - 5	110-43-0
3,6-diazaoctanethylenediamin	0.1 - 1	112-24-3
ethylbenzene	0.1 - 1	100-41-4

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. May form explosive peroxides. Keep away from combustible materials. Avoid shock and friction. Avoid all possible sources of ignition (spark or flame). If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
barium sulfate	**ACGIH TLV (United States, 4/2014).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
tert-butyl acetate	**ACGIH TLV (United States, 4/2014).** TWA: 950 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 950 mg/m³ 8 hours. TWA: 200 ppm 8 hours.
Talc , not containing asbestiform fibres	**ACGIH TLV (United States, 4/2014).** TWA: 2 mg/m³ 8 hours. Form: Respirable **OSHA PEL Z3 (United States, 2/2013).** TWA: 20 mppcf 8 hours. Form: not containing asbestos
1-methoxy-2-propanol	**ACGIH TLV (United States, 4/2014).** STEL: 369 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 184 mg/m³ 8 hours. TWA: 50 ppm 8 hours.
butan-1-ol	**ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 300 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
ethyl 3-ethoxypropionate	**IPEL (PPG).** TWA: 50 ppm STEL: 100 ppm
heptan-2-one	**ACGIH TLV (United States, 4/2014).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
3,6-diazaoctanethylenediamin	**IPEL (PPG). Absorbed through skin.** TWA: 1 ppm
ethylbenzene	**ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.

Key to abbreviations

A = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists.
S = Potential skin absorption
SR = Respiratory sensitization

Section 8. Exposure controls/personal protection

C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: butyl rubber, nitrile rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 21°C (69.8°F)

Material supports combustion. : Yes.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.4%

Evaporation rate : 0.18 (butyl acetate = 1)

Vapor pressure : 0.37 kPa (2.8 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.37

Density (lbs / gal) : 11.43

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 71% (v/v), 45.4% (w/w)

% Solid. (w/w) : 54.6

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
tert-butyl acetate	LD50 Oral	Rat	4100 mg/kg	-
1-methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	5.2 g/kg	-
butan-1-ol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LC50 Inhalation Vapor	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
ethyl 3-ethoxypropionate	LD50 Dermal	Rabbit	10 g/kg	-
	LD50 Oral	Rat	3200 mg/kg	-
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
3,6-diazaoctanethylenediamin	LD50 Dermal	Rabbit	805 mg/kg	-
	LD50 Oral	Rat	2500 mg/kg	-
ethylbenzene	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
ethylbenzene	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Talc , not containing asbestiform fibres	Category 3
1-methoxy-2-propanol	Category 3
butan-1-ol	Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
1-methoxy-2-propanol	Category 2
butan-1-ol	Category 2
ethylbenzene	Category 2

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, heart, peripheral nervous system, cardiovascular system, upper respiratory tract, skin, central nervous system (CNS), ears, eye, lens or cornea.

Aspiration hazard

Name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : Defatting to the skin. May cause skin dryness and irritation.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness
Inhalation : No specific data.

Section 11. Toxicological information

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	3749.9 mg/kg
Dermal	59477.6 mg/kg
Inhalation (gases)	113019.1 ppm
Inhalation (vapors)	276.3 mg/l
Inhalation (dusts and mists)	37.67 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
1-methoxy-2-propanol	Acute LC50 23300 mg/l	Daphnia	48 hours
	Acute LC50 >4500 mg/l Fresh water	Fish	96 hours
ethylbenzene	Acute LC50 150 to 200 mg/l Fresh water	Fish - Lepomis macrochirus - Young of the year	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
tert-butyl acetate	1.76	-	low
butan-1-ol	0.88	-	low
heptan-2-one	1.98	-	low
3,6-diazaoctanethylenediamin	-1.66 to -1.4	-	low
ethylbenzene	3.15	79.43	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	II	II	II
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	16256.8	Not applicable.	Not applicable.
RQ substances	(tert-butyl acetate, xylene)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : At least one component is not listed.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : All components are listed or exempted.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : All components are listed or exempted.
Korea inventory (KECI) : All components are listed or exempted.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : All components are listed or exempted.

