NICHOLS ALUMINUM
Quanex

February 6, 2009

Mr. Michael Hom
U.S. Environmental Protection Agency
Clean Water Enforcement Branch
61 Forsyth Street, S.W.
Atlanta, GA 30303-8960

Re: Information Request – Section 308 of the Clean Water Act
Discharge of Perfluorinated Compounds

Dear Mr. Hom:

Nichols Aluminum–Alabama LLC hereby respectfully submits its responses to EPA's December 16, 2008 Information Request – Section 308 for the Discharge of Perfluorinated Compounds. Please note that, as used in the request, we have interpreted (i) the term "perfluorinated chemicals" as referring to organic compounds in which carbon-hydrogen bonds are replaced with carbon-fluorine ones, (ii) the term "fluorinated chemicals" to refer to organic compounds containing fluorine, and (iii) the term "fluoride" as referring to inorganic chemicals containing ionic forms of fluorine. Please note also that we are incorporating the attached general objections. With that introduction, I have set out below each of the Agency's requests followed by our response.

1. **Provide a narrative description of the products manufactured or services provided by the Company's primary and secondary business at its Decatur, Alabama location for each calendar year beginning with calendar year 1996 to the present.**

Decatur Aluminum Corp. was formed in 1993 to acquire aluminum production assets at an existing plant in Decatur, Alabama. The company changed hands in a 1998 stock sale, and now is known as Nichols Aluminum–Alabama, LLC (NAA). NAA's business at its Decatur, Alabama location has been producing painted aluminum sheet. Please note that with the passage of time, and change in management, our institutional knowledge of early operations is limited.

We believe that from 1996-1998 plant operations included secondary aluminum production. Aluminum scrap, primary aluminum, and alloys would have been melted and continuously cast into a coil. Those "hot mill" operations ended before the 1998 stock sale. Since 1998, NAA has been receiving coils of aluminum sheet from other plants.

From 1996 until today, the Decatur plant has processed aluminum coils through the following steps:

(1) cold rolling of the sheet to gauge,
(2) annealing (i.e., heat treating),
(3) leveling,
(4) painting (for which NAA currently uses any of over 825 different coatings and which includes oven curing),
(5) slitting, and
(6) cutting.

Depending on business needs, and economic conditions, the plant also may receive for painting aluminum coils that already have been cold-rolled to gauge.

2. **Provide the Standard Industrial Classification and North American Industry Classification System codes for the Company's business(es) at its Decatur, Alabama location for each calendar year beginning with calendar year 1996 to the present.**

We believe the applicable Standard Industrial Classification codes from 1996 to the present to have been: (i) 3353 Aluminum sheet, plate and foil, and (ii) 3479 Metal Coating Engraving, and Allied Services, NEC (except jewelry, silverware, and flatware engraving and etching).

We believe the applicable North American Industry Classification System codes from 1996 to the present to have been: (i) 331315, Al sheet, plate and foil manufacturer, and (ii) 332812, Al coating of metal products for trade.

3. **Provide a list and a general estimate of the amounts of raw and finished materials that may have contained PFCs which were used in the Company's operations to manufacture products or provide services at its Decatur, Alabama location for each calendar year beginning with calendar year 1996 to the present.**

NAA has identified the fluoropolymer polyvinylidene fluoride (PVDF), CAS No. 24937-79-9, as a component in 55 of the coatings it used in 2006 and 2008 to paint aluminum sheet. In attachment A, NAA estimates that it used the following amounts of PVDF over that time:

2006	629 lbs (trial)
2007	0 lbs
2008	16,650 lbs.

Prior to 2006, NAA was obtaining coatings from a different source.

4. **Provide a copy of the Material Safety Data Sheets for the raw materials used in the Company's operations to manufacture products or provide services at its Decatur, Alabama location for each calendar year beginning with calendar year 1996 to the present.**

When the secondary aluminum production process was in operation, NAA's basic raw materials would have been scrap aluminum, prime aluminum, and alloying elements. Since 1998, NAA's raw materials have been coils of aluminum. Attachment B contains MSDSs for the primary aluminum alloys handled at the plant: Series 3XXX, Series 6XXX, and 5052 . As noted above, NAA uses over 825 coatings in painting aluminum sheet. Attachment B contains the MSDSs for coatings we have identified as containing the fluoropolymer polyvinylidene fluoride (PVDF), CAS No. 24937-79-9.

5. **Has the Company ever used PFCs in its operations to manufacture products or provide services at its Decatur, Alabama location? If so, provide the name of the PFC and a general estimate of the amounts used for each calendar year beginning with calendar year 1996 to the present.**

NAA has identified the fluoropolymer polyvinylidene fluoride (PVDF), CAS No. 24937-79-9, as an additive in a few of the coatings that NAA used in 2006 and 2008. Please also see NAA's response to Question #3, which is incorporated herein.

6. **Has the Company ever used telomers or fluoropolymers in its operations to manufacture products or provide services at its Decatur, Alabama location? If so, provide the name of the telemoer (sic) or fluoropolymer and a general estimate of the amounts used for each calendar year beginning with calendar year 1996 to the present.**

NAA does not believe it has used any fluorinated telomers in its manufacturing operations since 1996. For fluoropolymers, please see NAA's response to Question #3, which is incorporated herein.

7. **Provide a narrative description of the byproducts, waste streams and emissions from the Company's operations to manufacture products or provide services at its Decatur, Alabama location for each calendar year from calendar year 1996 to the present.**

The secondary aluminum production operations would have emitted particulate matter to the atmosphere. In addition, they would have generated a dross byproduct. Dross is a mixture of flux, impurities, and varying concentrations of aluminum. As noted above, secondary aluminum production at the Decatur plant ended in 1998 before the NAA stock purchase, but we would expect the dross to have been sent off-site for recovery.

A lubricant (mineral seal oil and mineral spirits) is used in cold rolling the aluminum sheet to gauge. The lubricant is filtered and returned to the operation. Spent filter paper and spent lubricant are disposed of off-site.

Before painting, the aluminum coils must be cleaned and pre-treated. Oil thus is washed from the sheet in a closed tank containing an aqueous solution of potassium hydroxide. A conversion coating is applied, and then cured.

After that, a prime coat is rolled onto the sheet, cured in an oven, and quenched with water. The sheet then is roll coated with a finish paint, the paint is cured, and the sheet is quenched with water.

Wastes from coating the sheet include used or off-spec paint, used solvent, and debris such as mop heads and rags. The painting also emits volatile organic compounds.

8. **Provide a narrative description of the disposal methods and disposal locations of the byproducts, waste streams and emissions from the Company's operations to manufacture products or provide services at its Decatur, Alabama location for each calendar year from calendar year 1996 to the present.**

Spent oil from the cold rolling process has been shipped off site for recycling along with other used oils from maintenance and water treatment. At present, the following facility is handling NAA's used oil:

Metal Working Lubricants
1509 South Senate Ave.
Indianapolis, IN 46225

Used oil filter waste has been landfilled. At present, the following facility is handling that material:

Allied Waste Services
Industrial Waste Sales
Morris Farms Landfill
Hillsboro, AL 35640

Used potassium hydroxide cleaning solution (which cleans the sheet prior to painting) flows to another tank where two-oil water separators remove oil from the water. From there, the water is treated in one of three coalescers for additional oil separation. The pH is adjusted and the effluent is discharged to:

Decatur Utilities
1002 Central Parkway, S.W.
P.O. Box 2232
Decatur, AL 35609-2232

The collected oil is combined with other used oil for offsite reclamation as discussed above.

Water used to quench the sheet after prime coating is re-used to quench the sheet after finish coating. From there, the cooling water flows to a cooling tower. The pH of the blowdown is adjusted, and the water is discharged to Decatur Utilities.

Used solvent is recycled in a solvent still. The distillate is used for paint cleanups. Waste paint, still bottoms, and used solvents from cleaning away paint are collected in 55-gallon drums and shipped offsite. Currently, those materials are recycled at the following facility:

Giant Resource Recovery - Attalla, Inc.
1229 Valley Drive Highway 11 North
Attalla, AL 35954

A primary ingredient of the conversion coating pretreatment process is chromium. Chrome debris (rags, buckets, or mop-heads from housekeeping) are collected in 55-gallon plastic drums and shipped to the below address for treatment (see 40 CFR Part 261, Appendix IX, Table 1):

Envirite of Illinois
16435 Center Ave.
Harvey, IL 60426

NAA currently uses a "dry-in-place" conversion coating. Prior to 2005, the plant used a wet process in which chrome wastewaters were treated, as described below in NAA's response to Question #9, thereby generating a treatment sludge (hazardous waste F019). From 1996 to 2005, the sludge was disposed of offsite at Envirite of Illinois.

Since 2004, fumes from the prime coater and finish coater have been exhausted to a "Regenerative Thermal Oxidizer" (RTO) for destruction in accordance with 40 CFR Part 63 Subpart SSSS NESHAP. The collection efficiency to the RTO is estimated to be greater than 98%, and the destruction efficiency greater than 99%.

9. **Provide a narrative description of any pollution abatement equipment and/or pretreatment process that has been applied to the byproducts and waste streams from the Company's operations to manufacture products or provide services at its Decatur, Alabama location prior to their discharge into the Decatur Utilities sewer system for each calendar year beginning with calendar year 1996 to the present.**

As described above in response to Question #8, oily water is processed in a tank containing two oil water separators and then transferred to one of the three coalescers for additional oil/water separation. From there, the pH is adjusted. Blowdown from the quench cooling tower also goes through pH adjustment. The treated wastewaters then are discharged to Decatur Utilities.

From 1996 to 2005, the plant was using a wet chrome "pretreatment" step as part of its coating operations. Those wastewaters were treated to "reduce" and precipitate chrome. The resulting sludge was sent off-site to Envirite of Illinois; the effluent was discharged to Decatur Utilities.

10. Provide any analytical data or monitoring results indicating the presence of PFCs or fluoride in the byproducts and waste streams from the Company's operations to manufacture products or provide services at its Decatur, Alabama location that were discharged into the Decatur Utilities sewer system for each calendar year beginning with calendar year 1996 to the present.

We currently are not aware of any analytical data or monitoring results indicating the presence of PFCs or fluoride in the byproducts or waste streams from NAA's operations that were discharged to Decatur Utilities.

11. Provide a copy of any permit, contract or agreement that the Company may have or have had relating to the discharge of byproducts and waste streams into the Decatur Utilities sewer system (include with this information copies of any permit applications) for each calendar year beginning with calendar year 1996 to the present.

Please see Attachment C.

12. Has the Company performed any monitoring or sampling of ambient air, surface water, groundwater or soil for PFCs at and around the Company's Decatur, Alabama location? If so, provide the resulting analytical data or monitoring results.

NAA is subject to an Alabama Hazardous Wastes Management and Minimization Act post-closure permit because a prior site operator treated F019 hazardous waste in a surface impoundment and closed a hazardous waste spill area (MEK and other solvents) as a landfill. Accordingly, soil and groundwater have regularly been sampled at the plant; however, none of the "groundwater quality monitoring constituents" listed in the post-closure permit contains fluorine. Review of our sampling database indicated that only one fluorinated chemical has been detected. Three samples from three wells in 1992 contained dichlorodifluoromethane at levels ranging from 6 – 60 ppb. We also have determined that fluoride was found in seven samples from four wells in 1982 at levels ranging from 0.1 to 0.3 ppm, which is below the Maximum Contaminant Level of 4.0 ppm.

