DELAWARE TOXICS RELEASE INVENTORY

DATA DETAIL

2010

Prepared by the EPCRA Reporting Program
Department of Natural Resources and Environmental Control

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Jack Markell
Governor

Collin P. O'Mara
Secretary, DNREC

Marjorie A. Crofts
Director, Division of Waste and Hazardous Substances

Ellen Malenfant
Program Manager, Emergency Prevention and Response Section

This report was prepared with the assistance of numerous individuals in the Department of Natural Resources and Environmental Control. Any questions or comments regarding this report should be directed to the principal author:

John Parker
TRI Coordinator
EPCRA Reporting Program, DNREC
655 South Bay Rd., Suite 5N
Dover, DE 19901
Tel. (302) 739-9405, Fax (302) 739-3106
e-mail: john.parker@state.de.us

DNREC MISSION STATEMENT

The mission of the 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.

Scan this image with your smart phone to access DNREC TRI data and reports.

Front Cover: *This is a picture of the Delaware City Refinery. Idle in 2010 because of a change in ownership, it is now restarting and is expected to be in full production by the end of 2011.*

DNREC Photo

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A MESSAGE FROM THE SECRETARY

As the TRI program celebrates its 24th year of reporting to the public, we are pleased to present the Delaware TRI report which includes valuable data about toxic chemical releases and other waste management. I am particularly pleased that the results of Delaware's efforts to move its source of energy generation from coal to cleaner forms of energy are reflected in this year's TRI report. The Calpine Edge Moor/Hay Road Power Plant converted from coal to natural gas in July 2010 and the Invista Seaford facility converted to natural gas in April 2009. This has significantly reduced releases of acid gasses and other chemicals related to the combustion of coal, and is benefiting Delaware's environment now. These two facilities contributed 170 tons toward the reduced on-site releases in 2010, and Invista contributed another 147 tons in 2009.

Also of note is that for the first time since Delaware began reporting toxic chemical releases, the amount of toxic chemicals released in 2010 is lower than 1990. When considering that 20 chemicals reportable in Delaware were added since 1995 and 9 facilities, including the electric generating facilities, were added in 1998, this is quite an achievement. And while part of this is due to Delaware's and industries' efforts to reduce releases and find less toxic alternatives, unfortunately it is also partially due to the downturn in the economy and facility closures. The majority of the Delaware City Refinery was idled during 2010, but came back on-line in 2011, bringing with it both jobs and a commitment for environmental improvements at the facility.

Generally, on-site releases of toxic chemicals were lower for 2010 than for 2009. On-site releases were 19% lower and on-site waste management was down by 31%, but transfers off-site for treatment or disposal were up 18%. Releases of mercury, carcinogens, and dioxins also continue to decline; mercury was down 24% for 2010, carcinogens were down 13%, and dioxins were down 14%.

Continued reduction in toxic releases equates with making Delaware cleaner and safer environmentally. Any operating facilities that take voluntary action to cut down on their releases also deserve recognition for their contributions to the goal of reducing all toxic emissions in Delaware. Additional reductions will come through full compliance with DNREC's multi-pollutant regulation (Reg. 1146), a two-phase regulation designed to sharply reduce emissions from Delaware power plants. One example of moving toward compliance is NRG's Indian River power plant, now close to completing a major upgrade to its Unit 4 coal-powered generator. When complete, the generator upgrade permitted by DNREC in 2009 can be expected to achieve reductions of more than 75 percent for nitrogen oxides (NOx), nearly 85 percent for sulfur dioxide (SO_2) and almost 90 percent for mercury.

I urge you to take advantage of the information in this report and of the many other resources available to you to obtain information on the management of chemicals in and around your community. I also encourage our industrial citizens to continue to reduce releases of pollutants.

Sincerely,

Collin P. O'Mara, Secretary,
Department of Natural Resources and Environmental Control

TOXICS RELEASE INVENTORY

Executive Summary

The 2010 TRI data represents the 24th year of data collection from facilities for distribution to the public, and the TRI program continues to fulfill its goal of providing chemical use, release, and waste management information to the public. The increased attention given to releases and management of chemicals through the TRI reporting requirements continues to drive an increase in knowledge about the releases, as well as efforts to achieve reductions in releases.

