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## APPENDIX C

# ADDITIONAL INFORMATION FOR ASSESSING THE IMPACTS OF TRI CHEMICALS

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### HAZARD DATA AVAILABILITY ON HIGH PRODUCTION VOLUME (HPV) TRI CHEMICALS

According to data aggregated from industry reports submitted under the Toxic Substances Control Act (TSCA) 1990 Inventory Update Rule, the U.S. produces and/or imports 2,863 chemicals (excluding polymers and inorganic chemicals) in annual volumes over 1 million pounds. Among these U.S. high production volume (HPV) chemicals, 203 are on the TRI list (see Table A). EPA has reviewed the publicly available data on each of these HPV chemicals and has determined that many may not have been tested to determine the extent of their toxicity to humans or the environment. (A number of these chemicals are also pesticides, but this analysis did not consider information developed under FIFRA).

International authorities agree that testing in six basic endpoint areas comprise a minimally acceptable data set to provide a basic understanding of a chemical's toxicity and allow a preliminary assessment of potential hazard/risk. These basic tests address: acute toxicity; chronic toxicity; developmental and reproductive toxicity; mutagenicity; ecotoxicity; and environmental fate and comprise the "Screening Information Data Set" (SIDS) test

battery established by the Organization for Economic Cooperation and Development (OECD) which is used by EPA and 29 OECD member countries around the world as a basic indicator of potential hazard for input to initial assessment of chemical risk.

EPA used the OECD SIDS test battery as the yardstick for determining whether SIDS-type basic toxicity information was available on each HPV chemical, and searched over 20 publicly accessible databases to identify which of the six tests had been performed on which chemicals. EPA's search found that a full set of basic toxicity information is available for only 7% of the HPV chemicals and that no information on basic toxicity, i.e., either human health or environmental toxicity, is publicly available for 43% of the 2,863 HPV chemicals produced (and/or imported) in the U.S.

The subset of 203 HPV chemicals in the 1995 TRI list yielded better results than for HPV chemicals as a whole, but even the TRI chemicals showed some significant gaps in the basic data set. Although the full six-test SIDS battery was available for only ~ 54% of the chemicals, all of the TRI HPV chemicals had at least some data available. About 20% of the TRI HPV chemicals,

**Appendix C — Additional Information for Assessing the Impacts of TRI Chemicals**
**Table A. Hazard Data Availability of U.S. High Production Volume TRI Chemicals<sup>1</sup>**

CAS Number	Chemical Name	Teratogenicity/ Reproductive Toxicity <sup>2</sup>					Mutagenicity <sup>2</sup>	Ecotoxicity <sup>2</sup>	Environmental Fate <sup>2</sup>	Total On- and Off-site Releases > 1 Million Pounds <sup>3</sup>
		Acute	Chronic							
75-07-0	Acetaldehyde	X	X	X	X	X	X	X	X	
75-05-8	Acetonitrile	X		X	X	X	X	X	X	
98-86-2	Acetophenone	X		X	X	X	X	X	X	
107-02-8	Acrolein	X	X	X	X	X	X	X		
79-06-1	Acrylamide	X	X	X	X	X	X	X	X	
79-10-7	Acrylic acid	X	X	X	X	X	X	X	X	
107-13-1	Acrylonitrile	X	X	X	X	X	X	X	X	
107-18-6	Allyl alcohol	X		X	X	X	X	X	X	
107-05-1	Allyl chloride	X	X	X	X	X	X	X		
62-53-3	Aniline	X	X	X	X	X	X	X	X	
90-04-0	o-Anisidine	X		X	X	X	X	X		
1912-24-9	Atrazine	X	X	X	X	X	X	X		
98-87-3	Benzal chloride	X		X	X	X	X	X		
71-43-2	Benzene	X	X	X	X	X	X	X	X	
98-07-7	Benzoic trichloride	X	X	X	X	X	X	X		
98-88-4	Benzoyl chloride	X	X	X	X	X	X	X		
94-36-0	Benzoyl peroxide	X	X		X	X	X	X		
100-44-7	Benzyl chloride	X	X	X	X	X	X	X		
92-52-4	Biphenyl	X	X	X	X	X	X	X	X	
111-91-1	Bis(2-chloroethoxy)methane	X			X	X	X	X		
111-44-4	Bis(2-chloroethyl) ether	X			X	X	X	X		
56-35-9	Bis(tributyltin) oxide	X	X	X	X	X	X	X		
353-59-3	Bromochlorodifluoromethane (Halon 1211)	X	X	X	X	X	X	X		
74-83-9	Bromomethane	X	X	X	X	X	X	X	X	
75-63-8	Bromotrifluoromethane (Halon 1301)	X		X	X	X	X	X		
106-99-0	1,3-Butadiene	X	X	X	X	X	X	X	X	
141-32-2	Butyl acrylate	X	X	X	X	X	X	X	X	
71-36-3	n-Butyl alcohol	X		X	X	X	X	X	X	
78-92-2	sec-Butyl alcohol	X		X	X	X	X	X	X	
75-65-0	tert-Butyl alcohol	X	X	X	X	X	X	X	X	
106-88-7	1,2-Butylene oxide	X	X	X	X	X	X	X		
123-72-8	Butyraldehyde	X			X	X	X	X		
1563-66-2	Carbofuran	X		X	X	X	X	X		
75-15-0	Carbon disulfide	X	X	X	X	X	X	X	X	
56-23-5	Carbon tetrachloride	X		X	X	X	X	X	X	
120-80-9	Catechol	X	X	X	X	X	X	X		
115-28-6	Chlorendic acid	X	X		X	X	X	X		
75-68-3	1-Chloro-1,1-difluoroethane (HCFC-142b)	X	X	X	X	X	X	X	X	
563-47-3	3-Chloro-2-methyl-1-propene	X	X	X	X	X	X	X		
79-11-8	Chloroacetic acid	X			X	X	X	X		
4080-31-3	1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	X		X	X					
106-47-8	p-Chloroaniline	X			X	X	X	X		
108-90-7	Chlorobenzene	X	X	X	X	X	X	X	X	
75-45-6	Chlorodifluoromethane (HCFC-22)	X	X	X	X	X	X	X	X	
75-00-3	Chloroethane	X	X	X	X	X	X	X	X	
67-66-3	Chloroform	X	X	X	X	X	X	X	X	
74-87-3	Chloromethane	X	X	X	X	X	X	X	X	
107-30-2	Chloromethyl methyl ether	X			X			X		
126-99-8	Chloroprene	X	X	X	X	X	X	X	X	
8001-58-9	Creosote	X	X	X	X	X	X	X	X	
120-71-8	p-Cresidine	X			X			X		
95-48-7	o-Cresol	X	X	X	X	X	X	X		
106-44-5	p-Cresol	X	X	X	X	X	X	X	X	
108-39-4	m-Cresol	X	X	X	X	X	X	X	X	
1319-77-3	Cresol (mixed isomers)	X	X	X	X	X	X	X	X	
4170-30-3	Crotonaldehyde	X			X	X	X	X		
98-82-8	Cumene	X	X	X	X	X	X	X	X	
80-15-9	Cumene hydroperoxide	X			X	X	X	X		
110-82-7	Cyclohexane	X	X	X	X	X	X	X	X	
108-93-0	Cyclohexanol	X		X	X	X	X	X	X	
94-75-7	2,4-D (acetic acid)	X	X	X	X	X	X	X		
2702-72-9	2,4-D sodium salt	X		X	X	X	X	X		
533-74-4	Dazomet	X			X	X	X	X		
1163-19-5	Decabromodiphenyl oxide	X	X	X	X	X	X	X	X	
117-81-7	Di-(2-ethylhexyl) phthalate	X	X	X	X	X	X	X	X	

