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Agency

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## **National Priority Chemicals Trends Report (2004-2006)**

### **Section 4 Trends Analyses for Specific Priority Chemicals (2004-2006): Priority Chemicals (PCs) Not Reportable to TRI**

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# Priority Chemicals Not Reportable to TRI

Seven of the 31 PCs are not reported to TRI and until now, we have not been able to quantify the generation and management trends for these PCs. However, we now have developed a methodology by which to estimate the quantity of PCs contained in hazardous waste streams reported for the BR for six of the PCs. In addition to providing this quantity, we also show the CAS number, alternative names, and general uses of each of these PCs (note: We did not identify any wastes that contained 4-Bromophenyl phenyl ether in the 2005 BR.)

To find more information about these chemicals, please go to the following website:

<http://www.epa.gov/epaoswer/hazwaste/minimize/chemlist.htm>.

Priority Chemicals (PCs) Not Reported to TRI	
1,2,4,5-Tetrachlorobenzene	Acenaphthylene
4-Bromophenyl phenyl ether	Endosulfan, beta-/Endosulfan, alpha
Acenaphthene	Fluorene
Pyrene	

# 1,2,4,5-Tetrachlorobenzene

## Chemical Information

**Alternate Names:** benzene tetrachloride, s-tetrachlorobenzene

**General Uses:** 1,2,4,5-Tetrachlorobenzene is used as an intermediate or building block to make herbicides, insecticides and defoliants. It is also used to make other chemicals, such as 2,4,5-Trichlorophenol and 2,4,5-Trichlorophenoxyacetic acid.

## Data Derived From Hazardous Waste Biennial Reports For 1,2,4,5-Tetrachlorobenzene

Based on data derived from the 2005 BR, we estimate that 25 facilities in 14 different industries (NAICS codes) generated hazardous wastes containing approximately 6.2 million pounds of 1,2,4,5-tetrachlorobenzene (Exhibit 4.65). Waste streams classified as wastewaters contained approximately 97 percent of the 1,2,4,5-tetrachlorobenzene. Facilities in two industries: NAICS code 325199 (All Other Basic Organic Chemical Manufacturing) and NAICS code 324110 (Petroleum Refineries) accounted for 99.7 percent of the total estimated quantity of 1,2,4,5-tetrachlorobenzene in the hazardous waste streams.

**Exhibit 4.65. Estimated Quantity of 1,2,4,5-tetrachlorobenzene in Hazardous Waste Streams Generated in 2005, by NAICS Code**

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of 1,2,4,5-tetrachlorobenzene			Percent of Total Quantity
			Non-wastewaters	Wastewaters	Total Quantity	
325199	All Other Basic Organic Chemical Manufacturing	6	164,115	4,155,922	4,320,037	69.8%
324110	Petroleum Refineries	1	0	1,852,106	1,852,106	29.9%
325181	Alkalies and Chlorine Manufacturing	4	13,835	0	13,835	0.2%
325110	Petrochemical Manufacturing	3	1,175	0	1,175	<0.1%
325211	Plastics Material and Resin Manufacturing	2	571	0	571	<0.1%
811490	Other Personal and Household Goods Repair and Maintenance	1	113	113	227	<0.1%
424610	Plastics Materials and Basic Forms and Shapes Merchant Wholesalers	1	185	0	185	<0.1%
325131	Inorganic Dye and Pigment Manufacturing	1	31	0	31	<0.1%
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	1	23	0	23	<0.1%
336112	Light Truck and Utility Vehicle Manufacturing	1	4	0	4	<0.1%
221122	Electric Power Distribution	1	2	0	2	<0.1%
334112	Computer Storage Device Manufacturing	1	2	0	2	<0.1%
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	1	0	<1	<1	<0.1%
334510	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	1	<1	0	<1	<0.1%
<b>Total</b>		<b>25</b>	<b>180,056</b>	<b>6,008,141</b>	<b>6,188,198</b>	<b>100.0%</b>

# 4-Bromophenyl Phenyl Ether

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## Chemical Information

**Alternate Names:** 1-bromo-4-phenoxybenzene, 4-bromodiphenyl ether, p-bromodiphenyl ether, 4-bromophenoxybenzene, 4-bromophenyl phenyl ether

**General Uses:** 4-Bromophenyl phenyl ether is primarily used for research purposes. In the past, it was used as a flame retardant.

