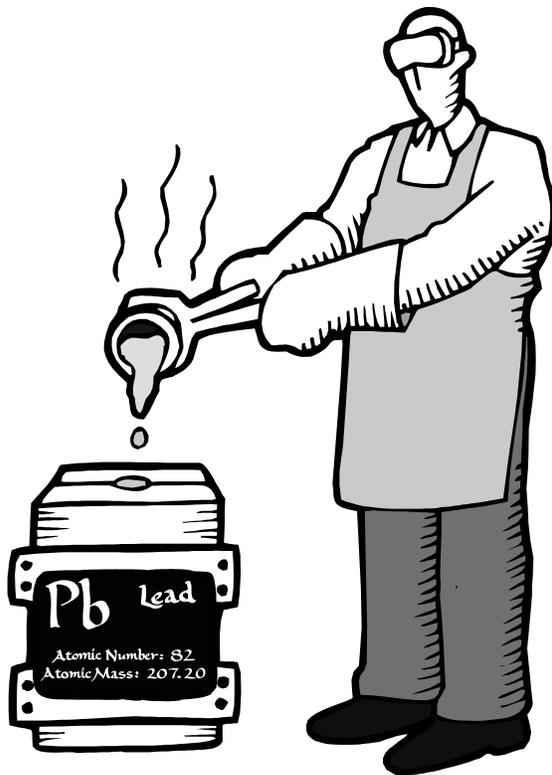


2001

DATA SUMMARY

DELAWARE TOXICS RELEASE INVENTORY REPORT



Information available pursuant
to the Emergency Planning
and Community Right-to-
Know Act (EPCRA)

April 2003



Prepared by the EPCRA Reporting Program

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DNREC MISSION STATEMENT

The mission of the Delaware Department of Natural Resources and Environmental Control is to ensure the wise management, conservation, and enhancement of the state's natural resources, protect public health and the environment, provide quality outdoor recreation, improve the quality of life, and educate the public on historic, cultural, and natural resource use, requirements, and issues.

SECRETARY'S MESSAGE

The Department of Natural Resources and Environmental Control is pleased to present the Toxics Release Inventory Report for the reporting year 2001. I am happy to report that on-site releases reported under TRI have declined 15% since 2000 and 30% when compared with 1998. I am optimistic that with the continued collective efforts of government, industry, and the public, we can continue this trend.

The TRI program continues to gather strength. For the second year in a row, changes to the Toxics Release Inventory (TRI) requirements have increased reporting on certain chemicals referred to as Persistent Bioaccumulative Toxics (PBT's). Because of the characteristics which identify them as PBT's, these substances are of increased concern. For calendar year 2000, lower reporting thresholds were established for all PBT's covered under TRI. For 2001, the thresholds were also lowered specifically for lead and lead compounds.

I urge you to take advantage of the information in this report and the opportunity this report presents to learn about the management of chemicals in your community. TRI was implemented as part of the federal Emergency Planning and Community Right-to-Know Act (EPCRA). One of the primary principles of EPCRA is community involvement. As citizens, you have the right to know, but whether you take advantage of that right is up to you. The TRI report is published to better inform citizens about the environment in their community, and we continually strive to improve the format and readability of this report for the public.

It remains our pledge to hold steadfast to the commitment of improving the environment for all citizens. We recognize that portions of our state are highly industrialized and that we must utilize every opportunity to continue to reduce toxics in our environment. Progress has been made, but we also encourage our industrial citizens to continue to reduce releases below today's levels and focus on providing a safer and more healthful environment for our future.

The data in this report are available an easy-to-use, searchable format through the public information internet link at: www2.state.de.us/serc/public.htm. The "For Further Information" section of this report provides details about this specific information as well as many other DNREC and EPA Internet sites devoted to community right-to-know.

Sincerely,

John A. Hughes, Secretary
Department of Natural Resources and Environmental Control

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Introduction

What is the Toxics Release Inventory?

The Toxics Release Inventory, or TRI, is a publicly-available data set containing information reported annually for toxic chemicals manufactured, processed, or otherwise used by certain facilities in Delaware and throughout the United States. Annually, these facilities report releases and waste management information for covered chemicals. The reportable list of toxic chemicals for 2001 included 582 individual chemicals and 30 chemical categories. TRI was established in 1986 under Title III, Section 313, of the Federal Superfund Amendments and Reauthorization Act to provide information to the public about the presence and release of toxic chemicals in their communities. Title III is also known as the Emergency Planning and Community Right-to-Know Act (EPCRA).

Facilities report TRI information to the U.S. Environmental Protection Agency (EPA) and to the State in which the facility is located. In Delaware, the EPCRA Reporting Program within the Department of Natural Resources and Environmental Control (DNREC) receives and compiles TRI data from facilities located within the State. The EPCRA Reporting Program maintains a database that is updated as new reports are received. The database currently contains fifteen years of reported data. Most releases reported under TRI are also regulated through Federal and/or State permits.

This report provides a summary and brief analysis of the 2001 TRI data received as of March 1, 2002 from Delaware facilities.

Reporting Requirements

A facility is required to submit a report for a listed toxic chemical if the facility meets all of the following criteria:

1. Employs the equivalent of 10 or more full-time employees,
2. Is a covered industry, or is a federal facility (See Table 1, on the next page, for a list of covered industries), and,
3. Manufactures or processes more than 25,000 pounds, or otherwise uses more than 10,000 pounds, of the listed toxic chemical during the course of the calendar year. Limits for specific chemicals known as PBT's (Persistent Bioaccumulative Toxics) are lower (Table 2 on page 3).

Facilities that meet the criteria for reporting must submit one report for each listed toxic chemical manufactured, processed, or otherwise used above threshold quantities. Facilities must submit these reports to DNREC and EPA by July 1 of each year. The reports cover activities during the previous calendar year. It is important to note that a facility may need to report even if it has no releases of the toxic chemical, because reporting is based on the amount manufactured, processed, or otherwise used, and not the amount released.

**TABLE 1
COVERED INDUSTRIES**

SIC CODES	INDUSTRY
10XX	Metal Mining
12XX	Coal Mining
20-39XX	Manufacturing
4911	Oil and Coal Fired
4931	Electric Utilities
4939	
4953	Facilities Regulated Under RCRA Subtitle C
5169	Wholesale Chemical Distributors
5171	Wholesale Petroleum Stations and Terminals
7389	Solvent Recovery Services
	Federal Facilities

Table 1 provides a list of covered industries along with corresponding 4-digit Standard Industrial Classification (SIC) codes. SIC codes are used to identify the type of activities performed at a facility. Each industry sector represented by facilities reporting in Delaware for 2001 is described in Table 5 on page 10.

The standard report (Form R) contains general facility information and data about on-site releases, off-site transfers, and on-site waste management activities. In lieu of Form R, the short form (Form A) may be used, provided certain criteria are met. After a facility determines that it must report on a given chemical, the facility is eligible to use Form A for that chemical if:

1. The sum of the annual releases, transfers, and wastes managed on-site (known as the "reportable amount") does not exceed 500 pounds, and,
2. The total annual amount of the chemical manufactured, processed, or otherwise used does not exceed 1,000,000 pounds.

Form A, initiated in the 1997 reporting year, is a two-page report that provides facility information (essentially the same as Form R) and the identification of the chemical, but does not provide any release, transfer, or waste management data.

Recent Developments in TRI Reporting

The TRI reporting requirements change as EPA seeks to improve the program through changes to the list of reportable chemicals and through program expansions. As a result of these changes, considerable caution must be exercised when comparing TRI data from previous years. Some of the data presented later in this report will be adjusted for these changes in order to present the data on a more constant reporting basis from year to year. Notations will be made to indicate which data is presented with these adjustments.

Persistent, Bioaccumulative, Toxic (PBT) Chemicals

For reporting year 2000 and beyond, EPA established substantially lower reporting thresholds for 15 chemicals and three chemical categories that are highly persistent and bioaccumulative in the environment (PBT's). Five of these were newly added in 2000. The new thresholds apply regardless of whether the PBT chemical is manufactured, processed, or otherwise used. Table 2 provides a list of the PBT chemicals and their thresholds.

Beginning with reporting year 2001 and beyond, lead and lead compounds also have a reduced threshold of 100 pounds, down from the previous 25,000 pounds for manufactured and processed and 10,000 pounds otherwise used thresholds, except lead contained in stainless steel, brass, or bronze alloys.

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing. Exposure to lead can happen from breathing workplace air or dust, eating contaminated foods, or drinking contaminated water. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can damage the nervous system, kidneys, and reproductive system. Lead is listed as a possible carcinogen by the International Agency for Research on Cancer. Additional information on lead and lead compounds can be found starting on page 21 and on PBT's on page 31.

**TABLE 2
PBT CHEMICALS AND
REPORTING THRESHOLDS
(pounds/year)**

Chemical or Chemical Category	Threshold
Aldrin	100
Benzo[g,h,i]perylene	10
Chlordane	10
Dioxin and dioxin-like compounds	0.1 grams
Heptachlor	10
Hexachlorobenzene	10
Isodrin	10
Lead *	100
Lead compounds *	100
Mercury	10
Mercury compounds	10
Methoxychlor	100
Octachlorostyrene	10
Pendimethalin	100
Pentachlorobenzene	10
Polychlorinated biphenyls (PCB's)	10
Polycyclic aromatic compounds	100
Tetrabromobisphenol A	100
Toxaphene	10
Trifluralin	100

* Lower Threshold Beginning with 2001 Reports

Industry Expansion

On May 1, 1997, EPA added seven industries to the list of facilities covered under TRI. Prior to the 1998 reporting year, only manufacturers (SIC codes 20XX-39XX) and federal facilities were required to report (See Table 1 on page 2). EPA included the seven industries because facilities within these industries manufacture and use substantial quantities of TRI chemicals and engage in activities related to those conducted by manufacturing facilities. The industry expansion significantly increased the amount of reported releases. This did not necessarily represent an increase in toxic releases in Delaware, but rather additional information that was

made available to the public. Again, some of the data presented later in this report will be adjusted for these changes in order to present the data on a more constant reporting basis from year to year.

Chemical List Changes

The number of reportable chemicals substantially increased for the 1995 reporting year and beyond, including the addition of over 200 chemicals and six chemical categories. In response to the increased reporting burden on industry resulting from the chemical list expansion of 1995, EPA initiated the use of Form A described on page 2. The only recent significant deletion was phosphoric acid in 1999. It was reported by 11 facilities in 1998.

Carcinogenic TRI Chemicals

**TABLE 3
CARCINOGENS REPORTED BY
DELAWARE FACILITIES FOR 2001**

CHEMICAL	IARC RATING	NO. OF REPORTS
ACRYLONITRILE	2A	1
ASBESTOS (FRIABLE)	1	1
BENZENE	1	7
1,3-BUTADIENE	2A	2
CHLOROFORM	2B	1
CHROMIUM COMPOUNDS	1	7
COBALT COMPOUNDS	2B	2
DI(2-ETHYLHEXYL) PHTHALATE	2B	1
DICHLOROMETHANE	2B	1
1,3-DICHLOROPROPYLENE	2B	1
DIETHYL SULFATE	2A	1
ETHYL ACRYLATE	2B	2
ETHYLBENZENE	2B	5
ETHYLENE OXIDE	1	2
FORMALDEHYDE	2A	1
HEXACHLOROBENZENE	2B	1
LEAD	2B	6
LEAD COMPOUNDS	2B	15
4,4'-METHYLENEBIS(2-CHLOROANILINE)	2A	1
NICKEL	2B	1
NICKEL COMPOUNDS	1	7
NITROBENZENE	2B	1
P-CHLOROANILINE	2B	1
POLYCHLORINATED BIPHENYLS	2A	1
POLYCYCLIC AROMATIC COMPOUNDS	2A,B	13
PROPYLENE OXIDE	2B	1
STYRENE	2B	7
TETRACHLOROETHYLENE	2B	2
TOLUENE DIISOCYANATE (MIXED)	2B	2
TRICHLOROETHYLENE	2A	2
VINYL ACETATE	2B	2
VINYL CHLORIDE	1	2
TOTAL =		100

Some chemicals are reportable under TRI because they are either known or suspected human carcinogens. Known human carcinogens are those that have been shown to cause cancer in humans. Suspected carcinogens are those that have been shown to cause cancer in animals. Table 3 contains those known and suspected carcinogens that were reported by Delaware facilities for 2001. Next to each chemical is its International Agency for Research on Cancer (IARC) rating as a: Known (1), Probable (2A), or Possible (2B) carcinogen. Polycyclic aromatic compounds is a class of chemicals with chemicals in both 2A and 2B IARC classifications. Of the 8.3 million pounds of TRI chemicals reported by facilities as released on-site to the environment in 2001, 6.6% (550,000 pounds) were known or suspected carcinogens. Releases on-site of all carcinogens have decreased 17% this year and 35% since its peak in 1998. For additional information on cancer rates and causes, please go to the Public Health cancer web site listed in the "For Further Information" section on page 41. Additional carcinogen detail is presented in the Trend Analysis section on page 39.

Pollution Prevention/Reduction Programs in Delaware

The Delaware Pollution Prevention Program in the Department of Natural Resources and Environmental Control (DNREC) facilitates the implementation of pollution prevention by industry, government and society. The Pollution Prevention Program (P2 Program) serves a non-regulatory function to provide information, technical assistance, training, and leadership on issues related to reducing and eliminating our generation of wastes and pollutants. The early years of the P2 program concentrated on industry and its wastes. In recent years the program has assisted all aspects of Delaware's society, including expanded efforts to schools, environmental organizations, commercial and service businesses, and to state government itself.

Data for TRI reportable chemicals and other chemicals is becoming increasingly more available to the public. This public awareness has focused attention on the existence and quantity of these chemicals and on their management and possible reduction. Although EPCRA does not require a facility to reduce releases of chemicals reportable under its programs, many companies and facilities have implemented programs to reduce or eliminate releases of these chemicals. These programs may take the form of efficiency improvements, reuse, recycling, energy recovery, or material substitutions. The benefits of these programs are reduced raw material and waste disposal costs and reduced risks associated with the toxic chemicals. Also, these reductions demonstrate corporate responsibility to the facility neighbors, and improve the corporate image with the public.

There are numerous programs within DNREC that impact the management of TRI chemicals through the issuance of permits or through other regulatory and non-regulatory activities. Most releases reported under TRI are also regulated through air emission, water discharge, and/or land disposal permits. Potential sources of toxics undergo technical reviews through which potential threats to the environment and to human health are reviewed prior to issuance of a permit. For example, the Engineering and Compliance Branch in the Air Quality Management Section enforces a provision in the Clean Air Act Amendment of 1990 that targets the control of hazardous air pollutants (HAPs). Nearly all HAPs are also reportable TRI chemicals. Also, the Engineering and Compliance staff monitor TRI data to assess whether a facility is in compliance with its Air Permits for TRI chemicals. Another example is the work performed by the Accidental Release Prevention (ARP) program. The ARP staff uses the TRI data to detect possible deficiencies at a facility that might result in an increased probability of an accidental release.

The Solid and Hazardous Waste Management Branch uses the TRI report to measure reductions of releases for the Waste Minimization Priority Chemicals list. The list is a result of EPA's Waste Minimization Program and has measurable goals that Delaware is working to attain. The DNREC Pollution Prevention program offers Consultations to any generator of hazardous waste that requests it. The consultation is non-regulatory and non-enforcement in nature, aimed at helping the company to reduce any and all waste streams, including the priority chemicals.

During 2001 DNREC's Air Quality Management Section monitors ambient air quality at 10 locations around the state. For more information, please refer to the "For Further Information" section under the [2001 Delaware Air quality Report](#) on page 42 of this report.

Limitations of TRI Data

The user of TRI data should be aware of its limitations in order to accurately interpret its significance.

- **NOT ALL FACILITIES ARE REQUIRED TO REPORT.** Only a small fraction of facilities in Delaware are required to report under TRI due to the criteria listed on pages 1 and 2.
- **OTHER SOURCES NOT COVERED UNDER TRI ALSO RELEASE TOXIC CHEMICALS.** Other sources include small businesses, motor vehicles, and agricultural operations, as examples. For some chemicals, their use as consumer products is a significant source of releases.
- **FACILITIES ARE ALLOWED TO BASE TRI DATA ON MEASUREMENTS AND MONITORING DATA IF THESE ARE AVAILABLE.** If such data is not available, quantities are estimated based on published emission factors, mass balance calculations, or good engineering judgment. Additional monitoring equipment and measurements are not required.
- **THE DATA ESTIMATION METHODS MAY CHANGE OR VARY.** The methods of estimating, analytical methodology, or basis of calculating data used by different facilities, or even the same facility over time, may vary, and may result in significant changes in reporting while the actual release may remain relatively unchanged. DNREC performs cross-checks of the data with other information sources to verify its accuracy, and contacts facilities concerning apparent discrepancies.
- **REVISIONS TO FORM R MAY OCCUR AT ANY TIME.** These revisions sometimes involve significant changes for data previously reported by a facility.
- **THIS DATA DOES NOT INDICATE AMOUNT OF HUMAN EXPOSURE.** An important consideration to keep in mind is that TRI does not provide an indication of potential exposure to the reported releases and cannot be used by itself to determine the impact on public health. The chemical's release rate, toxicity, and environmental fate, as well as local meteorology and the proximity of nearby communities to the release must be considered when assessing exposures. Small releases of highly toxic chemicals may pose greater risks than large releases of less toxic chemicals. The potential for exposure increases the longer the chemical remains unchanged in the environment. Some chemicals may quickly break down into less toxic forms, while others may accumulate in the environment, becoming a potential source of long term exposure. The chemical exposure of a population depends on the environmental media (air, water, land) into which the chemical is released. The media also affects the type of exposure possible, such as inhalation, dermal exposure, or ingestion.

Despite these limitations, TRI serves as a screening tool to identify areas of concern that may require further investigation.

2001 Data Summary

Statewide totals of reported 2001 TRI on-site releases, off-site transfers, and wastes managed on-site are provided in Table 4. A total of 80 facilities submitted 368 reports on 104 different chemicals. Of the 368 reports, 57 were submitted using form A. Six reports were received on lead and fifteen on lead compounds, compared to three and four, respectively last year. Both had their thresholds reduced to 100 pounds this year as noted on page 3. As in past years, air releases constitute a large portion, 81%, of the total on-site releases.

Types of Data

Table 4 lists all the categories of data reported in Delaware under the TRI program. Within the actual reports from facilities, the data is broken down into additional sub-categories. For ease of presentation in this report, the data has been grouped into these categories as described below.

On-Site Releases: There are four categories, but no **underground injection** of chemical waste to wells is permitted in Delaware. On-site releases in Delaware are to **air**, **water**, or **land**. The **air** release category includes stack air collected by mechanical means such as vents, ducts, or pipes, and fugitive air escaping collection and released into the general atmosphere, including equipment leaks and evaporation. **Water** releases are to streams or water bodies, including streams, rivers, lakes, bays, or oceans. This includes releases from contained sources, such as industrial process outflow or open trenches. Water releases include TRI-reportable chemicals in runoff, including storm water runoff, are also reportable. **Land** releases (5 types) are to RCRA landfills, in which wastes are buried, surface impoundments, which are uncovered holding areas used to volatilize and/or settle waste materials, other land disposal such as waste piles or releases to land such as spills or leaks, land application/treatment in which waste containing a listed chemical is applied to or incorporated into soil, and other non-RCRA landfill.

Off-Site Transfers: Off-site transfers include transfer of chemical waste to **POTW's** (Wastewater Treatment Plants), to **recycle** operations (5 types), to **energy recovery** operations (2 types), to **treatment** operations (6 types), and to **disposal** (10 types), to facilities not at the facility generating the waste. This total of 23 sub-categories is provided for the purpose of classifying the types of final off-site waste management undertaken for each chemical.

On-site waste Management: Waste management operations at the facility generating the waste are categorized to include **recycle**, **energy recovery**, and **treatment**. These are as described above in Off-Site Transfers.

**TABLE 4
2001 TRI DATA SUMMARY
(IN POUNDS)**

	2001
No. of facilities	80
No of Form A's	57
No of Form R's	311
No. of Chemicals	104
On-site Releases	
Air	6,766,580
Water	573,937
Land	965,666
Total Releases	8,306,183
Off-site Transfers	
POTW's	1,697,026
Recycle	8,725,054
Energy Recovery	2,642,626
Treatment	172,946
Disposal	3,877,093
Total Transfers	17,114,745
On-site Waste Mgmt.	
Recycle	24,133,870
Energy Recovery	25,863,740
Treatment	40,675,792
Total on-site Mgmt.	90,673,402
Total Waste	116,094,330

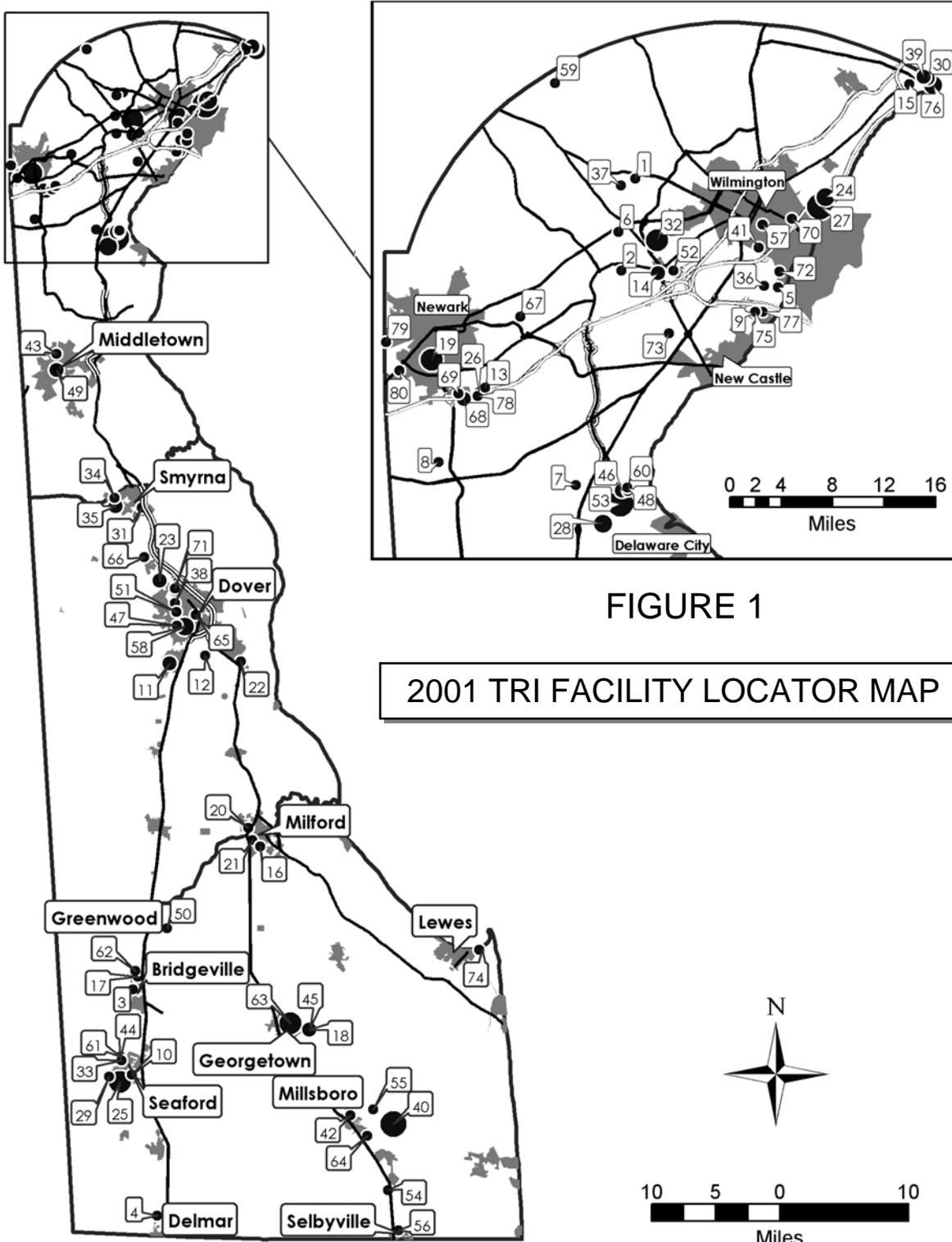


FIGURE 1
2001 TRI FACILITY LOCATOR MAP

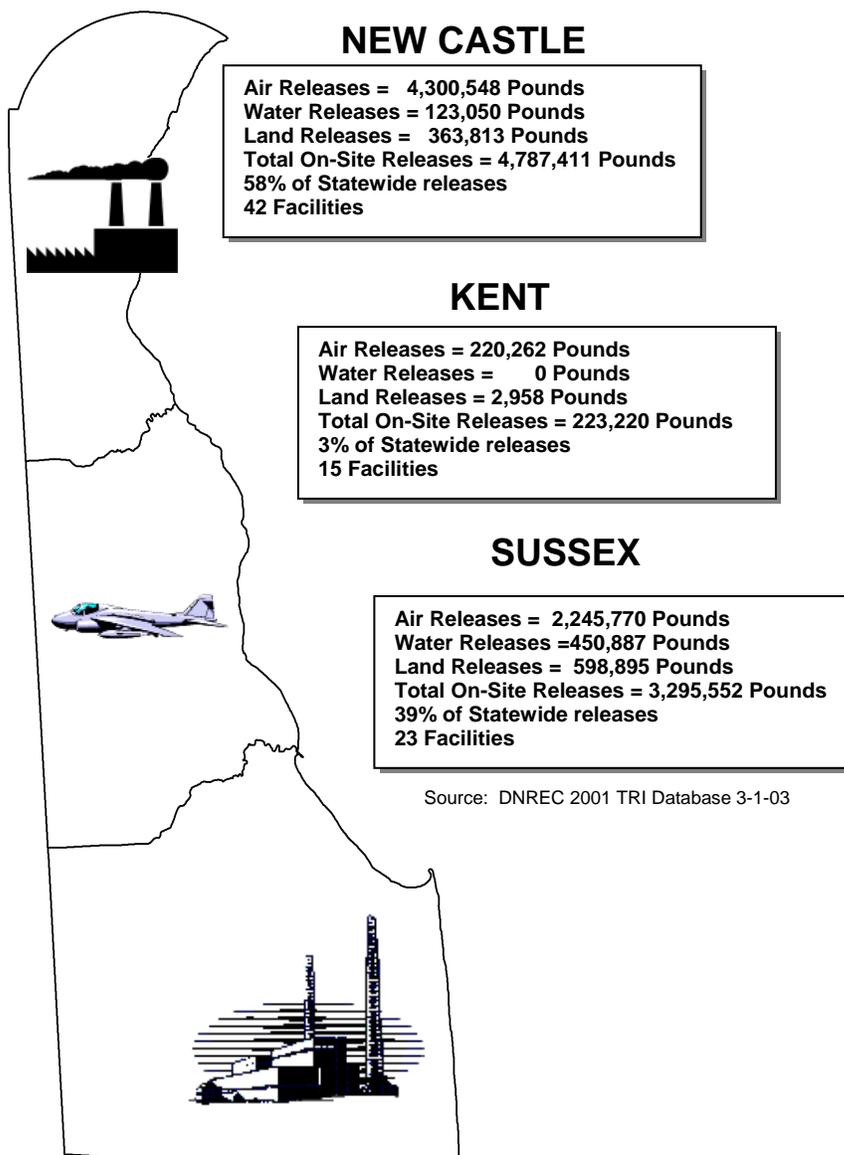
FIGURE 1 MAP KEY

MAP ID	FACILITY
1	AGILENT TECHNOLOGIES LITTLE FALLS
2	AGILENT TECHNOLOGIES NEWPORT
3	AGRILINK FOODS
4	ALLEN'S HATCHERY
5	AMERICAN MINERALS
6	AMETEK
7	ARLON
8	ASTROPOWER
9	AVECIA
10	BLADES BULK PLANT
11	CAMDEL METALS
12	CARL KING
13	CHROME DEPOSIT
14	CIBA SPECIALTY CHEMICALS
15	CITISTEEL
16	CLARIANT
17	CUSTOM DECORATIVE MOLDINGS
18	D & B INDUSTRIAL GROUP
19	DAIMLER CHRYSLER
20	DENTSPLY CAULK MAIN
21	DENTSPLY CAULK WEST
22	DOVER AFB SMALL ARMS RANGE
23	DOW REICHHOLD
24	DU PONT EDGE MOOR
25	DU PONT SEAFORD
26	E-A-R SPECIALTY COMPOSITES
27	EDGE MOOR/HAY RD. POWER PLT.
28	FORMOSA PLASTICS
29	GAC SEAFORD
30	GENERAL CHEMICAL
31	GENERAL CLOTHING
32	GENERAL MOTORS
33	GREEN TREE CHEMICAL
34	HALKO MANUFACTURING
35	HANOVER FOODS
36	HARDCORE COMPOSITES
37	HERCULES RESEARCH CENTER
38	HIRSH INDUSTRIES
39	HONEYWELL
40	INDIAN RIVER POWER PLANT
41	INSTEEL WIRE
42	INTERVET
43	JOHNSON CONTROLS
44	JOHNSON POLYMER
45	JUSTIN TANKS
46	KANEKA
47	KRAFT FOODS
48	KUEHNE CHEMICAL
49	MACDERMID
50	MARBLE WORKS
51	MCKEE RUN POWER PLANT
52	MEDAL
53	MOTIVA
54	MOUNTAIRE FARMS FEEDMILL
55	MOUNTAIRE FARMS OF DELAWARE
56	MOUNTAIRE FARMS OF DELMARVA
57	NORAMCO
58	NRG DOVER
59	NVF YORKLYN
60	OCCIDENTAL CHEMICAL
61	ORIENT
62	PERDUE BRIDGEVILLE
63	PERDUE GEORGETOWN
64	PINNACLE FOODS
65	PLAYTEX PRODUCTS
66	PPG DOVER
67	PPG INDUSTRIES
68	RODEL
69	RODEL TECH CENTER
70	ROLLER SERVICE
71	SERVICE ENERGY DOVER
72	SICO #360
73	SPATZ FIBERGLASS
74	SPI PHARMA
75	SPI POLYOLS, INC.
76	SUNOCO
77	UNIQEMA
78	VP RACING FUELS
79	W.L. GORE BARKSDALE
80	W.L. GORE OTTS CHAPEL

Figure 1 on the facing page provides the location of each reporting facility in the state. The size of the facility location depicts the relative size of its on-site release relative to other facilities in the state. The facility location, telephone number, and contact person is provided in Appendix B. Figure 2 below provides basic on-site release information for each county.

FIGURE 2

ON-SITE RELEASES BY COUNTY



Source: DNREC 2001 TRI Database 3-1-03

SIC Industry Groups

Table 5 provides a description of each Standard Industrial Classification (SIC) industry group and the number of facilities in each group that reported in Delaware. This table also provides on-site releases, off-site transfers, and wastes managed on-site for each group. All three power plants (SIC 4911) reporting in Delaware combust coal. The one reporting metal mining facility, American Minerals, processes metal ores that they receive by railcar. The 14 new facilities reporting lead and lead compounds at the lower threshold the first time this year are from industry codes 22, 28, 29, 33, 34, 36, 37, 38, and 49. Reporting year 2000 included seven facilities in industry codes 10, 28, 33, 34, 36, and 37, and these facilities continue to report lead and lead compounds.

TABLE 5
2001 TRI DATA BY PRIMARY SIC GROUP
 (in pounds)

SIC CODE	INDUSTRY GROUP	NUMBER OF REPORTS	NUMBER OF FACILITIES	FORM A	FORM R	ON-SITE RELEASE	OFF SITE TRANSFERS	ON-SITE WASTE MGMT.
10	Metal Mining	4	1		4	1,396	0	0
20	Food Products	24	10	12	12	347,828	11,453	20,760
22	Textiles	8	2	1	7	34,397	833,833	3,397,596
25	Furniture and Fixtures	1	1		1	12,714	0	0
26	Paper Products	1	1		1	2,252	9,594	4,594,952
28	Chemicals	127	23	10	117	1,011,998	7,958,817	36,056,233
29	Petroleum Refining and Products	56	4	6	50	1,769,234	266,135	30,906,722
30	Rubber and Plastics	18	13	2	16	77,833	104,617	1,856,870
32	Stone, Clay and Glass	1	1		1	0	250	0
33	Primary Metal	14	5		14	20,781	2,469,787	13,100,000
34	Fabricated Metal Products	2	1		2	0	10,891	2,000
36	Electrical Equipment	3	2		3	178	4,316,967	0
37	Transportation Equipment	33	3		33	728,114	821,898	124,884
38	Instruments, Medical Goods	8	3		8	1,203	59,357	350
39	Miscellaneous Manufacturing	1	1		1	2,282	0	0
4911	Oil and Coal Fired Power Plants	40	4		40	4,293,016	251,146	613,035
5171	Wholesale Petroleum Terminals	26	4	26	0	0	0	0
97	National Security	1	1		1	2,958	0	0
TOTAL		368	80	57	311	8,306,183	17,114,745	90,673,402

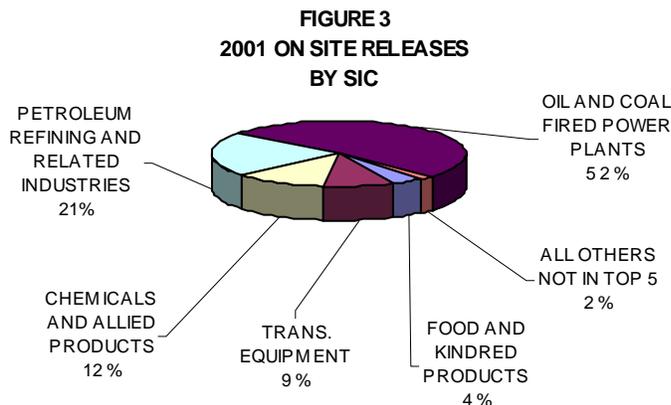
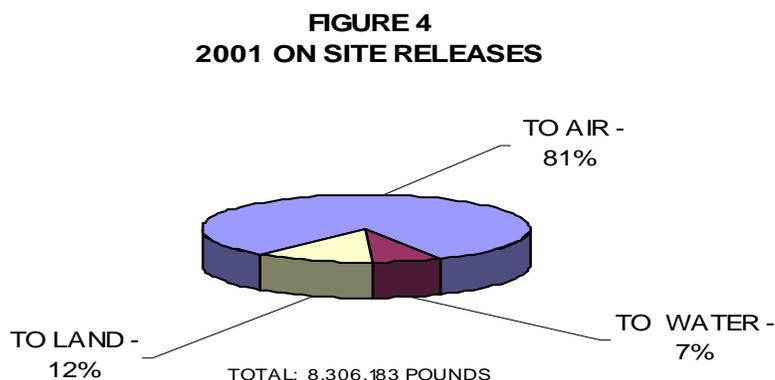


Figure 3 shows the relative contribution of each of the top 5 SIC groups to the total on-site releases and all others not in the top 5. SIC groups 4911 (Oil and Coal Fired Power plants), 29 (Petroleum refining), and 28 (Chemicals) combine for 85% of the total on-site releases within the state. Facilities not in the top 5 industry groups contributed 155,993 on-site pounds, or 1.9% of the total.

On- Site Releases

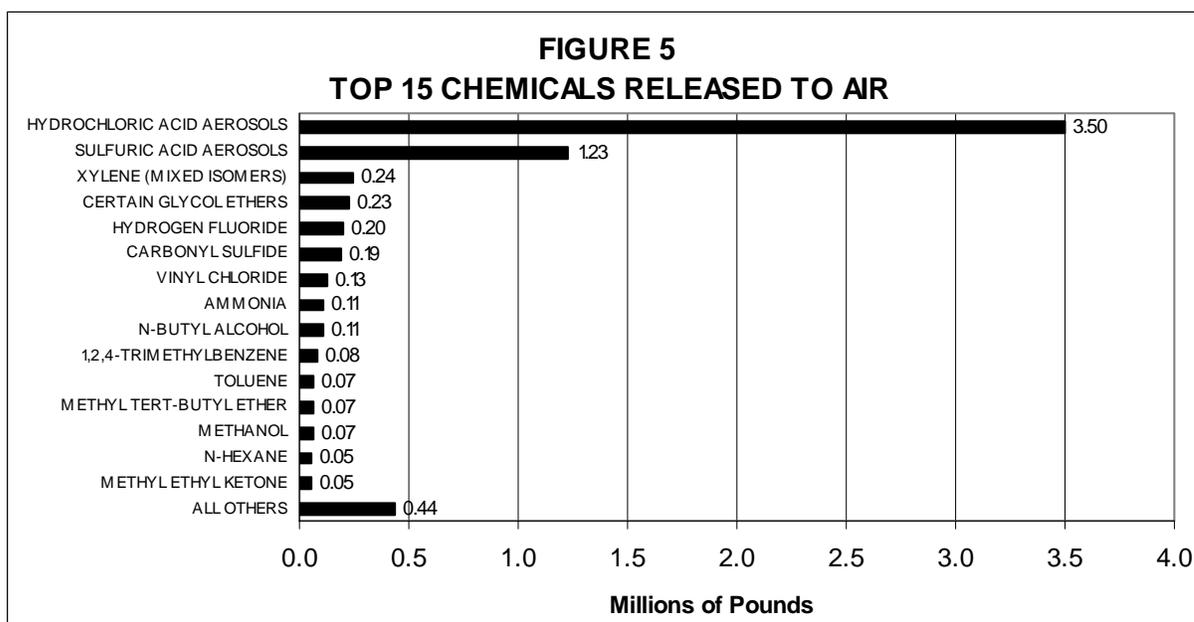
On-site releases are emissions from a facility to the environment as a result of normal operations or accidents, including emissions to the air, discharges to surface water, disposal onto or into the ground, and underground injection. Although underground injection is an approved method for disposal in some states, it not an approved method of hazardous waste disposal in Delaware, and thus has not been reported by any facility in Delaware since reporting began.

Figure 4 shows the on-site releases reported in the state. A large portion, eighty one percent, of the total on-site release is to air. Further analysis of the on-site releases is presented in Figures 5, 6, and 7 below, showing the top 15 chemicals and their releases to air, water, and land.