For 2010, total on-site releases reported in Delaware show a decrease of 991,000 pounds (19%) compared to 2009. The most important event in 2010 impacting on-site releases was the temporary shutdown of the Delaware City Refinery. Although there were increases in production and related increases in releases at some facilities, they were more than offset by the refinery shutdown. Over half of the chemicals reported by the refinery for 2009 were not reportable for 2010, and all the remaining chemicals showed reductions in their releases, leading to a total on-site release reduction at the refinery of 70% (1,123,000 pounds).

An important achievement of the environmental programs in Delaware is that this is the first year that the total on-site release has been lower than the original amount reported in 1990. Since 1990, a significant number of chemicals and facilities, including the electric generating facilities, have been added to the reporting universe. Two of the electric generating facilities have converted from coal to natural gas, and we are hopeful that more may follow.

Overall, results from the 2010 TRI data show (amounts rounded to the nearest 1,000 pounds):

- The total amount of TRI chemicals reported as released to air for 2010 increased by 326,000 pounds (10%), compared to 2009. The largest change in this category was hydrochloric acid aerosols released from the Indian River Power Plant. This facility reported 2,300,000 pounds which was 789,000 pounds more than the 2009 amount. The second largest change in release to air was reported by the Edge Moor/Hay Road Power Plant, with a reduction of 232,000 pounds reported for hydrochloric acid.
- The total amount released on-site to water decreased by 990,000 pounds (62%), including nitrate compound reports from the Delaware City Refinery with a reduction of 956,000 pounds (72%).
- The total amount released on-site to land decreased by 327,000 pounds (61%). This was primarily the result of the Indian River Power Plant reductions in releases to their on-site landfill. The amount of TRI chemicals (mostly metal compounds) reported as sent to the on-site landfill decreased by 340,000 pounds for 2010, and this was offset by increases in releases of ammonia of 15,000 pounds by Mountaire Farms of Delaware and a 3,600-pound increase in manganese compounds by Evraz Claymont Steel.
- The trend for on-site release of carcinogens decreased by 24,000 pounds, or 13% for 2010, and has declined 698,000 pounds, or 82%, since 1998.
- The trend for on-site release of persistent bioaccumulative toxins (PBTs) was down by 11,000 pounds or 55% for 2010, primarily the result of lower Indian River Power Plant disposals to land of lead compounds.
- Total TRI waste, including releases on-site, transfers off-site for treatment and disposal, and waste management on-site, declined by 23%, or 16,918,000 pounds. Transfers off-site increased 18%, led by disposal of manganese compounds from DuPont Edge Moor, up by 1,780,000 pounds (103%). Waste managed on-site declined by 31%, led by on-site energy recovery, down by 14,670,000 pounds (100%) at the idle Delaware City Refinery.

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 2010 included 581 individual chemicals and 30 chemical categories. TRI was established in 1986 under Title III, Section 313, of the Federal Superfund Amendments and Reauthorization Act (SARA 313) 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). See Appendix A for more information.

Covered 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 and revisions to old reports are received. The database currently contains 24 years of reported data. Most releases reported under TRI are also regulated through Federal and/or State permits.

This report contains detail from every 2010 TRI report or report revision from Delaware facilities filed with and received by DNREC as of October 1, 2011. Facilities must submit these reports to DNREC and the EPA by July 1 of each year. Several types of analyses are presented in this report based on this data and data from prior years. A second, less detailed report is also available that provides a summary of the data presented here. See **Access to TRI Files** on page 59 for details.

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 reporting 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. Threshold limits for specific chemicals known as PBTs (Persistent Bioaccumulative Toxics) are lower (see Table 7 on page 32).

Note that from time to time, the EPA proposes changes in reporting requirements. It gives agencies, reporting facilities, and other interested parties time to comment on these changes prior to making a final decision about the proposed change. See page 5 for more details.