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## Data Derived From Hazardous Waste Biennial Reports For 4-Bromophenyl Phenyl Ether

Based on data derived from 2005 BR, we did not identify any hazardous wastes streams that contained 4-Bromophenyl phenyl ether.

# Acenaphthene

## Chemical Information

**Alternate Names:** 1,2-dihydroacenaphthene, 1,2-dihydroacenaphthylene, 1,8-ethylenenaphthalene, ethylene naphthalene, naphthyleneethylene, peri-ethylenenaphthalene

**General Uses:** Acenaphthene is used to make dyes, plastics and pesticides.

## Data Derived From Hazardous Waste Biennial Reports for Acenaphthene

Based on data derived from 2005 BR, we estimate that 214 facilities in 28 different industries (NAICS codes) generated hazardous wastes containing approximately 4.7 million pounds of acenaphthene (Exhibit 4.66). Hazardous waste streams classified as wastewaters contained approximately 90 percent of the acenaphthene. Facilities in NAICS code 324110 (Petroleum Refineries) accounted for approximately 87 percent of the total estimated quantity of acenaphthene in the hazardous waste streams.

**Exhibit 4.66. Estimated Quantity of Acenaphthene in Hazardous Waste Streams Generated in 2005, by NAICS Code**

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Acenaphthene			Percent of Total Quantity
			Non-wastewaters	Wastewaters	Total Quantity	
324110	Petroleum Refineries	124	2,200	4,134,209	4,136,409	87.2%
331312	Primary Aluminum Production	13	274,792	0	274,792	5.8%
493110	General Warehousing and Storage	1	90,203	0	90,203	1.9%
331314	Secondary Smelting and Alloying of Aluminum	1	0	87,721	87,721	1.8%
321114	Wood Preservation	51	62,140	18,663	80,803	1.7%
331315	Aluminum Sheet, Plate, and Foil Manufacturing	1	33,727	0	33,727	0.7%
331311	Alumina Refining	1	22,187	0	22,187	0.5%
325192	Cyclic Crude and Intermediate Manufacturing	1	7,127	0	7,127	0.2%
324199	All Other Petroleum and Coal Products Manufacturing	1	0	5,074	5,074	0.1%
322222	Coated and Laminated Paper Manufacturing	1	<1	2,092	2,093	<0.1%
321113	Sawmills	1	1,542	0	1,542	<0.1%
321110	Sawmills and Wood Preservation	1	714	0	714	<0.1%
541380	Testing Laboratories	1	622	0	622	<0.1%
325190	Other Basic Organic Chemical Manufacturing	1	162	0	162	<0.1%
321999	All Other Miscellaneous Wood Product Manufacturing	1	153	0	153	<0.1%
424710	Petroleum Bulk Stations and Terminals	1	63	0	63	<0.1%
113110	Timber Tract Operations	1	55	0	55	<0.1%
321911	Wood Window and Door Manufacturing	1	42	0	42	<0.1%
321990	All Other Wood Product Manufacturing	1	37	0	37	<0.1%
325320	Pesticide and Other Agricultural Chemical Manufacturing	1	22	0	22	<0.1%
421310	Lumber, Plywood, Millwork, and Wood Panel Wholesalers	1	17	0	17	<0.1%
333298	All Other Industrial Machinery Manufacturing	1	7	0	7	<0.1%
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	2	1	0	1	<0.1%
324121	Asphalt Paving Mixture and Block Manufacturing	1	<1	0	<1	<0.1%
325110	Petrochemical Manufacturing	1	<1	0	<1	<0.1%