United States

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

Section 15. Regulatory information

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
tert-butyl acetate	Yes.	No.	No.	No.	No.
Talc , not containing asbestiform fibres	No.	No.	No.	Yes.	No.
1-methoxy-2-propanol	Yes.	No.	No.	Yes.	Yes.
butan-1-ol	Yes.	No.	No.	Yes.	Yes.
ethyl 3-ethoxypropionate	Yes.	No.	No.	Yes.	No.
heptan-2-one	Yes.	No.	No.	Yes.	No.
3,6-diazaoctanethylenediamin	No.	No.	No.	Yes.	No.
ethylbenzene	Yes.	No.	No.	Yes.	Yes.

SARA 313

Supplier notification :

Chemical name	CAS number	Concentration
butan-1-ol	71-36-3	1 - 5
ethylbenzene	100-41-4	0.1 - 1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 3 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 3 **Instability** : 0

Date of previous issue : **10/29/2014.**

Organization that prepared the MSDS : EHS

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 13 October 2014
Version 2

Section 1. Identification

Product name : POLY IO CURING AGENT COMP
Product code : DM18996
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

GHS label elements
Hazard pictograms :

Section 2. Hazards identification

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. In case of inadequate ventilation wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

Response : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Moisture-sensitive material. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : POLY IO CURING AGENT COMP

Ingredient name	%	CAS number
Hexamethylene diisocyanate, oligomers	60 - 100	28182-81-2
heptan-2-one	10 - 30	110-43-0
hexamethylene-di-isocyanate	0.1 - 1	822-06-0

Section 3. Composition/information on ingredients

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Special provisions : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Precautions should be taken to minimize exposure to atmospheric humidity or water. CO_2 will be formed, which, in closed containers, could result in pressurization.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Hexamethylene diisocyanate, oligomers	**IPEL (PPG).** TWA: 0.5 mg/m³ STEL: 1 mg/m³
heptan-2-one	**ACGIH TLV (United States, 4/2014).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
hexamethylene-di-isocyanate	**ACGIH TLV (United States, 4/2014).** TWA: 0.03 mg/m³ 8 hours. TWA: 0.005 ppm 8 hours. **OSHA PEL (United States, 2/2013).** **Absorbed through skin.** TWA: 5 mg/m³, (as CN) 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Section 8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Restrictions on use : Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 38°C (100.4°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.1%

Evaporation rate : 0.4 (butyl acetate = 1)

Vapor pressure : 0.28 kPa (2.1 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.04

Density (lbs / gal) : 8.68

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 36% (v/v), 27.8% (w/w)

% Solid. (w/w) : 72.2

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : In a fire, hazardous decomposition products may be produced.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from: oxidizing agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylene diisocyanate, oligomers	LC50 Inhalation Dusts and mists	Rat	18500 mg/m³	1 hours
	LC50 Inhalation Dusts and mists	Rat	0.39 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat - Female	>2500 mg/kg	-
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
hexamethylene-di-isocyanate	LC50 Inhalation Dusts and mists	Rat	124 mg/m³	4 hours
	LC50 Inhalation Vapor	Rat	151 mg/m³	4 hours
	LC50 Inhalation Vapor	Rat	22 ppm	4 hours
	LD50 Dermal	Rabbit	0.57 g/kg	-
	LD50 Oral	Rat	0.71 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Hexamethylene diisocyanate, oligomers	Category 3
hexamethylene-di-isocyanate	Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Section 11. Toxicological information

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	5757.1 mg/kg
Inhalation (gases)	4506.9 ppm
Inhalation (vapors)	11.02 mg/l
Inhalation (dusts and mists)	1.502 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene diisocyanate, oligomers	Acute EC50 >1000 mg/l	Algae - scenedesmus subspicatus	72 hours
	Acute EC50 >100 mg/l	Daphnia - daphnia magna	48 hours
	Acute LC50 >100 mg/l	Fish - Danio rerio (zebra fish)	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Hexamethylene diisocyanate, oligomers	-	3.2	low
heptan-2-one	1.98	-	low
hexamethylene-di-isocyanate	1.08	-	low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14. Transport information

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : All components are listed or exempted.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : All components are listed or exempted.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : All components are listed or exempted.
Korea inventory (KECI) : All components are listed or exempted.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : All components are listed or exempted.