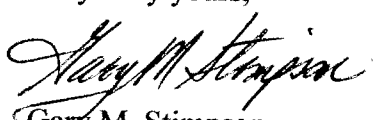
* * *

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This will confirm that NAA has put in place protection for relevant records.

If you have any questions about NAA's response, please let me know.

Very truly yours,



Gary M. Stimpson

GENERAL OBJECTIONS

NAA objects to the extent any portion of EPA's Clean Water Act Section 308 information request:

(i) goes beyond the scope or purpose of Clean Water Act Section 308, or otherwise exceeds the Agency's legal authority;
(ii) is burdensome;
(iii) is ambiguous; or
(iv) seeks privileged communications or records.

Attachment A

Chemical Usage Report

Material Inventory Report System - SARA Module

2008 CHEMICAL INVENTORY REPORT - DETAIL

CAS number 24937-79-9 Chemical Components with Parent Products
Ordered by CAS Number

Nichols Aluminum Alabama
2001 Highway 20 West
Decatur, AL 35601

CAS Number / Product Code	Chemical Component Name / Parent Product Name	Max. Wt. %	EPA Hazard Classes	Maximum Daily Amount	Average Amount Daily	Annual Amount Used	U o M
24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
122678	13F824 5MW97333 DURANAR PURE WHITE	30.000		278.39	120.49	447.17	LB
132388	23F448 191K2000 Black PVDF	31.802		481.22	299.60	363.25	LB
132389	93F278 191T2017 Statuary Bronze PVDF	31.273		489.58	314.07	351.02	LB
132390	93F279 191T2018 Classic Bronze	30.097		486.19	297.79	376.79	LB
132401	51F121 191G112CR Dark Green OVDF	28.170		725.67	362.84	725.67	LB
132402	61F117 191B76CR Royal Blue PVDF	28.337		413.40	197.23	492.56	LB
132403	71F113 191R63CR Tile Red PVDF	27.659		491.09	334.96	312.25	LB
132404	21F441 191D76CR Charcoal	28.902		796.40	432.16	728.49	LB
132405	41F895 191T183CR Brown PVDF	29.544		833.02	416.51	833.02	LB
133271	21F437 191D72CR Charcoal PVDF	27.808		2,375.47	966.41	4,812.09	LB
133325	63F122 190B2019 #7450 Vilescent PVDF	24.631		138.93	116.22	45.42	LB
133326	63F123 190B2021 #658 Periwinkle PVDF	25.150		135.35	109.64	51.43	LB
133327	23F453 190D2010 #538 Sublime Gray PVDF	24.137		132.92	101.02	63.80	LB
133328	93F282 190T2016 #4495 MD Antique Bronze PVDF	26.610		140.99	100.10	81.78	LB
133329	93F281 190T-2015 #4505 LT Antique Bronze PVDF	26.677		148.16	108.27	79.78	LB
133331	63F124 190B2020 Azure Mist PVDF	24.488		132.81	96.95	71.72	LB
133399	63F137 190B2027 Grape Mist PVDF	24.594		92.10	63.66	56.88	LB
133400	63F138 190B2028 Blue Delight PVDF	25.747		100.54	72.61	55.86	LB
133401	23F460 190D2011 Cool Gray PVDF	24.016		92.58	63.48	58.19	LB
133464	63F151 190B2031 Leisure Blue PVDF	25.322		100.85	80.41	40.88	LB
135344	51F116 191G105CR Green PVDF	28.583		1,324.59	811.59	1,740.14	LB
135378	21F443 191K2001CR Black PVDF	28.780		771.57	385.79	771.57	LB
135394	53F131 190G2002 Hunter Green	26.338		525.94	324.28	403.31	LB
135395	43F1012 190T2017 Antique Bronze PVDF	26.977		140.69	70.34	140.69	LB
135396	33F105 190Y2001 Gold PVDF	24.652		147.07	128.35	37.44	LB
135397	43F1013 190T2020 Beige PVDF	26.679		142.47	118.25	48.44	LB
135398	33F105 190Y2002 Dark Gold PVDF	25.006		134.58	111.70	45.76	LB
135399	43F1014 190T2021 Dark Beige PVDF	25.790		134.97	89.52	90.90	LB
135555	71F111 191R56CR Tile Red PVDF	27.159		815.85	402.00	898.01	LB
135559	21F440 191D73CR Slate Gray PVDF	27.705		210.41	149.28	122.27	LB
135560	71F112 191R58CR Country Red PVDF	27.638		243.06	147.27	191.59	LB
135570	11F897 191W43CR Mauna Kea White	24.966		231.69	142.36	178.65	LB

Hazard classes after each product name are for the product and may not relect the hazards of the specific ingredient.
Hazard classes after the chemical name are for the chemical in its pure state and may not reflect the hazards of the parent products.
Any amounts in volume units should be considered approximations since concentrations are in weight percent.

Material Inventory Report System - SARA Module

SARA-010

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24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
138137	63F125 190B2016 #650 Tonal Blue PVDF	24.213		126.07	97.18	57.78	LB
138138	63F126 190B2018 #657 Earthen Blue PVDF	24.861		117.31	70.38	93.85	LB
138162	43F1019 190T2033 Tan	26.001		163.58	132.56	62.05	LB
138163	53F132 190T2019 Olive PVDF	27.318		143.60	120.63	45.95	LB
138164	43F1020 190T2022 Sheffburne Buff PVDF	24.500		131.86	106.80	50.11	LB
138165	43F1021 190T2023 Auric	23.687		138.05	115.46	45.18	LB
138166	53F133 190G2003 Cache Olive PVDF	25.490		136.12	89.84	92.56	LB
138167	43F1022 190T2025 Desert Sand PVDF	25.186		150.26	121.57	57.37	LB
138170	53F135 190G2007 Lemlime PVDF	26.308		139.39	97.57	83.63	LB
138171	53F136 190G2006 Sassy Olive PVDF	26.940		140.49	108.18	64.63	LB
138172	53F137 190T2030 Old Gold PVDF	25.809		138.90	115.29	47.23	LB
138173	53F138 190T2031 Different Gold PVDF	27.099		136.75	95.44	82.62	LB
138174	53F139 190G2009 Rentless Olive PVDF	27.122		153.98	116.91	74.14	LB
138175	53F140 190G2010 Ferrent Brass PVDF	27.041		141.02	105.76	70.51	LB
138176	33F107 190Y2003 Golden Horizon PVDF	24.517		133.99	107.19	53.60	LB
138177	33F108 190y2004 Devilsh Yellow PVDF	24.286		132.73	88.93	87.60	LB
138178	73F110 190R2009 Autumn Gold PVDF	24.591		133.37	106.70	53.35	LB
138179	43F1024 190T2032 Burnt Olive PVDF	25.787		136.63	102.47	68.32	LB
138201	53F141 190G2006 Sawgrass PVDF	29.490		156.25	125.00	62.50	LB
138204	73F111 190R2010 Golden Harvest	25.479		138.19	113.31	49.75	LB
138273	63F130 190B2008 Intimate Iris PVDF	24.309		93.00	69.09	47.83	LB
138274	63F131 190B2009 Silver Peony PVDF	24.420		94.14	67.24	53.79	LB
138287	43F1026 190T2035 Touch of Gold PVDF	25.254		114.17	82.91	62.52	LB
138288	53F144 190G2011 Gleaming Olive PVDF	25.921		206.01	106.21	60.43	LB
138293	23F461 190D2014 Twilight Gray PVDF	24.564		97.40	77.11	40.58	LB
138294	63F144 190B2039 Ricotta Blue PVDF	24.025		94.54	72.22	44.64	LB
138295	63F145 190B2040 Silk Allure PVDF	24.688		107.12	80.34	53.56	LB
138296	43F1027 190T2037 Russett Moss	27.124		99.81	67.01	65.59	LB
138297	43F1028 190T2038 Barley PVDF	27.125		100.60	76.17	48.86	LB

Hazard classes after each product name are for the product and may not relect the hazards of the specific ingredient.
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24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
138298	43F1029 190T2039 Vivid Chartruse PVDF	27.521		97.59	48.80	97.59	LB
138301	43F1031 190T2042 Adobe Sand PVDF	24.725		96.55	68.39	56.32	LB
			Totals:	17,398.04	10,487.83	16,651.27	LB

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24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
132388	23F448 191K2000 Black PVDF	31.802		0.00	0.00	0.00	
132389	93F278 191T2017 Statuary Bronze PVDF	31.273		0.00	0.00	0.00	
132390	93F279 191T2018 Classic Bronze	30.097		0.00	0.00	0.00	
132401	51F121 191G112CR Dark Green OVDF	28.170		0.00	0.00	0.00	
132402	61F117 191B76CR Royal Blue PVDF	28.337		0.00	0.00	0.00	
132403	71F113 191R63CR Tile Red PVDF	27.659		0.00	0.00	0.00	
132404	21F441 191D76CR Charcoal	28.902		0.00	0.00	0.00	
132405	41F895 191T183CR Brown PVDF	29.544		0.00	0.00	0.00	
133271	21F437 191D72CR Charcoal PVDF	27.808		0.00	0.00	0.00	
133325	63F122 190B2019 #7450 Vilescent PVDF	24.631		0.00	0.00	0.00	
133326	63F123 190B2021 #658 Periwinkle PVDF	25.150		0.00	0.00	0.00	
133327	23F453 190D2010 #538 Sublime Gray PVDF	24.137		0.00	0.00	0.00	
133328	93F282 190T2016 #4495 MD Antique Bronze PVDF	26.610		0.00	0.00	0.00	
133329	93F281 190T-2015 #4505 LT Antique Bronze PVDF	26.677		0.00	0.00	0.00	
133331	63F124 190B2020 Azure Mist PVDF	24.488		0.00	0.00	0.00	
133396	63F134 190B2013 Labcoat Blue	26.445		0.00	0.00	0.00	
133397	63F135 190B2024 Major Blue PVDF	25.217		0.00	0.00	0.00	
133398	63F136 190B2025 Blue Beyond PVDF	25.119		0.00	0.00	0.00	
133399	63F137 190B2027 Grape Mist PVDF	24.594		0.00	0.00	0.00	
133400	63F138 190B2028 Blue Delight PVDF	25.747		0.00	0.00	0.00	
133401	23F460 190D2011 Cool Gray PVDF	24.016		0.00	0.00	0.00	
133402	63F139 190B2030 Heavenly Blue PVDF	24.208		0.00	0.00	0.00	
133403	63F140 190B2032 Dusty Dawn PVDF	26.501		0.00	0.00	0.00	
133404	63F141 190B2033 Blue Tahiti PVDF	26.132		0.00	0.00	0.00	
133405	63F142 190B2034 Blue Royale PVDF	28.478		0.00	0.00	0.00	
133464	63F151 190B2031 Leisure Blue PVDF	25.322		0.00	0.00	0.00	
135286	63F143 190B2003 Blue Nickel PVDF	25.289		0.00	0.00	0.00	
135343	51F115 191G104CR Forest Green PVDF	29.167		0.00	0.00	0.00	
135344	51F116 191G105CR Green PVDF	28.583		0.00	0.00	0.00	
135378	21F443 191K2001CR Black PVDF	28.780		0.00	0.00	0.00	
135394	53F131 190G2002 Hunter Green	26.338		0.00	0.00	0.00	
135395	43F1012 190T2017 Antique Bronze	26.977		0.00	0.00	0.00	