Releases to Air

Figure 5 provides an illustration of the relative release of the top 15 chemicals compared to all other 89 chemicals reported as released in 2001 to the air. As in all the years following the inclusion of power generating facilities, acid gasses top the list. Specifically, hydrochloric and



sulfuric acid aerosols (gasses) and hydrogen fluoride are released from power generating facilities located in all three counties. These three chemicals comprise 73% of statewide air releases. Xylene, which was reported by 10 facilities and represents 4% of all on-site releases to air, is primarily used as a solvent in paints for the automobile manufacturing industry. The two automobile manufacturing facilities in Delaware accounted for 88% of the xylene air releases. A similar condition exists for certain glycol ethers, where the automotive manufacturing industry accounted for over 94% of the releases from eight reporting facilities.

Releases to Water

TABLE 6
RELEASES TO WATER BY WATERSHED

WATERSHED	NO. OF FACILITIES	NO. OF REPORTS*	RELEASE (IN POUNDS)
DELAWARE RIVER	7	49	120,404
INDIAN RIVER	1	1	2,900
LITTLE MILL CREEK	1	1	360
NAAMANS CREEK	1	6	34
NANTICOKE RIVER	1	2	136,338
RED CLAY CREEK	1	1	2,252
SAVANNAH DITCH	1	1	310,000
SWAN CREEK	1	1	1,649
STATE TOTAL	14	62	573,937

* Showing an amount released

primarily reported by Perdue Georgetown and DuPont Seaford. The influence of the nitrate and manganese compounds can be seen in the releases to the Savannah Ditch (Perdue Georgetown), Nanticoke River (DuPont Seaford) and to the Delaware River (DuPont Edge Moor, Edge Moor/Hay Road Power Plant). DuPont Edge Moor reported 60% of the total manganese release to water with 34,499 pounds followed by the Edge Moor/Hay Road power plant, with 36%, or 20,559 pounds. Manganese compounds are formed as a result of ore refining and from impurities in coal used in the power generating facilities.

Not every report shows a release to its listed watershed. For example, of the 68 reports listing the Delaware River as their destination watershed, only 49 reports show an actual release quantity to the Delaware River. The other 19 met the reporting requirements listed on page 1

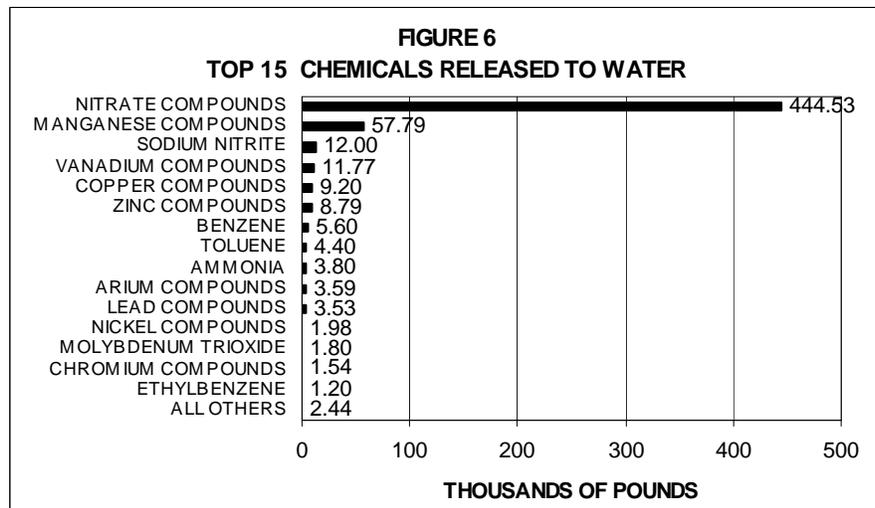
and may have released chemicals to other media, but did not report any amounts released to the Delaware River.

TABLE 7
RELEASES TO WATER BY BASIN

BASIN	RELEASE (IN POUNDS)
CHESAPEAKE	136,338
DE BAY	357,549
INLAND BAYS	4,549
PIEDMONT	75,501
STATE TOTAL	573,937

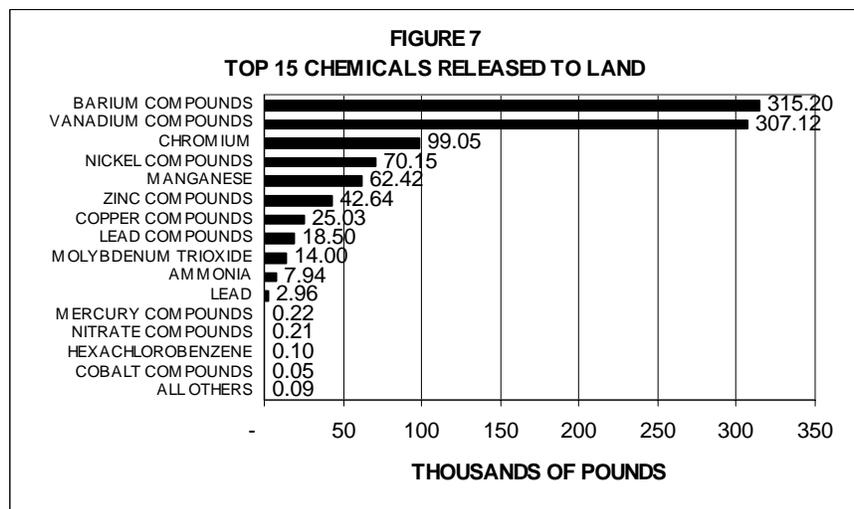
Table 7 provides the total amount of TRI chemicals released to each basin in the state of Delaware. The Piedmont Basin contains lands that drain into the portion of the Delaware River above New Castle, and the Inland bays include lands that drain into the Indian River Bay/Rehoboth Bay area. All the watersheds except the Nanticoke and Indian Rivers and Swan Creek eventually feed into the Delaware Bay.

Figure 6 shows the relative relationship of the top 15 TRI chemicals and all other chemicals reported as released to water. This clearly shows the influence that nitrate and manganese compounds have on the total.



Releases to Land

Land releases, as shown in Figure 4 on page 11, are relatively small, comprising 12% of the total on-site releases. Figure 7 shows the relative contribution of the top 15 chemicals reported as being released to land. Nearly all the land releases are metals and metal compounds except for the small quantities of hexachlorobenzene and ammonia.



Most of the metals and metal compounds being reported are formed during the combustion process from metal impurities that exist in coal or crude oil. Barium and vanadium compounds comprise 64% of the total land releases. Land releases, generally the metallic compounds shown above, by the Indian River power plant and Motiva facilities account for 96% of the total land releases.

RELEASES FROM THE TOP 15 FACILITIES

**FIGURE 8
2001 ON SITE RELEASES
TOP 15 FACILITIES**

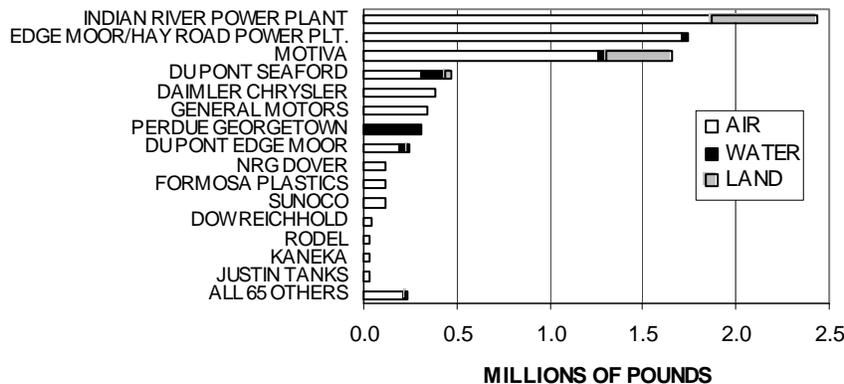


Figure 8 shows the relative contribution of each of the top 15 reporting facilities to on-site releases. The top 4 facilities are, or have as a significant portion of their facility, an energy generating operation. Of the 8,306,183 pounds released statewide by 80 facilities, the top 15 facilities accounted for 8,071,849 pounds, over 97% of the total on-site releases.

**TABLE 8
TOP 15 FACILITIES 2000 AND 2001 RANKING BY ON SITE RELEASE
(in pounds)**

2001 RANK	2000 RANK	FACILITY	2001			2001 TOTAL ON-SITE RELEASE	2000 TOTAL ON-SITE RELEASE	2000 TO 2001 CHANGE IN RELEASES
			TOTAL AIR	TOTAL WATER	TOTAL LAND			
1	1	INDIAN RIVER POWER PLANT	1,866,048	2,900	564,677	2,433,625	3,041,931	-20%
2	2	EDGE MOOR/HAY ROAD POWER PLT.	1,705,945	34,426	0	1,740,371	1,868,578	-7%
3	3	MOTIVA	1,256,410	47,528	351,170	1,655,108	1,755,756	-6%
4	4	DU PONT SEAFORD	306,281	136,338	26,071	468,690	801,279	-42%
5	5	DAIMLER CHRYSLER	384,450	0	0	384,450	483,604	-21%
6	7	GENERAL MOTORS	343,304	360	0	343,664	278,115	24%
7	6	PERDUE GEORGETOWN	0	310,000	210	310,210	327,018	-5%
8	8	DU PONT EDGE MOOR	195,808	37,153	12,033	244,994	228,588	7%
9	9	NRG DOVER	119,019	0	0	119,019	152,979	-22%
10	10	FORMOSA PLASTICS	116,616	0	0	116,616	134,526	-13%
11	17	SUNOCO	114,124	0	0	114,124	34,270	233%
12	13	DOW REICHOLD	43,565	0	0	43,565	39,611	10%
13	14	RODEL	33,867	0	0	33,867	37,426	-10%
14	15	KANEKA	32,428	1	0	32,429	35,450	-9%
15	16	JUSTIN TANKS	31,117	0	0	31,117	34,512	-10%
		ALL OTHERS IN STATE	217,598	5,231	11,505	234,334	556,308	-58%
TOP 15 STATE TOTALS			6,548,982	568,706	954,161	8,071,849	9,253,643	-13%
			6,766,580	573,937	965,666	8,306,183	9,809,951	-15%

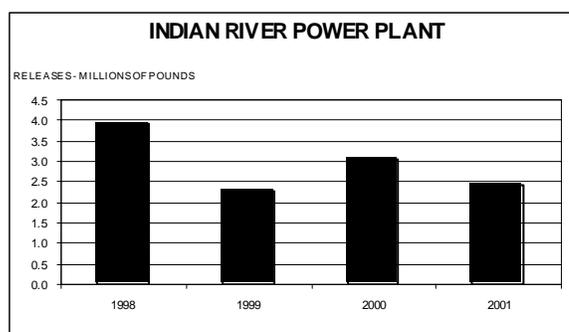
Source: 2001 DNREC TRI Database March 1, 2003

Table 8 shows the ranking of the top 15 facilities along with their 2000 ranking and the values of on-site releases for both years. The percent change in total on-site release from 2000 to 2001 is also shown. Releases to the environment as a result of remedial actions, accidents, or catastrophic events, or one-time events are not shown here, as these releases are generally not associated with changes in production. Changes in production may or may not affect releases from a facility due to other changes at the facility, such as changes in raw materials or processing methods, placing an idle process or equipment back into operation, or installation of new/improved production equipment possibly used to limit or eliminate releases of all or specific chemicals. Interested individuals are encouraged to contact facilities and inquire as to the reasons why changes occurred.

A brief description of each of the top 15 facilities is presented on the next several pages to provide an understanding of the use and importance of some of the TRI chemicals and basic operations at these facilities. The facility description describes the types of products manufactured at the facility and how their TRI chemicals relate to the products and the overall plant operation. The graph included with the facility description shows the trend of the facility total on-site releases since 1998, the date of the last major TRI reporting revision. Reporting revisions that have occurred since 1998 include the changes in reporting as described starting on page 3 with the threshold reductions for Persistent, Bioaccumulative Toxics (PBT's) and industry expansion. All newly reportable chemicals within this time period have been included. Please note that the scales on the graphs may be different, so comparisons must be made carefully. A complete list of 2001 release data grouped by facility and chemical is provided in Appendix C. Again, please contact a facility for additional details or to inquire about any changes in trends or unusual events.

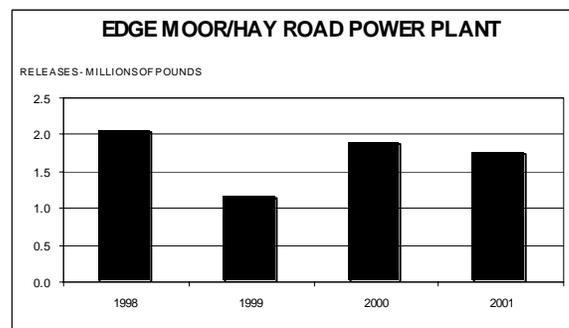
Rank #1 – NRG Indian River Power Plant - Oil- and coal-fired power plants were required to report under TRI for the first time for 1998. This facility, located near Millsboro, produces electricity, primarily from the combustion of coal.

The Indian River Plant reported on sixteen TRI chemicals for 2001. Nine of these were metal compounds, three were non-metallic PBT's, one was ammonia, and the remaining three were acid gases. All compounds except ammonia are formed during the combustion process as a result of impurities within the coal. Acid gas emissions - hydrochloric acid, hydrogen fluoride, and sulfuric acid - accounted for 76% of their on-site releases. The metal compounds are largely captured in the fly ash and bottom ash and sent to an on-site landfill. This accounted for 23% of their on-site releases. The facility had smaller amounts of copper compounds released to the Indian River, and the remainder of the on-site releases was ammonia and the non-metallic PBT's. On-site releases have decreased 38% since 1998.



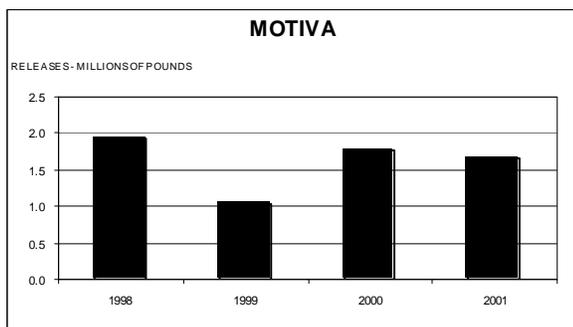
Rank #2 - Edge Moor/Hay Road Power Plant - Oil- and coal-fired power plants were required to report under TRI for the first time for 1998. This facility, located along the Delaware River a mile north of the Port of Wilmington, produces electricity from the combustion of coal, oil, and natural gas.

The Edge Moor Plant reported on sixteen TRI chemicals for 2001. This facility reported three acid gasses, nine metal compounds, three non-metallic PBT's, and ammonia. Acid gas emissions -- hydrochloric acid, hydrogen fluoride and sulfuric acid -- accounted for 95% of on-site releases. Releases of hydrochloric acid and hydrogen fluoride decreased from 2000, and sulfuric acid increased due to



changes in the amounts of oil and coal used. Ammonia is released in the power production process solely from the use of urea, a pollution control agent used for limiting the formation of oxides of nitrogen to the atmosphere. All listed compounds except ammonia are formed during the combustion process as a result of impurities within the fuel. Two-thirds of the metal compounds are largely captured in the fly ash and bottom ash. Generally, 100 percent of the captured ash is beneficially reused. It is used, for example, as an additive in concrete, as landfill stabilizer, as flowable fill in construction projects and as a base for road construction. The remaining third of ash not captured is equally released to air and water, accounting for 4% of their on-site releases.

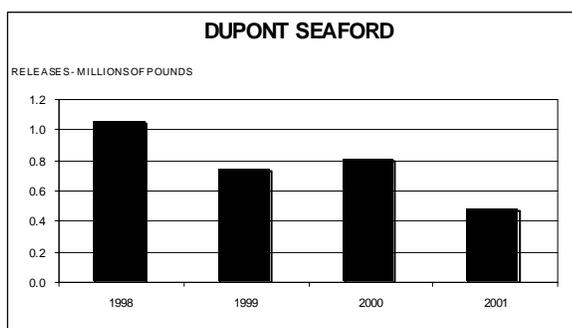
Rank #3 - Motiva Enterprises - The Motiva Refinery, located in the Delaware City industrial complex, refines crude oil into automobile gasoline, home heating oil, and a variety of other petroleum products. The facility, previously known as Star Enterprise, changed ownership to Motiva Enterprises on July 1, 1998. Motiva Enterprises, as of February 13, 2002, became a U.S. joint venture between Shell Oil Company and Saudi Refining, Inc.



Motiva reported on 43 TRI chemicals for 2001. Sulfuric acid and hydrochloric acid gas emissions accounted for over 60% of Motiva's on-site releases. Sulfuric and hydrochloric acids are formed as acid gasses in several units at the facility, including the Fluid Coker, Fluid Cat Cracker, and the on-site power plant that combusts oil and gas. Reported sulfuric and hydrochloric acid aerosol emissions increased substantially in 2001 from 2000 and 1999 levels due to a one-time catastrophic

event in 2001 involving a sulfuric acid tank explosion and fire, and improved estimating techniques for hydrochloric acid. These increases were offset by several other decreases, particularly that MTBE releases to air were reduced by 75% in 2001 after an unusual event in 2000 involving cleaning a storage tank.

Rank #4 - DuPont Seaford - This facility was the first plant worldwide to produce spun nylon fibers, beginning operations in 1939. The spun nylon is used in the apparel industry, in carpeting, and other fabrics applications. The facility also produces nylon flake for export.

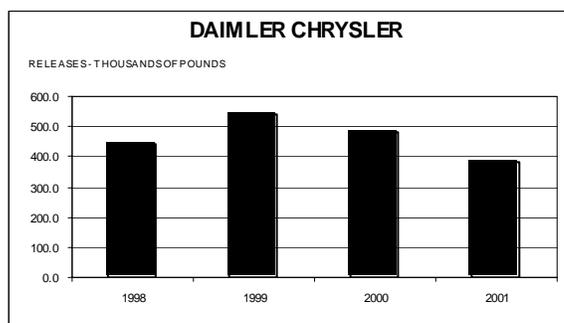


DuPont Seaford reported on twelve TRI chemicals for 2001. Almost 90% of their on-site releases were of three chemicals; hydrochloric and sulfuric acids to air and nitrate compounds to water. The acids are not directly used in the production of nylon, but rather are produced as results of the facility's support operations. Gaseous hydrochloric and sulfuric acids are released from the combustion of coal in their power plant. The coal contains small amounts of chlorine- and sulfur-containing compounds that, through the combustion

process, convert to acid gases. Nitrate compounds are formed as a by-product of their on-site wastewater treatment plant. This facility has reduced its on-site releases by 50% since 1998.

Rank #5 - Daimler Chrysler Newark Assembly Plant - Daimler Chrysler assembles the Dodge Durango SUV for distribution to dealers.

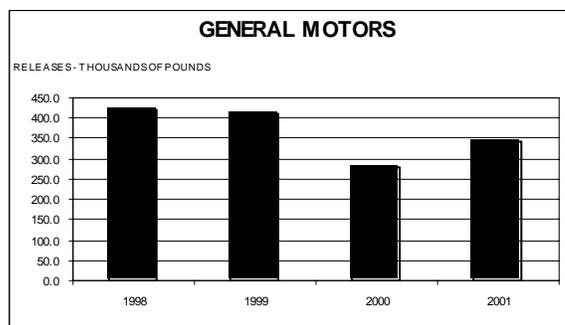
Daimler Chrysler reported on eighteen TRI chemicals for 2001. All on-site releases were to the air. Many of these are solvents used in paints or for parts cleaning, while others are materials that are incorporated into the cars themselves, such as ethylene glycol (antifreeze) and methyl tert-butyl ether (gasoline additive). The vehicle body coating process makes use of certain glycol ethers, 1,2,4-trimethylbenzene, methyl isobutyl ketone, n-butyl alcohol, and xylene. These materials are also used elsewhere in the plant. In total they account for approximately 93% of the Daimler Chrysler on-site releases for 2001.



This facility has reduced its emissions of on-site TRI reportable chemicals by nearly 30% since the 1999 reporting year, and has implemented reductions in off-site transfers and on-site waste management volumes as well.

Rank #6 - General Motors Wilmington Assembly Plant - General Motors assembles Saturn automobiles for distribution to dealers.

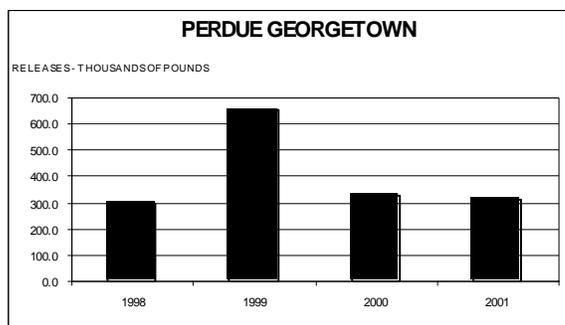
GM reported on fifteen TRI chemicals for 2001. Many of these are solvents used in paints or for parts cleaning, while others are materials that are incorporated into the cars themselves, such as ethylene glycol (antifreeze) in the radiator. Almost all on-site releases reported by GM were to the air. Xylene, 1,2,4-trimethylbenzene, and glycol ethers, paint solvents used in both the base and top coats, accounted for three quarters of their on-site releases for 2001.



Although this facility reported an increase in emissions of on-site TRI reportable chemicals in 2001, it has reduced its emissions of TRI chemicals by 17% since the 1999 reporting year while increasing production by 23 percent.

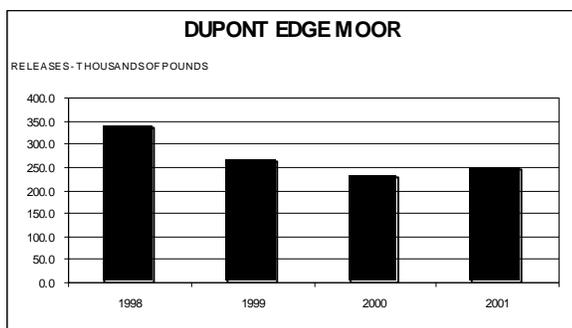
Rank #7- Perdue Farms - Perdue Farms is a producer of poultry products. This Georgetown facility processes chickens for sale to the retail market.

Perdue reported on two TRI chemicals for 2001. The majority of the releases were for nitrate compounds. Nitrate compounds are formed as a result of their waste treatment operations, where ammonia and production waste from the poultry processing plant's



wastewater is digested and converted to nitrates. Nitrate volume at Perdue's wastewater treatment plant peaked in 1999 when new government-mandated processing plant procedures dramatically increased the amount of water required to process chickens. However, over the past two years, improvements in the wastewater treatment plant have cut nitrate releases by more than 50 percent, bringing them close to pre-1999 levels despite higher volumes of wastewater.

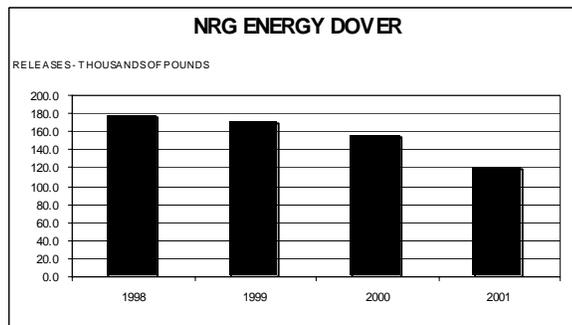
Rank #8 - DuPont Edge Moor - The Edge Moor Plant is one of four domestic DuPont facilities that manufactures titanium dioxide, a white pigment that is used in food-grade markets and in the paint, coatings, plastic, and paper industries. This facility exclusively serves the paper industry. The plant is located along the Delaware River a few miles north of the Port of Wilmington.



DuPont Edge Moor reported on twenty TRI chemicals for 2001. Carbonyl sulfide accounted for 78% of their on-site releases. Carbonyl sulfide is a by-product produced from the use of sulfur-bearing coke in the process of manufacturing the titanium dioxide from titanium-rich ores.

Also as a result of ore processing, dioxins and dioxin-like compounds are created, and well over 99% is contained within the solid material sent to an off-site landfill facility.

Rank #9 - NRG Dover Plant - Oil- and coal-fired power plants were required to report under TRI for the first time for 1998. This facility located on the West side of Dover produces electricity, primarily from the combustion of coal.

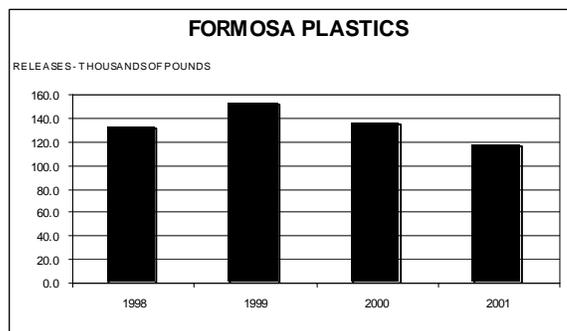


The NRG Dover Plant reported on six TRI chemicals for 2001. Two of these were acid gases formed during the combustion process. Acid gas emissions - hydrochloric acid and sulfuric acid - accounted for over 99% of their on-site releases. The metal compounds formed as a result of impurities in the coal are largely captured in the fly ash and bottom ash and sent to an off-site landfill.

Rank #10 - Formosa Plastics - Formosa Plastics, located in the Delaware City complex, produces polyvinyl chloride (PVC) resin for bulk sale to other industries that produce PVC based products, such as containers, flooring, carpet backing, upholstery, toys, and gloves.

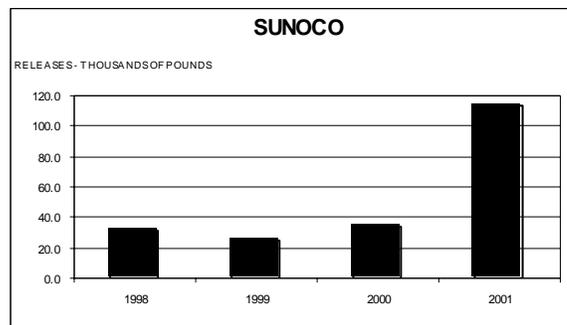
Formosa reported four TRI chemicals for 2001. Vinyl chloride monomer (VCM) accounted for 84% of their on-site releases. VCM is the primary ingredient for producing PVC and is released as residual unreacted monomer during the drying process of the PVC resin. Permits regulate the concentration of the residual monomer in the PVC before drying. Vinyl acetate

accounted for 10% of Formosa's on site releases. Vinyl acetate is also a raw material used in certain products and is released through the drying process. Ammonia accounted for 6% of Formosa's on site releases and again is used in several of Formosa's products and is released during the drying process. Formosa also reported a small amount of dioxin and dioxin-like compounds for both on-site releases and off-site transfers. Formosa Plastics also is currently investing funds in a process modification, which when complete should reduce vinyl chloride emissions significantly, although the site currently operates below permitted emission levels. Formosa has reduced on-site releases by 23% since 1999.



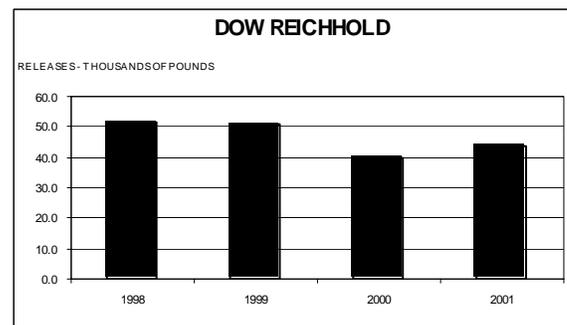
Rank #11 – Sunoco Refining and Marketing – Sunoco, located in Marcus Hook, PA extends its facility into the North Claymont area of Delaware. The Marcus Hook facility can process 175,000 barrels a day of crude oil into fuels – including gasoline, aviation fuel, kerosene, heating oil, residual fuel, propane and butane, and petrochemicals. The major petrochemicals are benzene, toluene, xylene, cyclohexane, propylene, ethylene, and ethylene oxide; these are sold to chemical companies, which use them to make a variety of other products.

The entire facility reported twenty-nine TRI chemicals. The portion of the facility in Delaware reported five TRI chemicals in 2001. Toluene, xylene, and ethylene account for 83% of the total Delaware releases. Xylene, benzene, and toluene were reported for the first time in Delaware in 2001 and were releases to air from tanks. Ethylene and ethylene oxide, reported for several years in Delaware, have not changed significantly.



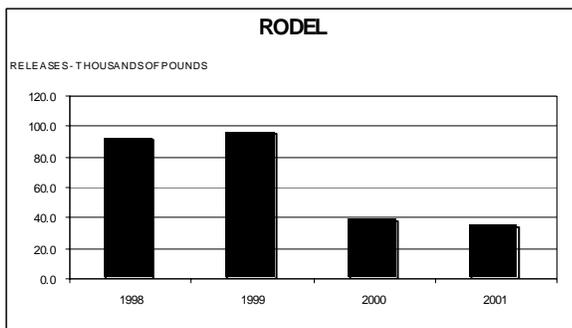
Rank #12 - Dow Reichhold – Reichhold is located two miles south of Cheswold. Reichhold produces emulsion polymers, sometimes referred to as latex. These products, which are sold in bulk liquid form, are used in the manufacture of paper, carpets, textiles, high performance gloves, coatings, and adhesives.

Reichhold reported on twelve TRI chemicals in 2001. Most of these are raw materials used to form the emulsion polymers. Residual monomers are processed in pollution control equipment that achieves 98.0-99.9% efficiency before being released to the air. Almost half of their on-site releases were attributable to 1,3-butadiene.



Metachem – Metachem, located in the Delaware city complex, was a producer of chlorinated benzene compounds. This facility closed in May, 2002 and failed to file a TRI report for 2001. Had this facility reported the same amounts released in 2001 as it reported in 2000, it would have ranked 12th. Metachem reported on 12 chemicals in 2000.

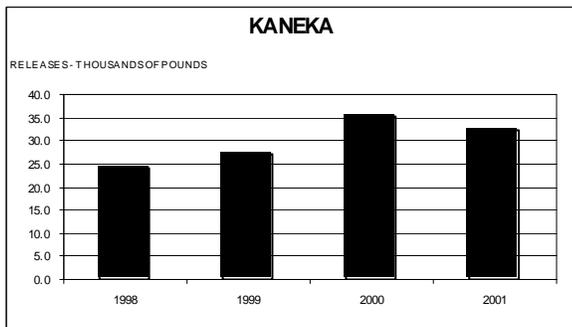
Rank #13 - Rodel - Rodel manufactures polishing pads and slurries for the semiconductor, electronics, and glass industries. Rodel is located south of Newark in the Diamond State Industrial Park.



Rodel reported on four TRI chemicals for 2001. N,N-Dimethylformamide (DMF), used as a solvent carrier in the polishing pad manufacturing process, accounted for 71% of their on-site releases. Releases of DMF mostly occur through evaporation from the poromerics coating and washing process. The majority of the DMF used is recycled in their distillation equipment for reuse in the process. The 2001 DMF release was 43% of the 1999 level. Methyl ethyl ketone (MEK) accounted for 29% of their on-site releases and is used as a

solvent carrier in the Impregnation Process. Releases are primarily stack emissions to air from the oxidizer used to control process emissions.

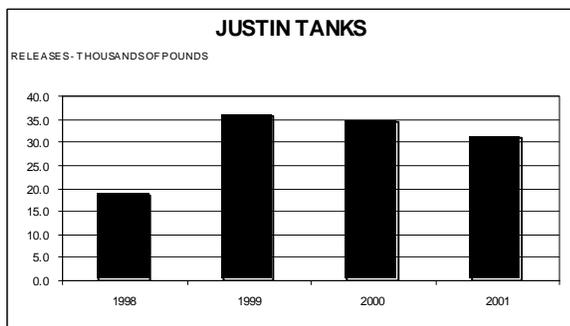
Rank #14 – Kaneka Delaware – Kaneka, located in the Delaware City complex, manufactures Poly Vinyl Chloride (PVC) powder for use in PVC based applications such as inflatable balls, covers, foam carper backing, and similar products.



Kaneka reported two TRI chemicals released in 2001; vinyl chloride and hydrochloric acid. Vinyl chloride represented 99% of the Kaneka on-site releases for 2001. Vinyl chloride was released during the drying operations, where unreacted residual vinyl chloride monomer was removed from the finished powder. Permits regulate the concentration of the residual vinyl

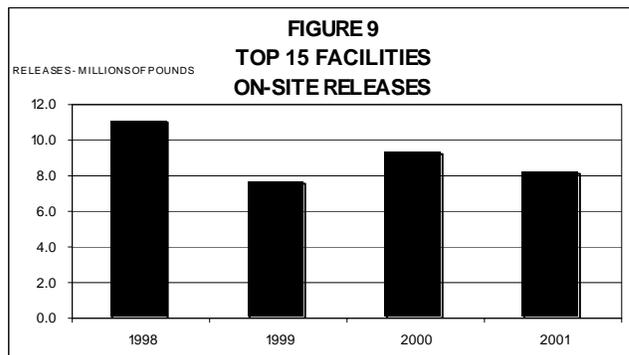
chloride monomer in the PVC before drying. Although down by 9% in 2001 and operating below permit limits, Kaneka's on-site releases increased by 34% since 1998.

Rank #15 - Justin Tanks – Justin tanks, located in Georgetown, manufactures a wide variety of Fiberglass Reinforced Plastic (FRP) tanks for use in the chemical, agricultural, and food industries.



Justin reported on one TRI chemical, styrene, for 2001. Styrene is used as a monomer in the polymerization of fiberglass resin. The majority of the styrene remains in the resin during the polymerization process, with a small amount being released to the air during the curing process.

Combined Top 15 Facilities Trend – Figure 9 shows the totals for on-site releases for the top 15 facilities representing over 97% of the total on-site releases. The trend is down 26% since 1998. No adjustments were made to exclude newly-reportable chemicals or facilities in this time period. Additional trends will be presented later in this report.



SPECIAL INTEREST CHEMICAL

Lead and Lead Compounds – The threshold for Lead and lead compounds was reduced to 100 pounds from the previous 25,000 pounds for manufactured and processed and 10,000 pounds otherwise used as noted on page 3. The EPA and others have recognized that lead and lead compounds represent a special hazard and moved to include more facilities in reporting of these PBT chemicals starting with the 2001 reporting year.

HIGHLIGHTS: Exposure to lead can happen from breathing workplace air or dust, eating contaminated foods, or drinking contaminated water. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can damage the nervous system, kidneys, and reproductive system.

What is Lead?

- Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust.
- Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

How is Lead Used?

- Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays.
- Because of health concerns, lead from gasoline, paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years.

What happens to lead when it enters the environment?

- Lead itself does not break down, but lead compounds are changed by sunlight, air, and water.
- When lead is released to the air, it may travel long distances before settling to the ground.
- Once lead falls onto soil, it usually sticks to soil particles.

- Movement of lead from soil into groundwater will depend on the type of lead compound and the characteristics of the soil.
- Much of the lead in inner-city soils comes from old houses painted with lead-based paint.

How might I be exposed to lead?

- Eating food or drinking water that contains lead.
- Spending time in areas where lead-based paints have been used and are deteriorating.
- Working in a job where lead is used.
- Using health-care products or folk remedies that contain lead.
- Engaging in certain hobbies in which lead is used (for example, stained glass).

How can lead affect my health?

- Lead can affect almost every organ and system in your body. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the reproductive system. The effects are the same whether it is breathed or swallowed.
- At high levels, lead may decrease reaction time, cause weakness in fingers, wrists, or ankles, and possibly affect the memory. Lead may cause anemia, a disorder of the blood. It can also damage the male reproductive system. The connection between these effects and exposure to low levels of lead is uncertain.

How likely is lead to cause cancer?

- The Department of Health and Human Services has determined that lead acetate and lead phosphate may reasonably be anticipated to be carcinogens based on studies in animals.
- There is inadequate evidence to clearly determine lead's carcinogenicity in people.

How does lead affect children?

- Small children can be exposed by eating lead-based paint chips, chewing on objects painted with lead-based paint or swallowing house dust or soil that contains lead.
- Children are more vulnerable to lead poisoning than adults. A child who swallows large amounts of lead may develop blood anemia, severe stomachache, muscle weakness, and brain damage. A large amount of lead might get into a child's body if the child ate small pieces of old paint that contained large amounts of lead. If a child swallows smaller amounts of lead, much less severe effects on blood and brain function may occur. Even at much lower levels of exposure, lead can affect a child's mental and physical growth.
- Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, and decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common if the mother or baby was exposed to high levels of lead.

How can families reduce the risk of exposure to lead?

- Avoid exposure to sources of lead.
- Do not allow children to chew or mouth painted surfaces that may have been painted with lead-based paint (homes built before 1978).
- Run your water for 15 to 30 seconds before drinking or cooking with it. This will get rid of lead that may have leached out of pipes.
- Some types of paints and pigments that are used as make-up or hair coloring contain lead.
- Keep these kinds of products away from children.
- Wash children's hands and faces often to remove lead dusts and soil, and regularly clean the house of dust and tracked in soil.

Is there a medical test to show whether I've been exposed to lead?

- A blood test is available to measure the amount of lead in your blood and to estimate the amount of your exposure to lead. Blood tests are commonly used to screen children for lead poisoning. Lead in teeth and bones can be measured with X-rays, but this test is not as readily available. Medical treatment may be necessary in children if the lead concentration in blood is higher than 45 micrograms per deciliter (0.1 liter), or (45 µg/dL).

Has the federal government made recommendations to protect human health?

- The Centers for Disease Control and Prevention (CDC) recommends that children ages 1 and 2 be screened for lead poisoning. Children who are 3 to 6 years old should be tested for lead if they have never been tested for lead before and if they receive services from public assistance programs; if they live in or regularly visit a building built before 1950; if they live in or visit a home built before 1978 that is being remodeled; or if they have a brother, sister, or playmate who has had lead poisoning. CDC considers children to have an elevated level of lead if the amount in the blood is 10 µg/dL.
- The EPA requires lead in air not to exceed 1.5 micrograms per cubic meter (1.5 µg/m³) averaged over 3 months. EPA limits lead in drinking water to 15 µg per liter.
- The Occupational Health and Safety Administration (OSHA) developed regulations for workers exposed to lead. The Clean Air Act Amendments of 1990 banned the sale of leaded gasoline. The Federal Hazardous Substance Act bans children's products that contain hazardous amounts of lead.