Facilities that meet the criteria for reporting must submit one report for each listed toxic chemical if it was manufactured, processed, or otherwise used above threshold quantities. The reports cover releases and waste management 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 toxic chemicals, because reporting is based on the amount manufactured, processed, or otherwise used, and not the amount released.

Table 1 is a list of covered industries reporting to the Delaware TRI program for 2010 along with the corresponding three primary digits of the North American Industrial Classification System (NAICS) Codes. NAICS 6-digit codes are used to identify the type of activities performed at a facility. Each industry sector represented by facilities reporting in Delaware for 2010 is shown in Table 5 on page 17. NAICS codes were used in TRI starting in 2006 to provide more discrimination between the various industry sectors reporting to TRI. They do not correspond directly to the Standard Industrial Classification (SIC) 4-digit codes that were in use through 2005. Because of this, the diversity of industries reporting to TRI, and the differences in code definitions, all the facilities that were in a particular SIC code may not remain together in a NAICS code.

TABLE 1
COVERED INDUSTRIES

NAICS CODES	INDUSTRY
212	Mining
221	Utilities
311	Food Manufacturing
313	Textile Products Mfg.
324	Petroleum and Coal Products Mfg.
325	Chemical Manufacturing
326	Plastics and Rubber Manufacturing
331	Primary Metal Manufacturing
332	Fabricated Metal Product Mfg.
334	Computer and Electronic Product Mfg.
335	Electrical Equipment Mfg.
336	Transportation Equipment Mfg.
337	Furniture Manufacturing
339	Misc. Manufacturing
424	Wholesalers, Non-Durable Goods
454	Non-Store Retailers
928	National Security

The standard Form R report (see Appendix M for Form R) contains general facility information and complete data about on-site releases, off-site transfers, and on-site waste management activities. Form R can be used for all TRI reports. In lieu of Form R, the optional short Form A report (see Appendix N for Form A) may be used provided certain criteria are met. Form A, initiated in the 1997 reporting year, is a two-page report that provides facility information (essentially the same as Form R) and identification of the chemical, but does not provide any release, transfer, or waste management data. Nationwide and in Delaware, 14% of the TRI reports were filed as Form A. After a facility determines that it must report on a given chemical, the facility is eligible to use Form A if:

For non-PBT chemicals:

1. The total annual reportable amount (including the sum of on and off-site releases, disposal, treatment, recovery for recycle or energy) is less than 500 pounds, and
2. The total annual amount of the chemical manufactured, processed, or otherwise used does not exceed 1,000,000 pounds.

For Persistent Bioaccumulative Toxic (PBT) Chemicals including dioxins:

1. **PBTs, including dioxins and dioxin-like compounds, may not be reported on Form A.**
2. Starting in 2008, an additional form, Schedule 1, was also required for dioxins.

For reporting years 2006-2007, limited reporting on Form A of non-dioxin PBTs which had no releases was allowed, but that provision was revoked starting in 2008 and PBT reporting requirements (Form R only) were returned to the PBT criteria shown here.

Because of the lack of data in the Form A reports, DNREC has been working with the reporting facilities and emphasizing the importance of reporting on Form R. Delaware had a decrease of eight Form A reports for 2006, one for 2007, thirteen for 2008, two for 2009, but an increase of two for 2010.

Limitations of TRI Data

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

- **NOT ALL FACILITIES ARE REQUIRED TO REPORT.** A relatively small number of facilities in Delaware are required to report under TRI, based on the criteria listed on pages 2-4. TRI facilities are primarily industrial/manufacturing facilities and facilities report releases and other waste management activity to TRI. TRI does not account for amounts of hazardous material stored at facilities. The DNREC program addressing inventories of material stored on site, the Hazardous Chemical Reporting program known as "Tier II" (also administered under EPCRA), includes a much greater number of facilities. Facilities report amounts and the location of chemicals stored on-site to Tier II, but not releases. For further information, see ***Hazardous Chemical Reporting*** in Appendix A.