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24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
	PVDF						
135396	33F105 190Y2001 Gold PVDF	24.652		0.00	0.00	0.00	
135397	43F1013 190T2020 Beige PVDF	26.679		0.00	0.00	0.00	
135398	33F105 190Y2002 Dark Gold PVDF	25.006		0.00	0.00	0.00	
135399	43F1014 190T2021 Dark Beige PVDF	25.790		0.00	0.00	0.00	
135400	13F844 190W71CR Mauna Kea White PVDF	24.781		0.00	0.00	0.00	
135401	63F119 190B63 Midnight Blue PVDF	26.509		0.00	0.00	0.00	
135402	63F120 190G89 Teal Blue PVDF	29.329		0.00	0.00	0.00	
135403	23F452 190T137 Platinum PVDF	28.251		0.00	0.00	0.00	
135404	43F1015 190T129 Beach Beige PVDF	25.750		0.00	0.00	0.00	
135405	63F121 190B64 Light Blue PVDF	26.017		0.00	0.00	0.00	
135406	61F119 191B66CR (NAD 09-6DY-1 138111) Midnight Blue PVDF	26.600		0.00	0.00	0.00	
135407	51F124 191G103CR (NAD 09-5JH-1 138112) Forest Green PVDF	27.632		0.00	0.00	0.00	
135408	41F897 191T178CR (NAD 09-3VB-1 138113 Almond PVDF	24.995		0.00	0.00	0.00	
135409	11F898 191W42CR (NAD 09-0FW-1 138114) Regal White PVDF	23.788		0.00	0.00	0.00	
135555	71F111 191R56CR Tile Red PVDF	27.159		0.00	0.00	0.00	
135559	21F440 191D73CR Slate Gray PVDF	27.705		0.00	0.00	0.00	
135560	71F112 191R58CR Country Red PVDF	27.638		0.00	0.00	0.00	
135561	51F117 191G106CR Sand Green PVDF	26.766		0.00	0.00	0.00	
135562	51F118 191G107CR Kelly Green PVDF	29.065		0.00	0.00	0.00	
135563	51F119 191G108CR Marine Green PVDF	25.665		0.00	0.00	0.00	
135564	23F451 190D52CR Slate Gray PVDF	28.501		0.00	0.00	0.00	
135565	73F109 190R89CR Country Red	28.732		0.00	0.00	0.00	
135566	53F126 190G88CR Sand Green PVDF	27.645		0.00	0.00	0.00	
135567	53F127 190G86CR Kelly Green PVDF	29.850		0.00	0.00	0.00	
135568	53F128 53F128 190G87CR Marine Green PVDF	25.995		0.00	0.00	0.00	
135569	93F280 190T128CR Tahitian Brown PVVDF	8.000		0.00	0.00	0.00	
135570	11F897 191W43CR Mauna Kea White	24.966		0.00	0.00	0.00	
138134	43F1016 190T2026 #7504 Mystery Tan PVDF	26.453		0.00	0.00	0.00	

Hazard classes after each product name are for the product and may not relect the hazards of the specific ingredient.
Hazard classes after the chemical name are for the chemical in its pure state and may not reflect the hazards of the parent products.
Any amounts in volume units should be considered approximations since concentrations are in weight percent.

Material Inventory Report System - SARA Module

SARA-010

2007 CHEMICAL INVENTORY REPORT - DETAIL

CAS number 24937-79-9 Chemical Components with Parent Products
Ordered by CAS Number

Nichols Aluminum Alabama
2001 Highway 20 West
Decatur, AL 35601

CAS Number / Product Code	Chemical Component Name / Parent Product Name	Max. Wt. %	EPA Hazard Classes	Maximum Daily Amount	Average Amount Daily	Annual Amount Used	UoM
24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
138135	43F1017 190T2027 #7530 Simply Taupe PVDF	25.404		0.00	0.00	0.00	
138136	43F1018 190T2029 #7505 Humid Tan PVDF	26.949		0.00	0.00	0.00	
138137	63F125 190B2016 #650 Tonal Blue PVDF	24.213		0.00	0.00	0.00	
138138	63F126 190B2018 #657 Earthen Blue PVDF	24.861		0.00	0.00	0.00	
138162	43F1019 190T2033 Tan	26.001		0.00	0.00	0.00	
138163	53F132 190T2019 Olive PVDF	27.318		0.00	0.00	0.00	
138164	43F1020 190T2022 Sheffburne Buff PVDF	24.500		0.00	0.00	0.00	
138165	43F1021 190T2023 Auric	23.687		0.00	0.00	0.00	
138166	53F133 190G2003 Cache Olive PVDF	25.490		0.00	0.00	0.00	
138167	43F1022 190T2025 Desert Sand PVDF	25.186		0.00	0.00	0.00	
138168	43F1023 190T2028 Med Brown PVDF	28.136		0.00	0.00	0.00	
138169	53F134 190G2004 Botanical Green PVDF	27.118		0.00	0.00	0.00	
138170	53F135 190G2007 Lemlime PVDF	26.308		0.00	0.00	0.00	
138171	53F136 190G2006 Sassy Olive PVDF	26.940		0.00	0.00	0.00	
138172	53F137 190T2030 Old Gold PVDF	25.809		0.00	0.00	0.00	
138173	53F138 190T2031 Different Gold PVDF	27.099		0.00	0.00	0.00	
138174	53F139 190G2009 Rentless Olive PVDF	27.122		0.00	0.00	0.00	
138175	53F140 190G2010 Ferrent Brass PVDF	27.041		0.00	0.00	0.00	
138176	33F107 190Y2003 Golden Horizon PVDF	24.517		0.00	0.00	0.00	
138177	33F108 190y2004 Devilsh Yellow PVDF	24.286		0.00	0.00	0.00	
138178	73F110 190R2009 Autumn Gold PVDF	24.591		0.00	0.00	0.00	
138179	43F1024 190T2032 Burnt Olive PVDF	25.787		0.00	0.00	0.00	
138198	23F454 190D2004 Garden Gate PVDF	27.904		0.00	0.00	0.00	
138199	23F455 190D2006 Sandy Taupe PVDF	25.951		0.00	0.00	0.00	
138200	23f456 190D2007 Classic Taupe PVDF	26.326		0.00	0.00	0.00	
138201	53F141 190G2006 Sawgrass PVDF	29.490		0.00	0.00	0.00	
138202	23F457 190D2008 Dark Cool Gray	26.049		0.00	0.00	0.00	

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Any amounts in volume units should be considered approximations since concentrations are in weight percent.

Material Inventory Report System - SARA Module

SARA-010

2007 CHEMICAL INVENTORY REPORT - DETAIL

CAS number 24937-79-9 Chemical Components with Parent Products
Ordered by CAS Number

Nichols Aluminum Alabama
2001 Highway 20 West
Decatur, AL 35601

CAS Number / Product Code	Chemical Component Name / Parent Product Name	Max. Wt. %	EPA Hazard Classes	Maximum Daily Amount	Average Amount Daily	Annual Amount Used	UoM
24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
	PVDF						
138203	23F458 190D2009 Battleship Gray PVDF	26.792		0.00	0.00	0.00	
138204	73F111 190R2010 Golden Harvest	25.479		0.00	0.00	0.00	
138271	23F459 190D2005 Barron Gray PVDF	26.217		0.00	0.00	0.00	
138272	63F129 190B2007 Skyward PVDF	24.167		0.00	0.00	0.00	
138273	63F130 190B2008 Intimate Iris PVDF	24.309		0.00	0.00	0.00	
138274	63F131 190B2009 Silver Peony PVDF	24.420		0.00	0.00	0.00	
138276	63F133 190B2011 Whimsical Blue PVDF	28.508		0.00	0.00	0.00	
138278	63F132 190B2010 Opaque Blue PVDF	24.298		0.00	0.00	0.00	
138286	63F143 190B2003 Blue Nickel PVDF	25.289		0.00	0.00	0.00	
138287	43F1026 190T2035 Touch of Gold PVDF	25.254		0.00	0.00	0.00	
138288	53F144 190G2011 Gleaming Olive PVDF	25.921		0.00	0.00	0.00	
138293	23F461 190D2014 Twilight Gray PVDF	24.564		0.00	0.00	0.00	
138294	63F144 190B2039 Ricotta Blue PVDF	24.025		0.00	0.00	0.00	
138295	63F145 190B2040 Silk Allure PVDF	24.688		0.00	0.00	0.00	
138296	43F1027 190T2037 Russett Moss	27.124		0.00	0.00	0.00	
138297	43F1028 190T2038 Barley PVDF	27.125		0.00	0.00	0.00	
138298	43F1029 190T2039 Vivid Chartruse PVDF	27.521		0.00	0.00	0.00	
138299	43F1030 190T2041 Mystic Taupe PVDF	25.089		0.00	0.00	0.00	
138301	43F1031 190T2042 Adobe Sand PVDF	24.725		0.00	0.00	0.00	
			Totals:	0.00	0.00	0.00	
24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
122678	13F824 5MW97333 DURANAR PURE WHITE	30.000		444.09	135.47	629.12	LB

Hazard classes after each product name are for the product and may not relect the hazards of the specific ingredient.
Hazard classes after the chemical name are for the chemical in its pure state and may not reflect the hazards of the parent products.
Any amounts in volume units should be considered approximations since concentrations are in weight percent.

Material Inventory Report System - SARA Module

SARA-010

2006 CHEMICAL INVENTORY REPORT - DETAIL

CAS number 24937-79-9 Chemical Components with Parent Products
Ordered by CAS Number

Nichols Aluminum Alabama
2001 Highway 20 West
Decatur, AL 35601

CAS Number / Product Code	Chemical Component Name / Parent Product Name	Max. Wt. %	EPA Hazard Classes	Maximum Daily Amount	Average Amount Daily	Annual Amount Used	UoM
24937-79-9 /	ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER						
122678	13F824 5MW97333 DURANAR PURE WHITE	30.000		444.09	135.47	629.12	LB

Hazard classes after each product name are for the product and may not relect the hazards of the specific ingredient.
Hazard classes after the chemical name are for the chemical in its pure state and may not reflect the hazards of the parent products.
Any amounts in volume units should be considered approximations since concentrations are in weight percent.

Attachment B

Material Safety Data Sheets for the Raw Materials

MATERIAL SAFETY DATA SHEET

Generated 08/10/2008, **Revision** 05/18/2007, **Supercedes Revision** 03/21/2007, **Date Created** / /

SECTION 1. Product and Company Identification
Aluminum Alloy 5052

Product Code:	20-800016	
Product Name:	Aluminum Alloy 5052	
Manufacturer Information		
Company Name:	Nichols Aluminum 1725 Rockingham Road P O Box 3808 (52808 zip) Davenport, IA 52802	
Phone Number:	(800)323-2530	
Emergency Contact:	CHEMTREC	(800)424-9300
Alternate Emergency Contact:	Outside the US	(703)527-3887
Information:	Dave Peters	(800)322-3250 6371
Web site address:	nicholsal.com	

Synonyms
ALUMINUM

In case of emergency call CHEMTREC -Day or Night (800)424-9300,
Outside the Uniten States call (703)527-388 Collect call accepted.
EMERGENCY PHONE: 319/328-6371
PREPARER: DAVE PETERS
THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHER MORE, VENDEE ASSUMES THE RISK IN HIS USE, STORAGE, AND HANDLING OF THE MATERIAL.