United States

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Hexamethylene diisocyanate, oligomers	Yes.	No.	No.	Yes.	No.
heptan-2-one	Yes.	No.	No.	Yes.	No.
hexamethylene-di-isocyanate	No.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 2 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Section 16. Other information

Health : 3 **Flammability** : 2 **Instability** : 0

Date of previous issue : **9/21/2014.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 21 September 2014
Version 1

Section 1. Identification

Product name : POLY HS SUP WHITE PRIMER
Product code : DM19147
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
CARCINOGENICITY - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 55.8%

GHS label elements

Hazard pictograms :

Signal word : Warning

Section 2. Hazards identification

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
Suspected of causing cancer.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : POLY HS SUP WHITE PRIMER

Ingredient name	%	CAS number
heptan-2-one	10 - 30	110-43-0
Limestone	10 - 30	1317-65-3
titanium dioxide	10 - 30	13463-67-7
Talc , not containing asbestiform fibres	5 - 10	14807-96-6
Additive	3 - 7	Not available.
2-methoxy-1-methylethyl acetate	1 - 5	108-65-6

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
heptan-2-one	**ACGIH TLV (United States, 6/2013).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
Limestone	**OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 6/2013).** TWA: 10 mg/m³ 8 hours.
Talc , not containing asbestiform fibres	**OSHA PEL Z3 (United States, 2/2013).** TWA: 20 mppcf 8 hours. Form: not containing asbestos
Additive	**OSHA PEL (United States).** TWA: 5 mg/m³ Form: Respirable
2-methoxy-1-methylethyl acetate	**IPEL (PPG, 4/2009).** TWA: 50 ppm

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 43.33°C (110°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.2%

Evaporation rate : 0.39 (butyl acetate = 1)

Vapor pressure : 0.32 kPa (2.4 mm Hg) [room temperature]

Section 9. Physical and chemical properties

Vapor density : Not available.

Relative density : 1.5

Density (lbs / gal) : 12.52

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 47% (v/v), 25.99% (w/w)

% Solid. (w/w) : 74.01

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Section 11. Toxicological information

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Talc , not containing asbestiform fibres	Category 3
Additive	Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: kidneys, lungs, peripheral nervous system, cardiovascular system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Section 11. Toxicological information

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	3313.1 mg/kg
Inhalation (gases)	9318.1 ppm
Inhalation (vapors)	22.78 mg/l
Inhalation (dusts and mists)	3.106 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute EC50 100 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
2-methoxy-1-methylethyl acetate	Acute LC50 161 mg/l Fresh water	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
heptan-2-one	1.98	-	low
2-methoxy-1-methylethyl acetate	0.56	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.

Australia inventory (AICS) : All components are listed or exempted.

Canada inventory (DSL) : All components are listed or exempted.

China inventory (IECSC) : Not determined.

Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.

Japan inventory (ENCS) : At least one component is not listed.

Korea inventory (KECI) : At least one component is not listed.

New Zealand (NZIoC) : Not determined.

Philippines inventory (PICCS) : Not determined.

United States

U.S. Federal regulations :

United States - TSCA 5(a)2 - Proposed significant new use rules:
pentane-2,4-dione Listed

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

Section 15. Regulatory information

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
heptan-2-one	Yes.	No.	No.	Yes.	No.
titanium dioxide	No.	No.	No.	No.	Yes.
Talc , not containing asbestiform fibres	No.	No.	No.	Yes.	No.
Additive	Yes.	No.	No.	Yes.	No.
2-methoxy-1-methylethyl acetate	Yes.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 2 **Physical hazards** : 0
(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 2 **Instability** : 0

Date of previous issue : **No previous validation.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

Section 16. Other information

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 21 September 2014
Version 1

Section 1. Identification

Product name : BLACK POLY IOTHANE COMP A
Product code : DM19040
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
CARCINOGENICITY - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 49.5%

GHS label elements

Hazard pictograms :

Signal word : Warning

Section 2. Hazards identification

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
Suspected of causing cancer.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : BLACK POLY IOTHANE COMP A

Ingredient name	%	CAS number
heptan-2-one	15 - 40	110-43-0
2-methoxy-1-methylethyl acetate	3 - 7	108-65-6
carbon black, respirable powder	1 - 5	1333-86-4
Additive	1 - 5	Not available.
Limestone	1 - 5	1317-65-3
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	0.1 - 1	41556-26-7
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	0.1 - 1	82919-37-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
heptan-2-one	**ACGIH TLV (United States, 6/2013).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
2-methoxy-1-methylethyl acetate	**IPEL (PPG, 4/2009).** TWA: 50 ppm
carbon black, respirable powder	**ACGIH TLV (United States, 6/2013).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours.
Additive	**OSHA PEL (United States).** TWA: 5 mg/m³ Form: Respirable
Limestone	**OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 43.33°C (110°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.2%