- **OTHER SOURCES NOT COVERED UNDER TRI ALSO RELEASE TOXIC CHEMICALS.** Other significant sources of pollution include small businesses, motor vehicles and agricultural operations, as examples. For example, on-road motor vehicles released an estimated 7,633 tons to air just for the chemicals ammonia (NH_3) and volatile organic compounds (VOCs), for 2008. NH_3 and many VOCs are also TRI chemicals. See page 6, which shows that total TRI on-site releases for 2010 are 4,331,149 pounds, or 2,166 tons, about 28% of the on-road vehicle amount for these TRI chemicals.

- **FACILITIES ARE REQUIRED TO BASE TRI DATA ON MEASUREMENTS AND MONITORED DATA ONLY IF THESE ARE AVAILABLE AT THE FACILITY.** If such data is not available, quantities may be estimated based on published emission factors, mass balance calculations, or good engineering judgment. Additional monitoring equipment and measurements are not required. For 2010, 11% of the reports representing 32% of reported on-site release amounts were estimated using monitoring data, with the balance being split between emission factors, mass balance calculations, and other methods.

- **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 DATA MAY OCCUR AT ANY TIME.** These revisions sometimes involve significant changes for data previously reported by a facility.

- **THE DATA DOES NOT INDICATE THE 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 weather and wind direction 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 affect the type of exposure possible, such as inhalation, dermal exposure, or ingestion.

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

Recent Developments in TRI Reporting

The TRI reporting requirements change as the EPA seeks to improve the program through changes to the list of reportable chemicals and through program expansions. Because of these changes, considerable caution must be exercised when comparing TRI data from previous years. Notations will be made to indicate which data is presented with adjustments in order to show it on a uniform year-to-year basis.

- **SIC/NAICS**
  Starting in the 2006 reporting year, four-digit facility SIC (Standard Industrial Classification) codes were phased out and replaced with six-digit NAICS (North American Industry Classification System) codes. Facilities should not have been added or removed from TRI reporting because of this change. See page 3 for a listing of the primary NAICS codes reported to the Delaware TRI program for 2010, and additional discussion about NAICS, and page 17 for data reported by NAICS code.

- **Dioxin and Dioxin-Like Compounds additional detail starting with the 2008 Reporting Year**
  There are seventeen distinct members of this chemical category listed under TRI. Starting in 2008, facilities must report the quantity for each individual member on a new form (Schedule 1), in addition to the total grams released for the entire category. The EPA and DNREC will then use the mass quantity data of the individual members to calculate Toxic Equivalent Quantity (TEQ) values that will be made available to the public along with the mass data. This data for Delaware facilities is presented in this report starting on page 34.

- **Electronic Reporting**
  Starting with reporting year 2009, 100% of all Delaware TRI reports are received electronically. Typically 7 pages are in each report and the cover letters, so this equates to about 1600 pieces of paper saved each year. This reporting method had been an option through the EPA since RY 2005, and Delaware began to participate in electronic reporting for that year. TRI data is reported by July 1 for the previous calendar year. Before electronic reporting was available, this report was typically published in April-May of the following year. Now, with the ability to receive and process facility reports faster, this report and the information in it is available the same year in which the data was reported.

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2010 Data Summary

TABLE 2
2010 TRI DATA SUMMARY
(IN POUNDS)

	2010
No. of Facilities	61
No. of Form As	31
No. of Form Rs	196
No. of Chemicals	79
On-Site Releases	
Air	3,520,119
Water	600,283
Land	210,747
Total On-Site Releases	4,331,149
Off-Site Transfers	
POTW's	996,970
Recycle	5,469,246
Energy Recovery	1,857,131
Treatment	336,190
Disposal	4,546,552
Total Off-Site Transfers	13,206,088
On-Site Waste Mgmt.	
Recycle	7,678,337
Energy Recovery	0
Treatment	32,895,795
Total On-Site Mgmt.	40,574,132
Total Waste	58,111,368