SECTION 2. Composition/Information on Ingredients
Aluminum Alloy 5052

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV
Magnesium	7439-95-4	2.2 -3.8 %	No data.	No data.
Aluminum	7429-90-5	>96.0 %	No data.	No data.

Chromium	7440-47-3	0.15 -0.35 %	No data.	No data.
IRON	65996-67-0	< 0.45 %	No data.	No data.

OTHER EXPOSURE LIMIT INFORMATION
INGREDIENT: ALUMINUM (AS DUST) LIMIT : 5.0 MG/M3 1984-85 ACGIH OSHA 1910.1000
BASE METAL % COMPOSITION BY WEIGHT TLV (MG/M3)* TWA (MG/M3)** ---------- ---------- ---------- ---------- ----------
ALUMINUM 80.0-99.7 10.0 AS METAL NOT ESTABLISHED
DUST AND OXIDE
5.0 AS WELDING " "
FUME

MAXIMUM % COMPOSITION
BY WEIGHT 1984-85 ACGIH OSHA 1910.1000
ALLOYING ELEMENT 1.0-10.0 1.0-20.0 TLV (MG/M3)* TWA (MG/M3)** ---------- ---------- ---------- ---------- ----------
MAGNESIUM, MG W P 10.0, AS FUME 15.0, AS FUME
CHROMIUM, CR W 10.0, AS FUME 15.0, AS FUME
IRON, FE W,P 5.0, AS FUME 10.0, AS FUME
MAGNESIUUM, MG W P 10.0, AS FUME 15.0, AS FUME
MANGANESE, MN W 10.0, AS FUME 15.0, AS FUME
SILICON, SI W,P 10.0, AS TOTAL DUST NE
5.0, AS RESPIRABLE
DUST
TIN, SN P 2.0, AS OXIDE AND 2.0, AS
METAL INORGANIC

COMPOUNDS
ZINC, ZN W,P 5.0, AS FUME 5.0, AS FUME

KEY: W=WROUGHT ALUMINUM (FABRICATED PRODUCTS) P=PRIME AND INGOT HARDENER ALUMINUM *TLV=THRESHOLD LIMIT VALUE **TWA=TIME-WEIGHTED AVERAGE
NOTE: ALUMINUM ALLOYS MAY BE COMPRISED OF ALL OR VARIATIONS OF THE ALLOYS SHOWN HERE. IN ADDITION, THE WELDING OF ALUMINUM ALLOYS MAY PRODUCE THE PRODUCTS LISTED IN SECTION VIII, HEREIN.

SECTION 3. Hazards Identification
Aluminum Alloy 5052

Emergency Overview

WARNING! Welding, sawing, brazing, grinding and machining may cause dusts and/or fumes to be released. These fumes may be harmful if inhaled and may irritate the eyes, skin and respiratory tract. Molten Material may cause thermal burns.

Warning:
This product does contain carcinogens or potential carcinogens as listed by OSHA, IARC, or NTP.

This product does contain amounts of material considered hazardous by OSHA, Hazards

Communication Standard (29 CFR 1910.1200)
Route(s) of Entry: Inhalation? Yes , Skin? Yes , Eyes? Yes , Ingestion? No
Potential Health Effects (Acute and Chronic)
Aluminum products in their solid state under normal conditions, do not present an inhalation, ingestion or skin hazard. However, operations resulting in fumes or particulate formation such as, sawing, brazing, grinding and machining may present health hazards.
Physical State: Solid
Appearance: Silvery
Odor: None
Non-flammable as supplied

Signs and Symptoms Of Exposure
Eye: Over-exposure to dust may cause irritation.

Skin: Skin contact very unlikely, but may cause irritation.

Ingestion: Not likely.

Inhalation: Not likely unless material is machined, welded or melted.
Short term exposure to welding fumes may result in discomfort.
Medical Conditions Generally Aggravated By Exposure
None known

OSHA Hazard Classes:
HEALTH HAZARDS: N/E
PHYSICAL HAZARDS: N/E
TARGET ORGANS & EFFECTS: N/E
(THRESHOLD LIMIT VALUE: SEE SECTION II.)

SECTION 4. First Aid Measures
Aluminum Alloy 5052

Emergency and First Aid Procedures
Eye ContactFlush with water for at least 15 minutes. If irritation occurs, get medical assistance.

Skin Contact: Remove particles by thoroughly washing with soap and water.

Inhalation: Remove to fresh air.

Ingestion: Not applicable.

SECTION 5. Fire Fighting Measures
Aluminum Alloy 5052

Flash Pt: NR Method Used: Unknown
Explosive Limits: LEL: NA UEL: NA
Autoignition Pt: N.A.
Fire Fighting Instructions
Do not use water on dust. Water produces ammonia, methane and hydrogen which are highly

flammable. Stay away from ends of tanks. For massive fire in cargo/storage area,use unmanned hose holder and monitor nozzles; if this is impossible, withdraw from area and let fire burn. Damp aluminum dust may spontaneously heat with liberation of hydrogen to form explosive mixtures.

Flammable Properties and Hazards

Damp Aluminum dust may spontaneously heat with the liberation of hydrogen to form explosive air mixtures.

Extinguishing Media

Class D extinguishing media, fluxing salts, sodium chloride powder or dry sand.

Unsuitable Extinguishing Media

No data available.

SECTION 6. Accidental Release Measures
Aluminum Alloy 5052

Steps To Be Taken In Case Material Is Released Or Spilled

Personal Precautions: In its molten format, this material is water pollutant. If water pollution occurs, notify appropriate authorities.

Steps to be taken in case material is released or spilled: Not applicable.

Methods for Containment: If molten, contain the fire by using sand or alumina as a ban. Do not attempt to halt flow of metal with shovels or hand tools.

Methods for Clean-Up: Clean up spilled material manually and place on approved dry containers away from water and humidity. If wet, do not store in airtight containers.

SECTION 7. Handling and Storage
Aluminum Alloy 5052

Precautions To Be Taken in Handling

Keep away from halogen acids and sodium hydroxide which may generate explosive mixtures of hydrogen. Finely divided aluminum may form explosive mixtures in air. The welding off aluminum alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infrared radiation and ultraviolet radiation.

Other Precautions

NA

SECTION 8. Exposure Controls/Personal Protection
Aluminum Alloy 5052

Respiratory Equipment (Specify Type)

Personal protective equipment, including use of NIOSH-approved respirator, is requires when machining, grinding, welding or remelting this product.

Eye Protection

Wear safety glasses to prevent possibility of eye contact.

Protective Gloves

Wear impervious gloves to avoid repeated or prolonged skin contact with residual oils and to avoid injury.

Wear appropriate clothing, including long sleeved shirt etc. , to pervent skin irration.

Other Protective Clothing

Appropriate personal protective equipment is required when melting, casting, machining, forging or otherwise processing. The nature of the processing activity will determine what format of equipment is necessary, i. e., glasses, respirator, protective clothing and ear protection.

Engineering Controls (Ventilation etc.)

Use with adequate ventilation.

PERSONAL PROTECTIVE EQUIPMENT: APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED WHEN MELTING, CASTING, MACHINING, FORGING, OR OTHERWISE PROCESSING. THE NATURE OF THE PROCESSING ACTIVITY WILL DETERMINE WHAT FORM OF EQUIPMENT IS NECESSARY, I.E., GLASSES, RESPIRATOR, PROTECTIVE CLOTHING, AND EAR PROTECTION.

NA = NOT APPLICABLE

ADDITIONAL INFORMATION

1. HALOGEN ACIDS AND SODIUM HYDROXIDE IN CONTACT WITH ALUMINUM MAY GENERATE EXPLOSIVE MIXTURES OF HYDROGEN. 2. FINELY DIVIDED ALUMINUM WILL FORM EXPLOSIVE MIXTURES IN AIR. IT WILL ALSO FORM EXPLOSIVE MIXTURES IN AIR IN THE PRESENCE OF BROMATES, IODATES, OR AMMONIUM NITRATE. 3. WHEN REMELTING ALUMINUM SCRAP, ENTRAPPED MOISTURE OR THE PRESENCE OF STRONG OXIDIZERS SUCH AS AMMONIUM NITRATE COULD CAUSE AN EXPLOSION. THIS APPLIES TO THE COLLECTION OF MOISTURE IN SOW CAVITIES AS WELL. MOISTURE MUST BE DRIVEN OFF PRIOR TO REMELTING. 4. DO NOT TOUCH CAST ALUMINUM METAL OR HEATED ALUMINUM PRODUCT WITHOUT KNOWING METAL TEMPERATURE. ALUMINUM EXPERIENCES NO COLOR CHANGE DURING HEATING. IF METAL IS HOT AND TOUCHED, BURNS CAN RESULT. 5. ALUMINUM POWDER MUST BE PACKAGED AND SHIPPED AS A FLAMMABLE SOLID, UN1396. 6. HARD ALLOY INGOTS IN THE 2000 AND 7000 SERIES MUST BE STRESS-RELIEVED TO PREVENT EXPLOSION WHEN SAWED. 7. THE WELDING OF ALUMINUM ALLOYS MAY GENERATE CARBON MONOXIDE, CARBON DIOXIDE, OZONE, NITROGNE OXIDES, INFRA-RED RADIATION AND ULTRA-VIOLET RADIATION.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED REGARDING THE ACCURACY OR CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

SECTION 9. Physical and Chemical Properties
Aluminum Alloy 5052

Physical States:	[ ] Gas [ ] Liquid [X] Solid
Melting Point:	NR
Boiling Point:	NR
Autoignition Pt:	N.A.
Flash Pt:	NR Method Used: Unknown
Explosive Limits:	LEL: NA UEL: NA
Specific Gravity (Water = 1):	2.7 - 2.9
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	NRNA
Vapor Density (vs. Air = 1):	NRNA
Evaporation Rate (vs Butyl Acetate=1):	NR
Solubility in Water:	NIL
Percent Volatile:	NR
Viscosity:	NR
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
pH:	NR

Appearance and Odor
Physical state: Solid
Color: Silver/gray
Odor: Not applicable
Odor threshold: Not applicable
WATER SOLUBILITY NOTES: NIL (% BY WEIGHT)
WATER REACTIVITY: NO DATA

DENSITY: 2.702g/mL
MATERIAL IS (AT NORMAL CONDITIONS): SOLID

SECTION 10. Stability and Reactivity
Aluminum Alloy 5052

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability
This material is stable under normal conditions of handling and storage.

Incompatibility - Materials To Avoid
Anhydrous bromine, halocarbons, mercury (amalgam), chlorine, iodine (aluminum + barium, nitrate + barium, nitrate + potassium, nitrate + sulfur + organic matter).

Hazardous Decomposition Or Byproducts
In particulate form (small chips, dust), aluminum reacts with water and air humidity, strong basic solutions, strong acidic solutions, halogenated acids, producing flammable hydrogen gas.

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization
No data available.

SECTION 11. Toxicological Information
Aluminum Alloy 5052

No specific information available on this product.

Carcinogenicity/Other Information
No data available.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
Magnesium	7439-95-4	n.a.	n.a.	n.a.	n.a.
Aluminum	7429-90-5	n.a.	n.a.	n.a.	n.a.
Chromium	7440-47-3	n.a.	n.a.	A4	n.a.
IRON	65996-67-0	n.a.	n.a.	n.a.	n.a.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

SECTION 12. Ecological Information
Aluminum Alloy 5052

No specific information available on this product.