Source of Information for this Section

Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological profile for lead. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

Common Toxic Chemicals and their Hazards

The top 15 chemicals reported released to air, water, and/or land are presented here in descending order of amount released on-site (see Figures 5-7 on pages 11-13). This information is presented as a quick reference summary of information for these toxic chemicals. This is not a detailed source of information on the sources, uses, or hazards of these chemicals. This information was obtained from the DNREC Chemical Data Fact Sheets and the Hazardous Substance Fact Sheets provided by the New Jersey Department of Health and distributed by the EPA. The source for this information is listed in the For Further Information section in pages 41-42 of this report. The reader may also consult other chemical or toxicology reference materials to learn more about chemicals of interest. Excerpts for Nitrate Compounds came from EPA The National Nitrate Compliance Initiative, April 2002. Excerpts for metallic compounds came from EPA Risk Burn Guidance for Hazardous Waste Combustion Facilities.

AIR - From Figure 5 on page 11

Hydrochloric Acid: (Aerosol portion only is reportable)

Used in: Metal processing and cleaning, analytical chemistry, and making other chemicals.

Hazard: Corrosive. Can cause skin and eye burns, irritation of mouth, nose and throat.

Sulfuric Acid: (Aerosol portion only is reportable)

Used in: Fertilizers, chemicals, dyes, petroleum refining, etching, analytical chemistry, metal manufacturing, and explosives.

Hazard: Corrosive. Can cause skin and eye burns, irritation of mouth, nose and throat.

Xylene – Mixed Isomers

Used in: Solvents and in making drugs, dyes, insecticides, and gasoline.

Hazard: Can irritate the eyes, nose, and throat. Toxic by inhalation and ingestion. May cause memory and concentration problems. Repeated exposure may cause low blood cell count.

Certain Glycol Ethers

Used in: Solvents.

Hazard: Can irritate the eyes, nose, and throat and skin, toxic by inhalation and ingestion or skin absorption.

Hydrogen Fluoride

Used in: Etching glass, manufacturing chemicals and gasoline.

Hazard: Corrosive. Can cause severe irritation to the eyes, nose, and throat and skin, toxic by inhalation and ingestion or skin absorption.

Carbonyl Sulfide

Used in: Chemical manufacturing

Hazard: Can irritate the eyes, nose, and throat and skin, toxic by inhalation and ingestion or skin absorption. High exposure may cause nausea dizziness, confusion, vomiting, increased or irregular heartbeat.

Vinyl Chloride

Used in: Plastics and chemical manufacturing

Hazard: Carcinogen, mutagen. Toxic by inhalation and ingestion or skin absorption. May cause damage to developing fetus. May damage liver, kidneys, bones, blood vessels, and skin. Exposure may cause you to feel drowsy or lightheaded.

Ammonia

Used in: Refrigerant, in manufacturing fertilizer, plastics, dyes, and textiles.

Hazard: May irritate lungs, eyes, nose, throat, and mouth. Contact with liquid can burn skin.

N-Butyl Alcohol

Used in: Solvent for fats, resins, waxes, gums, shellac and varnish. Also used in manufacture of chemicals and oils.

Hazard: Toxic by inhalation and ingestion or skin absorption. May irritate and damage skin and eyes on contact. Breathing high concentrations can cause coughing, wheezing and shortness of breath, can cause headache, nausea, vomiting and dizziness, and may lead to an irregular heartbeat. Exposure can damage the liver, heart, kidneys, hearing and the sense of balance.

1,2,4,-Trimethylbenzene

Used in: Manufacture of dyes, pharmaceuticals.

Hazard: Toxic when inhaled and by skin contact. Can irritate the nose, throat and eyes. Contact can irritate the skin. Prolonged contact may cause skin burns. Repeated exposure may damage the liver and kidneys.

Toluene

Used in: Solvent for perfumes, medicines, dyes, explosives, detergents gasoline and chemicals.

Hazard: Toxic when inhaled, ingested, and by skin contact. It may damage the developing fetus. Contact can irritate the skin and eyes. Breathing toluene can irritate the nose and throat causing coughing and wheezing. Exposure can affect the nervous system causing trouble concentrating, headaches and slowed reflexes. Repeated Toluene exposure may cause liver, kidney and brain damage. Highly flammable and explosive.

Methyl Tert-Butyl Ether

Used in: Octane booster in gasoline, and gasoline extender.

Hazard: Highly flammable and can irritate the eyes, skin, nose, throat and lungs.

Methanol

Used in: Solvents, cleaners.

Hazard: Toxic when inhaled, ingested, or by skin contact. Exposure may cause blindness, nausea, headaches, vomiting, and dizziness. Flammable and a fire hazard.

N-Hexane

Used in: Chief constituent of petroleum ether, gasoline, and rubber solvents. Also used in solvents for adhesives, in organic analysis, and in denaturing alcohols.

Hazard: Toxic when inhaled, ingested, or by skin contact. Exposure can cause lightheadedness, giddiness, headaches and nausea. Flammable liquid and a fire hazard.

Methyl Ethyl Ketone

Used in: Solvents and in making plastics, textiles, and paints.

Hazard: Toxic by inhalation and ingestion. Exposure to the vapor can irritate the eyes, nose, mouth, and throat. Repeated exposure can damage the nervous system and may affect the brain. Flammable liquid and a fire hazard.

WATER – From Figure 6 on page 13 - Chemicals not reported in the Air section above

Nitrate & Nitrite Compounds

Nitrates are toxic chemicals that can pose serious risks to human health and the environment. High levels of nitrates may cause significant environmental damage to streams, lakes, and rivers. Elevated levels of nitrate may damage surface water and ground water with excess nutrients and can cause algae blooms in coastal waters, which can remove oxygen from the water and result in fish kills. The National Academy of Sciences recently reported that pollution by nitrogen and phosphorous were causing damage in most of the nation's coastal inlets, and severe problems were identified in 44 of the 139 coastal areas examined.

Manganese Compounds *

Used in: Dry-cell batteries, matches, fireworks, and the production of other manganese compounds, in animal feed, fertilizer, livestock nutritional supplement, in glazes and varnishes, and in ceramics, for water purification purposes in water and waste-treatment plants.

Hazard: Toxic when Inhaled.

Vanadium Compounds *

Used in: Steel alloys, other Vanadium compounds, x-ray equipment, sulfuric acid, and synthetic rubber.

Hazard: Toxic when inhaled. Can irritate skin, nose, throat and lungs

Copper and Copper Compounds *

Used in: Electrical wiring, plumbing, fungicides, pesticides, electroplating, paint pigments and catalysts.

Hazard: Toxic when inhaled. Can irritate the eyes, nose and throat. May cause a skin allergy. Repeated high exposure to copper can affect the liver.

Zinc and Zinc Compounds *

Used in: Rustproof coating on iron and steel, making brass alloys, car parts, electroplating, batteries, electrical products, paints, and fungicides.

Hazard: Zinc Oxide Fumes (released during welding on galvanized metal) are toxic when inhaled. Zinc dust is a skin irritant.

Benzene

Used in: Used to make other chemicals which are used to make plastics, resins, and nylon and synthetic fibers. Also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Benzene is also a natural part of crude oil, gasoline, and cigarette smoke.

Hazard: Benzene is a carcinogen. Toxic when inhaled or ingested. Exposure to high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness.

Barium and Barium Compounds *

Used in: Spark plugs and engine rod bearings, and to remove gas from vacuum tubes and television picture tubes.

Hazard: Toxic when inhaled, may irritate skin, eyes, nose and throat.

Lead and Lead Compounds *

Used in: Storage batteries, ammunition, cable covering, ceramic glazes, casting metals and solders.

Hazard: Toxic by ingestion. Can cause brain damage, particularly in children, suspected carcinogen. Additional detail starting on page 21.

Nickel and Nickel Compounds *

Used in: Alloys and electroplating, catalysts, dyes, and textile printing.

Hazard: Carcinogenic. Toxic by inhalation. Eye and skin irritant. Repeated exposure may cause scarring of the lungs and may affect the kidneys.

Molybdenum Trioxide *

Used in: Agriculture, making other Molybdenum compounds, ceramic glazes, enamels, pigments, and in analytical chemistry.

Hazard: Toxic when inhaled, may irritate the nose throat and bronchial tubes. Repeated overexposure may cause weight loss, diarrhea, poor muscle coordination, headaches, and muscle or joint pain.

Chromium Compounds *

Used in: Stainless and alloy steels, refractory products, tanning agents for leather, pigments, electroplating, catalysts, and corrosion-resistant products.

Hazard: Irritant and corrosive to human tissue, chromium compounds are carcinogens. Hexavalent compounds are more toxic than trivalent compounds.

* These metallic compounds are usually by-products produced from impurities in the fuel associated with coal or oil combustion and/or ore processing.

Ethylbenzene

Used in: Ethylbenzene is used primarily to make another chemical, styrene. Other uses include as a solvent, in fuels, and to make other chemicals.

Hazard: Toxic by inhalation, will irritate eyes, nose throat, and skin. Exposure may cause dizziness, lightheadedness, and breathing difficulty.

LAND – From figure 7 on page 13 - Chemicals not reported in the Air and/or Water sections above

Mercury and Mercury Compounds

Used in: Thermometers, barometers, vapor lamps, mirror coatings, and in making chemicals and electrical equipment.

Hazard: The nervous system is very sensitive to all forms of mercury. Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems.

Hexachlorobenzene

Used in: Currently, hexachlorobenzene is not used commercially in the United States. It does not occur naturally in the environment. It is formed as a by-product during the manufacture of other chemicals. Small amounts can also be produced during combustion of municipal waste.
 Hazard: Possible carcinogen. Toxic by ingestion, normally appears in solid form.

Cobalt Compounds *

Used in: Cobalt is used in steel alloys and jet engines, in nuclear technology, and in cemented carbide abrasives and tools. It is a component in vitamin B12
 Hazard: Possible carcinogen. Toxic by inhalation, is a skin irritant. Exposure can irritate the lungs and skin. Repeated exposure to the metal dust can cause scarring of the lungs. Normally appears as dust or solid form.

* These metallic compounds are usually by-products produced from impurities in the fuel associated with coal or oil combustion and/or ore processing.

Off-Site Transfers

Off-site transfers are material transfers to off site locations for the purpose of disposal, recycling, energy recovery, treatment or to publicly owned treatment works (POTW's), typically, wastewater treatment plants.

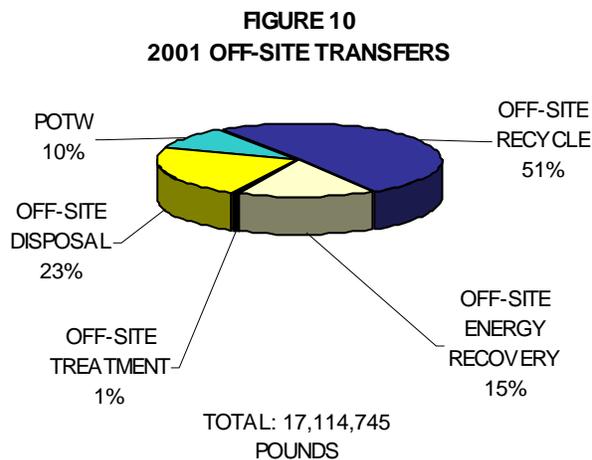
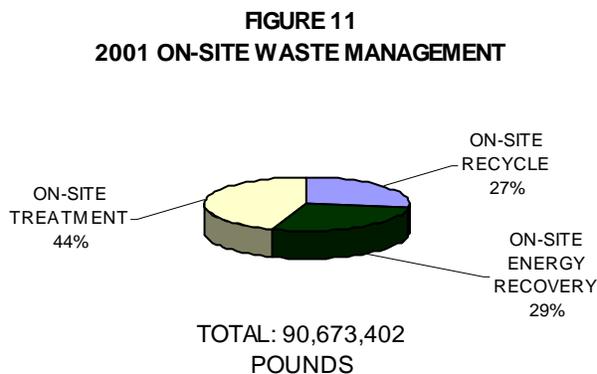


Figure 10 shows the relative portions transferred to the five off-site transfer categories, and Table 4 on page 7 shows these values in tabular form. Appendices D and G provide additional detail. TRI Chemicals in wastes are transported by various means through Delaware to their final destinations, many of which are out of state. TRI chemicals were sent to 22 states, some as far away as Arizona, Texas and Utah. About 84% of TRI chemicals in wastes were sent to an out of state location for further processing and/or disposal.

Off-site transfer to recycle operations accounted for more than half of the amounts in these five categories, and disposals accounted for almost another quarter of the transfers. Over 90 percent of the transfers to POTW's were to the City of Wilmington POTW. Note that the pounds recycled (Table 4 on page 7) is greater than all on-site releases, and the total amount transferred off-site is over 2 times the amount of on-site releases. Off-site transfers account for 15 percent of the total TRI wastes.

On-Site waste Management

On-Site Waste Management is the amount of wastes that never leave the facility site and are managed by the facility on-site. The total amount of TRI chemicals managed on-site is 78 percent of the total TRI chemical waste. The categories of **Recycle**, **Energy recovery**, and **Treatment** are used to define the on-site management of TRI chemical wastes. Figure 11 shows the portions of these wastes processed on-site. Appendices D and G provide additional detail about waste management of these chemicals. **Recycled waste** is the quantity of the toxic material recovered at the facility and made available for further use. **Energy Recovery** includes the quantity of toxic material that had heat value and was combusted in some form of energy recovery device such as a furnace. The **Waste Treatment** segment includes the amount of toxic material that was destroyed in on-site waste treatment operations.



Total Waste

Total waste is the combined total of the on-site release, off-site transfer, and on-site waste management portions of the TRI chemical report. Figure 12 provides a perspective of the total TRI chemical waste picture in Delaware. Over three quarters of the total TRI chemical wastes in Delaware are managed on-site through treatment, energy recovery, and recycle operations by the facility generating the waste.

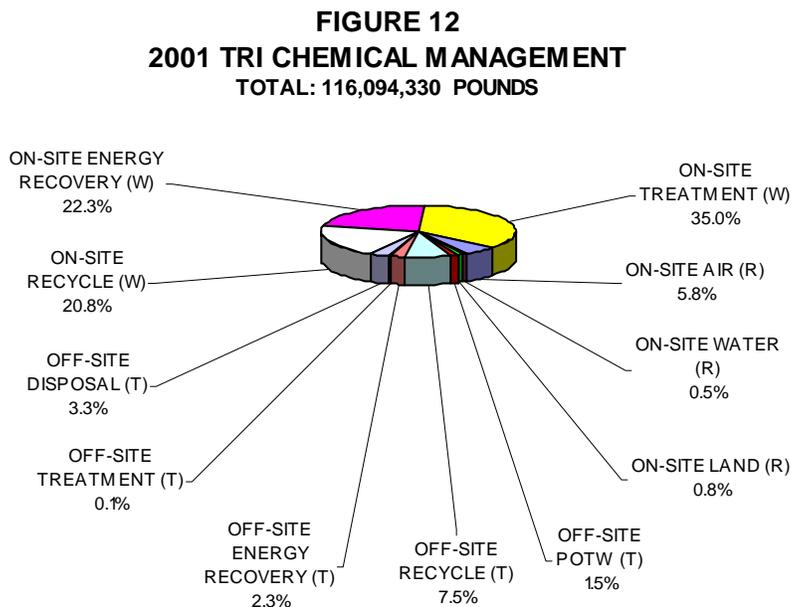


Figure 12 key

(R) – On-Site Release
(T) – Off-Site Transfer
(W) – On-Site Waste Management

Receiving TRI chemicals in Wastes

When a facility transfers TRI chemical waste off-site, these wastes go to a receiving facility. Some of these facilities report to the TRI program as well, but many do not, based on the reporting requirements shown on pages 1 and 2. Less than one percent of the TRI chemical wastes transferred to Delaware facilities is transferred to a TRI reporting facility. Table 9 provides the total amounts of TRI chemicals received by Delaware facilities from in-state and out-of-state facilities. This data is separated into wastes transferred from other Delaware facilities and wastes transferred from out-of-state facilities. DNREC does not receive reports from any out-of-state facilities that transfer wastes into Delaware. This data was obtained from the U. S. EPA. Some changes may have occurred since the date of this data.

TABLE 9
SUMMARY OF TRANSFERS IN 2001
TRI CHEMICALS TRANSFERRED TO DELAWARE FACILITIES
FROM OTHER FACILITIES

(in pounds)

RECEIVING FACILITY	TOTAL TRANSFERS FROM DELAWARE FACILITIES (DE DATA) ⁽¹⁾	TOTAL TRANSFERS FROM OUT OF STATE (EPA DATA) ⁽²⁾	TOTAL TRANSFERS RECEIVED BY DELAWARE FACILITIES
ASHWORKS DELAWARE	0	249	249
CLEAN EARTH	0	1,386	1,386
CUSTOM ENVIRONMENTAL TRANSPORT	0	2,000	2,000
D & D DISMANTLING	42,060	0	42,060
DE RECLYABLE PRODUCTS	297	0	297
DSWA CHERRY ISLAND	34,843	0	34,843
DSWA LAMBSON LANE	9,727	0	9,727
DSWA SANDTOWN	1,096	0	1,096
DUPONT CHERRY ISLAND	2,283,313	0	2,283,313
DUPONT EXPERIMENTAL STATION	0	635,441	635,441
GENERAL CHEMICAL *	3,671	0	3,671
INDIAN RIVER POWER PLANT *	382	0	382
INDUSTRIAL RESOURCE NETWORK	344	1,396	1,740
INTERNATIONAL PETROLEUM CORP.	0	73,252	73,252
KENT COUNTY TREATMENT PLANT	1,576	0	1,576
MILLSBORO TREATMENT PLANT	1	0	1
MOT TREATMENT PLANT	15	0	15
NEW CASTLE DEPT. OF PUBLIC WORKS	33,955	0	33,955
PIGEON POINT LANDFILL	22,420	0	22,420
SEAFORD MUNICIPAL TREATMENT PLANT	1,466	0	1,466
SELBYVILLE TREATMENT PLANT	10,435	0	10,435
UNIQEMA *	19,838	0	19,838
VFL TECHNOLOGY CORPORATION	0	11,048	11,048
WILMINGTON WASTEWATER PLANT	1,527,983	4,535	1,532,518
TOTAL TRANSFERS RECEIVED	3,993,423	729,307	4,722,730

(1) Source: DNREC TRI Database 2001 Data, 3-1-2003

(2) Source: U.S.EPA 2001 TRI Data Run, 12-31-2002

* TRI Reporting Facility

The top receiving facility is the DuPont Cherry Island facility; receiving ore processing waste from the DuPont Edge Moor facility which contained 14 of its 20 TRI reported chemicals, and the DaimlerChrysler facility. The second largest amount of off-site TRI chemicals in waste was received by the Wilmington Wastewater Treatment Plant, receiving 35 chemicals from 11 facilities. The third largest receiver of TRI chemicals in wastes was the DuPont Experimental Station, receiving wastes from eight other out of state DuPont facilities.

Persistent Bioaccumulative Toxic (PBT) Chemicals

Persistent Bioaccumulative Toxics (PBT's) are receiving increased scrutiny as we learn more about them, and reporting PBT's is also being emphasized to an increasing degree. These chemicals are of particular concern because they are not only toxic, but because they remain in the environment for long periods of time, are not readily destroyed, and build up and accumulate in body tissues. The EPA established substantially lower reporting thresholds in 2000 for 15 chemicals and three categories that are highly persistent and bioaccumulative in the environment. Starting in 2001, lead and lead compounds (except lead contained in stainless steel, brass, or bronze alloys) have reduced thresholds of 100 pounds. A more detailed discussion of lead and lead compounds appears starting on page 21. Table 2 on page 3 shows the new, lower thresholds for all PBT's. Therefore, not all of the PBT chemicals released in prior years were reportable, even though they were likely released at or near the current reported rate. For example, twenty one facilities reported lead or lead compounds in 2001 compared to seven in 2000.

Table 10 shows the results of PBT reporting for 2000 and 2001, compared to total 2001 data. The reduced thresholds for lead and lead compound reporting can readily be seen in the on-site releases. Even though the total PBT waste is slightly lower in 2001, all the increases in the air, water, and land amounts in 2001 are due to increased lead and lead compound reporting.

Table 11 on the next page shows the amounts of each PBT chemical reported released by the TRI reporting facilities in 2001. Lead and lead compounds, reported at 28,830 pounds with their lower thresholds for 2001, make up over 90% of the total on-site releases, and make up an even greater portion of the transfers off-site and on-site waste as well.

Dover Air force Base small arms range was the top reporter for on-site lead release, and the Indian River Power Plant was the top reporter for on-site lead compounds release. Both facilities reported these releases to land. Johnson Controls Battery

TABLE 10
2001 PBT DATA SUMMARY
(IN POUNDS)

	All Data 2001	PBT's only 2001	PBT's only 2000
No. of facilities	80	23	23
No of Form A's	57	0	0
No of Form R's	311	65	51
No. of Chemicals	104	12	12
On-site Releases			
Air	6,766,580	5,915	3,231
Water	573,937	3,659	255
Land	965,666	21,852	143
Total Releases	8,306,183	31,426	3,629
Off-site Transfers			
POTW's	1,697,026	521	772
Recycle	8,725,054	4,570,954	4,660,197
Energy Recovery	2,642,626	0	0
Treatment	172,946	0	1,202
Disposal	3,877,093	61,680	51,959
Total Transfers	17,114,745	4,633,155	4,714,130
On-site Waste Mgmt.			
Recycle	24,133,870	8,150	7,920
Energy Recovery	25,863,740	210	371
Treatment	40,675,792	400	1,700
Total on-site Mgmt.	90,673,402	8,760	9,991
Total Waste	116,094,330	4,673,341	4,727,750

Group again reported the top amount of lead transferred off-site, to recycling. Dover Air force Base and Indian River Power Plant reported on lead and lead compounds for the first time in 2001. Johnson controls has been reporting on lead compounds since 1987.

TABLE 11
2001 PBT RELEASE SUMMARY
(IN POUNDS)

CHEMICAL	ON-SITE RELEASES				TRANSFERS OFF-SITE	ON-SITE WASTE MGMT.
	TOTAL AIR	TOTAL WATER	TOTAL LAND	TOTAL		
BENZO(G,H,I)PERYLENE	1	2	0	3	0	190
DIOXIN AND DIOXIN-LIKE COMPOUNDS (1)	0	0	13	13	156	0
HEXACHLOROBENZENE	0	52	99	151	672	0
LEAD	2	41	2,958	3,001	1,554	0
LEAD COMPOUNDS	3,808	3,526	18,495	25,829	4,625,358	350
MERCURY	1,068	20	0	1,088	4,374	7,800
MERCURY COMPOUNDS	414	0	215	629	260	0
OCTACHLOROSTYRENE	0	0	42	42	508	0
PENTACHLOROBENZENE	0	16	30	46	201	0
POLYCHLORINATED BIPHENYLS	0	0	0	0	71	0
POLYCYCLIC AROMATIC COMPOUNDS	622	2	0	624	0	420
TETRABROMOBISPHENOL A	0	0	0	0	0	0
TOTALS	5,915	3,659	21,852	31,426	4,633,155	8,760

Source: 2001 DNREC Database March 1, 2003

(1) Dioxins are reportable in grams and have been converted to pounds.

Mercury and mercury compounds combined for first place last year, and remained relatively unchanged this year, but fell to third with the inclusion of more lead reports this year. Occidental chemical reported again the top amount of on-site PBT chemical waste management, with mercury being recycled on-site, and was the sole contributor to the 1,088 pounds of mercury released on-site. Appendix I Shows the PBT data detail, listing all the facilities reporting each PBT chemical.

NATIONAL PERSPECTIVE

The national 2001 TRI report has not been released by the U.S. Environmental Protection Agency (EPA) as of the writing of this report. However, placing the 2001 Delaware reports alongside the 2000 EPA reports yields some rankings which provide a perspective for Delaware in the national TRI picture. Changes in the 2001 national values may change these rankings.

This data shows that Delaware ranks 46th in the nation in total on-site releases for all TRI chemicals. For on-site releases, 90 facilities in the nation each released more individually than all the facilities in Delaware combined.

Some facilities in Delaware do rank at or near the top of the national ranking for specific releases. DuPont Edge Moor ranks #1 in the nation for off-site transfer and #3 for on-site release of dioxin and dioxin-like compounds. Formosa Plastics ranks #2 in the nation for on-site release of vinyl chloride. Motiva ranks #8 for on-site release of methyl tert-butyl ether. Occidental Chemical ranks 14th in the nation for on-site release of mercury.

TREND ANALYSIS

TRI data is available back to 1987. Changes in the reporting requirements over time have caused an increase in both the number of chemicals and the types of facilities subject to reporting. As explained on pages 2-4, two of the most significant changes to TRI reporting occurred in 1995 and 1998, when large increases in chemicals (1995) and facilities subject to reporting (1998) occurred. The analysis presented in this section uses 1995 and 1998 as base years for presenting trends for all chemicals (not adjusted) and for only chemicals and facilities subject to reporting over the entire time span (adjusted). Table 12 and Figure 13 show the results of reporting during the 1995-2001 time period and are not adjusted for any changes in reporting requirements.

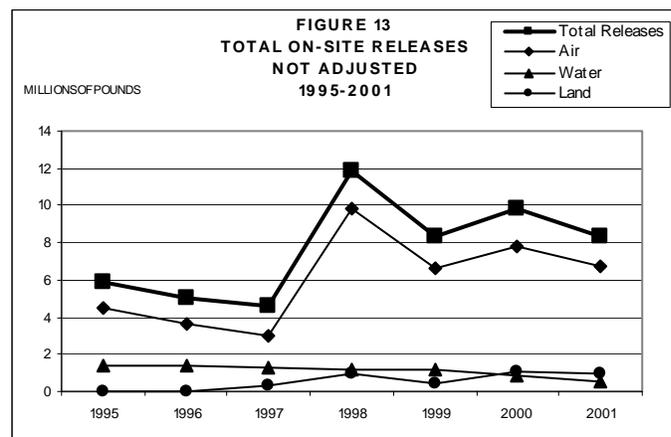
TABLE 12
1995-2001 TRI DATA SUMMARY
NOT ADJUSTED
(IN POUNDS)

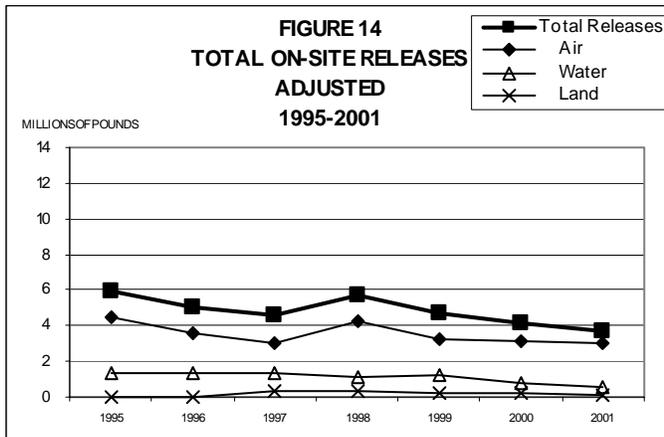
	1995	1996	1997	1998	1999	2000	2001
No. of facilities	75	77	74	80	76	77	80
No of Form A's	33	40	34	75	72	61	57
No of Form R's	228	220	242	277	254	302	311
No. of Chemicals	90	98	100	106	101	108	104
On-site Releases							
Air	4,483,402	3,586,182	2,995,461	9,796,431	6,651,166	7,840,007	6,766,580
Water	1,394,739	1,395,328	1,328,937	1,126,527	1,197,861	866,312	573,937
Land	28,678	42,409	317,243	937,708	462,579	1,103,632	965,666
Total Releases	5,906,819	5,023,919	4,641,641	11,860,666	8,311,606	9,809,951	8,306,183
Off-site Transfers							
POTW's	3,270,800	4,575,131	4,354,095	3,334,302	2,996,401	2,199,807	1,697,026
Recycle	17,127,835	10,054,483	10,612,518	12,002,926	9,295,315	8,491,115	8,725,054
Energy Recovery	2,427,102	1,173,331	1,663,440	1,491,543	1,389,936	2,539,369	2,642,626
Treatment	910,090	1,297,004	688,661	630,761	894,822	901,604	172,946
Disposal	2,767,339	2,905,928	4,010,594	3,983,506	3,056,466	3,814,612	3,877,093
Total Transfers	26,503,166	20,005,877	21,329,308	21,443,038	17,632,940	17,946,507	17,114,745
On-site Waste Mgmt.							
Recycle	29,100,208	29,882,121	32,996,062	34,549,050	32,671,856	31,188,694	24,133,870
Energy Recovery	332,834	219,184	19,255,280	16,155,665	22,981,591	29,095,221	25,863,740
Treatment	55,990,904	51,590,060	69,425,233	68,475,327	69,501,151	64,404,879	40,675,792
Total on-site Mgmt.	85,423,946	81,691,365	121,676,575	119,180,042	125,154,598	124,688,794	90,673,402
Total Waste	117,833,931	106,721,161	147,647,524	152,483,746	151,099,144	152,445,252	116,094,330

NOT ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS
 SOURCE: DNREC 2001 DATABASE, MARCH 1, 2003

On-Site Releases 1995-2001

On-site releases include emissions to the air, discharges to bodies of water, and releases at the facility to land including placement in on-site landfill. Figure 13 shows the trend of on-site releases without adjustments. The increase in 1998 is due to the change in reporting requirements as explained on page 3 with the large increase in the number of facilities required to report. When the new facilities and chemicals that were added starting after 1995 are removed





from the trends, the adjusted result is shown in Table 13 and Figure 14. The amount of on-site chemicals removed by this adjustment increased to 6.2 million pounds in 1998, up from 21,800 pounds in 1997 and is now at 4.6 million pounds for 2001. Facilities such as the power plants and chemicals such as PBT's at their lower thresholds are not shown in the adjusted trends unless they were being reported in or prior to 1995. Releases have been decreasing both for "old" chemicals (Figure 14 and Table 13) and for all chemicals (Figure 13 and Table 12).

TABLE 13
1995-2001 TRI DATA SUMMARY
ADJUSTED
(IN POUNDS)

	1995	1996	1997	1998	1999	2000	2001
No. of facilities	73	75	73	69	66	67	65
No of Form A's	28	34	29	30	32	31	31
No of Form R's	221	212	237	240	231	241	235
No. of Chemicals	87	94	98	103	98	101	95
On-site Releases							
Air	4,466,247	3,569,898	2,973,704	4,286,623	3,246,226	3,178,779	3,066,083
Water	1,394,739	1,395,328	1,328,937	1,066,787	1,186,039	826,597	524,292
Land	28,678	42,409	317,243	347,129	278,319	194,448	145,055
Total Releases	5,889,664	5,007,635	4,619,884	5,700,539	4,710,584	4,199,824	3,735,429
Off-site Transfers							
POTW's	3,270,795	4,564,126	4,354,090	3,334,189	2,996,375	2,199,732	1,696,933
Recycle	17,127,835	10,054,483	10,544,518	11,963,716	9,295,315	8,454,588	8,719,955
Energy Recovery	2,427,102	1,173,331	1,663,440	1,491,543	1,389,936	2,539,369	2,642,626
Treatment	897,090	1,277,004	675,561	611,696	894,822	899,534	172,946
Disposal	2,767,339	2,905,928	4,010,594	3,719,902	2,985,340	3,471,837	3,572,381
Total Transfers	26,490,161	19,974,872	21,248,203	21,121,046	17,561,788	17,565,060	16,804,841
On-site Waste Mgmt.							
Recycle	29,100,208	29,882,121	32,996,062	34,549,050	32,671,856	31,188,654	24,133,520
Energy Recovery	332,834	219,184	19,255,280	16,155,665	22,981,591	29,095,220	25,863,740
Treatment	55,811,179	51,424,487	68,575,887	67,199,660	69,149,944	63,832,520	40,062,567
Total on-site Mgmt.	85,244,221	81,525,792	120,827,229	117,904,375	124,803,391	124,116,394	90,059,827
Total Waste	117,624,046	106,508,299	146,695,316	144,725,960	147,075,763	145,881,278	110,600,097

ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS
SOURCE: DNREC 2001 DATABASE, MARCH 1, 2003

Table 13 shows the adjusted amounts of TRI chemicals in all categories that were reported in 1995-2001. This table is adjusted to show only those facilities and chemicals that were reportable in 1995 and later. The following trends for 1995-2001, in addition to Figure 14 above, will be based on this data. Overall, on-site releases decreased 11.1% from 2000, following a 10.8% decrease in 1999-2000. Since 1995, on-site releases have decreased 36.6%.

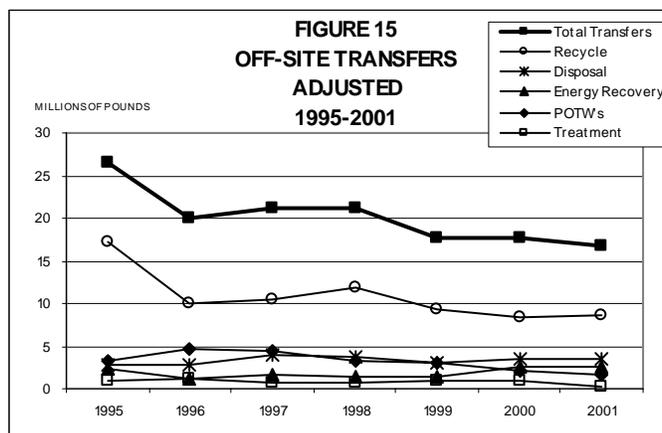
Two facilities ceased operations in 2002; Metachem and Nanticoke Homes. Both were in operation in 2001, but did not file their 2001 reports due in 2002 because of their closures. Their on-site releases for 2000 totaled 116,000 pounds, so the 2001 data might have been higher by approximately that amount.

Significant reported changes in 2001 include reports from Motiva of decreases in vanadium compounds (-273,000 pounds), methyl tert-butyl ether (-207,000 pounds), nickel compounds (-101,000 pounds), and increases in sulfuric acid (+230,000 pounds) and hydrochloric acid (+137,000 pounds), a net decrease of 240,000 pounds. Other facilities reporting significant changes are Sunoco: 80,000 pounds increase in releases from three tanks newly reported in 2001, DuPont Seaford: -292,000 pounds (69%) decrease in nitrate compounds, Townsends: -178,000 pounds decrease in n-hexane releases due to taking their Millsboro extraction plant out of operation. These changes are balanced by other, smaller increases and decreases from other facilities.

Off-Site Transfers 1995-2001

An Off-site transfer is a transfer of toxic chemical in wastes to a facility that is physically separate from the reporting facility. Chemicals are reported as transferred to off-site facilities when they are moved away from the reporting facility for the purposes of transfer to a POTW, recycling, energy recovery, treatment, or disposal. Although the amounts off-site transfers may be of less immediate concern than on-site releases, they still represent toxic chemicals in wastes that must be ultimately accounted for. As noted on page 29 and Table 13 on page 34, the amounts transferred off-site are larger than the on-site releases by over a factor of 2. Figure 10 on page 28 and Figure 15 show the relative amounts of TRI chemicals in wastes transferred off site and the trend in recent years. Again, the amount of chemicals reported in this time period is trending down. As noted in prior analysis on page 29, over half of the off-site transfers are to recycling operations.

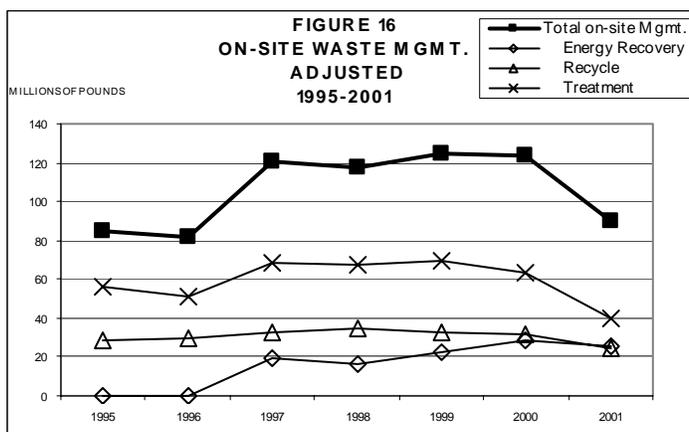
Although the trend in Figure 15 is driven largely by the trend in amounts sent to recycle, the overall trend for off-site transfers was down from 2000 by 4% (760,000 pounds) in 2001 even though the recycle trend was up slightly, by 265,000 pounds. Smaller increases were seen in energy recovery and disposal, but the increase in these amounts was more than offset by decreases in transfers to POTW's (503,000 pounds) and to treatment (727,000 pounds). Total off-site transfers have decreased by 37% since 1995.



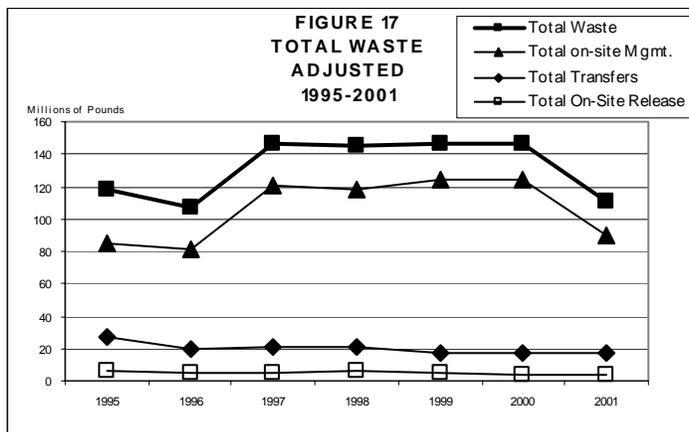
Reports of significant changes came from: Ciba Specialty Chemicals, decrease in methanol (-1,195,000 pounds) resulting from changes in all transfers except disposal, Daimler Chrysler, decreases in certain glycol ethers, ethylbenzene, methyl isobutyl ketone, nitrate compounds, and xylene, (-182,000 pounds in total) resulting from changes in all transfers, and offset by increases from Citisteel, zinc compounds (+171,000 pounds) sent to recycle, General Motors, Xylene (+104,000 pounds) sent to energy recovery instead of recycle, and certain glycol ethers (+21,000 pounds) sent to POTW and treatment, and Sunoco, reporting for the first time toluene (101,000 pounds), benzene (92,000 pounds), and xylene (51,000 pounds), all sent to POTW and treatment. Again, no reports were filed for Metachem. Their 2001 off-site transfers amounted to 383,000 pounds in 2000. These changes are balanced by other, smaller increases and decreases from other facilities. In some facilities, wastes were managed on-site instead of being sent off-site for processing.