<sup>1</sup> Based on 203 U.S. HPV TRI chemicals from 1990 IUR Update and 1995 TRI reporting.

<sup>2</sup> For teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate, test data were considered available if any studies relevant to the endpoint were located; completing the SIDS set for these endpoints requires multiple studies.

<sup>3</sup> Total on-site and off-site releases equals total of on-site releases and transfers to disposal.

**Appendix C — Additional Information for Assessing the Impacts of TRI Chemicals**

**Table A. Hazard Data Availability of U.S. High Production Volume TRI Chemicals<sup>1</sup>, Continued**

CAS Number	Chemical Name	Teratogenicity/ Reproductive Toxicity <sup>2</sup>			Mutagenicity <sup>2</sup>	Ecotoxicity <sup>2</sup>	Environmental Fate <sup>2</sup>	Total On- and Off-site Releases > 1 Million Pounds <sup>3</sup>
		Acute	Chronic					
101-80-4	4,4'-Diaminodiphenyl ether	X	X	X	X	X	X	
95-80-7	2,4-Diaminotoluene	X	X	X	X	X	X	
25376-45-8	Diaminotoluene (mixed isomers)	X	X	X	X	X	X	X
106-93-4	1,2-Dibromoethane	X	X	X	X	X	X	
84-74-2	Dibutyl phthalate	X	X	X	X	X	X	
99-30-9	Dichloran	X		X	X	X	X	
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	X	X	X	X	X	X	
764-41-0	1,4-Dichloro-2-butene	X	X	X	X	X	X	
110-57-6	trans-1,4-Dichloro-2-butene	X		X	X	X	X	
95-50-1	1,2-Dichlorobenzene	X	X	X	X	X	X	X
106-46-7	1,4-Dichlorobenzene	X	X	X	X	X	X	
541-73-1	1,3-Dichlorobenzene	X		X	X	X	X	
612-83-9	3,3'-Dichlorobenzidine dihydrochloride	X			X	X	X	
75-71-8	Dichlorodifluoromethane (CFC-12)	X	X	X	X	X	X	X
107-06-2	1,2-Dichloroethane	X	X	X	X	X	X	X
75-09-2	Dichloromethane	X	X	X	X	X	X	X
120-83-2	2,4-Dichlorophenol	X		X	X	X	X	
78-87-5	1,2-Dichloropropane	X	X	X	X	X	X	
542-75-6	1,3-Dichloropropylene	X	X	X	X	X	X	
76-14-2	Dichlorotetrafluoroethane (CFC-114)	X				X	X	X
77-73-6	Dicyclopentadiene	X			X	X	X	X
111-42-2	Diethanolamine	X	X	X	X	X	X	X
64-67-5	Diethyl sulfate	X	X	X	X	X	X	X
2524-03-0	Dimethyl chlorothiophosphate	X	X	X	X	X	X	
131-11-3	Dimethyl phthalate	X	X	X	X	X	X	
77-78-1	Dimethyl sulfate	X	X	X	X	X	X	
124-40-3	Dimethylamine	X	X	X	X	X	X	
121-69-7	N,N-Dimethylaniline	X	X	X	X	X	X	
68-12-2	N,N-Dimethylformamide	X	X	X	X	X	X	X
105-67-9	2,4-Dimethylphenol	X	X		X	X	X	
576-26-1	2,6-Dimethylphenol	X	X		X	X	X	
528-29-0	o-Dinitrobenzene	X			X	X	X	
88-85-7	Dinitrobutyl phenol	X		X	X	X	X	
51-28-5	2,4-Dinitrophenol	X		X	X	X	X	
121-14-2	2,4-Dinitrotoluene	X	X	X	X	X	X	
606-20-2	2,6-Dinitrotoluene	X	X	X	X	X	X	
25321-14-6	Dinitrotoluene (mixed isomers)	X	X	X	X	X	X	
123-91-1	1,4-Dioxane	X		X	X	X	X	X
122-39-4	Diphenylamine	X		X	X	X	X	X
330-54-1	Diuron	X		X	X	X	X	
106-89-8	Epichlorohydrin	X	X	X	X	X	X	X
110-80-5	2-Ethoxyethanol	X		X	X	X	X	
140-88-5	Ethyl acrylate	X	X	X	X	X	X	X
541-41-3	Ethyl chloroformate	X				X	X	
100-41-4	Ethylbenzene	X	X	X	X	X	X	X
74-85-1	Ethylene	X			X	X	X	X
107-21-1	Ethylene glycol	X	X	X	X	X	X	X
75-21-8	Ethylene oxide	X	X	X	X	X	X	X
75-34-3	Ethylidene dichloride	X	X	X	X	X	X	
50-00-0	Formaldehyde	X	X	X	X	X	X	X
64-18-6	Formic acid	X		X	X	X	X	X
76-13-1	Freon 113	X	X	X	X	X	X	X
77-47-4	Hexachlorocyclopentadiene	X	X	X	X	X	X	
67-72-1	Hexachloroethane	X	X	X	X	X	X	
110-54-3	n-Hexane	X	X	X	X	X	X	X
123-31-9	Hydroquinone	X	X	X	X	X	X	
55406-53-6	3-Iodo-2-propynyl butylcarbamate	X						
13463-40-6	Iron pentacarbonyl	X			X	X		
78-84-2	Isobutyraldehyde	X			X	X	X	
67-63-0	Isopropyl alcohol (manufacturing)	X	X	X	X	X	X	X
80-05-7	4,4'-Isopropylidenediphenol	X		X	X	X	X	X
108-31-6	Maleic anhydride	X	X	X	X	X	X	X
149-30-4	2-Mercaptobenzothiazole	X	X	X	X	X	X	X
150-50-5	Merphos	X				X		
67-56-1	Methanol	X		X	X	X	X	X