Statewide totals of reported 2010 TRI on-site releases, off-site transfers, and wastes managed on-site are shown in Table 2. On-site releases were lower by 19% (991,000 pounds) compared to 2009. Nitrate compounds accounted for 965,000 pounds of the decrease. Changes in production levels and pollution controls at many facilities accounted for other decreases and increases. A total of 61 facilities submitted 227 reports on 79 different chemicals. Twenty-seven fewer reports were submitted (twenty-five less just from the Delaware City Refinery) and eleven less chemicals (all from the refinery) were reported for 2010. Thirty-one reports were submitted using Form A. Polycyclic aromatic compounds, lead compounds, and zinc compounds all had 10 or more reports. Releases to air, led by acid gasses, are the largest portion (81%) of on-site releases. Hydrochloric acid had the largest decrease in release to air for 2010, but remains the largest amount TRI chemical released on-site at 2.7 million pounds.

Types of Data

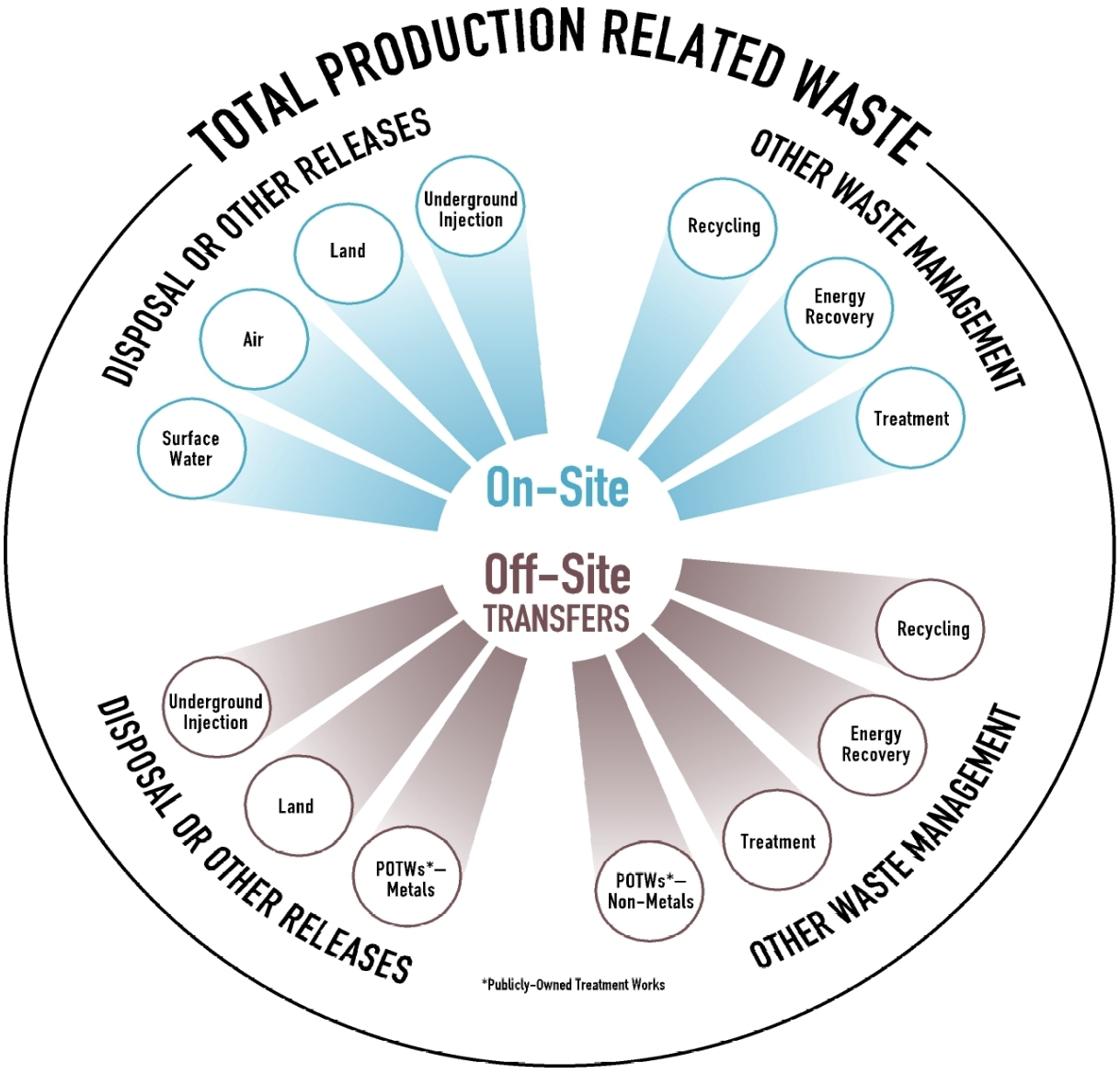
Table 2 lists all the categories of data reported to Delaware and the EPA under the TRI program. Within the reports received from facilities, the data is broken down into additional sub-categories. For ease of presentation in this report, the data has been grouped into these categories as described below.