Evaporation rate : 0.38 (butyl acetate = 1)

Vapor pressure : 0.31 kPa (2.3 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.02

Section 9. Physical and chemical properties

Density (lbs / gal) : 8.51

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 55% (v/v), 45.23% (w/w)

% Solid. (w/w) : 54.77

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
carbon black, respirable powder	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	LD50 Oral	Rat	3.125 g/kg	-
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	LD50 Oral	Rat	3.125 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Section 11. Toxicological information

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
carbon black, respirable powder	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Additive	Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: kidneys, lungs, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Section 11. Toxicological information

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Route	ATE value
Oral	2228.6 mg/kg
Inhalation (gases)	6268 ppm
Inhalation (vapors)	15.32 mg/l
Inhalation (dusts and mists)	2.089 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-methoxy-1-methylethyl acetate	Acute LC50 161 mg/l Fresh water	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
heptan-2-one	1.98	-	low
2-methoxy-1-methylethyl acetate	0.56	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.

Australia inventory (AICS) : All components are listed or exempted.

Canada inventory (DSL) : All components are listed or exempted.

China inventory (IECSC) : Not determined.

Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.

Japan inventory (ENCS) : All components are listed or exempted.

Korea inventory (KECI) : All components are listed or exempted.

New Zealand (NZIoC) : Not determined.

Philippines inventory (PICCS) : Not determined.

United States

U.S. Federal regulations :

United States - TSCA 5(a)2 - Proposed significant new use rules:
pentane-2,4-dione Listed

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

Section 15. Regulatory information

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
heptan-2-one	Yes.	No.	No.	Yes.	No.
2-methoxy-1-methylethyl acetate	Yes.	No.	No.	Yes.	No.
carbon black, respirable powder	Yes.	No.	No.	No.	Yes.
Additive	Yes.	No.	No.	Yes.	No.
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	No.	No.	No.	Yes.	No.
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	No.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 2 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 2 **Instability** : 0

Date of previous issue : **No previous validation.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Section 16. Other information

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 15 January 2015
Version 2

Section 1. Identification

Product name : H/S POLYIOTHANE WHT BASE
Product code : QT380HW
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
CARCINOGENICITY - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 34.8%

GHS label elements

Hazard pictograms :

Signal word : Warning

Section 2. Hazards identification

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
Suspected of causing cancer.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : H/S POLYIOTHANE WHT BASE

Ingredient name	%	CAS number
titanium dioxide	15 - 40	13463-67-7
heptan-2-one	10 - 30	110-43-0
Limestone	1 - 5	1317-65-3
2-methoxy-1-methylethyl acetate	1 - 5	108-65-6
aluminium hydroxide	0.5 - 1.5	21645-51-2
Fatty acids, C18-unsatd., trimers, reaction products with triethylenetetramine	0.1 - 1	162627-18-1
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	0.1 - 1	41556-26-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours.
heptan-2-one	**ACGIH TLV (United States, 4/2014).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
Limestone	**OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
2-methoxy-1-methylethyl acetate	**IPEL (PPG, 4/2009).** TWA: 50 ppm
aluminium hydroxide	**ACGIH TLV (United States, 4/2014).** TWA: 1 mg/m³ 8 hours. Form: Respirable fraction **ACGIH TLV (United States).** TWA: 1 mg/m³

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 43.33°C (110°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.2%

Evaporation rate : 0.37 (butyl acetate = 1)

Vapor pressure : 0.33 kPa (2.5 mm Hg) [room temperature]

Section 9. Physical and chemical properties

Vapor density : Not available.

Relative density : 1.42

Density (lbs / gal) : 11.85

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 48% (v/v), 28.27% (w/w)

% Solid. (w/w) : 71.73

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	LD50 Oral	Rat	3.125 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Section 11. Toxicological information

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: kidneys, lungs, the nervous system, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Section 11. Toxicological information

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	4750.7 mg/kg
Inhalation (gases)	13361.2 ppm
Inhalation (vapors)	32.66 mg/l
Inhalation (dusts and mists)	4.454 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
2-methoxy-1-methylethyl acetate	Acute LC50 161 mg/l Fresh water	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
heptan-2-one	1.98	-	low
2-methoxy-1-methylethyl acetate	0.56	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.

Australia inventory (AICS) : All components are listed or exempted.

Canada inventory (DSL) : All components are listed or exempted.

China inventory (IECSC) : Not determined.

Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.