On-site Waste Management 1995-2001

On-site waste management is the processing of chemicals in wastes that do not leave the site of the reporting facility. Chemicals are reported as managed on-site when they are recycled, recovered for energy, or treated. Although these amounts represent a loss of finished product to the facility as waste, possible loss of product and/or raw material, and a burden for the cost of waste management, they are not as much a threat to the environment as the other categories since these amounts are managed on-site. As with many chemical wastes, there is the risk that they may be released accidentally to the environment.



pounds), both being treated on-site, MacDermid – methyl ethyl ketone (-1,175,000 pounds), reduction in amount sent to energy recovery, Motiva – formaldehyde (-7,500,000 pounds), now below reporting threshold, methanol (-1,300,000 pounds) and toluene (-1,000,000 pounds), reductions in amounts sent to energy recovery and treatment, and acetaldehyde (-710,000 pounds), now below the reporting threshold. Significant increases in on-site waste management occurred for Noramco – dichloromethane (1,200,000 pounds) sent to recycle, and Motiva – ammonia (4,900,000 pounds), sent to energy recovery. Again, the impact of Metachem was not known for 2001. Metachem reported 993,000 pounds managed on-site for 2000, so the results for 2001 may be understated by approximately that amount. Other reductions and increases



On-site treatment is classified by 64 different types, recycling by 16 types, and energy recovery by 4 types. The totals of these three categories of on-site management are shown in Figure 16. The total amount of waste managed on-site in 2001 was down 34 million pounds (27%) from 2000. All categories decreased. Decreases ranged from 11% for energy recovery to 37% for treatment. Significant reductions occurred for: DuPont Edge Moor - hydrochloric acid (-7,753,000 pounds) and chlorine (-1,069,000 pounds), both being treated on-site, MacDermid – methyl ethyl ketone (-1,175,000 pounds), reduction in amount sent to energy recovery, Motiva – formaldehyde (-7,500,000 pounds), now below reporting threshold, methanol (-1,300,000 pounds) and toluene (-1,000,000 pounds), reductions in amounts sent to energy recovery and treatment, and acetaldehyde (-710,000 pounds), now below the reporting threshold. Significant increases in on-site waste management occurred for Noramco – dichloromethane (1,200,000 pounds) sent to recycle, and Motiva – ammonia (4,900,000 pounds), sent to energy recovery. Again, the impact of Metachem was not known for 2001. Metachem reported 993,000 pounds managed on-site for 2000, so the results for 2001 may be understated by approximately that amount. Other reductions and increases making up the 34 million pound reduction for 2001 in on-site waste management were smaller. Total pounds for on-site waste management have increased by 6% since 1995.

Total Waste 1995-2001

Figure 17 shows totals of the three waste categories taken from the totals in figures 14, 15, and 16, and their grand total. This grand total is largely driven by on-site waste management. Pounds for total waste have decreased by 24% since 2000 and 6% since 1995.

On-Site Releases 1998-2001

The second set of trends is for the 1998-2001 time period. New industry segments added in 1998 that were excluded in the 1995-2001 trends are included here. Because of the inclusion of additional facilities and chemicals, these totals in Table 14 are higher than those in table 13. The trend for on-site releases, adjusted for new facilities and chemicals added after 1998 is shown in Figure 18.

Again, as in the prior on-site trend (Figure 14), the trend is generally down.

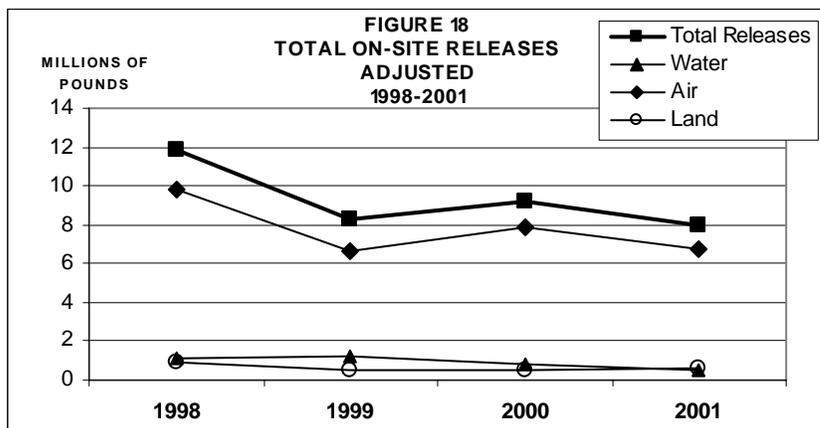
Although there was an 11% increase in 2000, there has been a decrease of 33% in on-site releases over the 1998-2001 time period, and an 18% decrease from 2000-2001. In addition to the facility notes on pages 35-37 about how wastes may have changed this year, additional notes for facilities and chemicals added in 1998 are: Indian River Generating Station reduced acid gasses (hydrochloric, hydrogen fluoride, and sulfuric) by

703,000 pounds (27%) and overall releases by 608,000 pounds (20%), and Edge Moor/Hay road Power Plant reduced acid gasses by 145,000 pounds. Generally, changes in power generating facility acid gas releases are affected by changes in types of fuel (coal, oil, or gas) and the demand for electrical power.

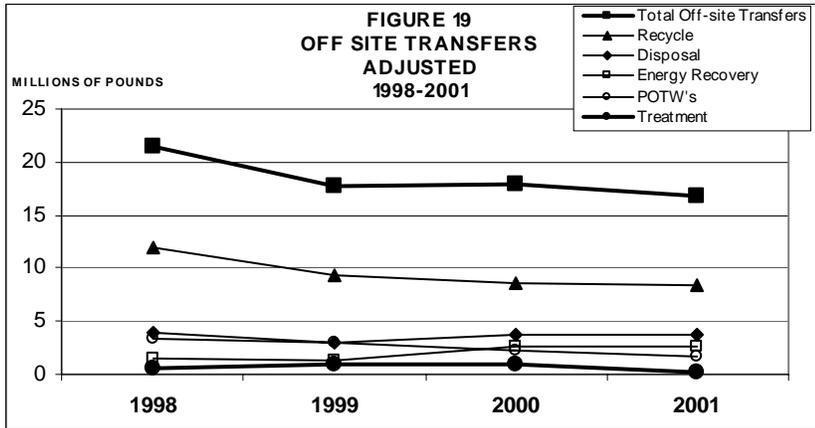
TABLE 14
1998-2001 TRI DATA SUMMARY
ADJUSTED
(IN POUNDS)

	1998	1999	2000	2001
No. of facilities	79	76	76	77
No. of Form A's	70	72	61	57
No. of Form R's	271	254	278	268
No. of Chemicals	105	101	102	94
On-site Releases				
Air	9,787,574	6,651,166	7,826,590	6,750,278
Water	1,126,527	1,197,861	864,760	558,663
Land	937,708	462,579	500,395	637,024
Total On-Site Releases	11,851,809	8,311,606	9,191,745	7,945,965
Off-site Transfers				
POTW's	3,334,297	2,996,401	2,199,804	1,696,995
Recycle	11,963,926	9,295,315	8,491,112	8,460,096
Energy Recovery	1,491,543	1,389,936	2,539,369	2,642,626
Treatment	611,996	894,822	901,603	172,946
Disposal	3,983,506	3,056,466	3,710,399	3,774,642
Total Off-site Transfers	21,385,268	17,632,940	17,842,287	16,747,305
On-site Waste Mgmt.				
Recycle	34,549,050	32,671,856	31,188,654	24,133,520
Energy Recovery	16,155,665	22,981,591	29,095,220	25,863,740
Treatment	68,126,327	69,501,151	64,403,879	40,675,602
Total On-Site Mgmt.	118,831,042	125,154,598	124,687,753	90,672,862
Total Waste	152,068,119	151,099,144	151,721,785	115,366,132

ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS
Source: DNREC Database, March 1, 2003



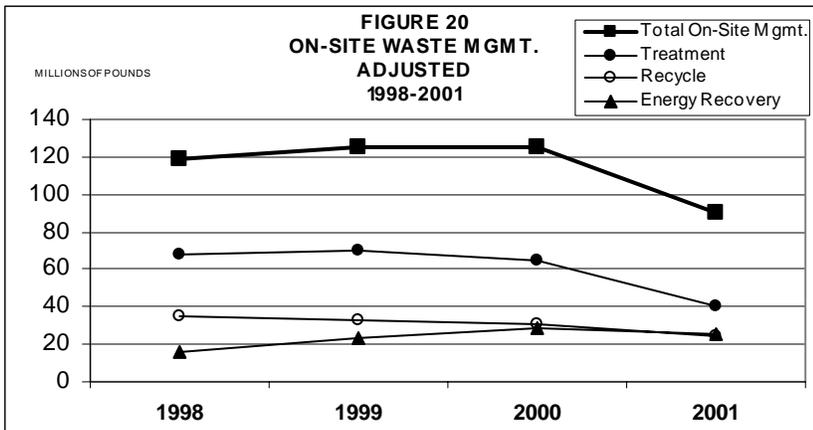
Off-Site Transfers 1998-2001



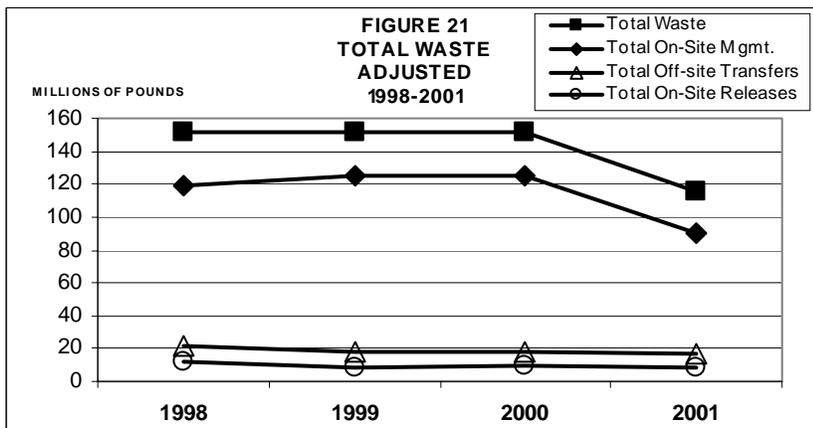
Off-site transfers were also characterized by declining reported amounts of toxic chemicals in wastes for 2001. Figure 19 and table 14 show the amounts transferred off-site, adjusted for new reporting after 1998. With a decline of 6% in 2001 and 22% since 1998, the reductions were not as great as on-site releases, but were a positive step. In addition to the facility notes on pages 35-

36 about how off-site transfers may have changed this year, an additional note for facilities and chemicals added in 1998 is: Edge Moor/Hay Road Power Plant - small reductions in several metallic compounds (lead, chromium, etc.), totaling 73,000 pounds.

On-Site Waste Management 1998-2001



The trend of on-site management of TRI chemicals in waste shows a strong downward trend in 2001 due to declines in all three waste management activities as shown in Table 14 and Figure 20. Again, these figures include the newly added industry groups that started reporting in 1998. There are no changes of note for these new facilities in addition to the previously noted 34 million pound decline in 2001 and the facility notes on page 36.



Total Waste 1998-2001

The sum of On-Site Releases, Off-Site Transfers, and On-site Waste Mgmt., is shown in figure 21. The 2000-2001 trend is down by 24%, and the 1998-2001 trend is also down by 24%.

Carcinogens Trend, 1995-2001

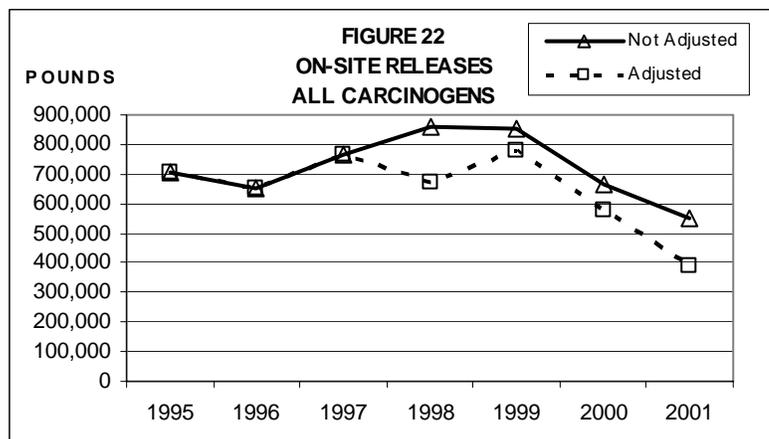
Although the number of Carcinogen reports is at an all-time high of 100 due to the increase in lead and lead compounds reporting, the trend of carcinogen releases since 1995 has been generally down. Thirty-two chemicals were reported which were in one of the carcinogen groups. Carcinogens are classified into three groups by IARC, the International Agency for Research on Cancer: Group 1 - Known, Group 2A - Probable, and Group 2B - Possible. A list of carcinogens reported in Delaware is provided on page 4. On-site releases of all carcinogens comprise 6.6% of all on-site releases in 2001, and have decreased 17% this year and 35% since their peak in 1998 when new facilities were added. Table 15 provides the individual data and overall totals for each of the IARC classes of carcinogens, and Figure 22 illustrates the trend graphically.

TABLE 15
1995-2001 CARCINOGENS
ON-SITE RELEASES, NOT ADJUSTED

	1995	1996	1997	1998	1999	2000	2001
KNOWN (Group 1)							
AIR	253,818	225,184	192,099	209,094	219,970	209,828	209,295
WATER	596	201	6,917	10,246	3,048	4,395	9,114
LAND	1,791	331	286,041	363,793	306,630	258,008	169,197
KNOWN TOTAL	256,205	225,716	485,057	583,133	529,648	472,231	387,606
PROBABLE (group 2A)							
AIR	113,482	78,491	55,274	53,558	139,293	55,418	44,326
WATER	0	0	0	0	0	0	0
LAND	0	0	0	0	0	0	0
PROBABLE TOTAL	113,482	78,491	55,274	53,558	139,293	55,418	44,326
POSSIBLE (Group 2B)							
AIR	331,904	344,888	223,518	167,420	186,506	135,946	91,851
WATER	359	351	196	1,175	290	271	4,873
LAND	0	5	2,550	51,625	142	40	21,607
POSSIBLE TOTAL	332,263	345,244	226,264	220,220	186,938	136,257	118,331
TOTAL AIR	699,204	648,563	470,891	430,072	545,769	401,192	345,472
TOTAL WATER	955	552	7,113	11,421	3,338	4,666	13,987
TOTAL LAND	1,791	336	288,591	415,418	306,772	258,048	190,804
GRAND TOTAL	701,950	649,451	766,595	856,911	855,879	663,906	550,263

Not adjusted for changes in reporting requirements
Source: DNREC Database, March 1, 2003

As with the prior trends, adjustments must be made for changes in reporting requirements in this time period, and the trends of both unadjusted and adjusted values are shown in Figure 22. Table 15 contains only the unadjusted values. Chemicals and facilities required to report only during a portion of the time period have been excluded for the entire time period for the "Adjusted" trend. These adjustments generally involve the power generating and ore processing industries and include metallic compounds produced from impurities in the fuel and raw materials used by these facilities. These facilities were required to start reporting in 1998. Adjustments occurring in this time period affected the air, water, and land release amounts. New reports for lead and lead compounds at their lower thresholds in 2001 accounted for 28,000 pounds of exclusions in 2001. Prior years' lead and lead compounds reports under the higher thresholds were not excluded. Table 3 on page 4 shows the number of facility reports for each



IARC-classified chemical. On-site releases of all Carcinogens decreased by 22% since 1995 and by 17% since 2000.

As before, in *Limitations of TRI Data* on Page 6, caution is urged when using this data, as THIS DATA DOES NOT INDICATE AMOUNT OF HUMAN EXPOSURE.

Known Carcinogens

Until 2001, the values for the 1997-2000 known carcinogen on-site releases were largely influenced by land releases and were due to nickel compounds at Motiva. Motiva released 283,000 pounds in 1997, 250,000 in 1998, 249,000 in 1999, 151,000 in 2000, and 39,000 pounds in 2001. Chromium compounds released by Motiva and the Indian River Power Plant have now displaced Nickel compounds for the top spot in Known Carcinogen land releases. Air releases of known carcinogens have remained relatively steady and are now again in the majority, with 62% of air releases for known carcinogens being vinyl chloride. Vinyl chloride, #1 in releases to air, constitutes over 37% of all carcinogen category air releases and 23% of all carcinogen category on-site releases for air, water, and land in 2001. Formosa Plastics reported 98,000 pounds of vinyl chloride released, and Kaneka reported 32,000 pounds. Nickel compounds were #2 in releases to air. Motiva and the Indian River Power plant reported 98 % of these nickel compound releases. Sunoco and Motiva reported over 98% of the on-site benzene release to air, the third highest chemical released to air in the known carcinogen category. Benzene made up 15% of the known carcinogen air releases, 9% of the air release for all carcinogen categories, and 6% of all carcinogen category on-site releases for air, water, and land in 2001. Total benzene reports have declined from 58,000 pounds in 1995 to 32,000 pounds in 2001. Metachem reported 11,000 pounds of benzene released to air in 2000 but did not file reports in 2001, while Sunoco reported 12,000 pounds benzene released to air for the first time in 2001. Water releases on-site of known carcinogens are 2.4% of the known carcinogen total, mostly benzene and chromium and nickel compounds.

Probable Carcinogens

All Probable class carcinogens were released to air during this time period. The largest air release contributors to Probable carcinogens air releases were 1,3,-butadiene produced by Dow Reichhold and trichloroethylene produced by Camdel Metals. They combined for 86% of the Probable class releases. The trend for 1,3,-butadiene is down, now at 22,000 pounds from a high of 72,000 pounds in 1995. Trichloroethylene release has declined by 45%, from 29,000 pounds in 1995 to 16,000 pounds in 2001. The high number (139,923) in Table 15 for the 1999 Probable Carcinogen air release was due to an 83,000-pound reported release of formaldehyde from Motiva.

Possible Carcinogens

Styrene, two-thirds of which is released by Justin Tanks, is now the predominant amount of reported air release for this class. Styrene accounts for half of the air release for this class, and although the Justin Tanks' trend has been slightly down, other reporters show increased releases, and overall, styrene releases have increased by 14% over the 1995-2001 time period.

Metachem, no longer in operation, had been contributing 45-50,000 pounds of carcinogens in all classes each year, or about 6-7% of the total carcinogen releases of 650-850,000 pounds.

FOR FURTHER INFORMATION

Access to the TRI Files - DNREC is responsible for collecting, processing, and distributing information submitted by Delaware facilities under the TRI program. This 2001 TRI report may be viewed at: www2.state.de.us/serc/reports.htm. Additional information not contained in this report is available to the public through the EPCRA Reporting Program located within DNREC. A searchable database is located at: <http://www2.state.de.us/serc/search/index.htm>. The reports submitted by facilities are available for review through the Freedom of Information Act process from DNREC's Air Quality Management Office located at 156 South State Street in Dover. Custom reports can also be generated from the database. For information on placing a request, call the TRI Coordinator at (302) 739-4791 during business hours. An on-line FOIA application is also available at: http://www.dnrec.state.de.us/air/aqm_page/foia.htm.

Chemical Data Fact Sheets - A two-page fact sheet is available for most TRI chemicals reported in Delaware and contains information on chemical characteristics, health hazards, and ecological effects. These fact sheets were prepared by the EPCRA Reporting Program from information obtained through EPA's more lengthy TRI chemical fact sheets. The two-page fact sheets are available upon request. Additional TRI chemical information is available at: www.epa.gov/triinter/chemical/index.htm

EPA's TRI Home Page - The TRI home page provides information on the many facets of the TRI program at EPA, including an Executive Summary, Q&A's, a link now to the 2000 TRI data, and later to 2001 data, a current list of reportable chemicals, reporting forms, state and federal program contacts, and various guidance documents available for downloading. This website has many links to other EPA and non-EPA sites associated with TRI. www.epa.gov/tri/

Toxics Release Inventory Public Data Release - EPA's annual TRI report. It covers information nationwide and provides a good perspective on how Delaware compares to other states. The latest version of this report is available for review at the DNREC office at 156 South State Street in Dover or can be obtained by calling the federal EPCRA Information Hotline at 1-800-535-0202. www.epa.gov/tri/tridata/tri00/index.htm

Envirofacts Electronic warehouse - Envirofacts is an EPA-developed website that provides public access to multiple environmental databases, including TRI. Links can be made to data about hazardous waste, water permits, drinking water, Superfund sites, and more. On-line queries allow the user to retrieve data and create reports, as well as generate maps. www.epa.gov/enviro

Right-to-know Network Searchable nationwide TRI data is available through RTKNet. The RTKNet was established by two non-profit organizations to provide access to TRI and chemical data, link TRI with other environmental data, and exchange information among public interest groups. www.rtk.net

Delaware Public Health Cancer Rates and Causes

This site provides data and answers to many cancer-related questions.
<http://www.delaware-epi.org/whdo.htm>



The Office of Pollution Prevention & Toxics is a part of the EPA that:

- Promotes pollution prevention as the guiding principle for controlling industrial pollution;
- Promotes safer chemicals through a combination of regulatory and voluntary efforts;
- Promotes risk reduction so as to minimize exposure to existing substances such as lead, asbestos, dioxin, and polychlorinated biphenyls; and,
- Promotes public understanding of risks by providing understandable, accessible and complete information on chemical risks to the broadest audience possible.

It is also a link to *Risk-Screening Environmental Indicators*. This model was developed by EPA's Office of Pollution Prevention & Toxics as a risk screening tool that provides a relative comparison of TRI releases. This application is available on CD-ROM or through the Internet. Both of these are available through: www.epa.gov/opptintr

Delaware's Pollution Prevention Program can be accessed at:

<http://www.dnrec.state.de.us/dnrec2000/pollutionprevention.asp>

Environmental Defense Fund Scorecard - The EDF Scorecard combines scientific, geographic, technical, and legal information from many databases (with emphasis on TRI) to enable users to produce detailed local reports on toxic chemical pollution. Chemical profiles and a map generator are also available through the Scorecard. www.scorecard.org

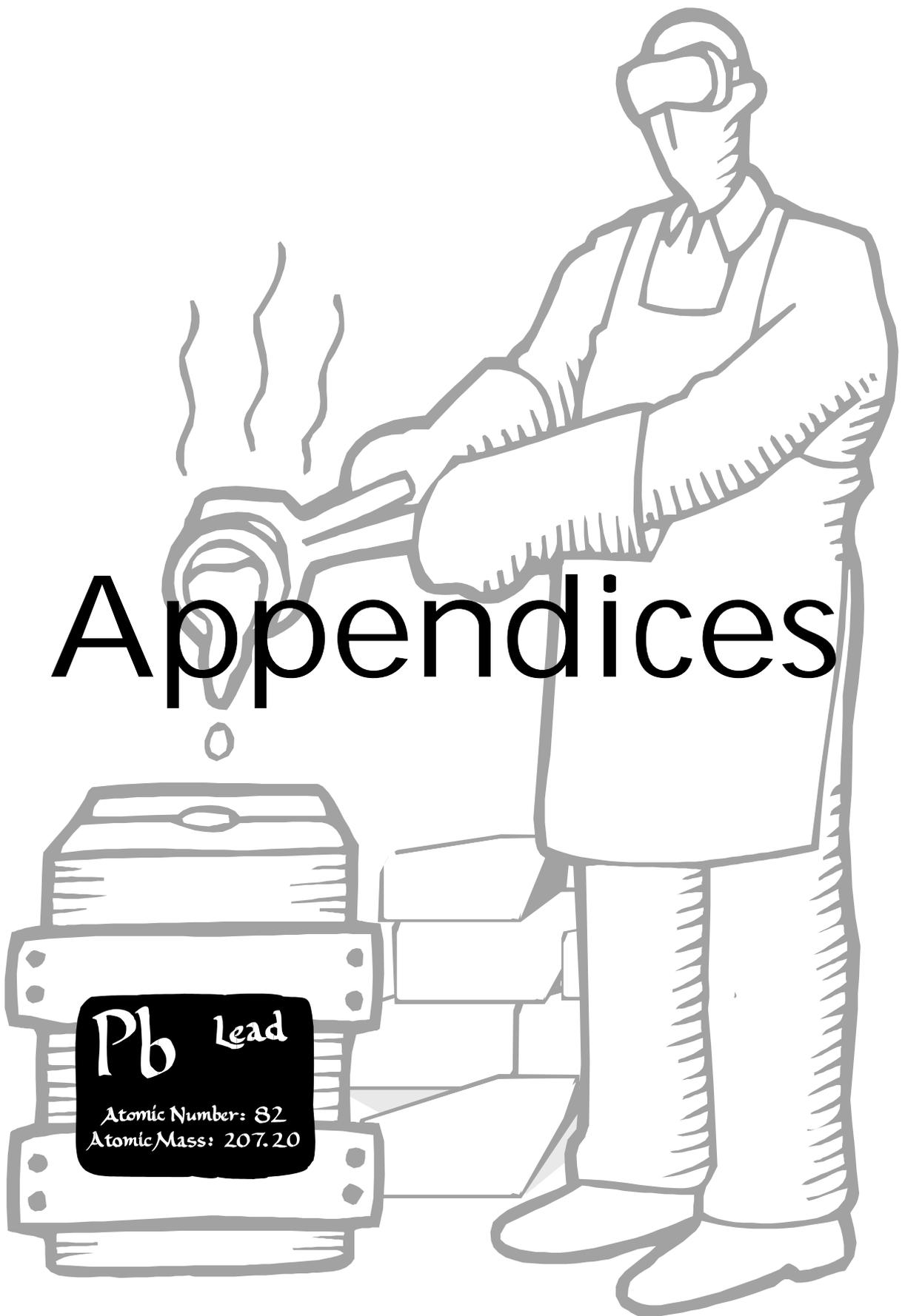
2001 Delaware Air Quality Report - The annual air quality report is prepared by the Air Surveillance Branch in the Air Quality Management Section of DNREC. This report presents data gathered from a statewide network of air monitoring stations, and includes analyses, trends, and other information regarding Delaware's ambient air quality. For a copy of the report, or for more information, please call (302) 323-4542. This report is available on-line at:

www.dnrec.state.de.us/air/aqm_page/reports.htm The EPA site for additional air quality information is: <http://www.epa.gov/oar/oaqps/publicat.html>

Delaware's Department Of Natural Resources and Environmental Control has a variety of environmental information available at: www.dnrec.state.de.us/dnrec2000/Elibrary.asp In addition to TRI, there are other provisions of the Emergency Planning and Community Right to Know Act (EPCRA) which provide information to the public as well as to local emergency planning and response organizations. Delaware has its own EPCRA statute, which established these provisions under state law. For additional information, visit the Delaware EPCRA website at <http://www2.state.de.us/serc/>

Questions or comments regarding TRI are welcome. Please direct questions, comments, or requests to:

TRI Coordinator
EPCRA Reporting Program
Air Quality Management Section
Division of Air and Waste Management, DNREC
156 South State Street
Dover, DE 19901
Tel. (302) 739-4791, Fax (302) 739-3106
E-mail: john.parker@state.de.us



Appendices

Pb Lead

Atomic Number: 82
Atomic Mass: 207.20



APPENDIX A

WHAT IS COMMUNITY RIGHT-TO-KNOW ?

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT

A dramatic and fatal accident involving the release of a large quantity of methyl isocyanate gas occurred in Bhopal, India on December 3, 1984. As a result of this release and similar, although less tragic, accidents that occurred in the United States, congress enacted the Emergency Planning and Community Right to Know Act (EPCRA), as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986. The Emergency Planning and Community Right-to-Know Act (EPCRA) requires certain facilities to report information about hazardous chemicals and substances at their facilities to Federal, state, and local authorities. The objective is to improve the ability of the facility and of local emergency response agencies to plan for and respond to chemical emergencies, and to give citizens information about chemicals present in their communities. The President has also issued Executive Orders to Federal agencies which mandate their compliance with certain EPCRA requirements. In 1991 Delaware established its own EPCRA legislation which enhanced the federal requirements.

EMERGENCY PLANNING

Each state was required to establish a State Emergency Response Commission (SERC) to oversee planning efforts. The SERC must appoint Local Emergency Planning Committees (LEPC), which in turn develop emergency response plans for their respective districts. In Delaware, the SERC is chaired by the Secretary of the Department of Public Safety. Emergency planning districts have been established in each county and for the City of Wilmington. Facilities having specifically identified Extremely Hazardous Substances above established threshold quantities are required to notify their LEPC. These facilities are the primary focus of planning activities.

EMERGENCY RELEASE NOTIFICATION

In the event of an accidental chemical release above an established amount, a facility is required to provide immediate notification of the release. A follow up written report is also required to provide details about the sequence of events, the actual response actions, and to identify any known or anticipated health risks associated with the release. The public may receive notification through the Environmental Release Notification System.

In response to Senate Bill 33, which became law in July 2001, the Department of Natural Resources and Environmental Control (DNREC) developed a system to allow Delawareans to learn promptly of releases or discharges of contaminants or pollutants that meet or exceed certain thresholds in their neighborhoods or throughout the state. When you register, you choose to be notified in one of three ways: By phone, by e-mail or by fax. You also can choose to be notified about releases from specific facilities or about all releases that occur in one or more zip codes throughout the state. Interested individuals may register for notification at: <http://www.dnrec.state.de.us/dnrec2000/notification/pub/>

HAZARDOUS CHEMICAL REPORTING

Under U. S. Occupational Health Safety Administration (OSHA) regulations, facilities are required to maintain a Material Safety Data Sheet (MSDS) for each chemical on site. Under EPCRA, facilities are required to submit a list of their MSDS's for hazardous chemicals on site

APPENDIX A

WHAT IS COMMUNITY RIGHT-TO-KNOW ?



above specific threshold amounts. This list must be updated as new chemicals are brought on site. In addition, facilities having such chemicals are required to file Hazardous Chemical Inventory Reports annually. These reports, also known as Tier II forms, provide information on the identity, hazards, amounts, and locations of reportable chemicals at the facility. These reports are sent to the EPCRA Reporting Program which processes the information for dissemination to emergency planning and response organizations statewide.

TOXICS RELEASE INVENTORY (TRI) REPORTING

Facilities covered under TRI are required to report on-site releases, off-site transfers, and on-site waste management activities related to their use of certain toxic chemicals. This information is compiled and made available to the public through this report and other means. For more information regarding TRI please refer to the Introduction and For Further Information sections contained in this report

RISK MANAGEMENT PLANS

Additional information regarding hazardous chemicals is available to the public due to the requirements contained in Title I, Section 112(r) of the Federal Clean Air Act Amendments of 1990. Section 112(r) requires that facilities handling substances with catastrophic potential submit a Risk Management Plan (RMP) that contains an executive summary, registration, off-site consequence analysis (OCA), five-year accident history, and a summary of their prevention and emergency response programs. The OCA consists of a “worst case” release scenario and an “alternative” release scenario. The “worst case” scenario estimates the area and populations affected by a catastrophic release. The “worst case” scenario is a hypothetical, conservative modeling exercise. Emergency planning uses the “alternative” scenario, a more realistic modeling exercise.

The information contained in the RMP builds upon the right-to-know principles of EPCRA by making all of the information including the OCA and five-year accident history available to local communities, emergency planners, and other stakeholders. Concerned citizens or the media could ask facilities to explain the programs that they use to prevent or minimize the consequence of a catastrophic release by making this information available. EPA encourages this communication to reduce the risk. This is similar to the way public knowledge of chemical releases to the environment through the availability of TRI data has led reporting facilities to reduce their toxic releases. Because of security concerns, the RMP information is restricted. However, this information is available for Delaware facilities by contacting the Accidental Release Prevention Program (ARP).

Within Delaware, the Extremely Hazardous Substances Risk Management Act, originally passed in 1988 and amended in 1998 adopt new federal guidelines that enhance the community right-to-know information. The ARP, who has been granted full authority by the US EPA to administer the program within DNREC, reviews the facility RMP's for accuracy and completeness and inspects facilities to ensure that appropriate accidental release prevention programs have been implemented. For more information on accidental release prevention in Delaware, please refer to the DNREC ARP website at:

http://www.dnrec.state.de.us/air/aqm_page/arp.htm



APPENDIX B

TRI FACILITY ADDRESSES AND PUBLIC CONTACTS

AGILENT TECHNOLOGIES LITTLE FALLS

2850 CENTERVILLE RD.
WILMINGTON, DE 19808
JUDY PORTA
302-633-8111

AGILENT TECHNOLOGIES, NEWPORT

538 FIRST STATE BLVD.
NEWPORT, DE 19804
JUDY PORTA
302-633-8111

AGRILINK FOODS

WESLEY CHURCH RD.
BRIDGEVILLE, DE 19933
STEVE WEST
302-337-8206

ALLEN'S HATCHERY

RTE 13A
DELMAR, DE 19940
DOUG BRADFORD
302-846-9511

AMERICAN MINERALS, INC.

301 PIGEON POINT ROAD
NEW CASTLE, DE 19720
WILLIAM D. HEESTAND, JR.
606-836-5600

AMETEK INC.

900 GREENBANK RD
WILMINGTON, DE 19808-5906
ROSEMARIE M. PABLACIO
302-995-0469

ARLON INC.

1100 GOVERNOR LEA RD.
BEAR, DE 19701
ROBERT M CARINI
302-834-2100

ASTROPOWER

231 LAKE DRIVE
NEWARK, DE 19702
MARK BRIGGS
302-366-0400

AVECIA INC

233 CHERRY LANE
NEW CASTLE, DE 19720
KEENA DAUTLICK
302-472-1218

BLADES BULK PLANT

SOUTH MARKET ST.
SEAFORD, DE 19973
SCOTT GENSHAW
302-629-3011

CAMDEL METALS CORPORATION

12244 WILLOW GROVE ROAD
CAMDEN, DE 19934-9620
MARK A. SWEITZER
610-539-3900

CARL KING INC

1400 EAST LEBANON RD.
DOVER, DE 19901
RANDY WAYNE
301-322-3111

CHROME DEPOSIT CORP.

9 TYLER WAY
NEWARK, DE 19713
CHARLES BUTLER
302-368-7525

CIBA SPECIALTY CHEMICALS

205 S. JAMES STREET
NEWPORT, DE 19804
DONNA JAKOBOWSKI
302-992-5600

CITISTEEL USA, INC.

4001 PHILADELPHIA PIKE
CLAYMONT, DE 19703-2794
DANA A. LE SAGE, P.E.
302-792-5444

CLARIANT CORP.

745 MCCOLLEY ST.
MILFORD, DE 19963
WILLIAM CRAWFORD
508-829-6321

CUSTOM DECORATIVE MOLDINGS

12136 SUSSEX HIGHWAY
GREENWOOD, DE 19950
MICHAEL GOETZ
215-699-4800

D&B INDUSTRIAL GROUP

2-4 CEDAR CREEK AVE.
GEORGETOWN, DE 19947
BETTY ADKINS
302-855-0585

APPENDIX B

TRI FACILITY ADDRESSES AND PUBLIC CONTACTS



DIAMLER CHRYSLER
550 SOUTH COLLEGE ST.
NEWARK, DE 19713
ARCHIE WILLIAMS
302-453-5382

DENTSPLY CAULK MAIN
779 EAST MASTEN CIRCLE
MILFORD, DE 19963
PHIL STEWART
302-422-4511

DENTSPLY CAULK WEST
38 WEST CLARKE AVE.
MILFORD, DE 19963
PHIL STEWART
302-422-4511

DOVER AFB SMALL ARMS RANGE
436 CES/CC
DOVER AFB, DE 19902-5600
SUSAN WELLS
302-677-3550

DOW REICHHOLD
144 FORKBRANCH ROAD
CHESWOLD, DE 19936
GLENN CARR
302-736-9165

DU PONT EDGE MOOR
104 HAY ROAD
EDGE MOOR, DE 19809
LEONARD FASULLO
302-761-2298

DU PONT SEAFORD
25876 DUPONT RD.
SEAFORD, DE 19973
RENEE PHILLIPS
302-629-1027

E-A-R SPECIALTY COMPOSITES
650 DAWSON DR.
NEWARK, DE 19713
GEORGE KLETT
302-738-6800

EDGE MOOR/HAY ROAD POWER PLANTS
200 HAY ROAD
WILMINGTON, DE 19809
BILL YINGLING
302-283-5811

FORMOSA PLASTICS CORPORATION
780 SCHOOLHOUSE ROAD
DELAWARE CITY, DE 19706-0320
KIMBERLY BENNETT
302-836-2256

GAC SEAFORD, INC
1100 NANTICOKE AVE
SEAFORD, DE 19973
JOHN ELLIOTT
302-629-3505

GENERAL CHEMICAL CORP.
6300 PHILADELPHIA PIKE
CLAYMONT, DE 19703-2712
KATHY BAKER
973-515-1812

GENERAL CLOTHING CO., INC.
1300 SOUTH DUPONT HIGHWAY
SMYRNA, DE 19977
HAZEL C. PORTER
302-653-9226

GENERAL MOTORS
810 BOXWOOD ROAD
WILMINGTON, DE 19804
GERRY HOLMES
313-665-3150

GREEN TREE CHEMICAL
105 PARK AVENUE
SEAFORD, DE 19973
DAVID F. VAN DERVEER
732-254-2938

HALKO MANUFACTURING
500 DUCK CREEK ROAD
CLAYTON, DE 19938-0897
ANDREW R. HALKO
302-653-6627

HANOVER FOODS
RT. 6 & DUCK CREEK RD.
CLAYTON, DE 19938
ARNOLD BOLMAN
302-653-9281

HARDCORE COMPOSITES
618 LAMBSONS LANE
NEW CASTLE, DE 19720
SCOTT HEMPHILL
302-442-5900



APPENDIX B

TRI FACILITY ADDRESSES AND PUBLIC CONTACTS

HERCULES RESEARCH CENTER

500 HERCULES ROAD
WILMINGTON, DE 19808-1599
RICHARD J. SUJDAK
302-995-4460

HIRSH INDUSTRIES, DOVER

1525 MCKEE ROAD
DOVER, DE 19904
LINDA BURROWS
302-678-3454

HONEYWELL

6100 PHILADELPHIA PIKE
CLAYMONT, DE 19703
TIMOTHY P. LOVE
302-791-6745

INDIAN RIVER POWER PLANT

ROUTE 332, POWER PLANT ROAD
MILLSBORO, DE 19966-0408
GERRY HOPPER
302-934-3514

INSTEEL WIRE

800 NEW CASTLE AVE.
WILMINGTON, DE 19801
BILL DAVIS
302-656-3121

INTERVET INC.