<sup>1</sup> Based on 203 U.S. HPV TRI chemicals from 1990 IUR Update and 1995 TRI reporting.

<sup>2</sup> For teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate, test data were considered available if any studies relevant to the endpoint were located; completing the SIDS set for these endpoints requires multiple studies.

<sup>3</sup> Total on-site and off-site releases equals total of on-site releases and transfers to disposal.

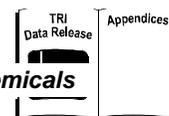
**Appendix C — Additional Information for Assessing the Impacts of TRI Chemicals**
**Table A. Hazard Data Availability of U.S. High Production Volume TRI Chemicals<sup>1</sup>, Continued**

CASNumber	Chemical Name	Acute	Chronic	Teratogenicity/ Reproductive Toxicity <sup>2</sup>	Mutagenicity <sup>2</sup>	Ecotoxicity <sup>2</sup>	Environmental Fate <sup>2</sup>	Total On- and Off-site Releases > 1 Million Pounds <sup>3</sup>
94-74-6	Methoxone	X		X	X	X	X	
109-86-4	2-Methoxyethanol	X		X	X	X	X	X
96-33-3	Methyl acrylate	X	X	X	X	X	X	
79-22-1	Methyl chlorocarbonate	X					X	
78-93-3	Methyl ethyl ketone	X	X	X	X	X	X	X
108-10-1	Methyl isobutyl ketone	X	X	X	X	X	X	X
624-83-9	Methyl isocyanate	X		X	X		X	
556-61-6	Methyl isothiocyanate	X		X		X	X	
80-62-6	Methyl methacrylate	X	X	X	X	X	X	X
1634-04-4	Methyl tert-butyl ether	X	X	X	X	X	X	X
872-50-4	N-Methyl-2-pyrrolidone	X	X	X	X	X	X	X
74-95-3	Methylene bromide	X	X		X	X	X	
101-14-4	4,4'-Methylenebis(2-chloroaniline)	X			X		X	
101-77-9	4,4'-Methylenedianiline	X	X	X	X	X	X	
75-86-5	2-Methylacetonitrile	X		X	X	X	X	
924-42-5	N-Methylolacrylamide	X		X	X			
109-06-8	2-Methylpyridine	X	X		X	X	X	
76-15-3	Monochloropentafluoroethane (CFC-115)	X					X	
91-20-3	Naphthalene	X	X	X	X	X	X	X
1929-82-4	Nitrapyrin	X		X	X	X	X	
100-01-6	p-Nitroaniline	X	X	X	X	X	X	
98-95-3	Nitrobenzene	X	X	X	X	X	X	X
55-63-0	Nitroglycerin	X		X	X	X	X	
100-02-7	4-Nitrophenol	X		X	X	X	X	
79-46-9	2-Nitropropane	X	X	X	X	X	X	
79-21-0	Peracetic acid	X			X		X	
594-42-3	Perchloromethyl mercaptan	X			X		X	
108-95-2	Phenol	X	X	X	X	X	X	X
95-54-5	1,2-Phenylenediamine	X		X	X	X	X	
106-50-3	p-Phenylenediamine	X	X	X	X	X	X	
108-45-2	1,3-Phenylenediamine	X	X	X	X	X	X	
90-43-7	2-Phenylphenol	X	X	X	X	X	X	
75-44-5	Phosgene	X					X	
85-44-9	Phthalic anhydride	X		X	X	X	X	X
1918-02-1	Picloram	X	X	X	X	X	X	
107-19-7	Propargyl alcohol	X			X	X	X	
123-38-6	Propionaldehyde	X		X	X	X	X	
115-07-1	Propylene	X	X	X	X	X	X	X
75-56-9	Propylene oxide	X	X	X	X	X	X	X
110-86-1	Pyridine	X		X	X	X	X	X
81-07-2	Saccharin (manufacturing)	X		X	X	X	X	
122-34-9	Simazine	X	X	X	X	X	X	
1982-69-0	Sodium dicamba	X						
128-04-1	Sodium dimethyldithiocarbamate	X			X	X	X	
132-27-4	Sodium o-phenylphenoxide	X		X	X	X		