Japan inventory (ENCS) : At least one component is not listed.

Korea inventory (KECI) : At least one component is not listed.

New Zealand (NZIoC) : Not determined.

Philippines inventory (PICCS) : Not determined.

United States

U.S. Federal regulations :

United States - TSCA 5(a)2 - Proposed significant new use rules:

pentane-2,4-dione Listed

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

Section 15. Regulatory information

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
titanium dioxide	No.	No.	No.	No.	Yes.
heptan-2-one	Yes.	No.	No.	Yes.	No.
2-methoxy-1-methylethyl acetate	Yes.	No.	No.	Yes.	No.
Fatty acids, C18-unsatd., trimers, reaction products with triethylenetetramine	No.	No.	No.	Yes.	No.
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	No.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 2 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 2 **Instability** : 0

Date of previous issue : **9/24/2014.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

Section 16. Other information

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 10 December 2014
Version 3

Section 1. Identification

Product name : SPEEDHIDE INT S/G WHITE/PASTEL
Product code : 6-500
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : CARCINOGENICITY - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 7.8%

GHS label elements
Hazard pictograms :

Signal word : Warning
Hazard statements : Suspected of causing cancer.
Precautionary statements

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response : IF exposed or concerned: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : SPEEDHIDE INT S/G WHITE/PASTEL

Ingredient name	%	CAS number
titanium dioxide	10 - 30	13463-67-7
Kaolin	1 - 5	1332-58-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours.
Kaolin	**ACGIH TLV (United States, 4/2014).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: >93.33°C (>200°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Evaporation rate : 0.35 (butyl acetate = 1)

Vapor pressure : 2.3 kPa (17.5 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.2

Section 9. Physical and chemical properties

Density (lbs / gal) : 10.01

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 63% (v/v), 52.34% (w/w)

% Solid. (w/w) : 47.66

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
Kaolin	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: eyes.
Contains material which may cause damage to the following organs: lungs, upper respiratory tract, stomach.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Section 11. Toxicological information

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	251830.6 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : At least one component is not listed.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : All components are listed or exempted.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : At least one component is not listed.
Korea inventory (KECI) : All components are listed or exempted.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : At least one component is not listed.

United States

U.S. Federal regulations :

United States - TSCA 5(e) - Substances consent order:
partially fluorinated alcohol, reaction products — Listed

United States - TSCA 5(a)2 - Proposed significant new use rules:
partially fluorinated alcohol, reaction products — Listed

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
titanium dioxide	No.	No.	No.	No.	Yes.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 * **Flammability** : 1 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability** : 1 **Instability** : 0

Section 16. Other information

Date of previous issue : **11/20/2014.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 15 January 2015
Version 2

Section 1. Identification

Product name : HS CLEAR BASE
Product code : QT380HC
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)

Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
TOXIC TO REPRODUCTION (Unborn child) - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 61.9%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
May damage the unborn child.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : HS CLEAR BASE

Ingredient name	%	CAS number
heptan-2-one	10 - 30	110-43-0
Limestone	7 - 13	1317-65-3
2-methoxy-1-methylethyl acetate	3 - 7	108-65-6
Additive	0.5 - 1.5	Not available.
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	0.5 - 1.5	25973-55-1
Fatty acids, C18-unsatd., trimers, reaction products with triethylenetetramine	0.1 - 1	162627-18-1
N-methyl-2-pyrrolidone	0.1 - 1	872-50-4
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	0.1 - 1	41556-26-7
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	0.1 - 1	82919-37-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
heptan-2-one	**ACGIH TLV (United States, 4/2014).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
Limestone	**OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
2-methoxy-1-methylethyl acetate	**IPEL (PPG, 4/2009).** TWA: 50 ppm
Additive	**OSHA PEL (United States).** TWA: 5 mg/m³ Form: Respirable
N-methyl-2-pyrrolidone	**IPEL (PPG). Absorbed through skin.** TWA: 10 ppm

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 43.33°C (110°F)

Section 9. Physical and chemical properties

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.2%

Evaporation rate : 0.38 (butyl acetate = 1)

Vapor pressure : 0.4 kPa (3 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.1

Density (lbs / gal) : 9.18

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 46% (v/v), 35.74% (w/w)