405 STATE STREET
MILLSBORO, DE 19966
RONALD VEROSKO
302-934-4265

JOHNSON CONTROLS

700 NORTH BROAD STREET
MIDDLETOWN, DE 19709
RICK A. THOMPSON
302-378-9885

JOHNSON POLYMER

100 INDUSTRIAL BLVD.
SEAFORD, DE 19973
STEVEN DANLEY
3025-629-6200

JUSTIN TANKS LLC.

21413 CEDAR CREEK AVE
GEORGETOWN, DE 19947-6306
EDWARD M. SHORT, PRESIDENT
302-856-3521

KANEKA DELAWARE

1685 RIVER ROAD
DELAWARE CITY, DE 19706-0610
GLENN YARBROUGH
302-836-2130

KRAFT FOODS

1250 WEST NORTH STREET
DOVER, DE 19904
BRIAN P. HOYT II
302-735-6426

KUEHNE CHEMICAL

1645 RIVER ROAD
DELAWARE CITY, DE 19706
PETER KUEHNE
973-589-0700

MACDERMID, INC.

701 INDUSTRIAL DRIVE
MIDDLETOWN, DE 19709-1085
RICHARD T. MAYES
302-378-3100

MARBLE WORKS

MENNONITE SCHOOL ROAD
GREENWOOD, DE 19950-0929
MIKE MARVEL
302-349-5445

MCKEE RUN POWER PLANT

880 BUTTNER PLACE
DOVER, DE 19904
DEAN R. BLAHA
302-672-6304

MEDAL

305 WATER ST.
NEWPORT, DE 19804-2410
RALPH SCHWENDEMAN
302-225-2141

MOTIVA ENTERPRISES

2000 WRANGLE HILL ROAD
DELAWARE CITY, DE 19706
RICK STROUSE
302-834-6210

MOUNTAIRE FARMS OF DELAWARE

ROUTE 24 EAST
MILLSBORO, DE 19966
JEFFREY SMITH
302-934-3094

APPENDIX B

TRI FACILITY ADDRESSES AND PUBLIC CONTACTS

**MOUNTAIRE FARMS OF DELMARVA**

ROUTE 24 EAST
MILLSBORO, DE 19966
JEFFREY SMITH
302-934-3094

MOUNTAIRE FARMS FEEDMILL

11 DAISEY ST.
FRANKFORD, DE 19945
JEFFREY SMITH
302-934-3094

NORAMCO

500 SWEDES LANDING RD.
WILMINGTON, DE 19801
RONALD PANASIEWICZ
302-888-4444

NRG DOVER

1280 W. NORTH STREET
DOVER, DE 19904-7756
JERRY WIEGAND
612-373-8892

NVF YORKLYN

1166 YORKLYN RD
YORKLYN, DE 19736
JAMES E. JORDAN, JR.
302-239-5281

OCCIDENTAL CHEMICAL

1657 RIVER ROAD
NEW CASTLE, DE 19720-5194
DAVID J. RYSKOSKI
302-834-3810

ORIENT CORP.

111 PARK AVENUE
SEAFORD, DE 19973
KURT SCHIMMEL
302-628-1300

PERDUE BRIDGEVILLE

RT. 2, BOX 3
BRIDGEVILLE, DE 19933
TITA CHERRIER
410-860-4407

PERDUE GEORGETOWN

200 SAVANNAH ROAD
GEORGETOWN, DE 19947
TITA CHERRIER
410-860-4407

PINNACLE FOODS

RTE. 331 SOUTH
MILLSBORO, DE 19966
BETB B. SISE
302-934-3833

PLAYTEX PRODUCTS

50 NORTH DUPONT HIGHWAY
DOVER, DE 19901
SCOTT ZAPOR
302-678-6455

PPG DOVER

1886 LYNNBURY WOODS ROAD
DOVER, DE 19904
TERRY MCGINNIS
302-678-9800

PPG INDUSTRIES

300 RUTHAR DRIVE
NEWARK, DE 19711
WILLIAM HESCOX
302-454-1599

RODEL, INC.

451 BELLEVUE ROAD
NEWARK, DE 19713
DANA THURESSON
302-366-0500

RODEL TECHNICAL CENTER

351 BELLEVUE ROAD
NEWARK, DE 19713
DANA THURESSON
302-366-0500

ROLLER SERVICE CORP.

1318 E. 12TH STREET
WILMINGTON, DE 19802
JOHN GENTILE
302-737-5000

SERVICE ENERGY BULK PLANT

3799 N. DUPONT HWY.
DOVER, DE 19901
DON STEINER
302-422-6631

SICO TERMINAL #360

1010 CHRISTIANA AVE.
WILMINGTON, DE 19801
CHARLES E. HURSH
717-653-3422



APPENDIX B

TRI FACILITY ADDRESSES AND PUBLIC CONTACTS

SPATZ FIBERGLASS

505 NEW CHURCHMANS ROAD
NEW CASTLE, DE 19720
FREDERICK J. HOEY
302-322-3311

SPI PHARMA

40 CAPE HENLOPEN DR.
LEWES, DE 19958-1196
STEVE FREEBERRY
302-576-8692

SPI POLYOLS

321 CHERRY LANE
NEW CASTLE, DE 19720-2780
TOM SCHMIDT
302-576-8583

SUNOCO, INC.

GREEN ST. AND DELAWARE AVE.
MARCUS HOOK, PA 19061-0426
DONALD ZOLADKIEWICZ
610-859-1038

UNIQEMA

213, 315 CHERRY LANE
NEW CASTLE, DE 19720
ALLAN COLETTA
302-574-1510

VP RACING FUELS

16 BROOKHILL DRIVE
NEWARK, DE 19714
JIM KELLY
302-368-1500

W. L. GORE BARKSDALE

1901 BARKSDALE ROAD
NEWARK, DE 19711
LISA WALTON
410-506-3621

W. L. GORE OTTS CHAPEL

750 OTTS CHAPEL ROAD
NEWARK, DE 19714
LISA WALTON
410-506-3621

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL	TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL			
AGILENT TECHNOLOGIES LITTLE FALLS								
TOLUENE		443	0	0	443	30,267	0	
FACILITY TOTAL					443	30,267	0	
AGILENT TECHNOLOGIES NEWPORT								
METHANOL		1,713	0	0	1,713	15,746	0	
FACILITY TOTAL					1,713	15,746	0	
AGRILINK FOODS								
AMMONIA		4,625	0	0	4,625	0	0	
FACILITY TOTAL					4,625	0	0	
ALLEN'S HATCHERY								
COPPER COMPOUNDS	1	0	0	0	0	0	0	
MANGANESE COMPOUNDS	1	0	0	0	0	0	0	
ZINC COMPOUNDS	1	0	0	0	0	0	0	
FACILITY TOTAL					0	0	0	
AMERICAN MINERALS								
BARIUM		17	59	0	76	0	0	
LEAD		2	41	0	43	0	0	
MANGANESE COMPOUNDS		842	418	0	1,260	0	0	
NICKEL COMPOUNDS		9	8	0	17	0	0	
FACILITY TOTAL					1,396	0	0	
AMETEK								
LEAD		0	0	0	0	0	0	
PHENOL		29	0	0	29	0	305	
POLYCYCLIC AROMATIC COMPOUNDS		501	0	0	501	0	0	
TETRABROMOBISPHENOL A		0	0	0	0	0	0	
FACILITY TOTAL					530	0	305	
ARLON								
XYLENE (MIXED ISOMERS)		1,500	0	0	1,500	5,654	144,479	
FACILITY TOTAL					1,500	5,654	144,479	

APPENDIX C

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
ASTROPOWER							
LEAD COMPOUNDS		1	0	0	1	41	0
FACILITY TOTAL					1	41	0
AVECIA							
AMMONIA		15	0	0	15	34,675	0
CERTAIN GLYCOL ETHERS		1	0	0	1	2,787	0
COPPER COMPOUNDS		0	0	0	0	535	0
ETHYLENE GLYCOL		14	0	0	14	21,762	0
FORMIC ACID		109	0	0	109	226	107,335
METHANOL		1,041	0	0	1,041	29,703	0
TOLUENE		50	0	0	50	102	15,200
FACILITY TOTAL					1,230	89,790	122,535
BLADES BULK PLANT							
1,2,4-TRIMETHYLBENZENE	1	0	0	0	0	0	0
BENZENE	1	0	0	0	0	0	0
ETHYLBENZENE	1	0	0	0	0	0	0
METHYL TERT-BUTYL ETHER	1	0	0	0	0	0	0
N-HEXANE	1	0	0	0	0	0	0
TOLUENE	1	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	1	0	0	0	0	0	0
FACILITY TOTAL					0	0	0
CAMDEL METALS							
CHROMIUM		0	0	0	0	23,068	0
MANGANESE		0	0	0	0	3,155	0
NICKEL		0	0	0	0	15,405	0
TRICHLOROETHYLENE		16,017	0	0	16,017	1,588	13,100,000
FACILITY TOTAL					16,017	43,216	13,100,000
CARL KING							
1,2,4-TRIMETHYLBENZENE	1	0	0	0	0	0	0
BENZENE	1	0	0	0	0	0	0
CYCLOHEXANE	1	0	0	0	0	0	0
ETHYLBENZENE	1	0	0	0	0	0	0
METHYL TERT-BUTYL ETHER	1	0	0	0	0	0	0
N-HEXANE	1	0	0	0	0	0	0
TOLUENE	1	0	0	0	0	0	0

APPENDIX C

Source: DNREC 2001 TRI Database, March 1,2003.
FORM A reports do not indicate amounts.

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL	TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL			
XYLENE (MIXED ISOMERS)	1	0	0	0	0	0	0	0
FACILITY TOTAL					0	0	0	
CHROME DEPOSIT								
CHROMIUM COMPOUNDS		0	0	0	0	3,400	2,000	
LEAD COMPOUNDS		0	0	0	0	7,491	0	
FACILITY TOTAL					0	10,891	2,000	
CIBA SPECIALTY CHEMICALS								
ANILINE		20	0	0	20	35,783	0	
BIPHENYL		123	0	0	123	182,030	2,321	
CYCLOHEXANE		83	0	0	83	5,820	5,055	
METHANOL		29,290	0	0	29,290	2,470,113	437,640	
P-CHLOROANILINE		17	0	0	17	8,557	0	
XYLENE (MIXED ISOMERS)		1,372	0	0	1,372	7,587	100	
FACILITY TOTAL					30,905	2,709,890	445,116	
CITISTEEL								
CHROMIUM COMPOUNDS		120	2	56	178	33,441	0	
COPPER COMPOUNDS		106	5	18	129	33,783	0	
LEAD COMPOUNDS		538	2	31	571	254,655	0	
MANGANESE COMPOUNDS		410	10	359	779	193,045	0	
MERCURY COMPOUNDS		29	0	0	29	26	0	
NICKEL COMPOUNDS		21	2	22	45	4,034	0	
ZINC COMPOUNDS		2,901	13	119	3,033	1,906,033	0	
FACILITY TOTAL					4,764	2,425,017	0	
CLARIANT								
ZINC COMPOUNDS		5	0	0	5	193	0	
FACILITY TOTAL					5	193	0	
CUSTOM DECORATIVE MOLDINGS								
DIISOCYANATES	1	0	0	0	0	0	0	
FACILITY TOTAL					0	0	0	
D & B INDUSTRIAL GROUP								
METHYL ETHYL KETONE		24,592	0	0	24,592	14,036	0	
FACILITY TOTAL					24,592	14,036	0	

APPENDIX C

Source: DNREC 2001 TRI Database, March 1, 2003.
FORM A reports do not indicate amounts.

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL	TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL			
DAIMLER CHRYSLER								
1,2,4-TRIMETHYLBENZENE		71,000	0	0	71,000	4,800	6,600	
BENZENE		532	0	0	532	23	0	
CERTAIN GLYCOL ETHERS		123,000	0	0	123,000	113,511	17,000	
CYCLOHEXANE		639	0	0	639	27	0	
ETHYLBENZENE		16,700	0	0	16,700	17,076	430	
ETHYLENE GLYCOL		61	0	0	61	280	0	
MANGANESE COMPOUNDS		0	0	0	0	5,050	0	
METHANOL		2,120	0	0	2,120	790	0	
METHYL ISOBUTYL KETONE		35,600	0	0	35,600	48,860	0	
METHYL TERT-BUTYL ETHER		1,597	0	0	1,597	67	0	
N-BUTYL ALCOHOL		70,000	0	0	70,000	5,700	9,100	
N-HEXANE		639	0	0	639	27	0	
NITRATE COMPOUNDS		81	0	0	81	21,013	0	
NITRIC ACID		21	0	0	21	0	2,100	
SODIUM NITRITE		340	0	0	340	0	4,400	
TOLUENE		4,720	0	0	4,720	1,100	0	
XYLENE (MIXED ISOMERS)		57,400	0	0	57,400	49,480	2,100	
ZINC COMPOUNDS		0	0	0	0	15,290	0	
FACILITY TOTAL					384,450	283,094	41,730	
DENTSPLY CAULK MAIN								
METHANOL		102	0	0	102	12,721	0	
METHYL METHACRYLATE		18	0	0	18	1,686	0	
FACILITY TOTAL					120	14,407	0	
DENTSPLY CAULK WEST								
LEAD COMPOUNDS		0	0	0	0	0	350	
MERCURY		0	0	0	0	3,327	0	
METHANOL		191	0	0	191	2,918	0	
SILVER		0	0	0	0	4,575	0	
TOLUENE		449	0	0	449	3,863	0	
FACILITY TOTAL					640	14,683	350	
DOVER AFB SMALL ARMS RANGE								
LEAD		0	0	2,958	2,958	0	0	
FACILITY TOTAL					2,958	0	0	

APPENDIX C

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
DOW REICHHOLD							
1,3-BUTADIENE		21,491	0	0	21,491	0	1,290,212
ACRYLIC ACID		1,125	0	0	1,125	0	1
ACRYLONITRILE		4,453	0	0	4,453	143	535,325
AMMONIA		2,357	0	0	2,357	10	296
BUTYL ACRYLATE		585	0	0	585	0	4
ETHYL ACRYLATE		543	0	0	543	11	216
FORMALDEHYDE		1,965	0	0	1,965	0	0
METHANOL		8	0	0	8	10	296
METHYL METHACRYLATE		2,059	0	0	2,059	13	206
N-METHYLOLACRYLAMIDE		407	0	0	407	0	11
STYRENE		4,463	0	0	4,463	596	151,104
VINYL ACETATE		4,109	0	0	4,109	34	2,553
FACILITY TOTAL					43,565	817	1,980,224
DU PONT EDGE MOOR							
BARIUM COMPOUNDS		2	648	875	1,525	26,072	0
CARBONYL SULFIDE		190,000	0	0	190,000	0	0
CHLORINE		1,341	0	0	1,341	0	5,041,000
CHROMIUM COMPOUNDS		1	67	994	1,062	210,437	0
COBALT COMPOUNDS		0	52	52	104	9,296	0
COPPER COMPOUNDS		0	314	11	325	3,396	0
DIOXIN AND DIOXIN-LIKE CPDS.		0	0	13	13	156	0
HEXACHLOROBENZENE		0	52	99	151	672	0
HYDROCHLORIC ACID AEROSOLS		2,214	0	0	2,214	0	21,347,000
LEAD COMPOUNDS		0	44	233	277	48,115	0
MANGANESE COMPOUNDS		1	34,499	8,263	42,763	3,144,014	0
NICKEL COMPOUNDS		2	164	120	286	25,711	0
OCTACHLOROSTYRENE		0	0	42	42	508	0
PENTACHLOROBENZENE		0	16	30	46	201	0
PHOSGENE		798	0	0	798	0	48,000
POLYCHLORINATED BIPHENYLS		0	0	0	0	71	0
TITANIUM TETRACHLORIDE		57	0	0	57	0	1,739,000
TOLUENE		1,381	0	0	1,381	0	0
VANADIUM COMPOUNDS		1	774	1,122	1,897	52,209	0
ZINC COMPOUNDS		10	523	179	712	41,055	0
FACILITY TOTAL					244,994	3,561,913	28,175,000

APPENDIX C

Source: DNREC 2001 TRI Database, March 1,2003.
FORM A reports do not indicate amounts.

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
DU PONT SEAFORD							
BARIUM COMPOUNDS		22	0	24,329	24,351	0	0
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0
BIPHENYL		17,441	0	0	17,441	7,880	0
DIOXIN AND DIOXIN-LIKE CPDS.		0	0	0	0	0	0
HYDROCHLORIC ACID AEROSOLS		192,306	0	0	192,306	0	0
LEAD COMPOUNDS		57	0	1,629	1,686	0	0
MERCURY COMPOUNDS		130	0	113	243	0	0
NITRATE COMPOUNDS		0	134,000	0	134,000	12	0
POLYCYCLIC AROMATIC COMPOUNDS		0	0	0	0	0	0
SODIUM NITRITE		0	0	0	0	0	132,204
SULFURIC ACID AEROSOLS		89,242	0	0	89,242	0	0
ZINC COMPOUNDS		7,083	2,338	0	9,421	0	0
FACILITY TOTAL					468,690	7,892	132,204
E-A-R SPECIALTY COMPOSITES							
DIISOCYANATES		0	0	0	0	2,330	0
TOLUENE DIISOCYANATE (MIXED)		4	0	0	4	5,850	0
FACILITY TOTAL					4	8,180	0
EDGE MOOR/HAY ROAD POWER PLT.							
AMMONIA		21,071	5	0	21,076	0	0
BARIUM COMPOUNDS		4,789	2,937	0	7,726	88,059	0
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0
CHROMIUM COMPOUNDS		1,183	1,468	0	2,651	22,355	0
COBALT COMPOUNDS		1,265	0	0	1,265	18,148	0
COPPER COMPOUNDS		2,882	5,977	0	8,859	25,164	0
DIOXIN AND DIOXIN-LIKE CPDS.		0	0	0	0	0	0
HYDROCHLORIC ACID AEROSOLS		1,397,486	0	0	1,397,486	0	0
HYDROGEN FLUORIDE		70,815	0	0	70,815	0	6,944
LEAD COMPOUNDS		1,482	3,479	0	4,961	7,910	0
MANGANESE COMPOUNDS		1,339	20,559	0	21,898	20,054	0
MERCURY COMPOUNDS		124	0	0	124	44	0
NICKEL COMPOUNDS		20,111	1	0	20,112	29,268	0
POLYCYCLIC AROMATIC COMPOUNDS		34	0	0	34	0	0
SULFURIC ACID AEROSOLS		179,384	0	0	179,384	0	109,091
VANADIUM COMPOUNDS		3,981	0	0	3,981	39,762	0
FACILITY TOTAL					1,740,371	250,764	116,035

APPENDIX C

Source: DNREC 2001 TRI Database, March 1,2003.
FORM A reports do not indicate amounts.

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
FORMOSA PLASTICS							
AMMONIA		7,266	0	0	7,266	0	0
DIOXIN AND DIOXIN-LIKE CPDS.		0	0	0	0	0	0
VINYL ACETATE		11,633	0	0	11,633	0	0
VINYL CHLORIDE		97,717	0	0	97,717	0	139,431
FACILITY TOTAL					116,616	0	139,431
GAC SEAFORD							
ASBESTOS (FRIABLE)	1	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS		0	0	0	0	0	0
FACILITY TOTAL					0	0	0
GENERAL CHEMICAL							
AMMONIA		1,000	750	0	1,750	2,301	0
HYDROGEN FLUORIDE		1,000	0	0	1,000	0	76,430
LEAD COMPOUNDS		42	0	0	42	2,116	0
SULFURIC ACID AEROSOLS		16,000	0	0	16,000	0	0
FACILITY TOTAL					18,792	4,417	76,430
GENERAL CLOTHING							
TOLUENE		8,700	0	0	8,700	1,550	0
FACILITY TOTAL					8,700	1,550	0
GENERAL MOTORS							
1,2,4-TRIMETHYLBENZENE		10,900	0	0	10,900	32,087	7,900
CERTAIN GLYCOL ETHERS		92,700	0	0	92,700	59,071	45,000
ETHYLENE GLYCOL		0	0	0	0	930	0
LEAD COMPOUNDS		0	0	0	0	152	0
METHANOL		11,320	0	0	11,320	32,022	2,000
METHYL TERT-BUTYL ETHER		105	0	0	105	180	0
N-BUTYL ALCOHOL		37,120	0	0	37,120	523	17,000
N-METHYL-2-PYRROLIDONE		31,600	0	0	31,600	18	250
POTASSIUM DIMETHYLDITHIOCARBAMATE		0	0	0	0	81	0
SODIUM NITRITE		0	0	0	0	15,000	0
TOLUENE		2,530	0	0	2,530	63	4
XYLENE (MIXED ISOMERS)		157,000	0	0	157,000	390,437	11,000
ZINC COMPOUNDS		29	360	0	389	8,240	0
FACILITY TOTAL					343,664	538,804	83,154

APPENDIX C

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FORM A reports do not indicate amounts.

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
GREEN TREE CHEMICAL							
		180	0	0	180	1,269	0
		1	0	0	1	1,658	0
		127	0	0	127	1,016	0
		6	0	0	6	604	0
		77	0	0	77	867	0
		29	0	0	29	1,168	0
FACILITY TOTAL					420	6,582	0
HALKO MANUFACTURING							
		0	0	0	0	0	0
		0	0	0	0	0	0
FACILITY TOTAL					0	0	0
HANOVER FOODS							
		20,000	0	0	20,000	0	0
FACILITY TOTAL					20,000	0	0
HARDCORE COMPOSITES							
		2,638	0	0	2,638	0	0
FACILITY TOTAL					2,638	0	0
HERCULES RESEARCH CENTER							
		0	0	0	0	0	0
		0	0	0	0	0	0
FACILITY TOTAL					0	0	0
HIRSH INDUSTRIES							
		12,714	0	0	12,714	0	0
FACILITY TOTAL					12,714	0	0
HONEYWELL							
		29	0	0	29	20,707	0
		6,882	0	0	6,882	3,657	0
		215	0	0	215	2,307	0
	1	0	0	0	0	0	0
		7,886	0	0	7,886	38,452	0
		750	0	0	750	4,092	0
FACILITY TOTAL					15,762	69,215	0

APPENDIX C

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APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
INDIAN RIVER POWER PLANT							
AMMONIA		15,000	0	0	15,000	0	0
BARIUM COMPOUNDS		1,805	0	290,000	291,805	0	0
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0
CHROMIUM COMPOUNDS		835	0	54,000	54,835	0	0
COPPER COMPOUNDS		215	2,900	25,000	28,115	0	0
DIOXIN AND DIOXIN-LIKE CPDS.		0	0	0	0	0	0
HYDROCHLORIC ACID AEROSOLS		1,630,580	0	0	1,630,580	0	0
HYDROGEN FLUORIDE		130,000	0	0	130,000	0	14,000
LEAD COMPOUNDS		838	0	16,575	17,413	0	0
MANGANESE COMPOUNDS		1,005	0	50,000	51,005	0	0
MERCURY COMPOUNDS		89	0	102	191	0	0
NICKEL COMPOUNDS		595	0	31,000	31,595	0	0
POLYCYCLIC AROMATIC COMPOUNDS		76	0	0	76	0	0
SULFURIC ACID AEROSOLS		84,000	0	0	84,000	0	460,000
VANADIUM COMPOUNDS		625	0	56,000	56,625	0	0
ZINC COMPOUNDS		385	0	42,000	42,385	0	0
FACILITY TOTAL					2,433,625	0	474,000
INSTEEL WIRE							
LEAD COMPOUNDS		0	0	0	0	0	0
FACILITY TOTAL					0	0	0
INTERVET							
MERCURY COMPOUNDS		0	0	0	0	5	0
FACILITY TOTAL					0	5	0
JOHNSON CONTROLS							
ANTIMONY COMPOUNDS		0	0	0	0	12,483	0
LEAD COMPOUNDS		177	0	0	177	4,304,443	0
FACILITY TOTAL					177	4,316,926	0
JOHNSON POLYMER							
AMMONIA		2,721	0	0	2,721	426	0
BUTYL ACRYLATE		168	0	0	168	15	42
CERTAIN GLYCOL ETHERS		10	0	0	10	2,491	0
ETHYL ACRYLATE	1	0	0	0	0	0	0
METHYL METHACRYLATE		391	0	0	391	15	1,242
STYRENE		349	0	0	349	53	937
FACILITY TOTAL					3,639	3,000	2,221

APPENDIX C

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APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
JUSTIN TANKS							
	STYRENE	31,117	0	0	31,117	420	0
FACILITY TOTAL					31,117	420	0
KANEKA							
	HYDROCHLORIC ACID AEROSOLS	322	0	0	322	0	104,859
	VINYL CHLORIDE	32,106	1	0	32,107	3	177,707
FACILITY TOTAL					32,429	3	282,566
KRAFT FOODS							
	AMMONIA	5	0	0	5	1,018	20,760
FACILITY TOTAL					5	1,018	20,760
KUEHNE CHEMICAL							
	CHLORINE	5	0	0	5	0	0
FACILITY TOTAL					5	0	0
MACDERMID							
	METHANOL	250	0	0	250	9,702	0
	METHYL ETHYL KETONE	15,547	0	0	15,547	127,714	890,451
	TOLUENE DIISOCYANATE (MIXED)	0	0	0	0	0	1,397
FACILITY TOTAL					15,797	137,416	891,848
MARBLE WORKS							
	STYRENE	2,282	0	0	2,282	0	0
FACILITY TOTAL					2,282	0	0
MCKEE RUN POWER PLANT							
	BENZO(G,H,I)PERYLENE	0	0	0	0	0	0
	POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0
FACILITY TOTAL					0	0	0
MEDAL							
	METHANOL	250	0	0	250	10,955	910,637
	N-HEXANE	250	0	0	250	0	797,454
	N-METHYL-2-PYRROLIDONE	250	0	0	250	31,180	0
FACILITY TOTAL					750	42,135	1,708,091

APPENDIX C

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APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
MOTIVA							
1,2,4-TRIMETHYLBENZENE		1,380	0	0	1,380	18	380,000
1,3-BUTADIENE		369	0	0	369	0	11
AMMONIA		25,014	1,400	0	26,414	0	14,021,000
ANTHRACENE		0	0	0	0	0	5
BENZENE		19,200	5,600	0	24,800	198	380,000
BENZO(G,H,I)PERYLENE		1	2	0	3	0	190
CARBON DISULFIDE		34	0	0	34	0	31,051
CARBONYL SULFIDE		410	0	0	410	0	1,067,000
CHROMIUM COMPOUNDS		441	1	44,000	44,442	11,046	0
CRESOL (MIXED ISOMERS)		0	130	0	130	1	54,000
CUMENE		99	0	0	99	0	80
CYCLOHEXANE		14,200	0	0	14,200	73	5,200
DIETHANOLAMINE		0	880	0	880	9	87,000
DIOXIN AND DIOXIN-LIKE CPDS.		0	0	0	0	0	0
ETHYLBENZENE		2,570	1,200	3	3,773	277	12,000
ETHYLENE		98	0	0	98	0	18,000
ETHYLENE GLYCOL		0	480	0	480	9	47,000
FORMIC ACID		0	0	0	0	0	75,000
HYDROCHLORIC ACID AEROSOLS		180,000	0	0	180,000	0	230,000
HYDROGEN CYANIDE		2,600	0	0	2,600	0	280,000
LEAD COMPOUNDS		660	1	27	688	56	0
MANGANESE COMPOUNDS		1,311	2,300	3,800	7,411	61,000	0
MERCURY COMPOUNDS		35	0	0	35	183	0
METHANOL		19,000	170	0	19,170	9	10,450,000
METHYL TERT-BUTYL ETHER		66,000	240	0	66,240	55	510,000
MOLYBDENUM TRIOXIDE		520	1,800	14,000	16,320	0	0
NAPHTHALENE		620	0	0	620	42	590
N-BUTYL ALCOHOL		240	12	0	252	0	1,200
N-HEXANE		44,800	0	0	44,800	0	12,000
NICKEL COMPOUNDS		13,000	1,800	39,000	53,800	28,043	0
NITRATE COMPOUNDS		0	530	0	530	0	900,000
PHENANTHRENE		2	0	0	2	0	5
PHENOL		2	280	0	282	0	118,000
POLYCYCLIC AROMATIC COMPOUNDS		9	2	0	11	0	420
PROPYLENE		1,770	0	0	1,770	0	570,000
SODIUM NITRITE		0	12,000	0	12,000	0	1,400,000
STYRENE		22	0	0	22	0	70
SULFURIC ACID AEROSOLS		840,000	0	0	840,000	0	1,900

APPENDIX C

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FORM A reports do not indicate amounts.

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL	TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL			
TETRACHLOROETHYLENE		3	0	0	3	0	0	
TOLUENE		5,400	4,400	0	9,800	1,123	160,000	
VANADIUM COMPOUNDS		7,700	11,000	250,000	268,700	340	0	
XYLENE (MIXED ISOMERS)		6,400	0	0	6,400	1,061	95,000	
ZINC COMPOUNDS		2,500	3,300	340	6,140	41,270	0	
FACILITY TOTAL (MOTIVA)					1,655,108	144,813	30,906,722	
MOUNTAIRE FARMS FEEDMILL								
COPPER COMPOUNDS	1	0	0	0	0	0	0	
MANGANESE COMPOUNDS	1	0	0	0	0	0	0	
ZINC COMPOUNDS	1	0	0	0	0	0	0	
FACILITY TOTAL					0	0	0	
MOUNTAIRE FARMS OF DELAWARE								
AMMONIA		0	1,649	7,937	9,586	0	0	
COPPER COMPOUNDS	1	0	0	0	0	0	0	
MANGANESE	1	0	0	0	0	0	0	
ZINC (FUME OR DUST)	1	0	0	0	0	0	0	
FACILITY TOTAL					9,586	0	0	
MOUNTAIRE FARMS OF DELMARVA								
AMMONIA		3,400	0	0	3,400	10,435	0	
FACILITY TOTAL					3,400	10,435	0	
NORAMCO								
DICHLOROMETHANE		2,010	0	0	2,010	86,810	1,196,732	
HYDROCHLORIC ACID AEROSOLS		31	0	0	31	0	0	
METHANOL		1,024	0	0	1,024	595,267	11,482	
METHYL ISOBUTYL KETONE		2	0	0	2	52,474	0	
N-BUTYL ALCOHOL		3	0	0	3	50,535	0	
SULFURIC ACID AEROSOLS		0	0	0	0	0	0	
TOLUENE		823	0	0	823	430,992	260,022	
FACILITY TOTAL					3,893	1,216,078	1,468,236	
NRG DOVER								
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0	
HYDROCHLORIC ACID AEROSOLS		96,000	0	0	96,000	0	0	
LEAD COMPOUNDS		12	0	0	12	380	0	
MERCURY COMPOUNDS		7	0	0	7	2	0	
POLYCYCLIC AROMATIC COMPOUNDS		0	0	0	0	0	0	

APPENDIX C

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APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL	TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL			
SULFURIC ACID AEROSOLS		23,000	0	0	23,000	0	23,000	
FACILITY TOTAL					119,019	382	23,000	
NVF YORKLYN								
ZINC COMPOUNDS		0	2,252	0	2,252	9,594	4,594,952	
FACILITY TOTAL					2,252	9,594	4,594,952	
OCCIDENTAL CHEMICAL								
CHLORINE		1,066	0	0	1,066	831	2,288,340	
CHLOROFORM		209	0	0	209	11,157	0	
DIOXIN AND DIOXIN-LIKE CPDS.		0	0	0	0	0	0	
MERCURY		1,068	20	0	1,088	1,047	7,800	
FACILITY TOTAL					2,363	13,035	2,296,140	
ORIENT								
ANILINE		2,509	0	0	2,509	116	7,590	
CHROMIUM COMPOUNDS		0	0	0	0	0	0	
NITROBENZENE		210	0	0	210	0	0	
ZINC COMPOUNDS		0	0	0	0	0	0	
FACILITY TOTAL					2,719	116	7,590	
PERDUE BRIDGEVILLE								
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0	
COPPER COMPOUNDS	1	0	0	0	0	0	0	
MANGANESE COMPOUNDS	1	0	0	0	0	0	0	
POLYCYCLIC AROMATIC COMPOUNDS		0	0	0	0	0	0	
ZINC COMPOUNDS	1	0	0	0	0	0	0	
FACILITY TOTAL					0	0	0	
PERDUE GEORGETOWN								
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0	
NITRATE COMPOUNDS		0	310,000	210	310,210	0	0	
POLYCYCLIC AROMATIC COMPOUNDS		0	0	0	0	0	0	
FACILITY TOTAL					310,210	0	0	
PINNACLE FOODS								
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0	
POLYCYCLIC AROMATIC COMPOUNDS		2	0	0	2	0	0	
FACILITY TOTAL					2	0	0	

APPENDIX C

Source: DNREC 2001 TRI Database, March 1, 2003.
FORM A reports do not indicate amounts.

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL		
PLAYTEX PRODUCTS							
		5	0	0	5	0	2,300
		37	0	0	37	6,900	2,000
FACILITY TOTAL					42	6,900	4,300
PPG DOVER							
		0	0	0	0	0	0
	1	0	0	0	0	0	0
		10	0	0	10	4,073	0
		69	0	0	69	4,292	0
FACILITY TOTAL					79	8,365	0
PPG INDUSTRIES							
		0	0	0	0	250	0
FACILITY TOTAL					0	250	0
RODEL							
		2	0	0	2	8,930	0
		9,894	0	0	9,894	1,542	191,708
		23,971	0	0	23,971	823,361	3,205,583
	1	0	0	0	0	0	0
FACILITY TOTAL					33,867	833,833	3,397,291
RODEL TECH CENTER							
		2	0	0	2	1,039	0
		2,305	0	0	2,305	24,510	0
FACILITY TOTAL					2,307	25,549	0
ROLLER SERVICE							
	1	0	0	0	0	0	0
FACILITY TOTAL					0	0	0
SERVICE ENERGY DOVER							
	1	0	0	0	0	0	0
	1	0	0	0	0	0	0
FACILITY TOTAL					0	0	0

APPENDIX C

Source: DNREC 2001 TRI Database, March 1, 2003.
FORM A reports do not indicate amounts.