**Exhibit 4.66. Estimated Quantity of Acenaphthene in Hazardous Waste Streams Generated in 2005,  
by NAICS Code (Continued)**

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Acenaphthene			Percent of Total Quantity
			Non-wastewaters	Wastewaters	Total Quantity	
541710	Research and Development in the Physical, Engineering, and Life Sciences	1	<1	0	<1	<0.1%
561439	Other Business Service Centers (including Copy Shops)	1	<1	0	<1	<0.1%
814110	Private Households	1	0	<1	<1	<0.1%
<b>Total</b>		<b>214</b>	<b>495,812</b>	<b>4,247,758</b>	<b>4,743,571</b>	<b>100.0%</b>

# Acenaphthylene

## Chemical Information

**Alternate Names:** 1,2-dehydroacenaphthalene

**General Uses:** Acenaphthylene is used to make dyes, plastics and pesticides.

## Data Derived From Hazardous Waste Biennial Reports for Acenaphthylene

Based on data derived from 2005 BR, we estimate that nine facilities in four different industries (NAICS codes) generated hazardous wastes containing 24,024 pounds of acenaphylene (Exhibit 4.67). Waste streams classified as non-wastewaters contained 100 percent of the acenaphylene.

**Exhibit 4.67. Estimated Quantity of Acenaphthylene in Hazardous Waste Streams Generated in 2005, by NAICS Code**

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Acenaphthylene			Percent of Total Quantity
			Non-wastewaters	Wastewaters	Total Quantity	
331111	Iron and Steel Mills	4	20,255	0	20,255	84.3%
324199	All Other Petroleum and Coal Products Manufacturing	3	3,484	0	3,484	14.5%
331110	Iron and Steel Mills and Ferroalloy Manufacturing	1	278	0	278	1.2%
221210	Natural Gas Distribution	1	7	0	7	0.0%
<b>Total</b>		<b>9</b>	<b>24,024</b>	<b>0</b>	<b>24,024</b>	<b>100.0%</b>

# Endosulfan, beta-/Endosulfan, alpha (Endosulfan)

## Chemical Information

**Alternate Names:** hexachloro-5-norbornene-2,3-dimethanol, cyclic sulfite

**General Uses:** Endosulfan is used as an insecticide on crops. It has not been produced in the United States since 1982, but it has been used to make other chemicals.

## Data Derived From Hazardous Waste Biennial Reports for Endosulfan, beta-/Endosulfan, alpha (Endosulfan)

Based on data derived from 2005 BR, we estimate that 21 facilities in 12 different industries (NAICS codes) generated hazardous wastes containing less than 1 pound of endosulfans (Exhibit 4.68). We did not confirm whether facilities in these industries actually generated wastes containing endosulfans.

**Exhibit 4.68. Estimated Quantity of Endosulfan in Hazardous Waste Streams Generated in 2005, by NAICS Code**

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Endosulfans		
			Non-wastewaters	Wastewaters	Total Quantity
325188	All Other Basic Inorganic Chemical Manufacturing	1	<1	0	<1
325310	Fertilizer Manufacturing	1	<1	0	<1
325320	Pesticide and Other Agricultural Chemical Manufacturing	6	<1	0	<1
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	1	<1	0	<1
334516	Analytical Laboratory Instrument Manufacturing	1	<1	0	<1
422910	Farm Supplies Wholesalers	1	0	<1	<1
424690	Other Chemical and Allied Products Merchant Wholesalers	1	<1	0	<1
488490	Other Support Activities for Road Transportation	1	<1	0	<1
493110	General Warehousing and Storage	1	0	0	0
541380	Testing Laboratories	1	<1	0	<1
541710	Research and Development in the Physical, Engineering, and Life Sciences	2	<1	0	<1
611310	Colleges, Universities, and Professional Schools	4	<1	0	<1
	<b>Total</b>	<b>21</b>	<b>&lt;1</b>	<b>&lt;1</b>	<b>&lt;1</b>