SECTION 13. Disposal Considerations
Aluminum Alloy 5052

Waste Disposal Method
Recovery and reuse, reather than disposal, should be the ultimate goal of handling efforts. Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Ensure that all responsible federal, state, and local agencies receive notification of spill and disposal methods.

SECTION 14. Transport Information
Aluminum Alloy 5052

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name No data available.
DOT Hazard Class: 4.1
DOT Hazard Label: FLAMMABLE SOLID

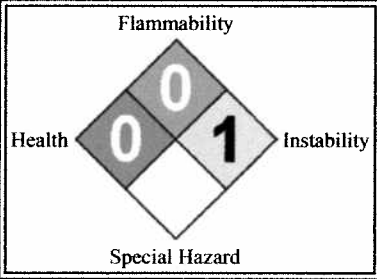
HAZARD CLASS:
4.3 DANGEROUS WHEN WET

SECTION 15. Regulatory Information
Aluminum Alloy 5052

No data available.

SECTION 16. Other Information
Aluminum Alloy 5052

The information contained herein is based on data considered to be accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results we obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in its use, storage and handling of material.



Minimal:	0
Slight:	1
Moderate:	2
Serious:	3
Extreme:	4

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Revision	05/18/2007
Supercedes Revision	03/21/2007
Date Created	/ /

MATERIAL SAFETY DATA SHEET

Generated 08/10/2008, **Revision** 05/18/2007, **Supercedes Revision** 03/22/2007, **Date Created** / /

SECTION 1. Product and Company Identification
Aluminum Alloys, 3XXX

Product Code:	20-800013	
Product Name:	Aluminum Alloys, 3XXX	
Manufacturer Information		
Company Name:	Nichols Aluminum 1725 Rockingham Road P O Box 3808 (52808 zip) Davenport, IA 52802	
Phone Number:	(800)323-2530	
Emergency Contact:	CHEMTREC	(800)424-9300
Alternate Emergency Contact:	Outside the US	(703)527-3887
Information:	Dave Peters	(800)322-3250 6371
Web site address:	nicholsal.com	

Synonyms
ALUMINUM

In case of emergency call CHEMTREC- Day or Night (800)424-9300,
Outside the United States call (703) 527-388 Collect calls accepted.
EMERGENCY PHONE: 319/328-6371
PREPARER: DAVE PETERS
THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHER MORE, VENDEE ASSUMES THE RISK IN HIS USE, STORAGE, AND HANDLING OF THE MATERIAL.

SECTION 2. Composition/Information on Ingredients
Aluminum Alloys, 3XXX

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA TWA	ACGIH TLV	OSHA CEIL
Magnesium	7439-95-4	0.0 -1.6 %	No data.	No data.	No data.
	7429-90-			10 mg/m3	

Aluminum	5	>95.0 %	No data.	(dust)	No data.
Manganese	7439-96-5	0.0 -1.6 %	No data.	(0.2 mg/m3)	5 mg/m3
Chromium	7440-47-3	0.0 -0.35 %	0.5 mg/m3	0.5 mg/m3	No data.
IRON	65996-67-0	< 0.75 %	No data.	No data.	No data.

OTHER EXPOSURE LIMIT INFORMATION
INGREDIENT: ALUMINUM (AS DUST) LIMIT : 5.0 MG/M3 1984-85 ACGIH OSHA 1910.1000
BASE METAL % COMPOSITION BY WEIGHT TLV (MG/M3)* TWA (MG/M3)** ---------- ---------- ---------- ---------- ----------
ALUMINUM 80.0-99.7 10.0 AS METAL NOT ESTABLISHED
DUST AND OXIDE
5.0 AS WELDING " "
FUME

MAXIMUM % COMPOSITION
BY WEIGHT 1984-85 ACGIH OSHA 1910.1000
ALLOYING ELEMENT 1.0-10.0 1.0-20.0 TLV (MG/M3)* TWA (MG/M3)** ---------- ---------- ---------- ---------- ----------
COBALT, CO W, P 0.1 0.1
COPPER, CU W P 0.2, AS FUME 0.1, AS FUME
IRON, FE W, P 5.0, AS FUME 10.0, AS FUME
MAGNESIUM, MG W P 10.0, AS FUME 15.0, AS FUME
MANGANESE, MN W 10.0, AS FUME 15.0, CEILING
SILICON, SI W, P 10.0, AS TOTAL DUST NOT ESTAB.
5.0, AS RESPIRABLE " "
DUST
TIN, SN P 2.0, AS OXIDE AND 2.0, AS
METAL INORGANIC

COMPOUNDS
ZINC, ZN W, P 5.0, AS FUME 5.0, AS FUME

KEY: W=WROUGHT ALUMINUM (FABRICATED PRODUCTS) P=PRIME AND INGOT HARDENER ALUMINUM *TLV=THRESHOLD LIMIT VALUE **TWA=TIME-WEIGHTED AVERAGE
NOTE: ALUMINUM ALLOYS MAY BE COMPRISED OF ALL OR VARIATIONS OF THE ALLOYS SHOWN HERE. IN ADDITION, THE WELDING OF ALUMINUM ALLOYS MAY PRODUCE THE PRODUCTS LISTED IN SECTION VIII, HEREIN.

SECTION 3. Hazards Identification
Aluminum Alloys, 3XXX

Emergency Overview

WARNING! Welding, sawing, brazing, grinding and machining may cause dusts and/or fumes to be released. These fumes may be harmful if inhaled and may irritate the eyes, skin and respiratory tract. Molten Material may cause thermal burns.

Route(s) of Entry: Inhalation? Yes , Skin? Yes , Eyes? Yes , Ingestion? No

Potential Health Effects (Acute and Chronic)

Auminum products in theis solid state under normal conditions, do noAluminum products in their solid state under normal conditions, do not present an inhalation, ingestion or skin hazard. However, operations resulting in fumes or particulate formation such as, sawing, brazing, grinding and machining may present health hazards.

Physical State: Solid
Appearance: Silvery
Odor: None
Non-flammable as supplied ot applicable

LD 50 / LC 50

No data available

Signs and Symptoms Of Exposure

Eye: Over-exposure to dust may cause irritation.

Skin: Skin contact very unlikely, but may cause irritation.

Ingestion: Not likely.

Inhalation: Not likely unless material is machined, welded or melted.
Short term exposure to welding fumes may result in discomfort.

Warning:
This product does contain carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

This product does contain amounts of material considered hazardous by OSHA, Hazards Communication Standard (29 CFR 1910.1200).

Medical Conditions Generally Aggravated By Exposure

Asthma, chronic lung disease and skin rashes.

OSHA Hazard Classes:

HEALTH HAZARDS: N/E
PHYSICAL HAZARDS: N/E
TARGET ORGANS & EFFECTS: N/E
(THRESHOLD LIMIT VALUE: SEE SECTION II.)

SECTION 4. First Aid Measures
Aluminum Alloys, 3XXX

Emergency and First Aid Procedures

Eye Contact: Flush with warm water for at least 15 minutes. If irritation persists Get Medical attention.

Skin Contact: Remove particles by thoroughly washing with soap and water.

Ingestion: Not applicable.

Inhalation: Remove to fresh air.

SECTION 5. Fire Fighting Measures
Aluminum Alloys, 3XXX

Flash Pt: NR Method Used: Unknown
Explosive Limits: LEL: NR UEL: NR
Autoignition Pt: NR

Fire Fighting Instructions

Do not use water on dust. Water produces ammonia, methane and hydrogen which are highly flammable. Stay away from ends of tanks. For massive fire in cargo/storage area , use unmanned hose holder and monitor nozzles; if this is impossible, withdraw from area and let fire burn. Damp aluminum dust may spontaneously heat with liberation of hydrogen to fork explosive mixtures.

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

Flammable Properties and Hazards

Damp Aluminum dust may spontaneously heat with the liberation of hydrogen to form explosive air mixtures.

Extinguishing Media

Class D extinguishing media, fluxing salts, sodium chloride powder or dry sand.

Unsuitable Extinguishing Media

No data available.

SECTION 6. Accidental Release Measures
Aluminum Alloys, 3XXX

Steps To Be Taken In Case Material Is Released Or Spilled

Personal Precautions: In its molten format, this material is water pollutant. If water pollution occurs, notify appropriate authorities.

Steps to be taken in case material is released or spilled: Not applicable.

Methods for Containment: If molten, contain the fire by using sand or alumina as a ban. Do not attempt to halt flow of metal with shovels or hand tools.

Methods for Clean-Up: Clean up spilled material manually and place on approved dry containers away from water and humidity. If wet, do not store in airtight containers.

SECTION 7. Handling and Storage
Aluminum Alloys, 3XXX

Precautions To Be Taken in Handling

Keep away from halogen acids and sodium hydroxide which may generate explosive mixtures of hydrogen. Finely divided aluminum may form explosive mixtures in air. The welding of aluminum alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infrared radiation and ultraviolet radiation.

Other Precautions

NA

SECTION 8. Exposure Controls/Personal Protection
Aluminum Alloys, 3XXX

Respiratory Equipment (Specify Type)

Personal protective equipment, including use of NIOSH approved respirator is required when machining, grinding, welding or remelting this product.

Eye Protection

Wear safety glasses to prevent possibility of eye contact.

Protective Gloves

Wear impervious gloves to avoid repeated or prolonged skin contact with residual oils and to avoid injury.

Wear appropriate clothing, including long sleeved shirt etc. , to pervent skin irration.

Other Protective Clothing

Appropriate personal protective equipment is required when melting, casting, machining, forging or otherwise processing. The nature of the processing activity will determine what format of equipment is necessary, i. e., glasses, respirator, protective clothing and ear protection.

Engineering Controls (Ventilation etc.)

Use with adequate ventilation.

PERSONAL PROTECTIVE EQUIPMENT: APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED WHEN MELTING, CASTING, MACHINING, FORGING, OR OTHERWISE PROCESSING. THE NATURE OF THE PROCESSING ACTIVITY WILL DETERMINE WHAT FORM OF EQUIPMENT IS NECESSARY, I.E., GLASSES, RESPIRATOR, PROTECTIVE CLOTHING, AND EAR PROTECTION.

NA = NOT APPLICABLE

ADDITIONAL INFORMATION

1. HALOGEN ACIDS AND SODIUM HYDROXIDE IN CONTACT WITH ALUMINUM MAY GENERATE EXPLOSIVE MIXTURES OF HYDROGEN. 2. FINELY DIVIDED ALUMINUM WILL FORM EXPLOSIVE MIXTURES IN AIR. IT WILL ALSO FORM EXPLOSIVE MIXTURES IN AIR IN THE PRESENCE OF BROMATES, IODATES, OR AMMONIUM NITRATE. 3. WHEN REMELTING ALUMINUM SCRAP, ENTRAPPED MOISTURE OR THE PRESENCE OF STRONG OXIDIZERS SUCH AS AMMONIUM NITRATE COULD CAUSE AN EXPLOSION. THIS APPLIES TO THE COLLECTION OF MOISTURE IN SOW CAVITIES AS WELL. MOISTURE MUST BE DRIVEN OFF PRIOR TO REMELTING. 4. DO NOT TOUCH CAST ALUMINUM METAL OR HEATED ALUMINUM PRODUCT WITHOUT KNOWING METAL TEMPERATURE. ALUMINUM EXPERIENCES NO COLOR CHANGE DURING HEATING. IF METAL IS HOT AND TOUCHED, BURNS CAN RESULT. 5. ALUMINUM POWDER MUST BE PACKAGED AND SHIPPED AS A FLAMMABLE SOLID, UN1396. 6. HARD ALLOY INGOTS IN THE 2000 AND 7000 SERIES MUST BE STRESS-RELIEVED TO PREVENT EXPLOSION WHEN SAWED. 7. THE WELDING OF ALUMINUM ALLOYS MAY GENERATE CARBON MONOXIDE, CARBON DIOXIDE, OZONE, NITROGNE OXIDES, INFRA-RED RADIATION AND ULTRA-VIOLET RADIATION.