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL	TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
		AIR	WATER	LAND	TOTAL			
SICO #360								
1,2,4-TRIMETHYLBENZENE	1	0	0	0	0	0	0	0
BENZENE	1	0	0	0	0	0	0	0
CYCLOHEXANE	1	0	0	0	0	0	0	0
ETHYLBENZENE	1	0	0	0	0	0	0	0
METHYL TERT-BUTYL ETHER	1	0	0	0	0	0	0	0
NAPHTHALENE	1	0	0	0	0	0	0	0
N-HEXANE	1	0	0	0	0	0	0	0
TOLUENE	1	0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	1	0	0	0	0	0	0	0
FACILITY TOTAL					0	0	0	0
SPATZ FIBERGLASS								
STYRENE		6,178	0	0	6,178	0	0	0
FACILITY TOTAL					6,178	0	0	0
SPI PHARMA								
CHLORINE	1	0	0	0	0	0	0	0
NITRIC ACID	1	0	0	0	0	0	0	0
FACILITY TOTAL					0	0	0	0
SPI POLYOLS, INC.								
NICKEL COMPOUNDS		213	0	5	218	99,252	35,000	
NITRATE COMPOUNDS	1	0	0	0	0	0	0	
NITRIC ACID		10	0	0	10	1,900	0	
POLYCYCLIC AROMATIC COMPOUNDS		0	0	0	0	0	0	
FACILITY TOTAL					228	101,152	35,000	
SUNOCO								
BENZENE		11,818	0	0	11,818	45,772	0	
ETHYLENE		35,261	0	0	35,261	0	0	
ETHYLENE OXIDE		5,368	0	0	5,368	0	0	
TOLUENE		42,607	0	0	42,607	50,262	0	
XYLENE (MIXED ISOMERS)		19,070	0	0	19,070	25,288	0	
FACILITY TOTAL					114,124	121,322	0	

APPENDIX C

APPENDIX C

2001 ON-SITE CHEMICAL RELEASES BY FACILITY

(in pounds)

FACILITIES RANKED ALPHABETICALLY	FORM A	ON-SITE RELEASE				TOTAL OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT	
		AIR	WATER	LAND	TOTAL			
UNIQEMA								
4,4'-ISOPROPYLIDENEDIPHENOL		978	0	0	978	1,359	0	
BIS(2-CHLOROETHYL) ETHER		18	0	0	18	8,077	0	
CERTAIN GLYCOL ETHERS		23	0	0	23	3,437	1,473	
DIETHYL SULFATE	1	0	0	0	0	0	0	
ETHYLENE GLYCOL	1	0	0	0	0	0	0	
ETHYLENE OXIDE		6,023	0	0	6,023	0	0	
NAPHTHALENE	1	0	0	0	0	0	0	
PHENOL		55	0	0	55	512	219	
PROPYLENE OXIDE		1,062	0	0	1,062	0	0	
FACILITY TOTAL					8,159	13,385	1,692	
VP RACING FUELS								
BENZENE	1	0	0	0	0	0	0	
LEAD COMPOUNDS		2	0	0	2	0	0	
METHANOL	1	0	0	0	0	0	0	
METHYL TERT-BUTYL ETHER	1	0	0	0	0	0	0	
TOLUENE	1	0	0	0	0	0	0	
XYLENE (MIXED ISOMERS)	1	0	0	0	0	0	0	
FACILITY TOTAL					2	0	0	
W.L. GORE BARKSDALE								
LEAD		0	0	0	0	954	0	
FACILITY TOTAL					0	954	0	
W.L. GORE OTTS CHAPEL								
LEAD		0	0	0	0	600	0	
FACILITY TOTAL					0	600	0	
STATE TOTAL		57	6,766,580	573,937	965,666	8,306,183	17,114,745	90,673,402

APPENDIX C

APPENDIX D

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
	AGILENT TECHNOLOGIES LITTLE FALLS									
TOLUENE			30,267			30,267				0
Facility Total			30,267			30,267				0
AGILENT TECHNOLOGIES NEWPORT										
METHANOL			15,746			15,746				0
Facility Total			15,746			15,746				0
AGRILINK FOODS										
AMMONIA						0				0
Facility Total						0				0
ALLEN'S HATCHERY										
COPPER COMPOUNDS						0				0
MANGANESE COMPOUNDS						0				0
ZINC COMPOUNDS						0				0
Facility Total						0				0
AMERICAN MINERALS										
BARIUM						0				0
LEAD						0				0
MANGANESE COMPOUNDS						0				0
NICKEL COMPOUNDS						0				0
Facility Total						0				0
AMETEK										
LEAD						0				0
PHENOL	0					0	210	95		305
POLYCYCLIC AROMATIC COMPOUNDS						0				0
TETRABROMOBISPHENOL A						0				0
Facility Total	0					0	210	95		305

APPENDIX D

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
ARLON										
XYLENE (MIXED ISOMERS)				5,654		5,654		144,479		144,479
Facility Total				5,654		5,654		144,479		144,479
ASTROPOWER										
LEAD COMPOUNDS	3	19			19	41				0
Facility Total	3	19			19	41				0
AVECIA										
AMMONIA	34,675					34,675				0
CERTAIN GLYCOL ETHERS	2,090		697			2,787				0
COPPER COMPOUNDS	273				262	535				0
ETHYLENE GLYCOL	21,762					21,762				0
FORMIC ACID	226					226			107,335	107,335
METHANOL	12,768		16,935			29,703				0
TOLUENE	102					102	15,200			15,200
Facility Total	71,896		17,632		262	89,790	15,200		107,335	122,535
BLADES BULK PLANT										
1,2,4-TRIMETHYLBENZENE						0				0
BENZENE						0				0
ETHYLBENZENE						0				0
METHYL TERT-BUTYL ETHER						0				0
N-HEXANE						0				0
TOLUENE						0				0
XYLENE (MIXED ISOMERS)						0				0
Facility Total						0				0
CAMDEL METALS										
CHROMIUM		22,818			250	23,068				0
MANGANESE		2,905			250	3,155				0
NICKEL		15,155			250	15,405				0
TRICHLOROETHYLENE				1,588		1,588	13,100,000			13,100,000
Facility Total		40,878		1,588	750	43,216	13,100,000			13,100,000

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
CARL KING										
1,2,4-TRIMETHYLBENZENE						0				0
BENZENE						0				0
CYCLOHEXANE						0				0
ETHYLBENZENE						0				0
METHYL TERT-BUTYL ETHER						0				0
N-HEXANE						0				0
TOLUENE						0				0
XYLENE (MIXED ISOMERS)						0				0
Facility Total						0				0
CHROME DEPOSIT										
CHROMIUM COMPOUNDS		2,400			1,000	3,400	2,000			2,000
LEAD COMPOUNDS		6,790			701	7,491				0
Facility Total		9,190			1,701	10,891	2,000			2,000
CIBA SPECIALTY CHEMICALS										
ANILINE	22,810		2,699	10,274		35,783				0
BIPHENYL	86,111		84,033	11,886		182,030		2,321	2,321	
CYCLOHEXANE	0		5,820			5,820		5,055	5,055	
METHANOL	789,492	1,557,725	110,939	11,957		2,470,113	0	437,640	437,640	
P-CHLOROANILINE	899		1,385	6,273		8,557				0
XYLENE (MIXED ISOMERS)	365		5,771	1,451		7,587		100	100	
Facility Total	899,677	1,557,725	210,647	41,841		2,709,890	0	445,116	445,116	
CITISTEEL										
CHROMIUM COMPOUNDS		32,772			669	33,441				0
COPPER COMPOUNDS		32,369			1,414	33,783				0
LEAD COMPOUNDS		254,616			39	254,655				0
MANGANESE COMPOUNDS		189,576			3,469	193,045				0
MERCURY COMPOUNDS		26				26				0

Citisteel Continued on Next Page

Source: DNREC 2001 Database, March 1, 2003

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
NICKEL COMPOUNDS		3,318			716	4,034				0
ZINC COMPOUNDS		1,905,943			90	1,906,033				0
Facility Total (Citisteel)		2,418,620			6,397	2,425,017				0
CLARIANT										
ZINC COMPOUNDS	20				173	193				0
Facility Total	20				173	193				0
CUSTOM DECORATIVE MOLDINGS										
DIISOCYANATES						0				0
Facility Total						0				0
D & B INDUSTRIAL GROUP										
METHYL ETHYL KETONE					14,036	14,036				0
Facility Total					14,036	14,036				0
DAIMLER CHRYSLER										
1,2,4-TRIMETHYLBENZENE	0	3,700	1,100			4,800		6,600		6,600
BENZENE			23			23		0		0
CERTAIN GLYCOL ETHERS	110,000	110	3,400		1	113,511		17,000		17,000
CYCLOHEXANE			27			27		0		0
ETHYLBENZENE		17,000	76			17,076		430		430
ETHYLENE GLYCOL	280	0				280				0
MANGANESE COMPOUNDS	150	1,500			3,400	5,050				0
METHANOL			790			790				0
METHYL ISOBUTYL KETONE		48,000	860			48,860				0
METHYL TERT-BUTYL ETHER			67			67		0		0
N-BUTYL ALCOHOL	0	3,900	1,800			5,700		9,100		9,100
N-HEXANE			27			27		0		0
NITRATE COMPOUNDS	21,000	13				21,013				0
NITRIC ACID	0					0		2,100		2,100
SODIUM NITRITE	0	0			0	0		4,400		4,400
TOLUENE			1,100	0		1,100		0		0

DaimlerChrysler Continued on Next Page

Source: DNREC 2001 Database, March 1, 2003

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APPENDIX D

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
XYLENE (MIXED ISOMERS)	0	49,000	480			49,480			2,100	2,100
ZINC COMPOUNDS	190	4,100			11,000	15,290				0
Facility Total (DaimlerChrysler)	131,620	127,323	9,750	0	14,401	283,094			41,730	41,730
DENTSPLY CAULK MAIN										
METHANOL		12,721				12,721				0
METHYL METHACRYLATE		1,686				1,686				0
Facility Total		14,407				14,407				0
DENTSPLY CAULK WEST										
LEAD COMPOUNDS		0	0			0	350	0	0	350
MERCURY		3,327				3,327				0
METHANOL		2,918				2,918				0
SILVER		4,575				4,575				0
TOLUENE		3,863				3,863				0
Facility Total		14,683	0			14,683	350	0	0	350
DOVER AFB SMALL ARMS RANGE										
LEAD						0				0
Facility Total						0				0
DOW REICHHOLD										
1,3-BUTADIENE						0			1,290,212	1,290,212
ACRYLIC ACID						0			1	1
ACRYLONITRILE	4		7		132	143			535,325	535,325
AMMONIA	10					10			296	296
BUTYL ACRYLATE			0			0			4	4
ETHYL ACRYLATE	2		9			11			216	216
FORMALDEHYDE			0			0				0
METHANOL	10					10			296	296
METHYL METHACRYLATE	13					13			206	206
N-METHYLOLACRYLAMIDE			0			0			11	11
STYRENE	358		168		70	596			151,104	151,104
VINYL ACETATE	11		23			34			2,553	2,553
Facility Total	408		207		202	817			1,980,224	1,980,224

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
DU PONT EDGE MOOR										
BARIUM COMPOUNDS					26,072	26,072				0
CARBONYL SULFIDE						0				0
CHLORINE						0		5,041,000		5,041,000
CHROMIUM COMPOUNDS					210,437	210,437				0
COBALT COMPOUNDS					9,296	9,296				0
COPPER COMPOUNDS					3,396	3,396				0
DIOXIN AND DIOXIN-LIKE CPDS.				0	156	156				0
HEXACHLOROBENZENE					672	672				0
HYDROCHLORIC ACID AEROSOLS						0		21,347,000		21,347,000
LEAD COMPOUNDS		34			48,081	48,115				0
MANGANESE COMPOUNDS					3,144,014	3,144,014				0
NICKEL COMPOUNDS					25,711	25,711				0
OCTACHLOROSTYRENE					508	508				0
PENTACHLOROBENZENE					201	201				0
PHOSGENE						0		48,000		48,000
POLYCHLORINATED BIPHENYLS					71	71				0
TITANIUM TETRACHLORIDE						0		1,739,000		1,739,000
TOLUENE						0				0
VANADIUM COMPOUNDS					52,209	52,209				0
ZINC COMPOUNDS					41,055	41,055				0
Facility Total		34		0	3,561,879	3,561,913		28,175,000		28,175,000
DUPONT SEAFORD										
BARIUM COMPOUNDS						0				0
BENZO(G,H,I)PERYLENE						0				0
BIPHENYL		0		7,880		7,880				0
DIOXIN AND DIOXIN-LIKE CPDS.						0				0
HYDROCHLORIC ACID AEROSOLS						0				0
LEAD COMPOUNDS						0				0

DuPont Seaford Continued on Next Page

Source: DNREC 2001 Database, March 1, 2003

APPENDIX D

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
MERCURY COMPOUNDS						0				0
NITRATE COMPOUNDS				12		12				0
POLYCYCLIC AROMATIC COMPOUNDS						0				0
SODIUM NITRITE						0		132,204		132,204
SULFURIC ACID AEROSOLS						0				0
ZINC COMPOUNDS						0				0
Facility Total (DuPont Seaford)		0		7,892		7,892			132,204	132,204
E-A-R SPECIALTY COMPOSITES										
DIISOCYANATES				2,330		2,330				0
TOLUENE DIISOCYANATE (MIXED)				5,850		5,850				0
Facility Total				8,180		8,180				0
EDGE MOOR/HAY ROAD POWER PLANT.										
AMMONIA	0					0		0		0
BARIUM COMPOUNDS	0				88,059	88,059				0
BENZO(G,H,I)PERYLENE	0					0				0
CHROMIUM COMPOUNDS	5				22,350	22,355				0
COBALT COMPOUNDS	0				18,148	18,148				0
COPPER COMPOUNDS	47				25,117	25,164				0
DIOXIN AND DIOXIN-LIKE CPDS.						0				0
HYDROCHLORIC ACID AEROSOLS						0				0
HYDROGEN FLUORIDE						0		6,944		6,944
LEAD COMPOUNDS	2				7,908	7,910				0
MANGANESE COMPOUNDS	0				20,054	20,054				0
MERCURY COMPOUNDS	0				44	44				0
NICKEL COMPOUNDS	9				29,259	29,268				0
POLYCYCLIC AROMATIC COMPOUNDS	0					0				0
SULFURIC ACID AEROSOLS						0		109,091		109,091
VANADIUM COMPOUNDS	0				39,762	39,762				0
Facility Total	63				250,701	250,764			116,035	116,035

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
FORMOSA PLASTICS										
AMMONIA						0				0
DIOXIN AND DIOXIN-LIKE CPDS.					0	0				0
VINYL ACETATE						0				0
VINYL CHLORIDE								139,431		139,431
Facility Total					0	0		139,431		139,431
GAC SEAFORD										
ASBESTOS (FRIABLE)						0				0
POLYCYCLIC AROMATIC COMPOUNDS						0				0
Facility Total						0				0
GENERAL CHEMICAL										
AMMONIA	2,301					2,301				0
HYDROGEN FLUORIDE						0		76,430		76,430
LEAD COMPOUNDS	474				1,642	2,116				0
SULFURIC ACID AEROSOLS						0				0
Facility Total	2,775				1,642	4,417		76,430		76,430
GENERAL CLOTHING										
TOLUENE		1,550				1,550				0
Facility Total		1,550				1,550				0
GENERAL MOTORS										
1,2,4-TRIMETHYLBENZENE			32,000		87	32,087		7,900		7,900
CERTAIN GLYCOL ETHERS	58,000		11		1,060	59,071		45,000		45,000
ETHYLENE GLYCOL	930					930				0
LEAD COMPOUNDS	26				126	152				0
METHANOL			32,000		22	32,022		2,000		2,000
METHYL TERT-BUTYL ETHER			180			180				0
N-BUTYL ALCOHOL			5		518	523		17,000		17,000
N-METHYL-2-PYRROLIDONE					18	18		250		250

General Motors Continued on Next Page

Source: DNREC 2001 Database, March 1, 2003

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
POTASSIUM DIMETHYLDITHIOCARBAMATE	81					81				0
SODIUM NITRITE	15,000					15,000				0
TOLUENE			63			63		4		4
XYLENE (MIXED ISOMERS)			390,000		437	390,437		11,000		11,000
ZINC COMPOUNDS	240				8,000	8,240				0
Facility Total (General Motors)	74,277		454,259		10,268	538,804		83,154		83,154
GREEN TREE CHEMICAL										
1,1-DICHLORO-1-FLUOROETHANE			1,269			1,269				0
CERTAIN GLYCOL ETHERS			1,658			1,658				0
N-HEXANE			1,016			1,016				0
TETRACHLOROETHYLENE			604			604				0
TOLUENE			867			867				0
TRICHLOROETHYLENE			1,168			1,168				0
Facility Total			6,582			6,582				0
HALKO MANUFACTURING										
ANTIMONY						0				0
LEAD						0				0
Facility Total						0				0
HANOVER FOODS										
AMMONIA						0				0
Facility Total						0				0
HARDCORE COMPOSITES										
STYRENE						0				0
Facility Total						0				0
HERCULES RESEARCH CENTER										
BENZO(G,H,I)PERYLENE						0				0
POLYCYCLIC AROMATIC COMPOUNDS						0				0
Facility Total						0				0

APPENDIX D

APPENDIX D

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
HIRSH INDUSTRIES										
CERTAIN GLYCOL ETHERS						0				0
Facility Total						0				0
HONEYWELL										
1,3-DICHLOROPROPYLENE			20,703	4		20,707			0	0
AMMONIA				3,657		3,657			0	0
BORON TRIFLUORIDE				2,307		2,307			0	0
CHLOROETHANE						0			0	0
N-HEXANE			28,336	10,116		38,452			0	0
TOLUENE			2,100	1,992		4,092			0	0
Facility Total			51,139	18,076		69,215			0	0
INDIAN RIVER POWER PLANT										
AMMONIA						0				0
BARIUM COMPOUNDS						0				0
BENZO(G,H,I)PERYLENE						0				0
CHROMIUM COMPOUNDS						0				0
COPPER COMPOUNDS						0				0
DIOXIN AND DIOXIN-LIKE CPDS.						0				0
HYDROCHLORIC ACID AEROSOLS						0				0
HYDROGEN FLUORIDE						0		14,000		14,000
LEAD COMPOUNDS						0				0
MANGANESE COMPOUNDS						0				0
MERCURY COMPOUNDS						0				0
NICKEL COMPOUNDS						0				0
POLYCYCLIC AROMATIC COMPOUNDS						0				0
SULFURIC ACID AEROSOLS						0		460,000		460,000
VANADIUM COMPOUNDS						0				0
ZINC COMPOUNDS						0				0
Facility Total						0		474,000		474,000

APPENDIX D

APPENDIX D

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
INSTEEL WIRE										
LEAD COMPOUNDS						0				0
Facility Total						0				0
INTERVET										
MERCURY COMPOUNDS	1	3			1	5				0
Facility Total	1	3			1	5				0
JOHNSON CONTROLS										
ANTIMONY COMPOUNDS	0	12,483				12,483				0
LEAD COMPOUNDS	15	4,304,415			13	4,304,443				0
Facility Total	15	4,316,898			13	4,316,926				0
JOHNSON POLYMER										
AMMONIA	218			208		426				0
BUTYL ACRYLATE	5			10		15		42		42
CERTAIN GLYCOL ETHERS	1,110			1,381		2,491				0
ETHYL ACRYLATE						0				0
METHYL METHACRYLATE	5			10		15		1,242		1,242
STYRENE	12			41		53		937		937
Facility Total	1,350			1,650		3,000		2,221		2,221
JUSTIN TANKS										
STYRENE				420		420				0
Facility Total				420		420				0
KANEKA										
HYDROCHLORIC ACID AEROSOLS						0		104,859		104,859
VINYL CHLORIDE					3	3		177,707		177,707
Facility Total					3	3		282,566		282,566
KRAFT FOODS										
AMMONIA	1,018					1,018		20,760		20,760
Facility Total					1,018	1,018		20,760		20,760

APPENDIX D

Source: DNREC 2001 Database, March 1, 2003

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APPENDIX D

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
KUEHNE CHEMICAL										
CHLORINE						0				0
Facility Total						0				0
MACDERMID										
METHANOL			9,702			9,702				0
METHYL ETHYL KETONE	0		127,714			127,714		90,000	800,451	890,451
TOLUENE DIISOCYANATE (MIXED)						0			1,397	1,397
Facility Total	0		137,416			137,416		90,000	801,848	891,848
MARBLE WORKS										
STYRENE						0				0
Facility Total						0				0
MCKEE RUN POWER PLANT										
BENZO(G,H,I)PERYLENE	0					0				0
POLYCYCLIC AROMATIC COMPOUNDS	0					0				0
Facility Total	0					0				0
MEDAL										
METHANOL				10,955		10,955	910,637			910,637
N-HEXANE						0	797,454			797,454
N-METHYL-2-PYRROLIDONE	31,180	0				31,180				0
Facility Total	31,180	0		10,955		42,135	1,708,091			1,708,091
MOTIVA										
1,2,4-TRIMETHYLBENZENE			9	9		18		380,000		380,000
1,3-BUTADIENE						0		11		11
AMMONIA						0	14,000,000	21,000		14,021,000
ANTHRACENE						0		5		5
BENZENE			190	8		198	260,000	120,000		380,000
BENZO(G,H,I)PERYLENE						0		190		190
CARBON DISULFIDE						0	51	31,000		31,051

Motiva Continued on Next Page

APPENDIX D

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
Motiva (continued)										
CARBONYL SULFIDE						0		990,000	77,000	1,067,000
CHROMIUM COMPOUNDS		11,000			46	11,046				0
CRESOL (MIXED ISOMERS)				1		1	31,000	23,000		54,000
CUMENE			0			0		80		80
CYCLOHEXANE			33	40		73		5,200		5,200
DIETHANOLAMINE				9		9		87,000		87,000
DIOXIN AND DIOXIN-LIKE CPDS.						0				0
ETHYLBENZENE			250	27		277		12,000		12,000
ETHYLENE						0		18,000		18,000
ETHYLENE GLYCOL				9		9		47,000		47,000
FORMIC ACID						0		75,000		75,000
HYDROCHLORIC ACID AEROSOLS						0		230,000		230,000
HYDROGEN CYANIDE						0	280,000			280,000
LEAD COMPOUNDS					56	56				0
MANGANESE COMPOUNDS		61,000				61,000				0
MERCURY COMPOUNDS		180			3	183				0
METHANOL			0	9		9	10,000,000	450,000		10,450,000
METHYL TERT-BUTYL ETHER			0	55		55		510,000		510,000
MOLYBDENUM TRIOXIDE		0				0				0
NAPHTHALENE			42			42		590		590
N-BUTYL ALCOHOL						0		1,200		1,200
N-HEXANE			0			0		12,000		12,000
NICKEL COMPOUNDS		28,000			43	28,043				0
NITRATE COMPOUNDS						0		900,000		900,000
PHENANTHRENE						0		5		5
PHENOL						0	68,000	50,000		118,000
POLYCYCLIC AROMATIC COMPOUNDS						0	210	210		420
PROPYLENE						0		570,000		570,000
SODIUM NITRITE						0		1,400,000		1,400,000
STYRENE			0			0		70		70

Motiva Continued on Next Page

APPENDIX D

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
SULFURIC ACID AEROSOLS						0			1,900	1,900
TETRACHLOROETHYLENE						0				0
TOLUENE			1,100	23		1,123			160,000	160,000
VANADIUM COMPOUNDS					340	340				0
XYLENE (MIXED ISOMERS)			1,000	61		1,061			95,000	95,000
ZINC COMPOUNDS		41,000				270				0
Facility Total (Motiva)		141,180	2,624	251	758	144,813		25,629,261	5,277,461	30,906,722
MOUNTAIRE FARMS FEEDMILL										
COPPER COMPOUNDS						0				0
MANGANESE COMPOUNDS						0				0
ZINC COMPOUNDS						0				0
Facility Total						0				0
MOUNTAIRE FARMS OF DELAWARE										
AMMONIA						0				0
COPPER COMPOUNDS						0				0
MANGANESE						0				0
ZINC (FUME OR DUST)						0				0
Facility Total						0				0
MOUNTAIRE FARMS OF DELMARVA										
AMMONIA	10,435					10,435				0
Facility Total	10,435					10,435				0
NORAMCO										
DICHLOROMETHANE	74,827		11,983			86,810	1,196,732			1,196,732
HYDROCHLORIC ACID AEROSOLS						0				0
METHANOL	73,644		498,730	22,893		595,267	11,482		0	11,482
METHYL ISOBUTYL KETONE	14,614		37,860			52,474	0			0
N-BUTYL ALCOHOL	10,816		37,976	1,743		50,535				0
SULFURIC ACID AEROSOLS						0				0
TOLUENE	41,815		371,954	17,223		430,992	260,022			260,022
Facility Total	215,716		958,503	41,859		1,216,078	1,468,236		0	1,468,236

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
NRG DOVER										
BENZO(G,H,I)PERYLENE						0		0		0
HYDROCHLORIC ACID AEROSOLS						0				0
LEAD COMPOUNDS					380	380				0
MERCURY COMPOUNDS					2	2				0
POLYCYCLIC AROMATIC COMPOUNDS						0		0		0
SULFURIC ACID AEROSOLS						0		23,000		23,000
Facility Total					382	382		23,000		23,000
NVF YORKLYN										
ZINC COMPOUNDS	5,967				3,627	9,594	4,594,952			4,594,952
Facility Total	5,967				3,627	9,594	4,594,952			4,594,952
OCCIDENTAL CHEMICAL										
CHLORINE		0	0	831		831		2,288,340		2,288,340
CHLOROFORM				11,157		11,157		0		0
DIOXIN AND DIOXIN-LIKE CPDS.				0		0				0
MERCURY					1,047	1,047	7,800			7,800
Facility Total		0	0	11,988	1,047	13,035	7,800	2,288,340		2,296,140
ORIENT										
ANILINE	116					116		7,590		7,590
CHROMIUM COMPOUNDS						0				0
NITROBENZENE	0					0				0
ZINC COMPOUNDS						0				0
Facility Total	116					116		7,590		7,590
PERDUE BRIDGEVILLE										
BENZO(G,H,I)PERYLENE						0				0
<i>Perdue Bridgeville Continued on Next Page</i>										

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
COPPER COMPOUNDS						0				0
MANGANESE COMPOUNDS						0				0
POLYCYCLIC AROMATIC COMPOUNDS						0				0
ZINC COMPOUNDS						0				0
Facility Total (Perdue Bridgeville)						0				0
PERDUE GEORGETOWN										
BENZO(G,H,I)PERYLENE						0				0
NITRATE COMPOUNDS						0		0		0
POLYCYCLIC AROMATIC COMPOUNDS						0				0
Facility Total						0		0		0
PINNACLE FOODS										
BENZO(G,H,I)PERYLENE						0				0
POLYCYCLIC AROMATIC COMPOUNDS						0				0
Facility Total						0				0
PLAYTEX PRODUCTS										
CHLORINE						0		2,300		2,300
NITRIC ACID				6,900		6,900		2,000		2,000
Facility Total				6,900		6,900		4,300		4,300
PPG DOVER										
1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1- AZONIAADAMANTANE CHLORIDE						0				0
CERTAIN GLYCOL ETHERS						0				0
ETHYLENE GLYCOL	130			3,600	343	4,073		0		0
ZINC COMPOUNDS					4,292	4,292				0
Facility Total	130			3,600	4,635	8,365		0		0
PPG INDUSTRIES										
DIISOCYANATES						250				0
Facility Total						250				0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
RODEL										
DIISOCYANATES				8,930		8,930				0
METHYL ETHYL KETONE			1,446	96		1,542			191,708	191,708
N,N-DIMETHYLFORMAMIDE	118,915		704,326	120		823,361	3,202,031		3,552	3,205,583
PHTHALIC ANHYDRIDE						0				0
Facility Total	118,915		705,772	9,146		833,833	3,202,031		195,260	3,397,291
RODEL TECH CENTER										
4,4'-METHYLENEBIS(2- CHLOROANILINE)				1,039		1,039				0
N-METHYL-2-PYRROLIDONE			24,510			24,510				0
Facility Total			24,510	1,039		25,549				0
ROLLER SERVICE										
DI(2-ETHYLHEXYL) PHTHALATE						0				0
Facility Total						0				0
SERVICE ENERGY DOVER										
1,2,4-TRIMETHYLBENZENE						0				0
TOLUENE						0				0
Facility Total						0				0
SICO #360										
1,2,4-TRIMETHYLBENZENE						0				0
BENZENE						0				0
CYCLOHEXANE						0				0
ETHYLBENZENE						0				0
METHYL TERT-BUTYL ETHER						0				0
NAPHTHALENE						0				0
N-HEXANE						0				0
TOLUENE						0				0
XYLENE (MIXED ISOMERS)						0				0
Facility Total						0				0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE- CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
SPATZ FIBERGLASS										
STYRENE						0				0
Facility Total						0				0
SPI PHARMA										
CHLORINE						0				0
NITRIC ACID						0				0
Facility Total						0				0
SPI POLYOLS, INC.										
NICKEL COMPOUNDS	301	81,000			17,951	99,252	35,000			35,000
NITRATE COMPOUNDS						0				0
NITRIC ACID				1,900		1,900				0
POLYCYCLIC AROMATIC COMPOUNDS						0				0
Facility Total	301	81,000		1,900	17,951	101,152	35,000			35,000
SUNOCO										
BENZENE	45,748			7	17	45,772				0
ETHYLENE						0				0
ETHYLENE OXIDE						0				0
TOLUENE	50,260				2	50,262				0
XYLENE (MIXED ISOMERS)	25,286				2	25,288				0
Facility Total	121,294			7	21	121,322				0
UNIQEMA										
4,4'-ISOPROPYLIDENEDIPHENOL	1,359					1,359				0
BIS(2-CHLOROETHYL) ETHER	4,541		3,536			8,077				0
CERTAIN GLYCOL ETHERS	3,437					3,437		1,473		1,473
DIETHYL SULFATE						0				0
ETHYLENE GLYCOL						0				0
ETHYLENE OXIDE						0				0

Uniqema Continued on Next Page

APPENDIX D

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF-SITE TRANSFERS						ON-SITE WASTE MANAGEMENT			
	POTW	RE-	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
		CYCLE	RECOVERY	MENT				RECOVERY	MENT	
NAPHTHALENE						0				0
PHENOL	512					512			219	219
PROPYLENE OXIDE						0				0
Facility Total (Uniqema)	9,849		3,536			13,385			1,692	1,692
VP RACING FUELS										
BENZENE						0				0
LEAD COMPOUNDS						0				0
METHANOL						0				0
METHYL TERT-BUTYL ETHER						0				0
TOLUENE						0				0
XYLENE (MIXED ISOMERS)						0				0
Facility Total						0				0
W.L. GORE BARKSDALE										
LEAD		951			3	954				0
Facility Total		951			3	954				0
W.L. GORE OTTS CHAPEL										
LEAD		593			7	600				0
Facility Total		593			7	600				0
STATE TOTALS	1,697,026	8,725,054	2,642,626	172,946	3,877,093	17,114,745	24,133,870	25,863,740	40,675,792	90,673,402

APPENDIX D

APPENDIX E

2001 ON-SITE RELEASE SUMMARY BY FACILITY

RANKED BY ON-SITE RELEASES (in pounds)

FACILITY	AIR	WATER	LAND	ON-SITE RELEASES	OFF-SITE TRANSFERS	ON-SITE WASTE MGMT.
INDIAN RIVER POWER PLANT	1,866,048	2,900	564,677	2,433,625	0	474,000
EDGE MOOR/HAY ROAD POWER PLT.	1,705,945	34,426	0	1,740,371	250,764	116,035
MOTIVA	1,256,410	47,528	351,170	1,655,108	144,813	30,906,722
DU PONT SEAFORD	306,281	136,338	26,071	468,690	7,892	132,204
DAIMLER CHRYSLER	384,450	0	0	384,450	283,094	41,730
GENERAL MOTORS	343,304	360	0	343,664	538,804	83,154
PERDUE GEORGETOWN	0	310,000	210	310,210	0	0
DU PONT EDGE MOOR	195,808	37,153	12,033	244,994	3,561,913	28,175,000
NRG DOVER	119,019	0	0	119,019	382	23,000
FORMOSA PLASTICS	116,616	0	0	116,616	0	139,431
SUNOCO	114,124	0	0	114,124	121,322	0
DOW REICHHOLD	43,565	0	0	43,565	817	1,980,224
RODEL	33,867	0	0	33,867	833,833	3,397,291
KANEKA	32,428	1	0	32,429	3	282,566
JUSTIN TANKS	31,117	0	0	31,117	420	0
CIBA SPECIALTY CHEMICALS	30,905	0	0	30,905	2,709,890	445,116
D & B INDUSTRIAL GROUP	24,592	0	0	24,592	14,036	0
HANOVER FOODS	20,000	0	0	20,000	0	0
GENERAL CHEMICAL	18,042	750	0	18,792	4,417	76,430
CAMDEL METALS	16,017	0	0	16,017	43,216	13,100,000
MACDERMID	15,797	0	0	15,797	137,416	891,848
HONEYWELL	15,762	0	0	15,762	69,215	0
HIRSH INDUSTRIES	12,714	0	0	12,714	0	0
MOUNTAIRE FARMS OF DELAWARE	0	1,649	7,937	9,586	0	0
GENERAL CLOTHING	8,700	0	0	8,700	1,550	0
UNIQEMA	8,159	0	0	8,159	13,385	1,692
SPATZ FIBERGLASS	6,178	0	0	6,178	0	0
CITISTEEL	4,125	34	605	4,764	2,425,017	0
AGRILINK FOODS	4,625	0	0	4,625	0	0
NORAMCO	3,893	0	0	3,893	1,216,078	1,468,236
JOHNSON POLYMER	3,639	0	0	3,639	3,000	2,221
MOUNTAIRE FARMS OF DELMARVA	3,400	0	0	3,400	10,435	0
DOVER AFB SMALL ARMS RANGE	0	0	2,958	2,958	0	0
ORIENT	2,719	0	0	2,719	116	7,590
HARDCORE COMPOSITES	2,638	0	0	2,638	0	0
OCCIDENTAL CHEMICAL	2,343	20	0	2,363	13,035	2,296,140
RODEL TECH CENTER	2,307	0	0	2,307	25,549	0
MARBLE WORKS	2,282	0	0	2,282	0	0
NVF YORKLYN	0	2,252	0	2,252	9,594	4,594,952
AGILENT TECHNOLOGIES NEWPORT	1,713	0	0	1,713	15,746	0
ARLON	1,500	0	0	1,500	5,654	144,479
AMERICAN MINERALS	870	526	0	1,396	0	0
AVECIA	1,230	0	0	1,230	89,790	122,535
MEDAL	750	0	0	750	42,135	1,708,091
DENTSPLY CAULK WEST	640	0	0	640	14,683	350
AMETEK	530	0	0	530	0	305

APPENDIX E

2001 ON-SITE RELEASE SUMMARY BY FACILITY

RANKED BY ON-SITE RELEASES (in pounds)

FACILITY	AIR	WATER	LAND	ON-SITE RELEASES	OFF-SITE TRANSFERS	ON-SITE WASTE MGMT.
AGILENT TECHNOLOGIES LITTLE FALLS	443	0	0	443	30,267	0
GREEN TREE CHEMICAL	420	0	0	420	6,582	0
SPI POLYOLS, INC.	223	0	5	228	101,152	35,000
JOHNSON CONTROLS	177	0	0	177	4,316,926	0
DENTSPLY CAULK MAIN	120	0	0	120	14,407	0
PPG DOVER	79	0	0	79	8,365	0
PLAYTEX PRODUCTS	42	0	0	42	6,900	4,300
CLARIANT	5	0	0	5	193	0
KRAFT FOODS	5	0	0	5	1,018	20,760
KUEHNE CHEMICAL	5	0	0	5	0	0
E-A-R SPECIALTY COMPOSITES	4	0	0	4	8,180	0
PINNACLE FOODS	2	0	0	2	0	0
VP RACING FUELS	2	0	0	2	0	0
ASTROPOWER	1	0	0	1	41	0
GAC SEAFORD	0	0	0	0	0	0
MCKEE RUN POWER PLANT	0	0	0	0	0	0
ALLEN'S HATCHERY	0	0	0	0	0	0
BLADES BULK PLANT	0	0	0	0	0	0
CARL KING	0	0	0	0	0	0
CHROME DEPOSIT	0	0	0	0	10,891	2,000
CUSTOM DECORATIVE MOLDINGS	0	0	0	0	0	0
HALKO MANUFACTURING	0	0	0	0	0	0
HERCULES RESEARCH CENTER	0	0	0	0	0	0
INSTEEL WIRE	0	0	0	0	0	0
INTERVET	0	0	0	0	5	0
MOUNTAIRE FARMS FEEDMILL	0	0	0	0	0	0
PERDUE BRIDGEVILLE	0	0	0	0	0	0
PPG INDUSTRIES	0	0	0	0	250	0
ROLLER SERVICE	0	0	0	0	0	0
SERVICE ENERGY DOVER	0	0	0	0	0	0
SICO #360	0	0	0	0	0	0
SPI PHARMA	0	0	0	0	0	0
W.L. GORE BARKSDALE	0	0	0	0	954	0
W.L. GORE OTTS CHAPEL	0	0	0	0	600	0
FACILITY TOTALS	6,766,580	573,937	965,666	8,306,183	17,114,745	90,673,402

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1-AZONIAADAMANTANE CHLORIDE							
PPG DOVER	1	0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0
1,1-DICHLORO-1-FLUOROETHANE							
GREEN TREE CHEMICAL		180	0	0	180	1,269	0
CHEMICAL TOTAL		180	0	0	180	1,269	0
1,2,4-TRIMETHYLBENZENE							
BLADES BULK PLANT	1	0	0	0	0	0	0
CARL KING	1	0	0	0	0	0	0
DAIMLER CHRYSLER		71,000	0	0	71,000	4,800	6,600
GENERAL MOTORS		10,900	0	0	10,900	32,087	7,900
MOTIVA		1,380	0	0	1,380	18	380,000
SERVICE ENERGY DOVER	1	0	0	0	0	0	0
SICO #360	1	0	0	0	0	0	0
CHEMICAL TOTAL		83,280	0	0	83,280	36,905	394,500
1,3-BUTADIENE							
DOW REICHHOLD		21,491	0	0	21,491	0	1,290,212
MOTIVA		369	0	0	369	0	11
CHEMICAL TOTAL		21,860	0	0	21,860	0	1,290,223
1,3-DICHLOROPROPYLENE							
HONEYWELL		29	0	0	29	20,707	0
CHEMICAL TOTAL		29	0	0	29	20,707	0
<p>Source: DNREC 2001 Database, March 1, 2003 Form A reports do not indicate amounts</p>							

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APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
4,4'-ISOPROPYLIDENEDIPHENOL							
	UNIQEMA	978	0	0	978	1,359	0
	CHEMICAL TOTAL	978	0	0	978	1,359	0
4,4'-METHYLENEBIS(2-CHLOROANILINE)							
	RODEL TECH CENTER	2	0	0	2	1,039	0
	CHEMICAL TOTAL	2	0	0	2	1,039	0
ACRYLIC ACID							
	DOW REICHHOLD	1,125	0	0	1,125	0	1
	CHEMICAL TOTAL	1,125	0	0	1,125	0	1
ACRYLONITRILE							
	DOW REICHHOLD	4,453	0	0	4,453	143	535,325
	CHEMICAL TOTAL	4,453	0	0	4,453	143	535,325
AMMONIA							
	AGRILINK FOODS	4,625	0	0	4,625	0	0
	AVECIA	15	0	0	15	34,675	0
	DOW REICHHOLD	2,357	0	0	2,357	10	296
	EDGE MOOR/HAY ROAD POWER PLT.	21,071	5	0	21,076	0	0
	FORMOSA PLASTICS	7,266	0	0	7,266	0	0
	GENERAL CHEMICAL	1,000	750	0	1,750	2,301	0
	HANOVER FOODS	20,000	0	0	20,000	0	0
	HONEYWELL	6,882	0	0	6,882	3,657	0
	INDIAN RIVER POWER PLANT	15,000	0	0	15,000	0	0
	JOHNSON POLYMER	2,721	0	0	2,721	426	0
	KRAFT FOODS	5	0	0	5	1,018	20,760
	MOTIVA	25,014	1,400	0	26,414	0	14,021,000
	MOUNTAIRE FARMS OF DELAWARE	0	1,649	7,937	9,586	0	0
	MOUNTAIRE FARMS OF DELMARVA	3,400	0	0	3,400	10,435	0
	CHEMICAL TOTAL	109,356	3,804	7,937	121,097	52,522	14,042,056