On-Site Releases: There are four categories, but one of these, **underground injection** of TRI chemical waste to wells, is not permitted in Delaware. On-site releases in Delaware are to **air, water,** or **land**. The **release to air** category includes stack releases collected by mechanical means such as vents, ducts, or pipes, and fugitive releases escaping collection, including equipment leaks and evaporation, and is released into the general atmosphere. **Releases to water** are to water bodies, including streams, rivers, lakes, bays, or oceans. This includes releases from contained sources, such as industrial process outflow or open trenches. Releases to water which contain TRI-reportable chemicals in runoff and storm water runoff are also reportable. **Releases to land** are to (1) RCRA (Resource Conservation and Recovery Act) landfills, in which wastes are buried, (2) surface impoundments, which are uncovered holding areas used to volatilize and/or settle waste materials, (3) other land disposal such as waste piles or releases to land such as spills or leaks, (4) land application/treatment in which waste containing a listed chemical is applied to or incorporated into soil, and (5) other non-RCRA landfills.

Off-Site Transfers: Off-site transfers include transfer of chemical waste to **POTWs** (publicly owned treatment works), **recycle** operations (five types), **energy recovery** operations (two types), **treatment** operations (six types), and **disposal** (fourteen types). The receiving facilities are separate from the facility generating the waste. This total of 27 sub-categories is provided for the purpose of classifying the types of final off-site waste management undertaken for each chemical.

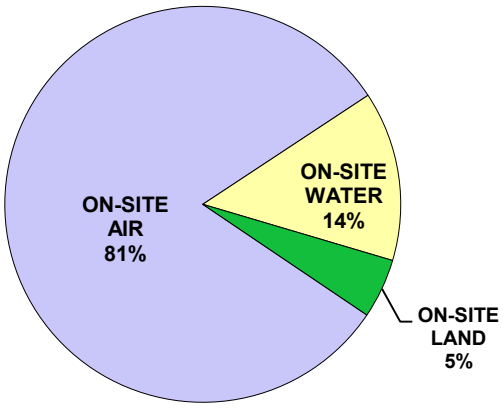
On-Site Waste Management: Waste management operations at the facility generating the waste are categorized to include **recycle**, **energy recovery**, and **treatment.**

The diagram below shows these types of data and how they are related to the four main categories of on- and off-site releases, disposals, and other waste management.