% Solid. (w/w) : 64.26

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
2-(2H-benzotriazol-2-yl)-4, 6-ditertpentylphenol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
N-methyl-2-pyrrolidone	LC50 Inhalation Dusts and mists	Rat	>5100 mg/m³	4 hours
	LD50 Dermal	Rabbit	8 g/kg	-
	LD50 Oral	Rat	3.914 g/kg	-
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	LD50 Oral	Rat	3.125 g/kg	-
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	LD50 Oral	Rat	3.125 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Additive	Category 3
N-methyl-2-pyrrolidone	Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	Category 2
N-methyl-2-pyrrolidone	Category 2

Section 11. Toxicological information

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: kidneys, lungs, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : May damage the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	2450.4 mg/kg
Inhalation (gases)	6891.9 ppm
Inhalation (vapors)	16.85 mg/l
Inhalation (dusts and mists)	2.297 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-methoxy-1-methylethyl acetate	Acute LC50 161 mg/l Fresh water	Fish	96 hours
2-(2H-benzotriazol-2-yl)-4, 6-ditertpentylphenol	Acute EC50 >10 mg/l	Algae	72 hours
	Acute LC50 >100 mg/l	Fish - brachydanio rerio	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
N-methyl-2-pyrrolidone	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
heptan-2-one	1.98	-	low
2-methoxy-1-methylethyl acetate	0.56	-	low
N-methyl-2-pyrrolidone	-0.38	3.16	low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14. Transport information

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : All components are listed or exempted.
Canada inventory (DSL) : At least one component is not listed.
China inventory (IECSC) : Not determined.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : At least one component is not listed.
Korea inventory (KECI) : At least one component is not listed.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : At least one component is not listed.

United States

U.S. Federal regulations :

United States - TSCA 5(a)2 - Proposed significant new use rules:
pentane-2,4-dione Listed

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
heptan-2-one	Yes.	No.	No.	Yes.	No.
2-methoxy-1-methylethyl acetate	Yes.	No.	No.	Yes.	No.
Additive	Yes.	No.	No.	Yes.	No.
2-(2H-benzotriazol-2-yl)-4, 6-ditertpentylphenol	Yes.	No.	No.	No.	Yes.
Fatty acids, C18-unsatd., trimers, reaction products with triethylenetetramine	No.	No.	No.	Yes.	No.
N-methyl-2-pyrrolidone	No.	No.	No.	Yes.	Yes.
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	No.	No.	No.	Yes.	No.
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	No.	No.	No.	Yes.	No.

Section 15. Regulatory information

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 2 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 2 **Instability** : 0

Date of previous issue : **9/24/2014.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 24 September 2014
Version 1

Section 1. Identification

Product name : THURSTON LIGHT SLATE METALLIC
Product code : Q3890-9253
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (724) 274-7900 (SPRINGDALE, PA) 8:00 a.m. - 5:00 p.m. EST

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 1B
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 58.7%

GHS label elements
Hazard pictograms :

Section 2. Hazards identification

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
Causes serious eye irritation.
May damage the unborn child.
Suspected of causing cancer.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : THURSTON LIGHT SLATE METALLIC

Ingredient name	%	CAS number
heptan-2-one	10 - 30	110-43-0
2-methoxy-1-methylethyl acetate	10 - 30	108-65-6
Limestone	5 - 10	1317-65-3
Aluminium powder (stabilized)	1 - 5	7429-90-5
Additive	0.5 - 1.5	Not available.
Fatty acids, C18-unsatd., trimers, reaction products with triethylenetetramine	0.1 - 1	162627-18-1
N-methyl-2-pyrrolidone	0.1 - 1	872-50-4
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	0.1 - 1	41556-26-7
carbon black, respirable powder	0.1 - 1	1333-86-4

SUB codes represent substances without registered CAS Numbers.

Section 3. Composition/information on ingredients

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 4. First aid measures

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
heptan-2-one	**ACGIH TLV (United States, 6/2013).** TWA: 233 mg/m³ 8 hours. TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 465 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
2-methoxy-1-methylethyl acetate	**IPEL (PPG, 4/2009).** TWA: 50 ppm
Limestone	**OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
aluminium powder (stabilised)	**ACGIH TLV (United States, 6/2013).** TWA: 1 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³, (as Al) 8 hours. Form: Respirable fraction TWA: 15 mg/m³, (as Al) 8 hours. Form: Total dust
Additive	**OSHA PEL (United States).** TWA: 5 mg/m³ Form: Respirable
N-methyl-2-pyrrolidone	**IPEL (PPG). Absorbed through skin.** TWA: 10 ppm
carbon black, respirable powder	**ACGIH TLV (United States, 6/2013).** TWA: 3 mg/m³ 8 hours. Form: Inhalable