100-42-5	Styrene	X	X	X	X	X	X	X
96-09-3	Styrene oxide	X		X	X	X	X	
79-34-5	1,1,2,2-Tetrachloroethane	X	X	X	X	X	X	X
630-20-6	1,1,1,2-Tetrachloroethane	X	X		X	X	X	
127-18-4	Tetrachloroethylene	X	X	X	X	X	X	X
62-56-6	Thiourea	X		X	X	X	X	
137-26-8	Thiram	X	X	X	X	X	X	
108-88-3	Toluene	X	X	X	X	X	X	X
584-84-9	Toluene-2,4-diisocyanate	X	X		X	X	X	
91-08-7	Toluene-2,6-diisocyanate	X	X		X		X	
26471-62-5	Toluenediisocyanate (mixed isomers)	X	X	X	X	X	X	
95-53-4	o-Toluidine	X		X	X	X	X	
120-82-1	1,2,4-Trichlorobenzene	X	X	X	X	X	X	
71-55-6	1,1,1-Trichloroethane	X	X	X	X	X	X	X
79-00-5	1,1,2-Trichloroethane	X	X		X	X	X	X
79-01-6	Trichloroethylene	X	X	X	X	X	X	X
75-69-4	Trichlorofluoromethane (CFC-11)	X	X		X	X	X	X
96-18-4	1,2,3-Trichloropropane	X	X	X	X	X	X	X
121-44-8	Triethylamine	X	X	X	X	X	X	X
95-63-6	1,2,4-Trimethylbenzene	X		X	X	X	X	X
76-87-9	Triphenyltin hydroxide	X	X	X	X	X		
108-05-4	Vinyl acetate	X	X	X	X	X	X	X

<sup>1</sup>Based on 203 U.S. HPV TRI chemicals from 1990 IUR Update and 1995 TRI reporting.

<sup>2</sup>For teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate, test data were considered available if any studies relevant to the endpoint were located; completing the SIDS set for these endpoints requires multiple studies.

<sup>3</sup>Total on-site and off-site releases equals total of on-site releases and transfers to disposal.



**Table A. Hazard Data Availability of U.S. High Production Volume TRI Chemicals<sup>1</sup>, Continued**

CAS Number	Chemical Name	Teratogenicity/ Reproductive Toxicity <sup>2</sup>		Mutagenicity <sup>2</sup>	Ecotoxicity <sup>2</sup>	Environmental Fate <sup>2</sup>	Total On- and Off-site Releases > 1 Million Pounds <sup>3</sup>
		Acute	Chronic				
75-01-4	Vinyl chloride	X	X	X	X	X	X
75-35-4	Vinylidene chloride	X	X	X	X	X	X
95-47-6	o-Xylene	X	X	X	X	X	X
106-42-3	p-Xylene	X	X	X	X	X	X
108-38-3	m-Xylene	X	X	X	X	X	X
1330-20-7	Xylene (mixed isomers)	X	X	X	X	X	X

<sup>1</sup> Based on 203 U.S. HPV TRI chemicals from 1990 IUR Update and 1995 TRI reporting.

<sup>2</sup> For teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate, test data were considered available if any studies relevant to the endpoint were located; completing the SIDS set for these endpoints requires multiple studies.

<sup>3</sup> Total on-site and off-site releases equals total of on-site releases and transfers to disposal.

**Table B. Hazard Data Availability for U.S. High Production Volume (HPV) TRI Chemicals**

Number of SIDS Tests Performed <sup>1</sup>	TRI Chemical	
	Yes	No
0	0 (0.0%)	1216 (45.7%)
1	2 (1.0%)	393 (14.8%)
2	5 (2.5%)	291 (10.9%)
3	15 (7.4%)	251 (9.4%)
4	21 (10.3%)	236 (8.9%)
5	51 (25.1%)	180 (6.8%)
6	109 (53.7%)	93 (3.5%)
TOTAL	203	2660