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THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

SECTION 9. Physical and Chemical Properties
Aluminum Alloys, 3XXX

Physical States:	[ ] Gas [ ] Liquid [X] Solid
Melting Point:	NR
Boiling Point:	NR
Autoignition Pt:	NR
Flash Pt:	NR Method Used: Unknown
Explosive Limits:	LEL: NR UEL: NR
Specific Gravity (Water = 1):	2.7 - 2.9
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	NR
Vapor Density (vs. Air = 1):	NR
Evaporation Rate (vs Butyl Acetate=1):	NR
Solubility in Water:	NIL
Percent Volatile:	NR
Viscosity:	NR
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
pH:	NR

Appearance and Odor
Physical state: Solid
Color: Sliver gray
Odor: Not applicable
Odor threshold: Not applicable
WATER SOLUBILITY NOTES: NIL (% BY WEIGHT)
WATER REACTIVITY: NO DATA

DENSITY: 2.702g/mL
MATERIAL IS (AT NORMAL CONDITIONS): SOLID

SECTION 10. Stability and Reactivity
Aluminum Alloys, 3XXX

Stability: Unstable [ ] Stable [X]

Ensure that all responsible federal, state, and local agencies receive notification of spill and disposal methods.

SECTION 14. Transport Information
Aluminum Alloys, 3XXX

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name No data available.
DOT Hazard Class: 4.1
DOT Hazard Label: FLAMMABLE SOLID

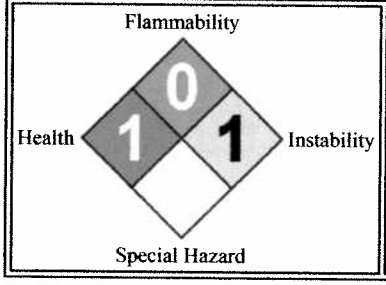
HAZARD CLASS:
4.3 DANGEROUS WHEN WET

SECTION 15. Regulatory Information
Aluminum Alloys, 3XXX

No data available.

SECTION 16. Other Information
Aluminum Alloys, 3XXX

The information contained herein is based on data considered to be accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results we obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in its use, storage and handling of material.



Minimal: 0
Slight: 1
Moderate: 2
Serious: 3
Extreme: 4

Generated 08/10/2008
Revision 05/18/2007
Supercedes Revision 03/22/2007
Date Created / /

MATERIAL SAFETY DATA SHEET

Generated 08/10/2008, **Revision** 05/18/2007, **Supercedes Revision** 03/22/2007, **Date Created** / /

SECTION 1. Product and Company Identification
Aluminum Alloy 6XXX

Product Code: 20-800017

Product Name: Aluminum Alloy 6XXX

Manufacturer Information

Company Name: Nichols Aluminum
1725 Rockingham Road
P O Box 3808 (52808 zip)
Davenport, IA 52802

Phone Number: (800)323-2530

Emergency Contact: CHEMTREC (800)424-9300

Alternate Emergency Contact: Outside the US (703)527-3887

Information: Dave Peters (800)322-3250 6371

Web site address: nicholsal.com

Synonyms

ALUMINUM

EMERGENCY PHONE: 319/328-6371

PREPARER: DAVE PETERS

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SECTION 2. Composition/Information on Ingredients
Aluminum Alloy 6XXX

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV
Magnesium	7439-95-4	0.0 -1.6 %	No data.	No data.
Aluminum	7429-90-5	>92.0 %	No data.	No data.
Manganese	7439-96-5	0.0 -1.24 %	No data.	No data.
Chromium	7440-47-3	0.0 -0.35 %	0.5 mg/m3	0.5 mg/m3

IRON	65996-67-0	< 1.1 %	No data.	No data.

OTHER EXPOSURE LIMIT INFORMATION
INGREDIENT: ALUMINUM (AS DUST) LIMIT : 5.0 MG/M3 1984-85 ACGIH OSHA 1910.1000
BASE METAL % COMPOSITION BY WEIGHT TLV (MG/M3)* TWA (MG/M3)** ---------- ---------- ---------- ---------- ----------
ALUMINUM 80.0-99.7 10.0 AS METAL NOT ESTABLISHED
DUST AND OXIDE
5.0 AS WELDING " "
FUME

MAXIMUM % COMPOSITION
BY WEIGHT 1984-85 ACGIH OSHA 1910.1000
ALLOYING ELEMENT 1.0-10.0 1.0-20.0 TLV (MG/M3)* TWA (MG/M3)** ---------- ---------- ---------- ---------- ----------
COBALT, CO W, P 0.1 0.1
COPPER, CU W P 0.2, AS FUME 0.1, AS FUME
IRON, FE W, P 5.0, AS FUME 10.0, AS FUME
MAGNESIUM, MG W P 10.0, AS FUME 15.0, AS FUME
MANGANESE, MN W 10.0, AS FUME 15.0, CEILING
SILICON, SI W, P 10.0, AS TOTAL DUST NOT ESTAB.
5.0, AS RESPIRABLE " "
DUST
TIN, SN P 2.0, AS OXIDE AND 2.0, AS
METAL INORGANIC

COMPOUNDS
ZINC, ZN W, P 5.0, AS FUME 5.0, AS FUME

KEY: W=WROUGHT ALUMINUM (FABRICATED PRODUCTS) P=PRIME AND INGOT HARDENER ALUMINUM *TLV=THRESHOLD LIMIT VALUE **TWA=TIME-WEIGHTED AVERAGE
NOTE: ALUMINUM ALLOYS MAY BE COMPRISED OF ALL OR VARIATIONS OF THE ALLOYS SHOWN HERE. IN ADDITION, THE WELDING OF ALUMINUM ALLOYS MAY PRODUCE THE PRODUCTS LISTED IN SECTION VIII, HEREIN.

SECTION 3. Hazards Identification
Aluminum Alloy 6XXX

Emergency Overview

WARNING! Welding, sawing, brazing, grinding and machining may cause dusts and/or fumes to be released. These fumes may be harmful if inhaled and may irritate the eyes, skin and respiratory tract. Molten Material may cause thermal burns. Warning:

This product does contain carcinogens or potential carcinogens as listed by OSHA, IARC, or NTP.

This product does contain amounts of material considered hazardous by OSHA, Hazards Communication Standard (29 CFR 1910.1200)

Route(s) of Entry: Inhalation? Yes , Skin? Yes , Eyes? Yes , Ingestion? No

Potential Health Effects (Acute and Chronic)

Aluminum products in their solid state under normal conditions, do not present an inhalation, ingestion or skin hazard. However, operations resulting in fumes or particulate formation such as, sawing, brazing, grinding and machining may present health hazards.

Signs and Symptoms Of Exposure

Eye: Over-exposure to dust may cause irritation.

Skin: Skin contact very unlikely, but may cause irritation.

Ingestion: Not likely.

Inhalation: Not likely unless material is machined, welded or melted.
Short term exposure to welding fumes may result in discomfort.

OSHA Hazard Classes:

HEALTH HAZARDS: N/E
PHYSICAL HAZARDS: N/E
TARGET ORGANS & EFFECTS: N/E
(THRESHOLD LIMIT VALUE: SEE SECTION II.)

SECTION 4. First Aid Measures
Aluminum Alloy 6XXX

Emergency and First Aid Procedures

Eye Contact: Flush with warm water for at least 15 minutes. If irritation persists Get Medical attention.

Skin Contact: Remove particles by thoroughly washing with soap and water.

Ingestion: Not applicable.

Inhalation: Remove to fresh air.

SECTION 5. Fire Fighting Measures
Aluminum Alloy 6XXX

Flash Pt: NR
Explosive Limits: LEL: NA UEL: NA
Autoignition Pt: NR

Fire Fighting Instructions

Do not use water on dust. Water produces ammonia, methane and hydrogen which are highly flammable. Stay away from ends of tanks. For massive fire in cargo/storage area,use unmanned hose holder and monitor nozzles; if this is impossible, withdraw from area and let fire burn. Damp aluminum dust may spontaneously heat with liberation of hydrogen to form explosive mixtures.

Flammable Properties and Hazards

Damp Aluminum dust may spontaneously heat with the liberation of hydrogen to form explosive air mixtures.

Extinguishing Media

Class D extinguishing media, fluxing salts, sodium chloride powder or dry sand.

Unsuitable Extinguishing Media

No data available.

SECTION 6. Accidental Release Measures
Aluminum Alloy 6XXX

Steps To Be Taken In Case Material Is Released Or Spilled

Personal Precautions: In its molten format, this material is water pollutant. If water pollution occurs, notify appropriate authorities.

Steps to be taken in case material is released or spilled: Not applicable.

Methods for Containment: If molten, contain the fire by using sand or alumina as a ban. Do not attempt to halt flow of metal with shovels or hand tools.

Methods for Clean-Up: Clean up spilled material manually and place on approved dry containers away from water and humidity. If wet, do not store in airtight containers.

SECTION 7. Handling and Storage
Aluminum Alloy 6XXX

Precautions To Be Taken in Handling

Keep away from halogen acids and sodium hydroxide which may generate explosive mixtures of hydrogen. Finely divided aluminum may form explosive mixtures in air. The welding off aluminum alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infrared radiation and ultraviolet radiation.

SECTION 8. Exposure Controls/Personal Protection
Aluminum Alloy 6XXX

Respiratory Equipment (Specify Type)

Personal protective equipment, including use of NIOSH-approved respirator, is requires when machining, grinding, welding or remelting this product.

Eye Protection

Wear safety glasses to prevent possibility of eye contact.

Protective Gloves

Wear impervious gloves to avoid repeated or prolonged skin contact with residual oils and to avoid injury.

Wear appropriate clothing, including long sleeved shirt etc. , to pervent skin irration.

Other Protective Clothing

Appropriate personal protective equipment is required when melting, casting, machining, forging or otherwise processing. The nature of the processing activity will determine what format of equipment is necessary, i. e., glasses, respirator, protective clothing and ear protection.

Engineering Controls (Ventilation etc.)

Use with adequate ventilation.