# Fluorene

## Chemical Information

**Alternate Names:** 2,2-methylenebiphenyl, 2,3-benzindene, o-biphenylenemethane, 9H-fluorene, alpha-diphenylenemethane-9H-fluorene, diphenylenemethane

**General Uses:** Fluorene is used to make dyes, plastics and pesticides.

## Data Derived From Hazardous Waste Biennial Reports for Fluorene

Based on data derived from 2005 BR, we estimate that 177 facilities in 16 different industries (NAICS codes) generated hazardous wastes containing approximately 97,000 pounds of fluorene (Exhibit 4.69). Waste streams classified as non-wastewaters contained approximately 82 percent of the fluorene. Facilities in NAICS code 321114 (Wood Preservation) accounted for approximately 84 percent of the total estimated quantity of fluorene in the hazardous waste streams.

**Exhibit 4.69. Estimated Quantity of Fluorene in Hazardous Waste Streams Generated in 2005, by NAICS Code**

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Fluorene			Percent of Total Quantity
			Non-wastewaters	Wastewaters	Total Quantity	
321114	Wood Preservation	34	70,530	11,320	81,850	84.1%
32411	Petroleum Refineries	128	6,884	5,915	12,800	13.2%
321113	Sawmills	1	1,558	0	1,558	1.6%
321110	Sawmills and Wood Preservation	1	721	0	721	0.7%
113110	Timber Tract Operations	1	154	0	154	0.2%
325320	Pesticide and Other Agricultural Chemical Manufacturing	1	63	0	63	0.1%
424710	Petroleum Bulk Stations and Terminals	4	61	0	61	0.1%
421310	Lumber, Plywood, Millwork, and Wood Panel Wholesalers	1	38	0	38	<0.1%
333298	All Other Industrial Machinery Manufacturing	1	22	0	22	<0.1%
324121	Asphalt Paving Mixture and Block Manufacturing	1	3	0	3	<0.1%
324199	All Other Petroleum and Coal Products Manufacturing	1	<1	3	3	<0.1%
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	2	2	0	2	<0.1%
486110	Pipeline Transportation of Crude Oil	1	2	0	2	<0.1%
325110	Petrochemical Manufacturing	1	<1	0	<1	<0.1%
561439	Other Business Service Centers (including Copy Shops)	1	<1	0	<1	<0.1%
611310	Colleges, Universities, and Professional Schools	1	<1	0	<1	<0.1%
<b>Total</b>		<b>177</b>	<b>80,031</b>	<b>17,235</b>	<b>97,267</b>	<b>100.0%</b>

# Pyrene

## Chemical Information

**Alternate Names:** benzo[def]phenanthrene, beta-pyrene

**General Uses:** Pyrene is used to make dyes, plastics and pesticides. It is also used to make benzo(a)pyrene.

## Data Derived From Hazardous Waste Biennial Reports for Pyrene

Based on data derived from 2005 BR, we estimate that 257 facilities in 47 different industries (NAICS codes) generated hazardous wastes containing approximately 503,000 pounds of pyrene (Exhibit 4.70). Waste streams classified as wastewaters contained approximately 64 percent of the pyrene. Facilities in NAICS code 324110 (Petroleum Refineries) accounted for approximately 71 percent of the total estimated quantity of pyrene in the hazardous waste streams.