Section 8. Exposure controls/personal protection

	fraction **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Section 8. Exposure controls/personal protection

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 43.33°C (110°F)

Material supports combustion. : Yes.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.3%

Evaporation rate : 0.35 (butyl acetate = 1)

Vapor pressure : 0.41 kPa (3.1 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.1

Density (lbs / gal) : 9.18

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 49% (v/v), 39.12% (w/w)

% Solid. (w/w) : 60.88

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
heptan-2-one	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
N-methyl-2-pyrrolidone	LC50 Inhalation Dusts and mists	Rat	>5100 mg/m³	4 hours
	LD50 Dermal	Rabbit	8 g/kg	-
	LD50 Oral	Rat	3.914 g/kg	-
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	LD50 Oral	Rat	3.125 g/kg	-
carbon black, respirable powder	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
carbon black, respirable powder	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Additive N-methyl-2-pyrrolidone	Category 3 Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
N-methyl-2-pyrrolidone	Category 2

Target organs : Contains material which causes damage to the following organs: brain, eye, lens or cornea.
Contains material which may cause damage to the following organs: kidneys, lungs, the nervous system, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS).

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Section 11. Toxicological information

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : May damage the unborn child.

Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	3329 mg/kg
Inhalation (gases)	9362.7 ppm
Inhalation (vapors)	22.89 mg/l
Inhalation (dusts and mists)	3.121 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-methoxy-1-methylethyl acetate	Acute LC50 161 mg/l Fresh water	Fish	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
N-methyl-2-pyrrolidone	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
heptan-2-one	1.98	-	low
2-methoxy-1-methylethyl acetate	0.56	-	low
N-methyl-2-pyrrolidone	-0.38	3.16	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

Section 13. Disposal considerations

Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.

Australia inventory (AICS) : All components are listed or exempted.

Canada inventory (DSL) : At least one component is not listed.

China inventory (IECSC) : Not determined.

Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.

Japan inventory (ENCS) : At least one component is not listed.

Korea inventory (KECI) : At least one component is not listed.

New Zealand (NZIoC) : Not determined.

Philippines inventory (PICCS) : At least one component is not listed.

Section 15. Regulatory information

United States

United States - TSCA 5(a)2 - Proposed significant new use rules:
pentane-2,4-dione Listed

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
heptan-2-one	Yes.	No.	No.	Yes.	No.
2-methoxy-1-methylethyl acetate	Yes.	No.	No.	Yes.	No.
aluminium powder (stabilised)	Yes.	No.	No.	No.	No.
Additive	Yes.	No.	No.	Yes.	No.
Fatty acids, C18-unsatd., trimers, reaction products with triethylenetetramine	No.	No.	No.	Yes.	No.
N-methyl-2-pyrrolidone	No.	No.	No.	Yes.	Yes.
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	No.	No.	No.	Yes.	No.
carbon black, respirable powder	Yes.	No.	No.	No.	Yes.

SARA 313

	Chemical name	CAS number	Concentration
Supplier notification :	Aluminium powder (stabilized)	7429-90-5	1 - 5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 2 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 2 **Instability** : 0

Date of previous issue : **No previous validation.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 30 December 2014
Version 2

Section 1. Identification

Product name : NEUTRAL ALKYD ENAMEL BASE
Product code : QT110HC
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
TrueFinishes
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (dermal) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 2
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 40.6%

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Harmful in contact with skin or if inhaled.
Causes skin irritation.
Suspected of damaging fertility or the unborn child.
Suspected of causing cancer.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing. If skin irritation occurs: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated. DANGER - RAGS, STEEL WOOL OR WASTE SOAKED WITH THIS PRODUCT MAY SPONTANEOUSLY CATCH FIRE IF IMPROPERLY DISCARDED. IMMEDIATELY AFTER EACH USE, PLACE RAGS, STEEL WOOL OR WASTE IN A SEALED WATER-FILLED METAL CONTAINER.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Product name : NEUTRAL ALKYD ENAMEL BASE