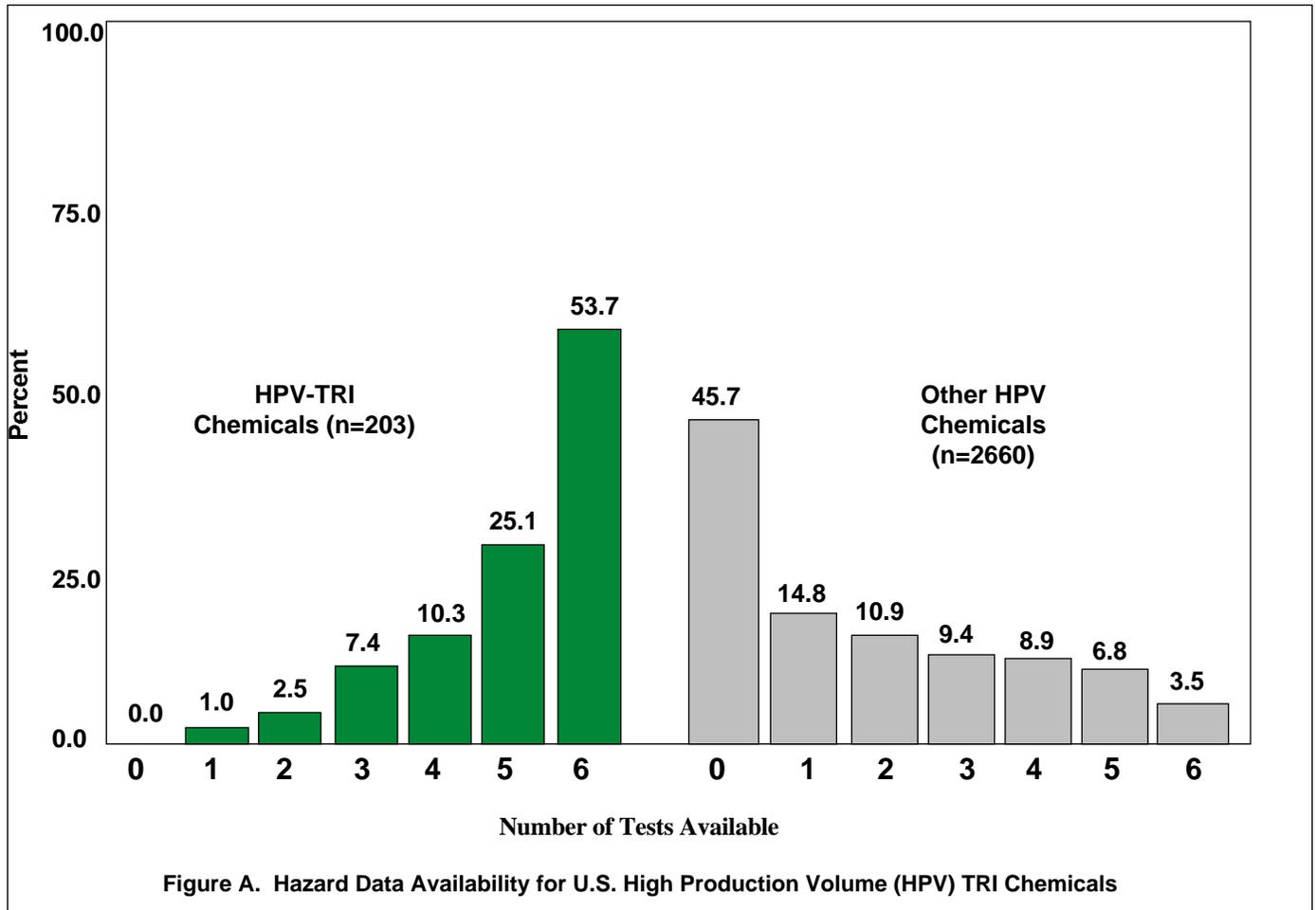
<sup>1</sup> SIDS tests data include acute toxicity, chronic toxicity, teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate. For teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate, test data were considered available if any studies relevant to the endpoint were located; completing the SIDS set for these endpoints requires multiple studies.

Data Source: EPA information on 2,863 U.S. HPV Chemicals from 1990 IUR Update and 1995 TRI Reporting.

however, had four or fewer of the tests completed and publicly available (see Table B and Figure A).

EPA also examined the HPV TRI chemicals with higher exposure potential and identified 91 (out of the 203) HPV TRI chemicals with reported total (on-site and off-site) releases at levels greater than 1 million pounds (for the 1995 reporting year). Of these 91 high release HPV TRI chemicals, 74% have information available on all six basic SIDS tests, an additional 20% had five of the SIDS tests available, and all of the high release HPV TRI chemicals have data available from at least three of the SIDS tests (see Table C and Figure B).

The EPA data availability survey reveals that the majority of HPV chemicals **which are not listed on TRI** may not have been tested for the basic information that would allow determination as to whether they **should** be listed on TRI (see Figure A). The lack of availability of basic toxicity information on most HPV chemicals is a serious issue for several reasons. For EPA, the availability of hazard information on individual chemicals is fundamental to many of the Agency’s approaches to accomplishing its mission of environmental protection including risk assessment, safeguarding children’s health, expanding the public’s right-to-know, and



**Note:** The six SIDS tests considered are acute toxicity, chronic toxicity, teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate. For teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate, test data were considered available if any studies relevant to the endpoint were located; completing the SIDS set for these endpoints requires multiple studies.