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
ANILINE							
CIBA SPECIALTY CHEMICALS		20	0	0	20	35,783	0
ORIENT		2,509	0	0	2,509	116	7,590
CHEMICAL TOTAL		2,529	0	0	2,529	35,899	7,590
ANTHRACENE							
MOTIVA		0	0	0	0	0	5
CHEMICAL TOTAL		0	0	0	0	0	5
ANTIMONY							
HALKO MANUFACTURING		0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0
ANTIMONY COMPOUNDS							
JOHNSON CONTROLS		0	0	0	0	12,483	0
CHEMICAL TOTAL		0	0	0	0	12,483	0
ASBESTOS (FRIABLE)							
GAC SEAFORD	1	0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0
BARIUM							
AMERICAN MINERALS		17	59	0	76	0	0
CHEMICAL TOTAL		17	59	0	76	0	0

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
 Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
BARIUM COMPOUNDS							
DU PONT EDGE MOOR		2	648	875	1,525	26,072	0
DU PONT SEAFORD		22	0	24,329	24,351	0	0
EDGE MOOR/HAY ROAD POWER PLT.		4,789	2,937	0	7,726	88,059	0
INDIAN RIVER POWER PLANT		1,805	0	290,000	291,805	0	0
CHEMICAL TOTAL		6,618	3,585	315,204	325,407	114,131	0
BENZENE							
BLADES BULK PLANT	1	0	0	0	0	0	0
CARL KING	1	0	0	0	0	0	0
DAIMLER CHRYSLER		532	0	0	532	23	0
MOTIVA		19,200	5,600	0	24,800	198	380,000
SICO #360	1	0	0	0	0	0	0
SUNOCO		11,818	0	0	11,818	45,772	0
VP RACING FUELS	1	0	0	0	0	0	0
CHEMICAL TOTAL		31,550	5,600	0	37,150	45,993	380,000
BENZO(G,H,I)PERYLENE							
DU PONT SEAFORD		0	0	0	0	0	0
EDGE MOOR/HAY ROAD POWER PLT.		0	0	0	0	0	0
HERCULES RESEARCH CENTER		0	0	0	0	0	0
INDIAN RIVER POWER PLANT		0	0	0	0	0	0
MCKEE RUN POWER PLANT		0	0	0	0	0	0
MOTIVA		1	2	0	3	0	190
NRG DOVER		0	0	0	0	0	0
PERDUE BRIDGEVILLE		0	0	0	0	0	0
PERDUE GEORGETOWN		0	0	0	0	0	0
PINNACLE FOODS		0	0	0	0	0	0
CHEMICAL TOTAL		1	2	0	3	0	190

APPENDIX F

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2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
BIPHENYL							
	CIBA SPECIALTY CHEMICALS	123	0	0	123	182,030	2,321
	DU PONT SEAFORD	17,441	0	0	17,441	7,880	0
	CHEMICAL TOTAL	17,564	0	0	17,564	189,910	2,321
BIS(2-CHLOROETHYL) ETHER							
	UNIQEMA	18	0	0	18	8,077	0
	CHEMICAL TOTAL	18	0	0	18	8,077	0
BORON TRIFLUORIDE							
	HONEYWELL	215	0	0	215	2,307	0
	CHEMICAL TOTAL	215	0	0	215	2,307	0
BUTYL ACRYLATE							
	DOW REICHHOLD	585	0	0	585	0	4
	JOHNSON POLYMER	168	0	0	168	15	42
	CHEMICAL TOTAL	753	0	0	753	15	46
CARBON DISULFIDE							
	MOTIVA	34	0	0	34	0	31,051
	CHEMICAL TOTAL	34	0	0	34	0	31,051
CARBONYL SULFIDE							
	DU PONT EDGE MOOR	190,000	0	0	190,000	0	0
	MOTIVA	410	0	0	410	0	1,067,000
	CHEMICAL TOTAL	190,410	0	0	190,410	0	1,067,000

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
 Form A reports do not indicate amounts

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2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
CERTAIN GLYCOL ETHERS							
AVECIA		1	0	0	1	2,787	0
DAIMLER CHRYSLER		123,000	0	0	123,000	113,511	17,000
GENERAL MOTORS		92,700	0	0	92,700	59,071	45,000
GREEN TREE CHEMICAL		1	0	0	1	1,658	0
HIRSH INDUSTRIES		12,714	0	0	12,714	0	0
JOHNSON POLYMER		10	0	0	10	2,491	0
PPG DOVER	1	0	0	0	0	0	0
UNIQEMA		23	0	0	23	3,437	1,473
CHEMICAL TOTAL		228,449	0	0	228,449	182,955	63,473
CHLORINE							
DU PONT EDGE MOOR		1,341	0	0	1,341	0	5,041,000
KUEHNE CHEMICAL		5	0	0	5	0	0
OCCIDENTAL CHEMICAL		1,066	0	0	1,066	831	2,288,340
PLAYTEX PRODUCTS		5	0	0	5	0	2,300
SPI PHARMA	1	0	0	0	0	0	0
CHEMICAL TOTAL		2,417	0	0	2,417	831	7,331,640
CHLOROETHANE							
HONEYWELL	1	0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0
CHLOROFORM							
OCCIDENTAL CHEMICAL		209	0	0	209	11,157	0
CHEMICAL TOTAL		209	0	0	209	11,157	0
CHROMIUM							
CAMDEL METALS		0	0	0	0	23,068	0
CHEMICAL TOTAL		0	0	0	0	23,068	0

APPENDIX F

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2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
CHROMIUM COMPOUNDS							
CHROME DEPOSIT		0	0	0	0	3,400	2,000
CITISTEEL		120	2	56	178	33,441	0
DU PONT EDGE MOOR		1	67	994	1,062	210,437	0
EDGE MOOR/HAY ROAD POWER PLT.		1,183	1,468	0	2,651	22,355	0
INDIAN RIVER POWER PLANT		835	0	54,000	54,835	0	0
MOTIVA		441	1	44,000	44,442	11,046	0
ORIENT		0	0	0	0	0	0
CHEMICAL TOTAL		2,580	1,538	99,050	103,168	280,679	2,000
COBALT COMPOUNDS							
DU PONT EDGE MOOR		0	52	52	104	9,296	0
EDGE MOOR/HAY ROAD POWER PLT.		1,265	0	0	1,265	18,148	0
CHEMICAL TOTAL		1,265	52	52	1,369	27,444	0
COPPER COMPOUNDS							
ALLEN'S HATCHERY	1	0	0	0	0	0	0
AVECIA		0	0	0	0	535	0
CITISTEEL		106	5	18	129	33,783	0
DU PONT EDGE MOOR		0	314	11	325	3,396	0
EDGE MOOR/HAY ROAD POWER PLT.		2,882	5,977	0	8,859	25,164	0
INDIAN RIVER POWER PLANT		215	2,900	25,000	28,115	0	0
MOUNTAIRE FARMS FEEDMILL	1	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	1	0	0	0	0	0	0
PERDUE BRIDGEVILLE	1	0	0	0	0	0	0
CHEMICAL TOTAL		3,203	9,196	25,029	37,428	62,878	0
CRESOL (MIXED ISOMERS)							
MOTIVA		0	130	0	130	1	54,000
CHEMICAL TOTAL		0	130	0	130	1	54,000

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
CUMENE							
MOTIVA		99	0	0	99	0	80
CHEMICAL TOTAL		99	0	0	99	0	80
CYCLOHEXANE							
CARL KING	1	0	0	0	0	0	0
CIBA SPECIALTY CHEMICALS		83	0	0	83	5,820	5,055
DAIMLER CHRYSLER		639	0	0	639	27	0
MOTIVA		14,200	0	0	14,200	73	5,200
SICO #360	1	0	0	0	0	0	0
CHEMICAL TOTAL		14,922	0	0	14,922	5,920	10,255
DI(2-ETHYLHEXYL) PHTHALATE							
ROLLER SERVICE	1	0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0
DICHLOROMETHANE							
NORAMCO		2,010	0	0	2,010	86,810	1,196,732
CHEMICAL TOTAL		2,010	0	0	2,010	86,810	1,196,732
DIETHANOLAMINE							
MOTIVA		0	880	0	880	9	87,000
CHEMICAL TOTAL		0	880	0	880	9	87,000
DIETHYL SULFATE							
UNIQEMA	1	0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0

APPENDIX F

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 Form A reports do not indicate amounts

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2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
DIISOCYANATES							
CUSTOM DECORATIVE MOLDINGS	1	0	0	0	0	0	0
E-A-R SPECIALTY COMPOSITES		0	0	0	0	2,330	0
PPG INDUSTRIES		0	0	0	0	250	0
RODEL		2	0	0	2	8,930	0
CHEMICAL TOTAL		2	0	0	2	11,510	0
DIOXIN AND DIOXIN-LIKE CPDS.							
DU PONT EDGE MOOR		0	0	13	13	156	0
DU PONT SEAFORD		0	0	0	0	0	0
EDGE MOOR/HAY ROAD POWER PLT.		0	0	0	0	0	0
FORMOSA PLASTICS		0	0	0	0	0	0
INDIAN RIVER POWER PLANT		0	0	0	0	0	0
MOTIVA		0	0	0	0	0	0
OCCIDENTAL CHEMICAL		0	0	0	0	0	0
CHEMICAL TOTAL		0	0	13	13	156	0
ETHYL ACRYLATE							
DOW REICHHOLD		543	0	0	543	11	216
JOHNSON POLYMER	1	0	0	0	0	0	0
CHEMICAL TOTAL		543	0	0	543	11	216
ETHYLBENZENE							
BLADES BULK PLANT	1	0	0	0	0	0	0
CARL KING	1	0	0	0	0	0	0
DAIMLER CHRYSLER		16,700	0	0	16,700	17,076	430
MOTIVA		2,570	1,200	3	3,773	277	12,000
SICO #360	1	0	0	0	0	0	0
CHEMICAL TOTAL		19,270	1,200	3	20,473	17,353	12,430

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Form A reports do not indicate amounts

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2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
ETHYLENE							
MOTIVA		98	0	0	98	0	18,000
SUNOCO		35,261	0	0	35,261	0	0
CHEMICAL TOTAL		35,359	0	0	35,359	0	18,000
ETHYLENE GLYCOL							
AVECIA		14	0	0	14	21,762	0
DAIMLER CHRYSLER		61	0	0	61	280	0
GENERAL MOTORS		0	0	0	0	930	0
MOTIVA		0	480	0	480	9	47,000
PPG DOVER		10	0	0	10	4,073	0
UNIQEMA	1	0	0	0	0	0	0
CHEMICAL TOTAL		85	480	0	565	27,054	47,000
ETHYLENE OXIDE							
SUNOCO		5,368	0	0	5,368	0	0
UNIQEMA		6,023	0	0	6,023	0	0
CHEMICAL TOTAL		11,391	0	0	11,391	0	0
FORMALDEHYDE							
DOW REICHHOLD		1,965	0	0	1,965	0	0
CHEMICAL TOTAL		1,965	0	0	1,965	0	0
FORMIC ACID							
AVECIA		109	0	0	109	226	107,335
MOTIVA		0	0	0	0	0	75,000
CHEMICAL TOTAL		109	0	0	109	226	182,335

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Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
HEXACHLORO BENZENE							
DU PONT EDGE MOOR		0	52	99	151	672	0
CHEMICAL TOTAL		0	52	99	151	672	0
HYDROCHLORIC ACID AEROSOLS							
DU PONT EDGE MOOR		2,214	0	0	2,214	0	21,347,000
DU PONT SEAFORD		192,306	0	0	192,306	0	0
EDGE MOOR/HAY ROAD POWER PLT.		1,397,486	0	0	1,397,486	0	0
INDIAN RIVER POWER PLANT		1,630,580	0	0	1,630,580	0	0
KANEKA		322	0	0	322	0	104,859
MOTIVA		180,000	0	0	180,000	0	230,000
NORAMCO		31	0	0	31	0	0
NRG DOVER		96,000	0	0	96,000	0	0
CHEMICAL TOTAL		3,498,939	0	0	3,498,939	0	21,681,859
HYDROGEN CYANIDE							
MOTIVA		2,600	0	0	2,600	0	280,000
CHEMICAL TOTAL		2,600	0	0	2,600	0	280,000
HYDROGEN FLUORIDE							
EDGE MOOR/HAY ROAD POWER PLT.		70,815	0	0	70,815	0	6,944
GENERAL CHEMICAL		1,000	0	0	1,000	0	76,430
INDIAN RIVER POWER PLANT		130,000	0	0	130,000	0	14,000
CHEMICAL TOTAL		201,815	0	0	201,815	0	97,374
LEAD							
AMERICAN MINERALS		2	41	0	43	0	0
AMETEK		0	0	0	0	0	0
DOVER AFB SMALL ARMS RANGE		0	0	2,958	2,958	0	0
HALKO MANUFACTURING		0	0	0	0	0	0
W.L. GORE BARKSDALE		0	0	0	0	954	0
W.L. GORE OTTS CHAPEL		0	0	0	0	600	0
CHEMICAL TOTAL		2	41	2,958	3,001	1,554	0

APPENDIX F

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Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
LEAD COMPOUNDS							
ASTROPOWER		1	0	0	1	41	0
CHROME DEPOSIT		0	0	0	0	7,491	0
CITISTEEL		538	2	31	571	254,655	0
DENTSPLY CAULK WEST		0	0	0	0	0	350
DU PONT EDGE MOOR		0	44	233	277	48,115	0
DU PONT SEAFORD		57	0	1,629	1,686	0	0
EDGE MOOR/HAY ROAD POWER PLT.		1,482	3,479	0	4,961	7,910	0
GENERAL CHEMICAL		42	0	0	42	2,116	0
GENERAL MOTORS		0	0	0	0	152	0
INDIAN RIVER POWER PLANT		838	0	16,575	17,413	0	0
INSTEEL WIRE		0	0	0	0	0	0
JOHNSON CONTROLS		177	0	0	177	4,304,443	0
MOTIVA		660	1	27	688	56	0
NRG DOVER		12	0	0	12	380	0
VP RACING FUELS		2	0	0	2	0	0
CHEMICAL TOTAL		3,808	3,526	18,495	25,829	4,625,358	350
MANGANESE							
CAMDEL METALS		0	0	0	0	3,155	0
MOUNTAIRE FARMS OF DELAWARE	1	0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	3,155	0
MANGANESE COMPOUNDS							
ALLEN'S HATCHERY	1	0	0	0	0	0	0
AMERICAN MINERALS		842	418	0	1,260	0	0

Manganese Compounds Continued On Next Page

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
CITISTEEL		410	10	359	779	193,045	0
DAIMLER CHRYSLER		0	0	0	0	5,050	0
DU PONT EDGE MOOR		1	34,499	8,263	42,763	3,144,014	0
EDGE MOOR/HAY ROAD POWER PLT.		1,339	20,559	0	21,898	20,054	0
INDIAN RIVER POWER PLANT		1,005	0	50,000	51,005	0	0
MOTIVA		1,311	2,300	3,800	7,411	61,000	0
MOUNTAIRE FARMS FEEDMILL	1	0	0	0	0	0	0
PERDUE BRIDGEVILLE	1	0	0	0	0	0	0
CHEMICAL TOTAL (Manganese Compounds)		4,908	57,786	62,422	125,116	3,423,163	0
MERCURY							
DENTSPLY CAULK WEST		0	0	0	0	3,327	0
OCCIDENTAL CHEMICAL		1,068	20	0	1,088	1,047	7,800
CHEMICAL TOTAL		1,068	20	0	1,088	4,374	7,800
MERCURY COMPOUNDS							
CITISTEEL		29	0	0	29	26	0
DU PONT SEAFORD		130	0	113	243	0	0
EDGE MOOR/HAY ROAD POWER PLT.		124	0	0	124	44	0
INDIAN RIVER POWER PLANT		89	0	102	191	0	0
INTERVET		0	0	0	0	5	0
MOTIVA		35	0	0	35	183	0
NRG DOVER		7	0	0	7	2	0
CHEMICAL TOTAL		414	0	215	629	260	0
METHANOL							
AGILENT TECHNOLOGIES NEWPORT		1,713	0	0	1,713	15,746	0
AVECIA		1,041	0	0	1,041	29,703	0

Methanol Continued On Next Page

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
CIBA SPECIALTY CHEMICALS		29,290	0	0	29,290	2,470,113	437,640
DAIMLER CHRYSLER		2,120	0	0	2,120	790	0
DENTSPLY CAULK MAIN		102	0	0	102	12,721	0
DENTSPLY CAULK WEST		191	0	0	191	2,918	0
DOW REICHHOLD		8	0	0	8	10	296
GENERAL MOTORS		11,320	0	0	11,320	32,022	2,000
MACDERMID		250	0	0	250	9,702	0
MEDAL		250	0	0	250	10,955	910,637
MOTIVA		19,000	170	0	19,170	9	10,450,000
NORAMCO		1,024	0	0	1,024	595,267	11,482
VP RACING FUELS	1	0	0	0	0	0	0
CHEMICAL TOTAL (METHANOL)		66,309	170	0	66,479	3,179,956	11,812,055
METHYL ETHYL KETONE							
D & B INDUSTRIAL GROUP		24,592	0	0	24,592	14,036	0
MACDERMID		15,547	0	0	15,547	127,714	890,451
RODEL		9,894	0	0	9,894	1,542	191,708
CHEMICAL TOTAL		50,033	0	0	50,033	143,292	1,082,159
METHYL ISOBUTYL KETONE							
DAIMLER CHRYSLER		35,600	0	0	35,600	48,860	0
NORAMCO		2	0	0	2	52,474	0
CHEMICAL TOTAL		35,602	0	0	35,602	101,334	0
METHYL METHACRYLATE							
DENTSPLY CAULK MAIN		18	0	0	18	1,686	0
DOW REICHHOLD		2,059	0	0	2,059	13	206
JOHNSON POLYMER		391	0	0	391	15	1,242
CHEMICAL TOTAL		2,468	0	0	2,468	1,714	1,448

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
METHYL TERT-BUTYL ETHER							
BLADES BULK PLANT	1	0	0	0	0	0	0
CARL KING	1	0	0	0	0	0	0
DAIMLER CHRYSLER		1,597	0	0	1,597	67	0
GENERAL MOTORS		105	0	0	105	180	0
MOTIVA		66,000	240	0	66,240	55	510,000
SICO #360	1	0	0	0	0	0	0
VP RACING FUELS	1	0	0	0	0	0	0
CHEMICAL TOTAL		67,702	240	0	67,942	302	510,000
MOLYBDENUM TRIOXIDE							
MOTIVA		520	1,800	14,000	16,320	0	0
CHEMICAL TOTAL		520	1,800	14,000	16,320	0	0
N,N-DIMETHYLFORMAMIDE							
RODEL		23,971	0	0	23,971	823,361	3,205,583
CHEMICAL TOTAL		23,971	0	0	23,971	823,361	3,205,583
NAPHTHALENE							
MOTIVA		620	0	0	620	42	590
SICO #360	1	0	0	0	0	0	0
UNIQEMA	1	0	0	0	0	0	0
CHEMICAL TOTAL		620	0	0	620	42	590
N-BUTYL ALCOHOL							
DAIMLER CHRYSLER		70,000	0	0	70,000	5,700	9,100
GENERAL MOTORS		37,120	0	0	37,120	523	17,000
MOTIVA		240	12	0	252	0	1,200
NORAMCO		3	0	0	3	50,535	0
CHEMICAL TOTAL		107,363	12	0	107,375	56,758	27,300

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
 Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
N-HEXANE							
BLADES BULK PLANT	1	0	0	0	0	0	0
CARL KING	1	0	0	0	0	0	0
DAIMLER CHRYSLER		639	0	0	639	27	0
GREEN TREE CHEMICAL		127	0	0	127	1,016	0
HONEYWELL		7,886	0	0	7,886	38,452	0
MEDAL		250	0	0	250	0	797,454
MOTIVA		44,800	0	0	44,800	0	12,000
SICO #360	1	0	0	0	0	0	0
CHEMICAL TOTAL		53,702	0	0	53,702	39,495	809,454
NICKEL							
CAMDEL METALS		0	0	0	0	15,405	0
CHEMICAL TOTAL		0	0	0	0	15,405	0
NICKEL COMPOUNDS							
AMERICAN MINERALS		9	8	0	17	0	0
CITISTEEL		21	2	22	45	4,034	0
DU PONT EDGE MOOR		2	164	120	286	25,711	0
EDGE MOOR/HAY ROAD POWER PLT.		20,111	1	0	20,112	29,268	0
INDIAN RIVER POWER PLANT		595	0	31,000	31,595	0	0
MOTIVA		13,000	1,800	39,000	53,800	28,043	0
SPI POLYOLS, INC.		213	0	5	218	99,252	35,000
CHEMICAL TOTAL		33,951	1,975	70,147	106,073	186,308	35,000

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003

Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
NITRATE COMPOUNDS							
DAIMLER CHRYSLER		81	0	0	81	21,013	0
DU PONT SEAFORD		0	134,000	0	134,000	12	0
MOTIVA		0	530	0	530	0	900,000
PERDUE GEORGETOWN		0	310,000	210	310,210	0	0
SPI POLYOLS, INC.	1	0	0	0	0	0	0
CHEMICAL TOTAL		81	444,530	210	444,821	21,025	900,000
NITRIC ACID							
DAIMLER CHRYSLER		21	0	0	21	0	2,100
PLAYTEX PRODUCTS		37	0	0	37	6,900	2,000
SPI PHARMA	1	0	0	0	0	0	0
SPI POLYOLS, INC.		10	0	0	10	1,900	0
CHEMICAL TOTAL		68	0	0	68	8,800	4,100
NITROBENZENE							
ORIENT		210	0	0	210	0	0
CHEMICAL TOTAL		210	0	0	210	0	0
N-METHYL-2-PYRROLIDONE							
GENERAL MOTORS		31,600	0	0	31,600	18	250
MEDAL		250	0	0	250	31,180	0
RODEL TECH CENTER		2,305	0	0	2,305	24,510	0
CHEMICAL TOTAL		34,155	0	0	34,155	55,708	250
N-METHYLOLACRYLAMIDE							
DOW REICHHOLD		407	0	0	407	0	11
CHEMICAL TOTAL		407	0	0	407	0	11
OCTACHLOROSTYRENE							
DU PONT EDGE MOOR		0	0	42	42	508	0
CHEMICAL TOTAL		0	0	42	42	508	0

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
P-CHLOROANILINE							
CIBA SPECIALTY CHEMICALS		17	0	0	17	8,557	0
CHEMICAL TOTAL		17	0	0	17	8,557	0
PENTACHLOROBENZENE							
DU PONT EDGE MOOR		0	16	30	46	201	0
CHEMICAL TOTAL		0	16	30	46	201	0
PHENANTHRENE							
MOTIVA		2	0	0	2	0	5
CHEMICAL TOTAL		2	0	0	2	0	5
PHENOL							
AMETEK		29	0	0	29	0	305
MOTIVA		2	280	0	282	0	118,000
UNIQEMA		55	0	0	55	512	219
CHEMICAL TOTAL		86	280	0	366	512	118,524
PHOSGENE							
DU PONT EDGE MOOR		798	0	0	798	0	48,000
CHEMICAL TOTAL		798	0	0	798	0	48,000
PHTHALIC ANHYDRIDE							
RODEL	1	0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0
POLYCHLORINATED BIPHENYLS							
DU PONT EDGE MOOR		0	0	0	0	71	0
CHEMICAL TOTAL		0	0	0	0	71	0

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
 Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
POLYCYCLIC AROMATIC COMPOUNDS							
AMETEK		501	0	0	501	0	0
DU PONT SEAFORD		0	0	0	0	0	0
EDGE MOOR/HAY ROAD POWER PLT.		34	0	0	34	0	0
GAC SEAFORD		0	0	0	0	0	0
HERCULES RESEARCH CENTER		0	0	0	0	0	0
INDIAN RIVER POWER PLANT		76	0	0	76	0	0
MCKEE RUN POWER PLANT		0	0	0	0	0	0
MOTIVA		9	2	0	11	0	420
NRG DOVER		0	0	0	0	0	0
PERDUE BRIDGEVILLE		0	0	0	0	0	0
PERDUE GEORGETOWN		0	0	0	0	0	0
PINNACLE FOODS		2	0	0	2	0	0
SPI POLYOLS, INC.		0	0	0	0	0	0
CHEMICAL TOTAL		622	2	0	624	0	420
POTASSIUM DIMETHYLDITHIOCARBAMATE							
GENERAL MOTORS		0	0	0	0	81	0
CHEMICAL TOTAL		0	0	0	0	81	0
PROPYLENE							
MOTIVA		1,770	0	0	1,770	0	570,000
CHEMICAL TOTAL		1,770	0	0	1,770	0	570,000
PROPYLENE OXIDE							
UNIQEMA		1,062	0	0	1,062	0	0
CHEMICAL TOTAL		1,062	0	0	1,062	0	0
SILVER							
DENTSPLY CAULK WEST		0	0	0	0	4,575	0
CHEMICAL TOTAL		0	0	0	0	4,575	0

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
SODIUM NITRITE							
DAIMLER CHRYSLER		340	0	0	340	0	4,400
DU PONT SEAFORD		0	0	0	0	0	132,204
GENERAL MOTORS		0	0	0	0	15,000	0
MOTIVA		0	12,000	0	12,000	0	1,400,000
CHEMICAL TOTAL		340	12,000	0	12,340	15,000	1,536,604
STYRENE							
DOW REICHHOLD		4,463	0	0	4,463	596	151,104
HARDCORE COMPOSITES		2,638	0	0	2,638	0	0
JOHNSON POLYMER		349	0	0	349	53	937
JUSTIN TANKS		31,117	0	0	31,117	420	0
MARBLE WORKS		2,282	0	0	2,282	0	0
MOTIVA		22	0	0	22	0	70
SPATZ FIBERGLASS		6,178	0	0	6,178	0	0
CHEMICAL TOTAL		47,049	0	0	47,049	1,069	152,111
SULFURIC ACID AEROSOLS							
DU PONT SEAFORD		89,242	0	0	89,242	0	0
EDGE MOOR/HAY ROAD POWER PLT.		179,384	0	0	179,384	0	109,091
GENERAL CHEMICAL		16,000	0	0	16,000	0	0
INDIAN RIVER POWER PLANT		84,000	0	0	84,000	0	460,000
MOTIVA		840,000	0	0	840,000	0	1,900
NORAMCO		0	0	0	0	0	0
NRG DOVER		23,000	0	0	23,000	0	23,000
CHEMICAL TOTAL		1,231,626	0	0	1,231,626	0	593,991
TETRABROMOBISPHENOL A							
AMETEK		0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
TETRACHLOROETHYLENE							
GREEN TREE CHEMICAL		6	0	0	6	604	0
MOTIVA		3	0	0	3	0	0
CHEMICAL TOTAL		9	0	0	9	604	0
TITANIUM TETRACHLORIDE							
DU PONT EDGE MOOR		57	0	0	57	0	1,739,000
CHEMICAL TOTAL		57	0	0	57	0	1,739,000
TOLUENE							
AGILENT TECHNOLOGIES LITTLE FALLS		443	0	0	443	30,267	0
AVECIA		50	0	0	50	102	15,200
BLADES BULK PLANT	1	0	0	0	0	0	0
CARL KING	1	0	0	0	0	0	0
DAIMLER CHRYSLER		4,720	0	0	4,720	1,100	0
DENTSPLY CAULK WEST		449	0	0	449	3,863	0
DU PONT EDGE MOOR		1,381	0	0	1,381	0	0
GENERAL CLOTHING		8,700	0	0	8,700	1,550	0
GENERAL MOTORS		2,530	0	0	2,530	63	4
GREEN TREE CHEMICAL		77	0	0	77	867	0
HONEYWELL		750	0	0	750	4,092	0
MOTIVA		5,400	4,400	0	9,800	1,123	160,000
NORAMCO		823	0	0	823	430,992	260,022
SERVICE ENERGY DOVER	1	0	0	0	0	0	0
SICO #360	1	0	0	0	0	0	0
SUNOCO		42,607	0	0	42,607	50,262	0
VP RACING FUELS	1	0	0	0	0	0	0
CHEMICAL TOTAL		67,930	4,400	0	72,330	524,281	435,226
TOLUENE DIISOCYANATE (MIXED)							
E-A-R SPECIALTY COMPOSITES		4	0	0	4	5,850	0
MACDERMID		0	0	0	0	0	1,397
CHEMICAL TOTAL		4	0	0	4	5,850	1,397

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003

Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)		ON-SITE RELEASE				OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
TRICHLOROETHYLENE							
CAMDEL METALS		16,017	0	0	16,017	1,588	13,100,000
GREEN TREE CHEMICAL		29	0	0	29	1,168	0
CHEMICAL TOTAL		16,046	0	0	16,046	2,756	13,100,000
VANADIUM COMPOUNDS							
DU PONT EDGE MOOR		1	774	1,122	1,897	52,209	0
EDGE MOOR/HAY ROAD POWER PLT.		3,981	0	0	3,981	39,762	0
INDIAN RIVER POWER PLANT		625	0	56,000	56,625	0	0
MOTIVA		7,700	11,000	250,000	268,700	340	0
CHEMICAL TOTAL		12,307	11,774	307,122	331,203	92,311	0
VINYL ACETATE							
DOW REICHHOLD		4,109	0	0	4,109	34	2,553
FORMOSA PLASTICS		11,633	0	0	11,633	0	0
CHEMICAL TOTAL		15,742	0	0	15,742	34	2,553
VINYL CHLORIDE							
FORMOSA PLASTICS		97,717	0	0	97,717	0	139,431
KANEKA		32,106	1	0	32,107	3	177,707
CHEMICAL TOTAL		129,823	1	0	129,824	3	317,138
XYLENE (MIXED ISOMERS)							
ARLON		1,500	0	0	1,500	5,654	144,479
BLADES BULK PLANT	1	0	0	0	0	0	0
CARL KING	1	0	0	0	0	0	0
CIBA SPECIALTY CHEMICALS		1,372	0	0	1,372	7,587	100
DAIMLER CHRYSLER		57,400	0	0	57,400	49,480	2,100
GENERAL MOTORS		157,000	0	0	157,000	390,437	11,000
MOTIVA		6,400	0	0	6,400	1,061	95,000
SICO #360	1	0	0	0	0	0	0
SUNOCO		19,070	0	0	19,070	25,288	0
VP RACING FUELS	1	0	0	0	0	0	0
CHEMICAL TOTAL		242,742	0	0	242,742	479,507	252,679

Source: DNREC 2001 Database, March 1, 2003.

Form A reports do not indicate amounts

APPENDIX F

2001 ON-SITE CHEMICAL RELEASES BY CHEMICAL

CHEMICAL NAME (Alphabetical)	ON-SITE RELEASE					OFF-SITE	ON-SITE
FACILITY NAME	FORM A	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
ZINC (FUME OR DUST)							
MOUNTAIRE FARMS OF DELAWARE	1	0	0	0	0	0	0
CHEMICAL TOTAL		0	0	0	0	0	0
ZINC COMPOUNDS							
ALLEN'S HATCHERY	1	0	0	0	0	0	0
CITISTEEL		2,901	13	119	3,033	1,906,033	0
CLARIANT		5	0	0	5	193	0
DAIMLER CHRYSLER		0	0	0	0	15,290	0
DU PONT EDGE MOOR		10	523	179	712	41,055	0
DU PONT SEAFORD		7,083	2,338	0	9,421	0	0
GENERAL MOTORS		29	360	0	389	8,240	0
INDIAN RIVER POWER PLANT		385	0	42,000	42,385	0	0
MOTIVA		2,500	3,300	340	6,140	41,270	0
MOUNTAIRE FARMS FEEDMILL	1	0	0	0	0	0	0
NVF YORKLYN		0	2,252	0	2,252	9,594	4,594,952
ORIENT		0	0	0	0	0	0
PERDUE BRIDGEVILLE	1	0	0	0	0	0	0
PPG DOVER		69	0	0	69	4,292	0
CHEMICAL TOTAL		12,982	8,786	42,638	64,406	2,025,967	4,594,952
STATE TOTALS	57	6,766,580	573,937	965,666	8,306,183	17,114,745	90,673,402

APPENDIX F

Source: DNREC 2001 Database, March 1, 2003
Form A reports do not indicate amounts

APPENDIX G

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE-CYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1-AZONIAADAMANTANE CHLORIDE										
PPG DOVER						0				0
Chemical Total						0				0
1,1-DICHLORO-1-FLUOROETHANE										
GREEN TREE CHEMICAL			1,269			1,269				0
Chemical Total			1,269			1,269				0
1,2,4-TRIMETHYLBENZENE										
BLADES BULK PLANT						0				0
CARL KING						0				0
DAIMLER CHRYSLER	0	3,700	1,100			4,800		6,600		6,600
GENERAL MOTORS			32,000		87	32,087		7,900		7,900
MOTIVA			9	9		18		380,000		380,000
SERVICE ENERGY DOVER						0				0
SICO #360						0				0
Chemical Total	0	3,700	33,109	9	87	36,905		394,500		394,500
1,3-BUTADIENE										
DOW REICHHOLD						0		1,290,212		1,290,212
MOTIVA						0		11		11
Chemical Total						0		1,290,223		1,290,223
1,3-DICHLOROPROPYLENE										
HONEYWELL			20,703	4		20,707		0		0
Chemical Total			20,703	4		20,707		0		0
4,4'-ISOPROPYLIDENEDIPHENOL										
UNIQEMA	1,359					1,359				0
Chemical Total	1,359					1,359				0

APPENDIX G

Source: DNREC 2001 Database, March 1, 2003

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APPENDIX G

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE-CYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
4,4'-METHYLENEBIS(2-CHLOROANILINE)										
RODEL TECH CENTER				1,039		1,039				0
Chemical Total				1,039		1,039				0
ACRYLIC ACID										
DOW REICHHOLD						0			1	1
Chemical Total						0			1	1
ACRYLONITRILE										
DOW REICHHOLD	4		7		132	143			535,325	535,325
Chemical Total	4		7		132	143			535,325	535,325
AMMONIA										
AGRILINK FOODS						0				0
AVECIA	34,675					34,675				0
DOW REICHHOLD	10					10		296		296
EDGE MOOR/HAY ROAD POWER	0					0		0		0
FORMOSA PLASTICS						0				0
GENERAL CHEMICAL	2,301					2,301				0
HANOVER FOODS						0				0
HONEYWELL			3,657			3,657		0		0
INDIAN RIVER POWER PLANT						0				0
JOHNSON POLYMER	218			208		426				0
KRAFT FOODS	1,018					1,018		20,760		20,760
MOTIVA						0	14,000,000	21,000		14,021,000
MOUNTAIRE FARMS OF DELAWARE						0				0
MOUNTAIRE FARMS OF DELMARVA	10,435					10,435				0
Chemical Total	48,657		3,865			52,522		14,000,000	42,056	14,042,056
ANILINE										
CIBA SPECIALTY CHEMICALS	22,810		2,699	10,274		35,783				0
ORIENT	116					116		7,590		7,590
Chemical Total	22,926		2,699			10,274		35,899	7,590	7,590

APPENDIX G

Source: DNREC 2001 Database, March 1, 2003

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APPENDIX G

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE-CYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
ANTHRACENE										
MOTIVA						0			5	5
Chemical Total						0			5	5
ANTIMONY										
HALKO MANUFACTURING						0				0
Chemical Total						0				0
ANTIMONY COMPOUNDS										
JOHNSON CONTROLS	0	12,483				12,483				0
Chemical Total	0	12,483				12,483				0
ASBESTOS (FRIABLE)										
GAC SEAFORD						0				0
Chemical Total						0				0
BARIUM										
AMERICAN MINERALS						0				0
Chemical Total						0				0
BARIUM COMPOUNDS										
DU PONT EDGE MOOR					26,072	26,072				0
DU PONT SEAFORD					0	0				
EDGE MOOR/HAY ROAD POWER	0				88,059	88,059				0
INDIAN RIVER POWER PLANT					0	0				
Chemical Total	0				114,131	114,131				0
BENZENE										
BLADES BULK PLANT						0				0
CARL KING						0				0
DAIMLER CHRYSLER			23			23		0		0
MOTIVA			190	8		198		260,000	120,000	380,000
SICO #360						0				0
SUNOCO	45,748			7	17	45,772				0
VP RACING FUELS						0				0
Chemical Total	45,748		213	15	17	45,993		260,000	120,000	380,000

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE-CYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
BENZO(G,H,I)PERYLENE										
DU PONT SEAFORD						0				0
EDGE MOOR/HAY ROAD POWER	0					0				0
HERCULES RESEARCH CENTER						0				0
INDIAN RIVER POWER PLANT						0				0
MCKEE RUN POWER PLANT	0					0				0
MOTIVA						0			190	190
NRG DOVER						0			0	0
PERDUE BRIDGEVILLE						0				0
PERDUE GEORGETOWN						0				0
PINNACLE FOODS						0				0
Chemical Total	0					0			190	190
BIPHENYL										
CIBA SPECIALTY CHEMICALS	86,111		84,033	11,886		182,030			2,321	2,321
DU PONT SEAFORD		0		7,880		7,880				0
Chemical Total	86,111	0	84,033	19,766		189,910			2,321	2,321
BIS(2-CHLOROETHYL) ETHER										
UNIQEMA	4,541		3,536			8,077				0
Chemical Total	4,541		3,536			8,077				0
BORON TRIFLUORIDE										
HONEYWELL				2,307		2,307			0	0
Chemical Total				2,307		2,307			0	0
BUTYL ACRYLATE										
DOW REICHHOLD			0			0			4	4
JOHNSON POLYMER	5			10		15			42	42
Chemical Total	5		0	10		15			46	46
CARBON DISULFIDE										
MOTIVA						0		51	31,000	31,051
Chemical Total						0		51	31,000	31,051