PERSONAL PROTECTIVE EQUIPMENT: APPROPRIATE PERSONAL PROTECTIVE

EQUIPMENT IS REQUIRED WHEN MELTING, CASTING, MACHINING, FORGING, OR OTHERWISE PROCESSING. THE NATURE OF THE PROCESSING ACTIVITY WILL DETERMINE WHAT FORM OF EQUIPMENT IS NECESSARY, I.E., GLASSES, RESPIRATOR, PROTECTIVE CLOTHING, AND EAR PROTECTION.
NA = NOT APPLICABLE

ADDITIONAL INFORMATION

1. HALOGEN ACIDS AND SODIUM HYDROXIDE IN CONTACT WITH ALUMINUM MAY GENERATE EXPLOSIVE MIXTURES OF HYDROGEN. 2. FINELY DIVIDED ALUMINUM WILL FORM EXPLOSIVE MIXTURES IN AIR. IT WILL ALSO FORM EXPLOSIVE MIXTURES IN AIR IN THE PRESENCE OF BROMATES, IODATES, OR AMMONIUM NITRATE. 3. WHEN REMELTING ALUMINUM SCRAP, ENTRAPPED MOISTURE OR THE PRESENCE OF STRONG OXIDIZERS SUCH AS AMMONIUM NITRATE COULD CAUSE AN EXPLOSION. THIS APPLIES TO THE COLLECTION OF MOISTURE IN SOW CAVITIES AS WELL. MOISTURE MUST BE DRIVEN OFF PRIOR TO REMELTING. 4. DO NOT TOUCH CAST ALUMINUM METAL OR HEATED ALUMINUM PRODUCT WITHOUT KNOWING METAL TEMPERATURE. ALUMINUM EXPERIENCES NO COLOR CHANGE DURING HEATING. IF METAL IS HOT AND TOUCHED, BURNS CAN RESULT. 5. ALUMINUM POWDER MUST BE PACKAGED AND SHIPPED AS A FLAMMABLE SOLID, UN1396. 6. HARD ALLOY INGOTS IN THE 2000 AND 7000 SERIES MUST BE STRESS-RELIEVED TO PREVENT EXPLOSION WHEN SAWED. 7. THE WELDING OF ALUMINUM ALLOYS MAY GENERATE CARBON MONOXIDE, CARBON DIOXIDE, OZONE, NITROGNE OXIDES, INFRA-RED RADIATION AND ULTRA-VIOLET RADIATION.

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SECTION 9. Physical and Chemical Properties
Aluminum Alloy 6XXX

Physical States:	[ ] Gas [ ] Liquid [X] Solid
Melting Point:	NR
Boiling Point:	NR
Autoignition Pt:	NR
Flash Pt:	NR
Explosive Limits:	LEL: NA UEL: NA
Specific Gravity (Water = 1):	2.7 - 2.9

Bulk density:	No data.	
Vapor Pressure (vs. Air or mm Hg):		NR
Vapor Density (vs. Air = 1):		NR
Evaporation Rate (vs Butyl Acetate=1):		NR
Solubility in Water:	NIL	
Percent Volatile:	NR	
Viscosity:		NR
Heat Value:	No data.	
Particle Size:	No data.	
Corrosion Rate:	No data.	
pH:		NR

Appearance and Odor
Physical state: Solid
Color: Silver/gray
Odor: Not applicable
Odor threshold: Not applicable
WATER SOLUBILITY NOTES: NIL (% BY WEIGHT)
WATER REACTIVITY: NO DATA

DENSITY: 2.702g/mL
MATERIAL IS (AT NORMAL CONDITIONS): SOLID

SECTION 10. Stability and Reactivity
Aluminum Alloy 6XXX

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability
This material is stable under normal conditions of handling and storage.

Incompatibility - Materials To Avoid
Anhydrous bromine, halocarbons, mercury (amalgam), chlorine, iodine (aluminum + barium, nitrate + barium, nitrate + potassium, nitrate + sulfur + organic matter).

Hazardous Decomposition Or Byproducts
In particulate form (small chips, dust), aluminum reacts with water and air humidity, strong basic solutions, strong acidic solutions, halogenated acids, producing flammable hydrogen gas.

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization
No data available.

SECTION 11. Toxicological Information
Aluminum Alloy 6XXX

No specific information available on this product.

Carcinogenicity/Other Information
No data available.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA

Magnesium	7439-95-4	n.a.	n.a.	n.a.	n.a.
Aluminum	7429-90-5	n.a.	n.a.	n.a.	n.a.
Manganese	7439-96-5	n.a.	n.a.	n.a.	n.a.
Chromium	7440-47-3	n.a.	n.a.	A4	n.a.
IRON	65996-67-0	n.a.	n.a.	n.a.	n.a.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

SECTION 12. Ecological Information
Aluminum Alloy 6XXX

No specific information available on this product.

SECTION 13. Disposal Considerations
Aluminum Alloy 6XXX

Waste Disposal Method

Recovery and reuse, reather than disposal, should be the ultimate goal of handling efforts. Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Ensure that all responsible federal, state, and local agencies receive notification of spill and disposal methods.

SECTION 14. Transport Information
Aluminum Alloy 6XXX

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name No data available.
DOT Hazard Class: 4.1
DOT Hazard Label: FLAMMABLE SOLID

HAZARD CLASS:
4.3 DANGEROUS WHEN WET

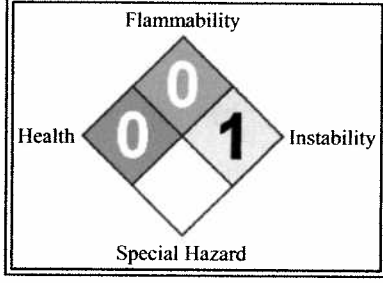
SECTION 15. Regulatory Information
Aluminum Alloy 6XXX

No data available.

SECTION 16. Other Information
Aluminum Alloy 6XXX

The information contained herein is based on data considered to be accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results we obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the

risk in its use, storage and handling of material.



Minimal:	0
Slight:	1
Moderate:	2
Serious:	3
Extreme:	4

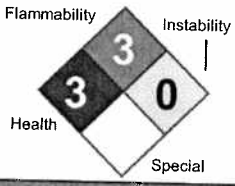
Generated	08/10/2008
Revision	05/18/2007
Supercedes Revision	03/22/2007
Date Created	/ /

Attachment B_1

Coatings Material Safety Data Sheets

MATERIAL SAFETY DATA SHEET
13F824 5MW97333 DURANAR PURE WHITE

HEALTH	* 3
FLAMMABILITY	3
PHYSICAL HAZ.	0
PPE	



Printed: 02/04/2009
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Supercedes Revision: 08/13/2007
Date Created: 10/16/2002

1. Product and Company Identification

Product Code:	122678
Product Name:	13F824 5MW97333 DURANAR PURE WHITE
Reference #:	5MW97333
Manufacturer Product ID:	5MW97333
Manufacturer Information	
Company Name:	PPG Industries, Inc.
	One PPG Place
	Pittsburgh, PA 15272
Phone Number:	MSDS (412)492-5555
Emergency Contact:	CHEMTREC (24 Hour) (800)424-9300
Preparer Name:	Product Safety Department
Chemical Family:	Fluropolymer Acrylic

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA TWA	ACGIH TWA	Other Limits
1. Isophorone	78-59-1	15.0 -40.0 %	25 ppm	20 ppm - skin	
2. ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER	24937-79-9	10.0 -30.0 %	10 mg/m3	10 mg/m3	
3. Titanium dioxide	13463-67-7	10.0 -30.0 %	4 ppm	10 mg/m3	
4. Dimethyl phthalate	131-11-3	1.0 -5.0 %	5 mg/m3	5 mg/m3	
5. Ethanol, 2-Butoxy-	111-76-2	1.0 -5.0 %	50 ppm	20 ppm	
6. 3,5,5-TRIMETHYL-3-CYCLOHEXEN-1-ONE	471-01-2	1.0 -5.0 %	100 ppm	100 ppm	
7. Solvent naphtha (petroleum), Heavy arom.	64742-94-5	0.5 -1.5 %			
8. Xylene (mixed isomers)	1330-20-7	0.1 -1.0 %	100 ppm	100 ppm	
9. Ethylbenzene	100-41-4	0.1 -1.0 %	100 ppm	100 ppm	
10. Toluene	108-88-3	0.1 -1.0 %	200 ppm	50 ppm	

Hazardous Components (Chemical Name)	CAS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Isophorone	78-59-1				5 ppm
2. ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER	24937-79-9				
3. Titanium dioxide	13463-67-7				5 ppm
4. Dimethyl phthalate	131-11-3				
5. Ethanol, 2-Butoxy-	111-76-2			150 ppm	
6. 3,5,5-TRIMETHYL-3-CYCLOHEXEN-1-ONE	471-01-2			125 ppm	
7. Solvent naphtha (petroleum), Heavy arom.	64742-94-5				
8. Xylene (mixed isomers)	1330-20-7			150 ppm	
9. Ethylbenzene	100-41-4			125 ppm	
10. Toluene	108-88-3	500 ppm/(10min)	300 ppm		

3. Hazards Identification

Emergency Overview

Flammable. Keep away from heat, sparks, flames, and other sources of ignition. Do not smoke. Extinguish all flames and pilot lights. Turn off stoves, heaters, electrical motors, and other sources of ignition during use and until all vapors/odors are gone. CAUSES IRREVERSIBLE EYE DAMAGE. MAY CAUSE MODERATE SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. VAPOR AND/OR SPRAY MIST HARMFUL IF INHALED. VAPOR IRRITATES EYES, NOSE, AND THROAT. VAPOR GENERATED AT ELEVATED TEMPERATURES IRRITATES EYES, NOSE AND THROAT. HARMFUL

OR FATAL IF SWALLOWED.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

ACUTE OVER EXPOSURE EFFECTS:
INGESTION: Harmful or fatal in swallowed.

EYE CONTACT: This product contains a material which causes irreversible eye damage. 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:: May be harmful if absorbed through the skin.

INHALATION: Vapor and/or spray mist harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

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.

CHRONIC OVEREXPOSURE:
Avoid long-term and repeated contact.
Repeated exposure to vapors above recommended exposure limits 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 exposure to an ingredient(s) in this product may cause kidney and/or liver damage. This product contains toulene. Toulene inhalation in animals (greater than 1500 ppm) and intentional inhalation of toulene-containing products by humans (e.g. glue) hans caused adverse fetal development effects. It has been reporrted in occupational studies that inhalation exposures to toulene are associated with reproductive effects including spontaneous abortion. However, the methodology and reliability of the results for the studies are questionable. Several other occupational studies indicated that toulene exposure has been associated with impaired color vision. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. 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.
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.

Signs and Symptoms Of Exposure

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.

4. First Aid Measures

Emergency and First Aid Procedures

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

INGESTION: Gently wipe or rinse the inside of the mouth with water. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Do not induce vomiting. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

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 right away as further treatment will 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.

5. Fire Fighting Measures

Flash Pt: 88.00 F Method Used: Pensky-Marten Closed Cup

Explosive Limits: LEL: 1.1 UEL:

Fire Fighting Instructions

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

Flammable Properties and 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 surface. 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.

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 1C flammable liquid fires. Water spray may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Unsuitable Extinguishing Media

6. Accidental Release Measures

Steps To Be Taken In Case 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 source 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 absorbent should be placed in this container.

7. Handling and Storage

Precautions To Be Taken in Handling

Precautions To Be Taken in Storing

Do not store above 120 Deg F. (48 Deg C.). Store large quantities in buildings designed and protected for storage of NFPA Class 1C flammable liquids.

Other Precautions

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 its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. 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.

Eye Protection

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

Protective Gloves

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: neoprene 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. Clean contaminated clothing and shoes.

Other Protective Clothing

Wear protective clothing to prevent skin contact. Aprons should be constructed of: neoprene 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. Clean contaminated clothing and shoes.

Engineering Controls (Ventilation etc.)

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.