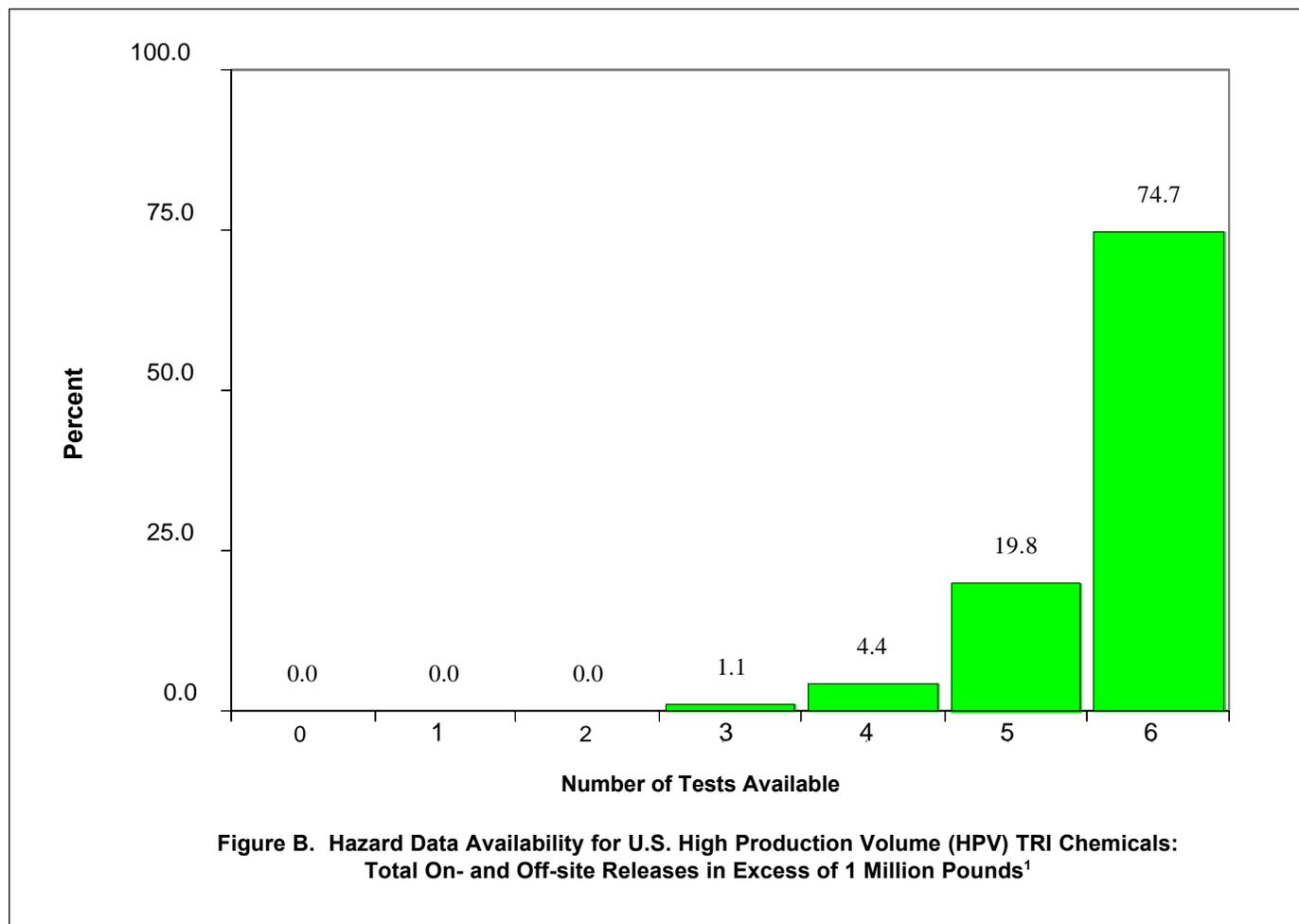
**Table C. Hazard Data Availability for U.S. High Production Volume (HPV) TRI Chemicals: Total On- and Off-site Releases in Excess of 1 Million Pounds<sup>1</sup>**

Number of SIDS Tests Performed <sup>2</sup>	TRI Chemical Released or Transferred > 1,000,000 lbs	
	<u>Yes</u>	<u>No</u>
0	0 (0.0%)	1,216 (43.9%)
1	0 (0.0%)	395 (14.2%)
2	0 (0.0%)	296 (10.7%)
3	1 (1.1%)	265 (9.6%)
4	4 (4.4%)	253 (9.1%)
5	18 (19.8%)	213 (7.7%)
6	68 (74.7%)	134 (4.8%)
<b>TOTAL</b>	<b>91</b>	<b>2,772</b>

<sup>1</sup> Total on- and off-site releases equals total of on-site releases and transfers to disposal, 1995 TRI Reporting.

<sup>2</sup> SIDS tests data include acute toxicity, chronic toxicity, teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate. For teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate, test data were considered available if any studies relevant to the endpoint were located; completing the SIDS set for these endpoints requires multiple studies.

Data Source: EPA information on 2,863 U.S. HPV Chemicals from 1990 IUR Update and 1995 TRI Reporting.



<sup>1</sup>Total On- and off-site releases equals total of on-site releases and transfers to disposal, 1995 TRI Reporting.

**Note:** The six SIDS tests considered are acute toxicity, chronic toxicity, teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate. For teratogenicity/reproductive toxicity, mutagenicity, ecotoxicity, and environmental fate, test data were considered available if any studies relevant to the endpoint were located; completing the SIDS set for these endpoints requires multiple studies.

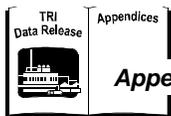
Data Source: EPA information on 2,863 U.S. HPV Chemicals from 1990 IUR Update and 1995 TRI Reporting.

promoting pollution prevention. Congress acknowledged and established the need for data in identifying, controlling and preventing the possible hazardous effects of chemicals on health and the environment when it passed TSCA. TSCA states that it is the policy of the U.S. that manufacturers are responsible for testing chemicals, and the Act provides EPA the authority to require chemical testing and impose controls as necessary. In practice, implementation has been difficult for a variety of reasons and the pace of testing — some of which is progressing voluntarily under international agreements to share the economic burden of testing across many countries — has been too slow.

To obtain more information relating to EPA's work with the SIDS or HPV chemicals, contact the Toxic Substances Control Act (TSCA) Hotline at 202 554-1404 or by email at: [tsc hotline@epamail.epa.gov](mailto:tsc hotline@epamail.epa.gov). Additional information can also be obtained on the OPPT SIDS website at: <http://www.epa.gov/opptintr/sids/overview.htm>.