On-Site Releases

FIGURE 1
2010 ON SITE RELEASES



TOTAL REPORTED
4,331,149 POUNDS

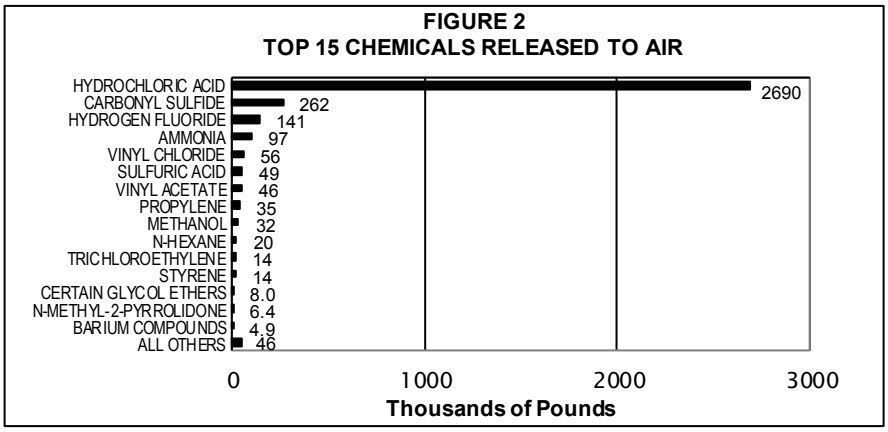
On-site TRI releases are emissions from a facility to the environment because of normal operations, including emissions to the air, discharges to surface water, disposal onto or into the ground, and under-ground injection. Underground injection is not an approved method of TRI or hazardous waste disposal in Delaware, and thus has not been reported by any facility in Delaware since TRI reporting began. Total on-site releases to air, water, and land reported to TRI in 2010 made up 7.5% of all TRI-reported waste amounts.

Figure 1 shows the totals of on-site releases reported in Delaware. A large portion, 81% of the total on-site release, is to air. Additional analysis of on-site releases is presented in Figures 2, 3, and 4, which show the top 15 chemicals released to air, water, and land. A trend graph for the top five chemicals for 2000-2010 is on page 46. Additional detail about on-site releases can be found in Appendices C, E, F, and H.

Releases to Air

Figure 2 provides an illustration of the relative release of the top 15 chemicals compared to the other 57 chemicals reported as released in 2010 to the air. The remaining 7 chemicals had no reported releases to air. As in all the years following the 1998 inclusion of the power generating facilities, acid gasses are at or near the top of 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 82% of all Delaware-reported TRI on-site releases to air. Hydrochloric acid alone makes up 76% of all on-site releases to air. DuPont Edge Moor was the sole reporter of carbonyl sulfide. Carbonyl sulfide is a gas by-product of the titanium dioxide production process, and accounted for 7.4% of all on-site releases to air. Seven facilities reported ammonia, which accounted for 2.7% of all on-site releases to air. Ammonia is released from petrochemical, food processing, and chemical facilities and is a by-product of air pollution control activities, primarily at electric generating facilities. The Indian River Power Plant reported 76% of the total on-site ammonia release to

FIGURE 2
TOP 15 CHEMICALS RELEASED TO AIR



air. Vinyl chloride is used in the manufacture of polyvinylchloride (PVC). One facility, Formosa Plastics, reported vinyl chloride, which accounted for 1.6% of all releases to on-site air. Formosa Plastics also reported all of the releases for vinyl acetate, which made up 1.3% of the releases to on-site air. The Delaware City Refinery, the only reporter of propylene, reported this release to air as the refinery prepared to close its Frozen Earth Storage system in 2011. Propylene accounted for 1.0% of all on-site releases to air for 2010. The remaining chemicals released to air were each less than 1.0% of total on-site releases to air.