**Exhibit 4.70. Estimated Quantity of Pyrene in Hazardous Waste Streams Generated in 2005, by NAICS Code**

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Pyrene			Percent of Total Quantity
			Non-wastewaters	Wastewaters	Total Quantity	
324110	Petroleum Refineries	137	59,868	295,818	355,686	70.7%
321114	Wood Preservation	52	81,008	20,374	101,382	20.2%
325192	Cyclic Crude and Intermediate Manufacturing	3	8,912	0	8,912	1.8%
331312	Primary Aluminum Production	13	7,851	0	7,851	1.6%
331314	Secondary Smelting and Alloying of Aluminum	1	0	6,266	6,266	1.2%
331112	Electrometallurgical Ferroalloy Product Manufacturing	1	5,659	0	5,659	1.1%
324199	All Other Petroleum and Coal Products Manufacturing	2	4,413	149	4,562	0.9%
493110	General Warehousing and Storage	1	2,577	0	2,577	0.5%
321113	Sawmills	1	1,618	0	1,618	0.3%
331315	Aluminum Sheet, Plate, and Foil Manufacturing	1	964	0	964	0.2%
424690	Other Chemical and Allied Products Merchant Wholesalers	2	787	0	787	0.2%
325190	Other Basic Organic Chemical Manufacturing	1	423	362	785	0.2%
321110	Sawmills and Wood Preservation	1	754	0	754	0.1%
561439	Other Business Service Centers (including Copy Shops)	2	712	0	712	0.1%
331311	Alumina Refining	1	634	0	634	0.1%
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	1	612	0	612	0.1%
339990	All Other Miscellaneous Manufacturing	1	535	0	535	0.1%
513310	Wired Telecommunications Carriers	1	377	0	377	0.1%
488210	Support Activities for Rail Transportation	1	358	0	358	0.1%
812990	All Other Personal Services	1	299	0	299	0.1%
42471	Petroleum Bulk Stations and Terminals	4	244	0	244	<0.1%
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	1	210	0	210	<0.1%
333298	All Other Industrial Machinery Manufacturing	1	164	0	164	<0.1%
113110	Timber Tract Operations	1	160	0	160	<0.1%

**Exhibit 4.70. Estimated Quantity of Pyrene in Hazardous Waste Streams Generated in 2005, by NAICS Code  
(Continued)**

Primary NAICS Code	NAICS Code Description	Number of Facilities	Quantity (pounds) of Pyrene			Percent of Total Quantity
			Non-wastewaters	Wastewaters	Total Quantity	
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	2	122	0	122	<0.1%
325320	Pesticide and Other Agricultural Chemical Manufacturing	1	101	0	101	<0.1%
221310	Water Supply and Irrigation Systems	1	89	0	89	<0.1%
321999	All Other Miscellaneous Wood Product Manufacturing	1	72	0	72	<0.1%
322222	Coated and Laminated Paper Manufacturing	1	44	0	44	<0.1%
921190	Other General Government Support	1	0	42	42	<0.1%
611310	Colleges, Universities, and Professional Schools	2	40	0	40	<0.1%
421310	Lumber, Plywood, Millwork, and Wood Panel Wholesalers	1	39	0	39	<0.1%
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	1	33	0	33	<0.1%
327910	Abrasive Product Manufacturing	1	29	0	29	<0.1%
321911	Wood Window and Door Manufacturing	1	28	0	28	<0.1%
532411	Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing	1	28	0	28	<0.1%
321990	All Other Wood Product Manufacturing	1	21	0	21	<0.1%
482111	Line-Haul Railroads	2	12	0	12	<0.1%
492110	Couriers	1	7	0	7	<0.1%
324121	Asphalt Paving Mixture and Block Manufacturing	1	6	0	6	<0.1%
326291	Rubber Product Manufacturing for Mechanical Use	1	6	0	6	<0.1%
486110	Pipeline Transportation of Crude Oil	1	5	0	5	<0.1%
541380	Testing Laboratories	1	5	0	5	<0.1%
325110	Petrochemical Manufacturing	1	<1	0	<1	<0.1%
339999	All Other Miscellaneous Manufacturing	1	<1	0	<1	<0.1%
541710	Research and Development in the Physical, Engineering, and Life Sciences	1	<1	0	<1	<0.1%
814110	Private Households	1	0	<1	<1	<0.1%
<b>Total</b>		<b>257</b>	<b>179,826</b>	<b>323,011</b>	<b>502,837</b>	<b>100.0%</b>