## SCREENING INFORMATION SYSTEM/LAN (SIS/L)

The SIS/L (Screening Information System/LAN) will enable the public to track chemicals across



## Appendix C — Additional Information for Assessing the Impacts of TRI Chemicals

major OPPT, EPA and federal government databases, information systems and document collections that contain information on production and use; release, exposure and monitoring; toxicity and hazard; and risk. Users will be able to search for chemicals by both CAS number and chemical name. Acting as a platform for multiple data sources, SIS/L will provide access to chemical information lists and databases regardless of their origin (see Table D). EPA is currently working to make SIS/L available on EPA's public access home page as a valuable information source for EPA, other federal agencies, state and local governments, public interest groups, research organizations, non-government organizations, industry, and the public. Table D lists the top 25 TRI chemicals and the related information sources that are listed on SIS/L.

### SIS/L Information Lists

#### **Chemicals On Reporting Rules database (CORR)**

Chemicals On Reporting Rules database tracks all proposed and final chemical rules promulgated by US EPA/OPPT.

#### **Toxic Substances Control Act Test Submissions (TSCATS)**

**8(d):** Section 8(d) health and safety reporting requirements; chemicals not officially under Section 8(d) reporting requirements, but which had information concurrently submitted along with chemicals under Section 8(d) are also tracked as 8(d) chemicals.

**SECT4:** Section 4 Chemical Testing Program (CTP); chemicals not officially under the CTP, but which had information concurrently submitted along with chemicals under the CTP, are also tracked as Section 4 chemicals.

**8(e):** Section 8(e) Notice of Substantial Risk requires manufacturers, processors or distributors of chemicals to submit to EPA any new data on

one of their chemicals that reasonably supports a conclusion that the chemical presents a substantial risk of injury to health or the environment; besides data on health and environmental effects, submitters often make known uses of the chemical, workplace practices and other Exposure and market information.

**FYI:** For Your Information (FYIs) are similar in content to the TSCA Section 8(e) Notices but do not meet the statutory requirements for submission under the Toxic Substances Control Act; besides data on health and environmental effects, submitters often make known uses of the chemical, workplace practices and other exposure and market information.

#### **Chemical Hazard Information Profile (CHIPs)**

Chemical Hazard Information Profiles summarize readily available information on health effects, environmental effects and exposure relating to a specific chemical. CHIPs were prepared by the US EPA, OPPT from about 1978 to 1990; they have since been superseded by other screening reviews in OPPT's current Existing Chemical Program.

#### **Substitute Hazard Profile (Sub)**

Every chemical referenced in a Substitute Hazard Profile; these profiles are similar in content to CHIPs but generally summarize readily available information on only health and environmental effects; these reviews were prepared in the US EPA, OPPT from about 1985 to 1990; they have since been superseded by reviews in OPPT's current Existing Chemical Program.

#### **Health Effects Assessment Summary Table (HEAST)**

Every chemical in the Health Effects Assessment Summary Tables developed by US EPA, ORD, OHEA; these tables include draft (or unverified) RfD's, RfC's, and cancer potency estimates (both final and draft or unverified) and comments and references.

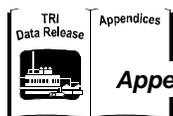
**Appendix C — Additional Information for Assessing the Impacts of TRI Chemicals**

**Table D. Screening Information System/LAN**

CAS Number	Chemical Name	CORR	8(d)	SECT4	8(e)	FYI	CHIP	Sub	HEAST	CURE	IRIS	PEPS
67-56-1	*METHANOL	X	X	X	X	X	X	X	X	X	X	X
74-85-1	*ETHENE	X	X	X	X	X	X					
75-09-2	*METHANE, DICHLORO-	X	X	X	X	X	X	X	X	X	X	
75-15-0	*CARBON DISULFIDE	X	X	X	X	X	X		X	X	X	
78-93-3	*2-BUTANONE	X	X	X	X	X	X		X	X	X	X
100-42-5	*BENZENE, ETHENYL	X	X	X	X	X	X		X	X	X	
108-88-3	*BENZENE, METHYL	X	X	X	X	X	X		X	X	X	
110-49-6	*ETHANOL, 2 METHOXY-, ACETATE		X	X	X	X	X		X	X		X
110-54-3	*HEXANE	X	X	X	X	X			X	X	X	
110-80-5	*ETHANOL, 2 ETHOXY-	X	X	X	X	X	X		X	X	X	X
111-15-9	*ETHANOL, 2 ETHOXY-, ACETATE		X		X	X			X	X	X	X
1314-13-2	*ZINC OXIDE, (ZNO)		X	X	X					X		
1330-20-7	*BENZENE, DIMETHYL	X	X	X	X	X	X		X	X	X	
7439-92-1	*LEAD	X	X	X	X	X	X	X	X	X	X	
7439-96-5	*MANGANESE	X	X		X	X	X		X	X	X	
7440-47-3	*CHROMIUM	X	X	X	X	X	X			X		
7440-50-8	*COPPER	X	X	X	X	X	X	X	X	X	X	
7440-66-6	*ZINC	X	X	X	X	X	X	X	X	X	X	
7647-01-0	*HYDROCHLORIC ACID	X	X	X	X	X	X			X	X	
7664-38-2	*PHOSPHORIC ACID	X	X	X	X	X	X				X	
7664-41-7	*AMMONIA	X	X	X	X	X	X	X	X	X	X	
7782-50-5	*CHLORINE	X	X	X	X	X	X			X	X	
14797-55-8	*NITRATE	X	X	X						X	X	
16065-83-1	*CHROMIUM III		X						X	X	X	
18540-29-9	*CHROMIUM (HEXAVALENT)		X		X				X	X	X	