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE-CYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
CARBONYL SULFIDE										
DU PONT EDGE MOOR						0				0
MOTIVA						0		990,000	77,000	1,067,000
Chemical Total						0		990,000	77,000	1,067,000
CERTAIN GLYCOL ETHERS										
AVECIA	2,090		697			2,787				0
DAIMLER CHRYSLER	110,000	110	3,400		1	113,511			17,000	17,000
GENERAL MOTORS	58,000		11		1,060	59,071			45,000	45,000
GREEN TREE CHEMICAL			1,658			1,658				0
HIRSH INDUSTRIES			0			0				0
JOHNSON POLYMER	1,110		1,381			2,491				0
PPG DOVER						0				0
UNIQEMA	3,437					3,437			1,473	1,473
Chemical Total	174,637	110	5,766	1,381	1,061	182,955			63,473	63,473
CHLORINE										
DU PONT EDGE MOOR						0			5,041,000	5,041,000
KUEHNE CHEMICAL						0				0
OCCIDENTAL CHEMICAL		0	0	831		831			2,288,340	2,288,340
PLAYTEX PRODUCTS						0			2,300	2,300
SPI PHARMA						0				0
Chemical Total		0	0	831		831			7,331,640	7,331,640
CHLOROETHANE										
HONEYWELL						0				0
Chemical Total						0				0
CHLOROFORM										
OCCIDENTAL CHEMICAL				11,157		11,157			0	0
Chemical Total				11,157		11,157			0	0
CHROMIUM										
CAMDEL METALS		22,818			250	23,068				0
Chemical Total		22,818			250	23,068				0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
CHROMIUM COMPOUNDS										
CHROME DEPOSIT		2,400			1,000	3,400	2,000			2,000
CITISTEEL		32,772			669	33,441				0
DU PONT EDGE MOOR		210,437			210,437	0				
EDGE MOOR/HAY ROAD POWER	5	22,350			22,355	0				
INDIAN RIVER POWER PLANT					0	0				
MOTIVA		11,000			46	11,046				0
ORIENT						0				0
Chemical Total	5	46,172			234,502	280,679	2,000			2,000
COBALT COMPOUNDS										
DU PONT EDGE MOOR					9,296	9,296				0
EDGE MOOR/HAY ROAD POWER	0				18,148	18,148				0
Chemical Total	0				27,444	27,444				0
COPPER COMPOUNDS										
ALLEN'S HATCHERY						0				0
AVECIA	273				262	535				0
CITISTEEL		32,369			1,414	33,783				0
DU PONT EDGE MOOR					3,396	3,396				0
EDGE MOOR/HAY ROAD POWER	47				25,117	25,164				0
INDIAN RIVER POWER PLANT						0				0
MOUNTAIRE FARMS FEEDMILL						0				0
MOUNTAIRE FARMS OF DELAWARE						0				0
PERDUE BRIDGEVILLE						0				0
Chemical Total	320	32,369			30,189	62,878				0
CRESOL (MIXED ISOMERS)										
MOTIVA				1		1		31,000	23,000	54,000
Chemical Total				1		1		31,000	23,000	54,000
CUMENE										
MOTIVA			0			0			80	80
Chemical Total			0			0			80	80

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RE-CYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
CYCLOHEXANE										
CARL KING						0				0
CIBA SPECIALTY CHEMICALS	0		5,820			5,820			5,055	5,055
DAIMLER CHRYSLER			27			27			0	0
MOTIVA			33	40		73			5,200	5,200
SICO #360						0				0
Chemical Total	0		5,880	40		5,920			10,255	10,255
DI(2-ETHYLHEXYL) PHTHALATE										
ROLLER SERVICE						0				0
Chemical Total						0				0
DICHLOROMETHANE										
NORAMCO	74,827		11,983			86,810	1,196,732			1,196,732
Chemical Total	74,827		11,983			86,810	1,196,732			1,196,732
DIETHANOLAMINE										
MOTIVA				9		9			87,000	87,000
Chemical Total				9		9			87,000	87,000
DIETHYL SULFATE										
UNIQEMA						0				0
Chemical Total						0				0
DIISOCYANATES										
CUSTOM DECORATIVE MOLDINGS						0				0
E-A-R SPECIALTY COMPOSITES				2,330		2,330				0
PPG INDUSTRIES					250	250				0
RODEL				8,930		8,930				0
Chemical Total				11,260	250	11,510				0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
DIOXIN AND DIOXIN-LIKE COMPOUNDDS										
DU PONT EDGE MOOR				0	156	156				0
DU PONT SEAFORD						0				0
EDGE MOOR/HAY ROAD POWER						0				0
FORMOSA PLASTICS					0	0				0
INDIAN RIVER POWER PLANT						0				0
MOTIVA						0				0
OCCIDENTAL CHEMICAL				0		0				0
Chemical Total				0	156	156				0
ETHYL ACRYLATE										
DOW REICHHOLD	2		9			11			216	216
JOHNSON POLYMER						0				0
Chemical Total	2		9			11			216	216
ETHYLBENZENE										
BLADES BULK PLANT						0				0
CARL KING						0				0
DAIMLER CHRYSLER		17,000	76			17,076		430		430
MOTIVA			250	27		277		12,000		12,000
SICO #360						0				0
Chemical Total		17,000	326	27		17,353		12,430		12,430
ETHYLENE										
MOTIVA						0		18,000		18,000
SUNOCO						0				0
Chemical Total						0		18,000		18,000
ETHYLENE GLYCOL										
AVECIA	21,762					21,762				0
DAIMLER CHRYSLER	280	0				280				0
GENERAL MOTORS	930					930				0
MOTIVA				9		9		47,000		47,000
PPG DOVER	130			3,600	343	4,073		0		0
UNIQEMA						0				0
Chemical Total	23,102	0		3,609	343	27,054		47,000		47,000

APPENDIX G

Source: DNREC 2001 Database, March 1, 2003

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS						ON-SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
ETHYLENE OXIDE										
SUNOCO						0				0
UNIQEMA						0				0
Chemical Total						0				0
FORMALDEHYDE										
DOW REICHHOLD			0			0				0
Chemical Total			0			0				0
FORMIC ACID										
AVECIA	226					226		107,335		107,335
MOTIVA						0		75,000		75,000
Chemical Total	226					226		182,335		182,335
HEXACHLOROBENZENE										
DU PONT EDGE MOOR					672	672				0
Chemical Total					672	672				0
HYDROCHLORIC ACID AEROSOLS										
DU PONT EDGE MOOR						0		21,347,000		21,347,000
DU PONT SEAFORD						0				0
EDGE MOOR/HAY ROAD POWER						0				0
INDIAN RIVER POWER PLANT						0				0
KANEKA						0		104,859		104,859
MOTIVA						0		230,000		230,000
NORAMCO						0				0
NRG DOVER						0				0
Chemical Total						0		21,681,859		21,681,859
HYDROGEN CYANIDE										
MOTIVA						0		280,000		280,000
Chemical Total						0		280,000		280,000

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
HYDROGEN FLUORIDE										
EDGE MOOR/HAY ROAD POWER						0			6,944	6,944
GENERAL CHEMICAL						0			76,430	76,430
INDIAN RIVER POWER PLANT						0			14,000	14,000
Chemical Total						0			97,374	97,374
LEAD										
AMERICAN MINERALS						0				0
AMETEK						0				0
DOVER AFB SMALL ARMS RANGE						0				0
HALKO MANUFACTURING						0				0
W.L. GORE BARKSDALE		951			3	954				0
W.L. GORE OTTS CHAPEL		593			7	600				0
Chemical Total		1,544			10	1,554				0
LEAD COMPOUNDS										
ASTROPOWER	3	19			19	41				0
CHROME DEPOSIT		6,790			701	7,491				0
CITISTEEL		254,616			39	254,655				0
DENTSPLY CAULK WEST		0	0			0	350	0	0	350
DU PONT EDGE MOOR		34			48,081	48,115				0
DU PONT SEAFORD						0				0
EDGE MOOR/HAY ROAD POWER	2				7,908	7,910				0
GENERAL CHEMICAL	474				1,642	2,116				0
GENERAL MOTORS	26				126	152				0
INDIAN RIVER POWER PLANT						0				0
INSTEEL WIRE						0				0
JOHNSON CONTROLS	15	4,304,415			13	4,304,443				0
MOTIVA					56	56				0
NRG DOVER					380	380				0
VP RACING FUELS						0				0
Chemical Total	520	4,565,874	0		58,964	4,625,358	350	0	0	350

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
MANGANESE										
CAMDEL METALS		2,905			250	3,155				0
MOUNTAIRE FARMS OF DELAWARE						0				0
Chemical Total		2,905			250	3,155				0
MANGANESE COMPOUNDS										
ALLEN'S HATCHERY						0				0
AMERICAN MINERALS						0				0
CITISTEEL		189,576			3,469	193,045				0
DAIMLER CHRYSLER	150	1,500			3,400	5,050				0
DU PONT EDGE MOOR					3,144,014	3,144,014				0
EDGE MOOR/HAY ROAD POWER	0				20,054	20,054				0
INDIAN RIVER POWER PLANT						0				0
MOTIVA		61,000				61,000				0
MOUNTAIRE FARMS FEEDMILL						0				0
PERDUE BRIDGEVILLE						0				0
Chemical Total	150	252,076			3,170,937	3,423,163				0
MERCURY										
DENTSPLY CAULK WEST		3,327				3,327				0
OCCIDENTAL CHEMICAL					1,047	1,047	7,800			7,800
Chemical Total		3,327			1,047	4,374	7,800			7,800
MERCURY COMPOUNDS										
CITISTEEL		26				26				0
DU PONT SEAFORD						0				0
EDGE MOOR/HAY ROAD POWER	0				44	44				0
INDIAN RIVER POWER PLANT						0				0
INTERVET	1	3			1	5				0
MOTIVA		180			3	183				0
NRG DOVER					2	2				0
Chemical Total	1	209			50	260				0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
METHANOL										
AGILENT TECHNOLOGIES NEWPORT			15,746			15,746				0
AVECIA	12,768		16,935			29,703				0
CIBA SPECIALTY CHEMICALS	789,492	1,557,725	110,939	11,957		2,470,113	0		437,640	437,640
DAIMLER CHRYSLER			790			790				0
DENTSPLY CAULK MAIN		12,721				12,721				0
DENTSPLY CAULK WEST		2,918				2,918				0
DOW REICHHOLD	10					10			296	296
GENERAL MOTORS			32,000		22	32,022			2,000	2,000
MACDERMID			9,702			9,702				0
MEDAL				10,955		10,955	910,637			910,637
MOTIVA			0	9		9		10,000,000	450,000	10,450,000
NORAMCO	73,644		498,730	22,893		595,267	11,482		0	11,482
VP RACING FUELS						0				0
Chemical Total	875,914	1,573,364	684,842	45,814	22	3,179,956	922,119	10,000,000	889,936	11,812,055
METHYL ETHYL KETONE										
D & B INDUSTRIAL GROUP			14,036			14,036				0
MACDERMID	0		127,714			127,714		90,000	800,451	890,451
RODEL			1,446	96		1,542			191,708	191,708
Chemical Total	0		143,196	96		143,292		90,000	992,159	1,082,159
METHYL ISOBUTYL KETONE										
DAIMLER CHRYSLER		48,000	860			48,860				0
NORAMCO	14,614		37,860			52,474	0			0
Chemical Total	14,614	48,000	38,720			101,334	0			0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
METHYL METHACRYLATE										
DENTSPLY CAULK MAIN		1,686				1,686				0
DOW REICHHOLD	13					13			206	206
JOHNSON POLYMER	5			10		15			1,242	1,242
Chemical Total	18	1,686		10		1,714			1,448	1,448
METHYL TERT-BUTYL ETHER										
BLADES BULK PLANT						0				0
CARL KING						0				0
DAIMLER CHRYSLER			67			67		0		0
GENERAL MOTORS			180			180				0
MOTIVA			0	55		55		510,000		510,000
SICO #360						0				0
VP RACING FUELS						0				0
Chemical Total			247	55		302		510,000		510,000
MOLYBDENUM TRIOXIDE										
MOTIVA		0				0				0
Chemical Total		0				0				0
N,N-DIMETHYLFORMAMIDE										
RODEL	118,915		704,326	120		823,361	3,202,031		3,552	3,205,583
Chemical Total	118,915		704,326	120		823,361	3,202,031		3,552	3,205,583
NAPHTHALENE										
MOTIVA			42			42		590		590
SICO #360						0				0
UNIQEMA						0				0
Chemical Total			42			42		590		590

APPENDIX G

APPENDIX G

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
N-BUTYL ALCOHOL										
DAIMLER CHRYSLER	0	3,900	1,800			5,700			9,100	9,100
GENERAL MOTORS			5		518	523			17,000	17,000
MOTIVA						0			1,200	1,200
NORAMCO	10,816		37,976	1,743		50,535				0
Chemical Total	10,816	3,900	39,781	1,743	518	56,758			27,300	27,300
N-HEXANE										
BLADES BULK PLANT						0				0
CARL KING						0				0
DAIMLER CHRYSLER			27			27		0		0
GREEN TREE CHEMICAL			1,016			1,016				0
HONEYWELL			28,336	10,116		38,452			0	0
MEDAL						0	797,454			797,454
MOTIVA			0			0			12,000	12,000
SICO #360						0				0
Chemical Total			29,379	10,116		39,495	797,454		12,000	809,454
NICKEL										
CAMDEL METALS		15,155			250	15,405				0
Chemical Total		15,155			250	15,405				0
NICKEL COMPOUNDS										
AMERICAN MINERALS						0				0
CITISTEEL		3,318			716	4,034				0
DU PONT EDGE MOOR					25,711	25,711				0
EDGE MOOR/HAY ROAD POWER	9				29,259	29,268				0
INDIAN RIVER POWER PLANT						0				0
MOTIVA		28,000			43	28,043				0
SPI POLYOLS, INC.	301	81,000			17,951	99,252	35,000			35,000
Chemical Total	310	112,318			73,680	186,308	35,000			35,000

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS						ON-SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY TREAT-		DISPOSAL	TOTAL	RECYCLE	ENERGY TREAT-		TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
NITRATE COMPOUNDS										
DAIMLER CHRYSLER	21,000	13				21,013				0
DU PONT SEAFORD				12		12				0
MOTIVA						0			900,000	900,000
PERDUE GEORGETOWN						0			0	0
SPI POLYOLS, INC.						0				0
Chemical Total	21,000	13		12		21,025			900,000	900,000
NITRIC ACID										
DAIMLER CHRYSLER	0					0			2,100	2,100
PLAYTEX PRODUCTS				6,900		6,900			2,000	2,000
SPI PHARMA						0				0
SPI POLYOLS, INC.				1,900		1,900				0
Chemical Total	0			8,800		8,800			4,100	4,100
NITROBENZENE										
ORIENT	0					0				0
Chemical Total	0					0				0
N-METHYL-2-PYRROLIDONE										
GENERAL MOTORS					18	18			250	250
MEDAL	31,180	0				31,180				0
RODEL TECH CENTER				24,510		24,510				0
Chemical Total	31,180	0		24,510	18	55,708			250	250
N-METHYLOLACRYLAMIDE										
DOW REICHHOLD				0		0			11	11
Chemical Total				0		0			11	11
OCTACHLOROSTYRENE										
DU PONT EDGE MOOR					508	508				0
Chemical Total					508	508				0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY TREAT-		DISPOSAL	TOTAL	RECYCLE	ENERGY TREAT-		TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
P-CHLOROANILINE										
CIBA SPECIALTY CHEMICALS	899		1,385	6,273		8,557				0
Chemical Total	899		1,385	6,273		8,557				0
PENTACHLOROBENZENE										
DU PONT EDGE MOOR					201	201				0
Chemical Total					201	201				0
PHENANTHRENE										
MOTIVA						0			5	5
Chemical Total						0			5	5
PHENOL										
AMETEK	0					0	210		95	305
MOTIVA						0		68,000	50,000	118,000
UNIQEMA	512					512			219	219
Chemical Total	512					512	210	68,000	50,314	118,524
PHOSGENE										
DU PONT EDGE MOOR						0			48,000	48,000
Chemical Total						0			48,000	48,000
PHTHALIC ANHYDRIDE										
RODEL						0				0
Chemical Total						0				0
POLYCHLORINATED BIPHENYLS										
DU PONT EDGE MOOR					71	71				0
Chemical Total					71	71				0
POLYCYCLIC AROMATIC COMPOUNDS										
AMETEK						0				0
DU PONT SEAFORD						0				0

Polycyclic Aromatic Compounds Continued on Next Page

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APPENDIX G

2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS						ON-SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
POLYCYCLIC AROMATIC COMPOUNDS (CONTINUED)										
EDGE MOOR/HAY ROAD POWER	0					0				0
GAC SEAFORD						0				0
HERCULES RESEARCH CENTER						0				0
INDIAN RIVER POWER PLANT						0				0
MCKEE RUN POWER PLANT	0					0				0
MOTIVA	0					0		210	210	420
NRG DOVER	0					0				0
PERDUE BRIDGEVILLE	0					0				0
PERDUE GEORGETOWN	0					0				0
PINNACLE FOODS						0				0
SPI POLYOLS, INC.						0				0
Chemical Total	0					0		210	210	420
POTASSIUM DIMETHYLDITHIOCARBAMATE										
GENERAL MOTORS	81					81				0
Chemical Total	81					81				0
PROPYLENE										
MOTIVA						0		570,000		570,000
Chemical Total						0		570,000		570,000
PROPYLENE OXIDE										
UNIQEMA						0				0
Chemical Total						0				0
SILVER										
DENTSPLY CAULK WEST		4,575				4,575				0
Chemical Total		4,575				4,575				0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLE	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
SODIUM NITRITE										
DAIMLER CHRYSLER	0	0			0	0			4,400	4,400
DU PONT SEAFORD						0			132,204	132,204
GENERAL MOTORS	15,000					15,000				0
MOTIVA						0			1,400,000	1,400,000
Chemical Total	15,000	0			0	15,000			1,536,604	1,536,604
STYRENE										
DOW REICHHOLD	358		168		70	596			151,104	151,104
HARDCORE COMPOSITES						0				0
JOHNSON POLYMER	12			41		53			937	937
JUSTIN TANKS				420		420				0
MARBLE WORKS						0				0
MOTIVA			0			0			70	70
SPATZ FIBERGLASS						0				0
Chemical Total	370		168	461	70	1,069			152,111	152,111
SULFURIC ACID AEROSOLS										
DU PONT SEAFORD						0				0
EDGE MOOR/HAY ROAD POWER						0			109,091	109,091
GENERAL CHEMICAL						0				0
INDIAN RIVER POWER PLANT						0			460,000	460,000
MOTIVA						0			1,900	1,900
NORAMCO						0				0
NRG DOVER						0			23,000	23,000
Chemical Total						0			593,991	593,991
TETRABROMOBISPHENOL A										
AMETEK						0				0
Chemical Total						0				0
TETRACHLOROETHYLENE										
GREEN TREE CHEMICAL			604			604				0
MOTIVA						0				0
Chemical Total			604			604				0

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS						ON-SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY	TREAT-	DISPOSAL	TOTAL	RECYCLER	ENERGY	TREAT-	TOTAL
			RECOVERY	MENT				RECOVERY	MENT	
TITANIUM TETRACHLORIDE										
DU PONT EDGE MOOR						0			1,739,000	1,739,000
Chemical Total						0			1,739,000	1,739,000
TOLUENE										
AGILENT TECHNOLOGIES LITTLE FALLS			30,267			30,267				0
AVECIA	102					102	15,200			15,200
BLADES BULK PLANT						0				0
CARL KING						0				0
DAIMLER CHRYSLER			1,100	0		1,100		0		0
DENTSPLY CAULK WEST		3,863				3,863				0
DU PONT EDGE MOOR						0				0
GENERAL CLOTHING		1,550				1,550				0
GENERAL MOTORS			63			63		4		4
GREEN TREE CHEMICAL			867			867				0
HONEYWELL			2,100	1,992		4,092		0		0
MOTIVA			1,100	23		1,123		160,000		160,000
NORAMCO	41,815		371,954	17,223		430,992	260,022			260,022
SERVICE ENERGY DOVER						0				0
SICO #360						0				0
SUNOCO	50,260				2	50,262				0
VP RACING FUELS						0				0
Chemical Total	92,177	5,413	407,451	19,238	2	524,281	275,222	160,004		435,226
TOLUENE DIISOCYANATE (MIXED)										
E-A-R SPECIALTY COMPOSITES				5,850		5,850				0
MACDERMID						0		1,397		1,397
Chemical Total				5,850		5,850		1,397		1,397
TRICHLOROETHYLENE										
CAMDEL METALS				1,588		1,588	13,100,000			13,100,000
GREEN TREE CHEMICAL			1,168			1,168				0
Chemical Total			1,168	1,588		2,756	13,100,000			13,100,000

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS					ON-SITE WASTE MANAGEMENT				
	POTW	RECYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
VANADIUM COMPOUNDS										
DU PONT EDGE MOOR					52,209	52,209				0
EDGE MOOR/HAY ROAD POWER	0				39,762	39,762				0
INDIAN RIVER POWER PLANT						0				0
MOTIVA					340	340				0
Chemical Total	0				92,311	92,311				0
VINYL ACETATE										
DOW REICHHOLD	11		23			34		2,553		2,553
FORMOSA PLASTICS						0				0
Chemical Total	11		23			34		2,553		2,553
VINYL CHLORIDE										
FORMOSA PLASTICS						0		139,431		139,431
KANEKA					3	3		177,707		177,707
Chemical Total					3	3		317,138		317,138
XYLENE (MIXED ISOMERS)										
ARLON				5,654		5,654		144,479		144,479
BLADES BULK PLANT						0				0
CARL KING						0				0
CIBA SPECIALTY CHEMICALS	365		5,771	1,451		7,587		100		100
DAIMLER CHRYSLER	0	49,000	480			49,480		2,100		2,100
GENERAL MOTORS	390,000	437				390,437		11,000		11,000
MOTIVA			1,000	61		1,061		95,000		95,000
SICO #360						0				0
SUNOCO	25,286				2	25,288				0
VP RACING FUELS						0				0
Chemical Total	25,651	49,000	397,251	7,166	439	479,507		144,479	108,200	252,679

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2001 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF-SITE TRANSFERS						ON-SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREAT- MENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREAT- MENT	TOTAL
ZINC (FUME OR DUST)										
MOUNTAIRE FARMS OF DELAWARE						0				0
Chemical Total						0				0
ZINC COMPOUNDS										
ALLEN'S HATCHERY						0				0
CITISTEEL		1,905,943			90	1,906,033				0
CLARIANT	20				173	193				0
DAIMLER CHRYSLER	190	4,100			11,000	15,290				0
DU PONT EDGE MOOR					41,055	41,055				0
DU PONT SEAFORD						0				0
GENERAL MOTORS	240				8,000	8,240				0
INDIAN RIVER POWER PLANT						0				0
MOTIVA		41,000			270	41,270				0
MOUNTAIRE FARMS FEEDMILL						0				0
NVF YORKLYN	5,967				3,627	9,594	4,594,952			4,594,952
ORIENT						0				0
PERDUE BRIDGEVILLE						0				0
PPG DOVER					4,292	4,292				0
Chemical Total	6,417	1,951,043			68,507	2,025,967	4,594,952			4,594,952
STATE TOTALS	1,697,026	8,725,054	2,642,626	172,946	3,877,093	17,114,745	24,133,870	25,863,740	40,675,792	90,673,402

APPENDIX G

APPENDIX H

2001 ON-SITE RELEASE SUMMARY BY CHEMICAL

(Ranked by ON-SITE Release) CHEMICAL	ON-SITE RELEASE				OFF-SITE	ON-SITE
	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
HYDROCHLORIC ACID AEROSOLS	3,498,939	0	0	3,498,939	0	21,681,859
SULFURIC ACID AEROSOLS	1,231,626	0	0	1,231,626	0	593,991
NITRATE COMPOUNDS	81	444,530	210	444,821	21,025	900,000
VANADIUM COMPOUNDS	12,307	11,774	307,122	331,203	92,311	0
BARIUM COMPOUNDS	6,618	3,585	315,204	325,407	114,131	0
XYLENE (MIXED ISOMERS)	242,742	0	0	242,742	479,507	252,679
CERTAIN GLYCOL ETHERS	228,449	0	0	228,449	182,955	63,473
HYDROGEN FLUORIDE	201,815	0	0	201,815	0	97,374
CARBONYL SULFIDE	190,410	0	0	190,410	0	1,067,000
VINYL CHLORIDE	129,823	1	0	129,824	3	317,138
MANGANESE COMPOUNDS	4,908	57,786	62,422	125,116	3,423,163	0
AMMONIA	109,356	3,804	7,937	121,097	52,522	14,042,056
N-BUTYL ALCOHOL	107,363	12	0	107,375	56,758	27,300
NICKEL COMPOUNDS	33,951	1,975	70,147	106,073	186,308	35,000
CHROMIUM COMPOUNDS	2,580	1,538	99,050	103,168	280,679	2,000
1,2,4-TRIMETHYLBENZENE	83,280	0	0	83,280	36,905	394,500
TOLUENE	67,930	4,400	0	72,330	524,281	435,226
METHYL TERT-BUTYL ETHER	67,702	240	0	67,942	302	510,000
METHANOL	66,309	170	0	66,479	3,179,956	11,812,055
ZINC COMPOUNDS	12,982	8,786	42,638	64,406	2,025,967	4,594,952
N-HEXANE	53,702	0	0	53,702	39,495	809,454
METHYL ETHYL KETONE	50,033	0	0	50,033	143,292	1,082,159
STYRENE	47,049	0	0	47,049	1,069	152,111
COPPER COMPOUNDS	3,203	9,196	25,029	37,428	62,878	0
BENZENE	31,550	5,600	0	37,150	45,993	380,000
METHYL ISOBUTYL KETONE	35,602	0	0	35,602	101,334	0
ETHYLENE	35,359	0	0	35,359	0	18,000
N-METHYL-2-PYRROLIDONE	34,155	0	0	34,155	55,708	250
LEAD COMPOUNDS	3,808	3,526	18,495	25,829	4,625,358	350
N,N-DIMETHYLFORMAMIDE	23,971	0	0	23,971	823,361	3,205,583
1,3-BUTADIENE	21,860	0	0	21,860	0	1,290,223
ETHYLBENZENE	19,270	1,200	3	20,473	17,353	12,430
BIPHENYL	17,564	0	0	17,564	189,910	2,321
MOLYBDENUM TRIOXIDE	520	1,800	14,000	16,320	0	0
TRICHLOROETHYLENE	16,046	0	0	16,046	2,756	13,100,000
VINYL ACETATE	15,742	0	0	15,742	34	2,553
CYCLOHEXANE	14,922	0	0	14,922	5,920	10,255
SODIUM NITRITE	340	12,000	0	12,340	15,000	1,536,604
ETHYLENE OXIDE	11,391	0	0	11,391	0	0
ACRYLONITRILE	4,453	0	0	4,453	143	535,325
LEAD	2	41	2,958	3,001	1,554	0
HYDROGEN CYANIDE	2,600	0	0	2,600	0	280,000

APPENDIX H

2001 ON-SITE RELEASE SUMMARY BY CHEMICAL

(Ranked by ON-SITE Release) CHEMICAL	ON-SITE RELEASE				OFF-SITE	ON-SITE
	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
ANILINE	2,529	0	0	2,529	35,899	7,590
METHYL METHACRYLATE	2,468	0	0	2,468	1,714	1,448
CHLORINE	2,417	0	0	2,417	831	7,331,640
DICHLOROMETHANE	2,010	0	0	2,010	86,810	1,196,732
FORMALDEHYDE	1,965	0	0	1,965	0	0
PROPYLENE	1,770	0	0	1,770	0	570,000
COBALT COMPOUNDS	1,265	52	52	1,369	27,444	0
ACRYLIC ACID	1,125	0	0	1,125	0	1
MERCURY	1,068	20	0	1,088	4,374	7,800
PROPYLENE OXIDE	1,062	0	0	1,062	0	0
4,4'-ISOPROPYLIDENEDIPHENOL	978	0	0	978	1,359	0
DIETHANOLAMINE	0	880	0	880	9	87,000
PHOSGENE	798	0	0	798	0	48,000
BUTYL ACRYLATE	753	0	0	753	15	46
MERCURY COMPOUNDS	414	0	215	629	260	0
POLYCYCLIC AROMATIC COMPOUNDS	622	2	0	624	0	420
NAPHTHALENE	620	0	0	620	42	590
ETHYLENE GLYCOL	85	480	0	565	27,054	47,000
ETHYL ACRYLATE	543	0	0	543	11	216
N-METHYLOLACRYLAMIDE	407	0	0	407	0	11
PHENOL	86	280	0	366	512	118,524
BORON TRIFLUORIDE	215	0	0	215	2,307	0
NITROBENZENE	210	0	0	210	0	0
CHLOROFORM	209	0	0	209	11,157	0
1,1-DICHLORO-1-FLUOROETHANE	180	0	0	180	1,269	0
HEXACHLOROENZENE	0	52	99	151	672	0
CRESOL (MIXED ISOMERS)	0	130	0	130	1	54,000
FORMIC ACID	109	0	0	109	226	182,335
CUMENE	99	0	0	99	0	80
BARIUM	17	59	0	76	0	0
NITRIC ACID	68	0	0	68	8,800	4,100
TITANIUM TETRACHLORIDE	57	0	0	57	0	1,739,000
PENTACHLOROENZENE	0	16	30	46	201	0
OCTACHLOROSTYRENE	0	0	42	42	508	0
CARBON DISULFIDE	34	0	0	34	0	31,051
1,3-DICHLOROPROPYLENE	29	0	0	29	20,707	0
BIS(2-CHLOROETHYL) ETHER	18	0	0	18	8,077	0
P-CHLOROANILINE	17	0	0	17	8,557	0
DIOXIN AND DIOXIN-LIKE CPDS.	0	0	13	13	156	0
TETRACHLOROETHYLENE	9	0	0	9	604	0
TOLUENE DIISOCYANATE (MIXED)	4	0	0	4	5,850	1,397

Source: DNREC 2001 Database, March 1, 2003

All values are in pounds

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APPENDIX H

2001 ON-SITE RELEASE SUMMARY BY CHEMICAL

(Ranked by ON-SITE Release) CHEMICAL	ON-SITE RELEASE				OFF-SITE	ON-SITE
	AIR	WATER	LAND	TOTAL	TRANSFER	WASTE MGMT.
BENZO(G,H,I)PERYLENE	1	2	0	3	0	190
4,4'-METHYLENEBIS(2- CHLOROANILINE)	2	0	0	2	1,039	0
DIISOCYANATES	2	0	0	2	11,510	0
PHENANTHRENE	2	0	0	2	0	5
POLYCHLORINATED BIPHENYLS	0	0	0	0	71	0
1-(3-CHLOROALLYL)-3,5,7-TRIAZA- 1-AZONIAADAMANTANE CHLORIDE	0	0	0	0	0	0
ANTHRACENE	0	0	0	0	0	5
ANTIMONY	0	0	0	0	0	0
ANTIMONY COMPOUNDS	0	0	0	0	12,483	0
ASBESTOS (FRIABLE)	0	0	0	0	0	0
CHLOROETHANE	0	0	0	0	0	0
CHROMIUM	0	0	0	0	23,068	0
DI(2-ETHYLHEXYL) PHTHALATE	0	0	0	0	0	0
DIETHYL SULFATE	0	0	0	0	0	0
MANGANESE	0	0	0	0	3,155	0
NICKEL	0	0	0	0	15,405	0
PHTHALIC ANHYDRIDE	0	0	0	0	0	0
POTASSIUM DIMETHYLDITHIOCARBAMATE	0	0	0	0	81	0
SILVER	0	0	0	0	4,575	0
TETRABROMOBIPHENOL A	0	0	0	0	0	0
ZINC (FUME OR DUST)	0	0	0	0	0	0
CHEMICAL TOTALS	6,766,580	573,937	965,666	8,306,183	17,114,745	90,673,402

APPENDIX I

2001 PBT RELEASE DETAIL

(IN POUNDS)

CHEMICAL FACILITY	TOTAL ON-SITE RELEASES			TRANSFERS ON-SITE		
	AIR	WATER	LAND	TOTAL	OFF-SITE	WASTE
BENZO(G,H,I)PERYLENE						
DU PONT SEAFORD	0	0	0	0	0	0
EDGE MOOR/HAY ROAD POWER PLT.	0	0	0	0	0	0
HERCULES RESEARCH CENTER	0	0	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0
MCKEE RUN POWER PLANT	0	0	0	0	0	0
MOTIVA	1	2	0	3	0	190
NRG DOVER	0	0	0	0	0	0
PERDUE BRIDGEVILLE	0	0	0	0	0	0
PERDUE GEORGETOWN	0	0	0	0	0	0
PINNACLE FOODS	0	0	0	0	0	0
Chemical Total	1	2	0	3	0	190
DIOXIN AND DIOXIN-LIKE CPDS.						
DU PONT EDGE MOOR	0	0	13	13	156	0
DU PONT SEAFORD	0	0	0	0	0	0
EDGE MOOR/HAY ROAD POWER PLT.	0	0	0	0	0	0
FORMOSA PLASTICS	0	0	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0
MOTIVA	0	0	0	0	0	0
OCCIDENTAL CHEMICAL	0	0	0	0	0	0
Chemical Total	0	0	13	13	156	0
HEXACHLOROBENZENE						
DU PONT EDGE MOOR	0	52	99	151	672	0
Chemical Total	0	52	99	151	672	0
LEAD						
AMERICAN MINERALS	2	41	0	43	0	0
AMETEK	0	0	0	0	0	0
DOVER AFB SMALL ARMS RANGE	0	0	2,958	2,958	0	0
HALKO MANUFACTURING	0	0	0	0	0	0
W.L. GORE BARKSDALE	0	0	0	0	954	0
W.L. GORE OTTS CHAPEL	0	0	0	0	600	0
Chemical Total	2	41	2,958	3,001	1,554	0

APPENDIX I

2001 PBT RELEASE DETAIL

(IN POUNDS)

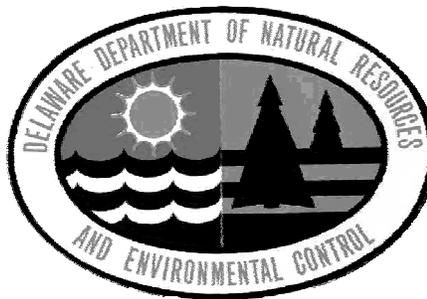
CHEMICAL FACILITY	TOTAL ON-SITE RELEASES				TRANSFERS ON-SITE	
	AIR	WATER	LAND	TOTAL	OFF-SITE	WASTE
LEAD COMPOUNDS						
ASTROPOWER	1	0	0	1	41	0
CHROME DEPOSIT	0	0	0	0	7,491	0
CITISTEEL	538	2	31	571	254,655	0
DENTSPLY CAULK WEST	0	0	0	0	0	350
DU PONT EDGE MOOR	0	44	233	277	48,115	0
DU PONT SEAFORD	57	0	1,629	1,686	0	0
EDGE MOOR/HAY ROAD POWER PLT.	1,482	3,479	0	4,961	7,910	0
GENERAL CHEMICAL	42	0	0	42	2,116	0
GENERAL MOTORS	0	0	0	0	152	0
INDIAN RIVER POWER PLANT	838	0	16,575	17,413	0	0
INSTEEL WIRE	0	0	0	0	0	0
JOHNSON CONTROLS	177	0	0	177	4,304,443	0
MOTIVA	660	1	27	688	56	0
NRG DOVER	12	0	0	12	380	0
VP RACING FUELS	2	0	0	2	0	0
Chemical Total	3,808	3,526	18,495	25,829	4,625,358	350
MERCURY						
DENTSPLY CAULK WEST	0	0	0	0	3,327	0
OCCIDENTAL CHEMICAL	1,068	20	0	1,088	1,047	7,800
Chemical Total	1,068	20	0	1,088	4,374	7,800
MERCURY COMPOUNDS						
CITISTEEL	29	0	0	29	26	0
DU PONT SEAFORD	130	0	113	243	0	0
EDGE MOOR/HAY ROAD POWER PLT.	124	0	0	124	44	0
INDIAN RIVER POWER PLANT	89	0	102	191	0	0
INTERVET	0	0	0	0	5	0
MOTIVA	35	0	0	35	183	0
NRG DOVER	7	0	0	7	2	0
Chemical Total	414	0	215	629	260	0
OCTACHLOROSTYRENE						
DU PONT EDGE MOOR	0	0	42	42	508	0
Chemical Total	0	0	42	42	508	0
PENTACHLOROBENZENE						
DU PONT EDGE MOOR	0	16	30	46	201	0
Chemical Total	0	16	30	46	201	0

APPENDIX I

2001 PBT RELEASE DETAIL

(IN POUNDS)

CHEMICAL FACILITY	TOTAL ON-SITE RELEASES			TRANSFERS ON-SITE		
	AIR	WATER	LAND	TOTAL	OFF-SITE	WASTE
POLYCHLORINATED BIPHENYLS						
DU PONT EDGE MOOR	0	0	0	0	71	0
Chemical Total	0	0	0	0	71	0
POLYCYCLIC AROMATIC COMPOUNDS						
AMETEK	501	0	0	501	0	0
DU PONT SEAFORD	0	0	0	0	0	0
EDGE MOOR/HAY ROAD POWER PLT.	34	0	0	34	0	0
GAC SEAFORD	0	0	0	0	0	0
HERCULES RESEARCH CENTER	0	0	0	0	0	0
INDIAN RIVER POWER PLANT	76	0	0	76	0	0
MCKEE RUN POWER PLANT	0	0	0	0	0	0
MOTIVA	9	2	0	11	0	420
NRG DOVER	0	0	0	0	0	0
PERDUE BRIDGEVILLE	0	0	0	0	0	0
PERDUE GEORGETOWN	0	0	0	0	0	0
PINNACLE FOODS	2	0	0	2	0	0
SPI POLYOLS, INC.	0	0	0	0	0	0
CHEMICAL TOTAL	622	2	0	624	0	420
TETRABROMOBISPHENOL A						
AMETEK	0	0	0	0	0	0
Chemical Total	0	0	0	0	0	0
STATE PBT TOTALS	5,915	3,659	21,852	31,426	4,633,155	8,760



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The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workforce.