Ingredient name	%	CAS number
xylene	15 - 40	1330-20-7
Solvent naphtha (petroleum), medium aliph.	7 - 13	64742-88-7
ethylbenzene	5 - 10	100-41-4
Solvent naphtha (petroleum), light aromatic	1 - 5	64742-95-6
2-ethylhexanoic acid, zirconium salt	0.1 - 1	22464-99-9
2-butanone oxime	0.1 - 1	96-29-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Harmful in contact with skin. Causes skin irritation. Defatting to the skin.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
xylene	**ACGIH TLV (United States, 4/2014).** STEL: 651 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 434 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
Solvent naphtha (petroleum), medium aliph.	**ACGIH TLV (United States).** TWA: 400 ppm **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.
ethylbenzene	**ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
2-ethylhexanoic acid, zirconium salt	**ACGIH TLV (United States, 4/2014).** STEL: 10 mg/m³, (as Zr) 15 minutes. TWA: 5 mg/m³, (as Zr) 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³, (as Zr) 8 hours.
2-butanone oxime	**IPEL (PPG).** TWA: 3 ppm STEL: 10 ppm

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: nitrile rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 27.22°C (81°F)

Section 9. Physical and chemical properties

Material supports combustion.	:	Yes.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Lower: 1%
Evaporation rate	:	0.52 (butyl acetate = 1)
Vapor pressure	:	0.89 kPa (6.7 mm Hg) [room temperature]
Vapor density	:	Not available.
Relative density	:	0.95
Density (lbs / gal)	:	7.93
Solubility	:	Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/water	:	Not available.
Viscosity	:	Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)
Volatility	:	64% (v/v), 56.84% (w/w)
% Solid. (w/w)	:	43.16

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
Incompatible materials	:	Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
Hazardous decomposition products	:	Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
Solvent naphtha (petroleum), medium aliph.	LD50 Dermal	Rabbit	>3000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
ethylbenzene	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
Solvent naphtha (petroleum), light aromatic	LD50 Dermal	Rabbit	3.48 g/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
2-ethylhexanoic acid, zirconium salt	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-
2-butanone oxime	LD50 Oral	Rat	930 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
xylene	-	3	-
ethylbenzene	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Solvent naphtha (petroleum), medium aliph. Solvent naphtha (petroleum), light aromatic	Category 3 Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
Solvent naphtha (petroleum), medium aliph. ethylbenzene	Category 1 Category 2

Target organs : Contains material which causes damage to the following organs: brain, skin, central nervous system (CNS).
Contains material which may cause damage to the following organs: kidneys, lungs, the nervous system, liver, gastrointestinal tract, upper respiratory tract, ears, eye, lens or cornea.

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), medium aliph. ethylbenzene Solvent naphtha (petroleum), light aromatic	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : Harmful in contact with skin. Causes skin irritation. Defatting to the skin.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 11. Toxicological information

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	5670 mg/kg
Dermal	1788.3 mg/kg
Inhalation (gases)	8445.1 ppm
Inhalation (vapors)	15.07 mg/l
Inhalation (dusts and mists)	2.055 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
ethylbenzene	Acute LC50 150 to 200 mg/l Fresh water	Fish - Lepomis macrochirus - Young of the year	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
xylene	3.16	7.4 to 18.5	low
ethylbenzene	3.15	79.43	low
2-butanone oxime	0.63	5.01	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	277.7	Not applicable.	Not applicable.
RQ substances	(xylene, ethylbenzene)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.

Australia inventory (AICS) : At least one component is not listed.

Canada inventory (DSL) : At least one component is not listed in DSL but all such components are listed in NDSL.

China inventory (IECSC) : At least one component is not listed.

Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.

Japan inventory (ENCS) : Not determined.

Korea inventory (KECI) : All components are listed or exempted.

New Zealand (NZIoC) : At least one component is not listed.

Philippines inventory (PICCS) : At least one component is not listed.

United States

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

Section 15. Regulatory information

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
xylene	Yes.	No.	No.	Yes.	No.
Solvent naphtha (petroleum), medium aliph.	Yes.	No.	No.	Yes.	Yes.
ethylbenzene	Yes.	No.	No.	Yes.	Yes.
Solvent naphtha (petroleum), light aromatic	Yes.	No.	No.	Yes.	No.
2-ethylhexanoic acid, zirconium salt	Yes.	No.	No.	No.	Yes.
2-butanone oxime	Yes.	No.	No.	Yes.	Yes.

SARA 313

Supplier notification :

Chemical name	CAS number	Concentration
xylene	1330-20-7	15 - 40
ethylbenzene	100-41-4	5 - 10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 3 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 3 **Instability** : 0

Date of previous issue : **9/24/2014.**

Organization that prepared the MSDS : EHS

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.