**Table D. Screening Information System/LAN, Continued**

CAS Number	Chemical Name	RM(x)	MEGA	SIDS	RoL	WQCD	DWHA	FIFRA	INERT	OSHA	NIOSH	ACGIH
67-56-1	*METHANOL	X			X			X	X	X	X	X
74-85-1	*ETHENE	X		X	X			X			X	
75-09-2	*METHANE, DICHLORO-	X	X		X	X	X		X	X	X	X
75-15-0	*CARBON DISULFIDE	X	X		X					X	X	X
78-93-3	*2-BUTANONE	X	X	X	X		X		X	X	X	X
100-42-5	*BENZENE, ETHENYL	X		X	X	X	X			X	X	X
108-88-3	*BENZENE, METHYL	X		X	X	X	X		X	X	X	X
110-49-6	*ETHANOL, 2 METHOXY-, ACETATE	X		X	X					X	X	X
110-54-3	*HEXANE	X			X		X		X	X	X	X
110-80-5	*ETHANOL, 2 ETHOXY-	X	X		X				X	X	X	X
111-15-9	*ETHANOL, 2 ETHOXY-, ACETATE	X			X				X	X	X	X
1314-13-2	*ZINC OXIDE, (ZNO)	X			X			X	X	X	X	X
1330-20-7	*BENZENE, DIMETHYL	X			X		X	X	X	X	X	X
7439-92-1	*LEAD	X			X	X	X			X	X	X
7439-96-5	*MANGANESE	X			X	X				X	X	X
7440-47-3	*CHROMIUM	X			X		X			X	X	X
7440-50-8	*COPPER	X			X	X		X		X	X	X
7440-66-6	*ZINC	X			X	X		X	X		X	
7647-01-0	*HYDROCHLORIC ACID	X	X		X			X	X	X	X	X
7664-38-2	*PHOSPHORIC ACID	X			X			X	X	X	X	X
7664-41-7	*AMMONIA	X			X	X				X	X	X
7782-50-5	*CHLORINE		X		X	X		X		X	X	X
14797-55-8	*NITRATE				X	X						
16065-83-1	*CHROMIUM III										X	X
18540-29-9	*CHROMIUM (HEXAVALENT)				X						X	X



### **Chemical Unit Record Estimate (CURE)**

Every chemical in the Chemical Unit Record Estimate; an index and summary of all health and environmental effects and risk reviews published by US EPA, ORD.

### **Integrated Risk Information System (IRIS)**

Every chemical referenced in the US EPA, ORD Integrated Risk Information System, which summarizes official EPA-wide chemical hazard and risk evaluations.

### **Production/Exposure Profile (PEPs)**

Every chemical referenced in a Production/Exposure Profile; PEPs were prepared in the US EPA, OPPT from about 1978 to 1986.

### **Risk Management Tracking System (RMx)**

Every chemical tracked in the Risk Management tracking system for the previous version of the US EPA, OPPT Existing Chemical Program.

### **TSCA Section 4 Testing Program (MEGA)**

Every chemical within the TSCA Section 4 Testing Program including those chemicals with tests in proposal or negotiation stage, those awaiting submission of test results and those awaiting verification of compliance with the test rule or consent order, as well as historical information on chemicals that have completed Section 4 testing.

### **Screening Information Data Set Program (SIDS)**

Every chemical being evaluated under the Screening Information Data Set program; SIDS is an international voluntary information sharing and testing program developed under the aegis of the Organization for Economic Cooperation and Development (OECD); the program is intended to fill basic data gaps on high volume chemicals with little safety information.

### **Register of Lists (RoL)**

Every chemical referenced in the proprietary database Register of Lists (RoL); RoL listed the statutory authority for all chemicals regulated by the US EPA; RoL is no longer supported by the US EPA.

### **Water Quality Criteria Document (WQCD)**

Every chemical which has a Water Quality Criteria Document from within the US EPA, Office of Water.

### **Drinking Water Health Advisory (DWHA)**

Every chemical which has a Drinking Water Health Advisory as developed by the US EPA, Office of Water.

### **Federal Insecticide & Rodenticide Act (FIFRA)**

Every chemical subject to regulation by the US EPA, Office of Pesticide Programs under Federal Insecticide & Rodenticide Act as a registered Active Ingredient.

### **Inerts**

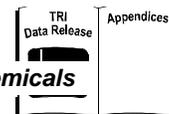
Every chemical the US EPA, Office of Pesticide Programs has determined to be potentially toxic but are not claimed by pesticide manufacturers to have any pesticidal activity in their registered products.

### **Occupational Safety and Health Administration (OSHA)**

Every chemical for which a PEL (Permissible Exposure Limits) and other workplace standards have been promulgated by the Occupational Safety and Health Administration (US DOL).

### **National Institute for Occupational Safety and Health (NIOSH)**

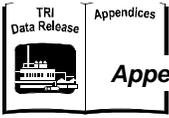
Every chemical in the NIOSH (National Institute for Occupational Safety and Health/NIH/US DHHS) Occupational Exposure Survey of around



1980; NOES lists number of workers and number of facilities by SIC codes (Standard Industrial Classification).

**American Conference of Governmental Industrial Hygienists (ACGIH)**

Every chemical for which workplace standards have been recommended by the American Conference of Governmental Industrial Hygienists.



***Appendix C — Additional Information for Assessing the Impacts of TRI Chemicals***