Work/Hygienic/Maintenance Practices

Clean contaminated clothing and shoes.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Boiling Point:	148.00 F - 543.00 F
Flash Pt:	88.00 F Method Used: Pensky-Marten Closed Cup
Explosive Limits:	LEL: 1.1 UEL:
Specific Gravity (Water = 1):	1.232000
Density:	10.4 LB/GA
Vapor Pressure (vs. Air or mm Hg):	.9 MMHG
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate (vs Butyl Acetate=1):	8
Solubility in Water:	2.2 %
Percent Volatile:	32.0 %
VOC / Volume:	5.2300 LB/GA
HAP / Volume:	4.3900 LB/GA
Viscosity:	25 - 45 4z at 80.0 F
pH:	NA

Appearance and Odor

ODOR/APPEARANCE: Viscous liquid with an odor characteristic of the solvents listed in Section 2.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

None known.

Incompatibility - Materials To Avoid

Strong alkalies, strong mineral acids, or strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Carbon monoxide, carbon dioxide, lower molecular weight polymer fractions, fluorinated products

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

11. Toxicological Information

Chronic Toxicological Effects

Mutagen - Teratogen- bone marrow and blood tissues- Blood- Kidney- Liver- Carcinogen- Embryotoxin- Brain- Central nervous system- Lung

Carcinogenicity/Other Information

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

No Information available

13. Disposal Considerations

Waste Disposal Method

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 you PPG representative.

RCRA Waste ID Code: D001

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Paint including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base.

DOT Hazard Class: 3

DOT Hazard Label: FLAMMABLE LIQUID

UN/NA Number: UN1263

Packing Group: III

Additional Transport Information

Packing Group: III
USA-RQ, HAZARDOUS SUBSTANCE: Isophorone, xylenes
USA-RQ, HAZARDOUS SUBSTANCE THRESHOLD SHIP WEIGHT: Isophorone>12658.24 pounds.
Threshold Ship Weight: Xylenes>14923.88 pounds
USA Shipments Only - RQ Threshold Ship Weight: This is the total weight of this product that must be shipped to exceed the RQ quantity.

15. Regulatory Information

Regulatory Information

SARA 102 RQ (LBS):
Isophorone - 5000 lbs.

SARA 313:
2-Butoxy Ethanol

SARA 311/312:
2-Butoxy Ethanol - Acute, Chronic, Flammability
Isophorone - Acute, Chronic, Flammability

16. Other Information

This material safety data sheet has been prepared in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200), the supplier notification requirements of SARA Title III, Section 313, and other applicable right-to-know regulations.

All chemical substances in this product are listed on the U.S. TSCA Inventory or are otherwise exempt from TSCA Inventory reporting requirements.

Safe handling of this product requires that all of the information on the MSDS be evaluated for specific work environments and conditions of use.

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

MATERIAL SAFETY DATA SHEET
23F448 191K2000 Black PVDF

HEALTH	1
FLAMMABILITY	2
REACTIVITY	1
PPE	G

Printed: 02/04/2009
Revision: 04/30/2008

Date Created: 06/04/2008

1. Product and Company Identification

Product Code: 132388
Product Name: 23F448 191K2000 Black PVDF
Manufacturer Product ID: DC191K-2000
Manufacturer Information
Company Name: DURA COAT PRODUCTS
26655 Peoples Road
Huntsville, AL 35756
Emergency Contact: 1 (800)424-9300
Information: 1 (256)353-7800
Preparer Name: Dexter F. Sunderman

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA TWA	ACGIH TWA	Other Limits
1. Isophorone	78-59-1	32.025 %	25 ppm		
2. ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER	24937-79-9	31.802 %			
3. Acrylic Resin	NA	12.89 %			
4. Cyclohexanone	108-94-1	7.981 %	50 ppm	20 ppm	
5. Xylene (mixed isomers)	1330-20-7	7.977 %	100 ppm	100 ppm	
6. Dimethyl phthalate	131-11-3	2.606 %	5 mg/m3	5 mg/m3	
7. Carbon black	1333-86-4	2.542 %	3.5 mg/m3	3.5 mg/m3	
8. MELAMINE-FORMALDEHYDE RESIN	68002-20-0	0.644 %			
9. C.I. Pigment Yellow 164	68412-38-4	0.423 %			
10. Titanium dioxide	13463-67-7	0.423 %		10 mg/m3	
11. Silica	7631-86-9	0.38 %			
12. Paraffin waxes and hydrocarbon waxes	8002-74-2	0.301 %		2 mg/m3	
13. Formaldehyde	50-00-0	0.002 %	0.75 ppm		

Hazardous Components (Chemical Name)	CAS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Isophorone	78-59-1				5 ppm
2. ETHENE, 1,1-DIFLUORO-, HOMOPOLYMER	24937-79-9				
3. Acrylic Resin	NA				
4. Cyclohexanone	108-94-1			50 ppm	
5. Xylene (mixed isomers)	1330-20-7			150 ppm	
6. Dimethyl phthalate	131-11-3				
7. Carbon black	1333-86-4				
8. MELAMINE-FORMALDEHYDE RESIN	68002-20-0				
9. C.I. Pigment Yellow 164	68412-38-4				
10. Titanium dioxide	13463-67-7				
11. Silica	7631-86-9				
12. Paraffin waxes and hydrocarbon waxes	8002-74-2				
13. Formaldehyde	50-00-0	2 ppm (15 min)			0.3 ppm

3. Hazards Identification

Emergency Overview

CARCINOGENICITY:

NTP CARCINOGEN: Yes IARC MONOGRAPHS: Yes OSHA REGULATED: No

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

Inhalation-Dizziness, breathing difficulty, headaches, & loss of coordination. Eye contact-Severe irritation, tearing,
redness, and blurred vision. Skin contact-Can dry and defat skin causing cracks, irritation, and dermatitis. Ingestion-Can cause gastrointestinal irritation, vomiting, nausea, & diarrhea. No chronic health effects. Additional
hazardous info.

Signs and Symptoms Of Exposure

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Dizziness, breathing difficulty, headaches & loss of coordination.
SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Eye contact: Severe irritation, tearing, redness and blurred vision.
SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Skin contact: Can dry and defat skin causing cracks, irritation, and dermatitis.
INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Can cause gastrointestinal irritation, vomiting, nausea, and diarrhea.

Medical Conditions Generally Aggravated By Exposure

Anesthesia, respiratory tract irritation, dermititis, nausea, vomiting

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation overexposure-Move person to fresh air. If breathing stops, apply artificial respiration and seek immediate medical attention.

Eye contact-flush with large quantities of water for 15 minutes.

Skin contact-Wash thoroughly with soap and water and see a doctor.

Ingestion-Do not induce vomiting, can cause chemical pneumonitis and pulmonary edema. Contact physician immediately.

5. Fire Fighting Measures

Flash Pt: 105.00 F Method Used: TAG Closed Cup

Explosive Limits: LEL: .8 UEL: 12.3

Fire Fighting Instructions

Respiratory equipment should be worn to avoid inhalation of vapors. Water should not be used except as fog to keep
nearby containers cool.

Flammable Properties and Hazards

Handle as flammable liquid. Vapors form an explosive mixture in air between the upper and lower explosive limits which can be ignited by many sources such as pilot lights, open flames, electrical motors and switches.

Extinguishing Media

Use National Fire Protection Association (NFPA) CLASS B Extinguishers (Foam, Alcohol Foam, CO2, or Dry Chemical), designed to extinguish NFPA CLASS II Combustible Liquid fires. Water spray may be ineffective. Water spray/fog may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.

Unsuitable Extinguishing Media

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Eliminate ignition sources, provide good ventilation, dike spill area and add absorbent earth or sawdust to Liquid. Thoroughly wet w/ water and mix.

7. Handling and Storage

Precautions To Be Taken in Handling

Use non-sparking utensils when handling this material. Avoid hot metal surface. Avoid temperature extremes during storage. Use in cool, well-ventilated areas. Keep containers closed when not in use. Keep away from excessive heat, sources of ignition, and from reactive materials. Material can burn; limit indoor storage to approved area equipped with automatic sprinklers. Avoid all ignition sources. Ground all metal containers during storage and handling. Use non-sparking utensils when handling this material. Avoid hot metal surface. Use in cool, well-ventilated areas. Keep containers closed when not in use. Keep away from excessive heat and open flames. Avoid temperature extremes during storage. Store away from excessive heat, from sources of ignition and from reactive materials. Store in a dry area. Ground all metal containers during storage and handling. Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Avoid all ignition sources.

Other Precautions

Smoking in area where this material is used should be strictly prohibited. Tools used with this material should be made from aluminum, brass or copper. Plastic utensils should not be used. NOTE: This information is accurate to the best knowledge of Dura Coat Products Inc., but is furnished without any expressed or implied warranties.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

When spraying this material use a NIOSH approved cartridge respirator or gas mask suitable to keep airborne mists and vapor concentrations below the time weighted threshold limit values. When using in poorly ventilated and confined spaces, use a fresh-air supplying respirator or a self-contained breathing apparatus.

Eye Protection

Wear Safety Googles and or full face shield.

Protective Gloves

Impermeable chemical handling gloves for skin protection. A NIOSH approved full-facedpiece, air-purifying respirator, or full facepiece, airline respirator in the pressure demand should be worn when working with this material. Use chemical resistant gloves should be worn whenever this material is handled.

Other Protective Clothing

Use impermeable aprons and protective clothing whenever possible to prevent skin contact. The use of head caps whenever possible is strongly recommended.

Engineering Controls (Ventilation etc.)

General mechanical ventilation or local exhaust should be suitable to keep vapor concentrations below TLV. Ventilation equip. must be explosion proof.

Work/Hygienic/Maintenance Practices

Eye washes and safety showers in the workplace are recommended.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Boiling Point:	101.00 F - 543.00 F
Flash Pt:	105.00 F Method Used: TAG Closed Cup
Explosive Limits:	LEL: .8 UEL: 12.3
Specific Gravity (Water = 1):	1.17
Density:	9.678 LB/GA
Vapor Pressure (vs. Air or mm Hg):	NA
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate (vs Butyl Acetate=1):	< 1
Solubility in Water:	insoluble
Percent Volatile:	35.29 %
VOC / Volume:	4.9000 LB/GA
HAP / Volume:	6.5900 LB/GA
Viscosity:	24 - 28 #4 ZAHN SEC
pH:	NA
Appearance and Odor	

APPEARANCE AND ODOR: Liquid with an aromatic odor.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

Stable.

CONDITIONS TO AVOID

Excessive heat, poor ventilation, corrosive atmospheres, excessive aging.

Incompatibility - Materials To Avoid

Alkaline materials, strong acids and oxidizing materials.

Hazardous Decomposition Or Byproducts

Carbon monoxide, carbon dioxide, oxides of nitrogen, and possibly lower molecular weight fractions .

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

11. Toxicological Information

Carcinogenicity/Other Information

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

13. Disposal Considerations

Waste Disposal Method

Collect absorbent/water/spilled liquid mixture into metal containers and add enough water to cover. Consult local,state

& federal hazardous waste regulat'n before disposing into approved hazardous waste landfills. Obey relevant laws.

RCRA Waste ID Code: D001

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name	Paint related material [including paint thinning, drying, removing, or reducing compound]
DOT Hazard Class:	3
DOT Hazard Label:	FLAMMABLE LIQUID
UN/NA Number:	UN1263
Packing Group:	I

15. Regulatory Information

No data available.

16. Other Information

To the best of our knowledge, the information contained herein is accurate, obtained from sources believed by Dura Coat

Product's Inc. to be accurate.