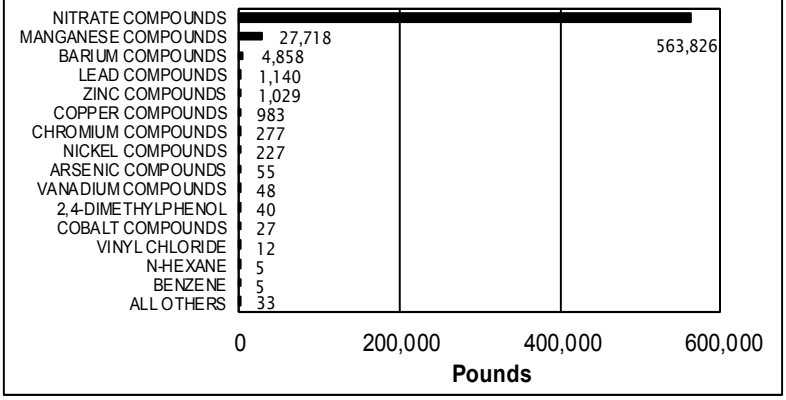
Releases to Water

As can be seen in Figure 1 on page 8, releases to water were lower than releases to air. On-site releases to water made up 14% of the total on-site releases compared to 81% for air. Table 3 shows the total amount of TRI chemicals released to each water body that received a TRI chemical. The Delaware River received 69% of all releases to water. Figure 3 below shows the relative relationship of the top 15 TRI chemicals to all other chemicals (13) reported as released to water. This clearly shows the influence that nitrate compounds have on the total. Nitrate compounds was the top chemical released, (94% of the total release to water), followed by manganese compounds (4.5%), and barium compounds (0.81%). The remaining chemicals released to water were each less than 0.20% of the total releases to water. The Delaware City Refinery reported a release of 380,000 pounds of nitrate compounds to the Delaware River for 2010, a decrease of 72%. Although the refinery was idle, some operations continued to operate that required treatment of wastewater.

TABLE 3
TRI CHEMICALS RELEASED TO WATER BY WATER BODY IN 2010

WATER BODY	NO. OF FACILITIES	NO. OF REPORTS	**RELEASE** (IN POUNDS)
DELAWARE RIVER	7	43	**414,217**
DRAWYER CREEK TRIBUTARY	1	2	**8**
ISLAND CREEK	1	8	**2,010**
MUDDY RUN	1	2	**0**
MUDSTONE BRANCH	1	1	**0**
NAAMANS CREEK	1	6	**223**
NANTICOKE RIVER	1	2	**0**
RED LION CREEK	1	1	**0**
SAVANNAH DITCH	1	1	**183,826**
STATE TOTAL		66	**600,283**

FIGURE 3
TOP 15 CHEMICALS RELEASED TO WATER



Perdue Georgetown reported 184,000 pounds of nitrate compounds released to the Savannah Ditch, a decrease of 4.7%. The biological treatment of nitrogen-containing materials such as ammonia and animal waste is responsible for the formation of nitrate compounds. Manganese and barium compounds are products of petroleum refining, coal and oil combustion, and ore processing. Manganese compounds were released to water primarily by DuPont Edge Moor. DuPont Edge Moor reported 99.8% of the manganese compounds and 79% of the barium compounds released to water. Metallic (barium, cobalt, chromium, copper, lead, manganese, nickel, vanadium, zinc) compounds are generally products of fuel combustion, and ore and metal refining. The DuPont Edge Moor, Edge Moor/Hay Road Power Plants, Indian River Power Plant, and the Evraz Claymont

Steel facilities are the primary facilities releasing these compounds to water. More details of these releases can be found in the facility profiles on pages 19, 20, 22 - 25.

Not every report to a water body in Table 3 shows a release quantity. For example, of the 42 reports listing the Delaware River as their possible destination watershed, 37 of these reports show an actual release quantity to the Delaware River. The other five met the TRI reporting requirements and had the potential to release to the river, but did not report any amounts actually released to the river. These facilities may have released chemicals to other media (air or land). In Delaware, 14 of the 60 reports listing a water body as a possible destination for a release to water did not report any quantities actually released to that water body.

Table 4 shows the total amount of TRI chemicals for 2010 released to each basin in the State of Delaware. The Inland Bays include lands that drain into the Indian River Bay/Rehoboth Bay area, then to the Atlantic Ocean. The Piedmont Basin contains lands that drain into the portion of the Delaware River above the City of New Castle. All the receiving streams except the Nanticoke River eventually feed into the Delaware Bay. The total amount released to water decreased by 990,000 pounds in 2010, largely the result of 956,000-pound decrease in the reported release of nitrate compounds reported by the Delaware City Refinery. Additional discussion about these releases can be found in the Trend Analysis Section starting on page 43 and in the facility profiles starting on page 18.

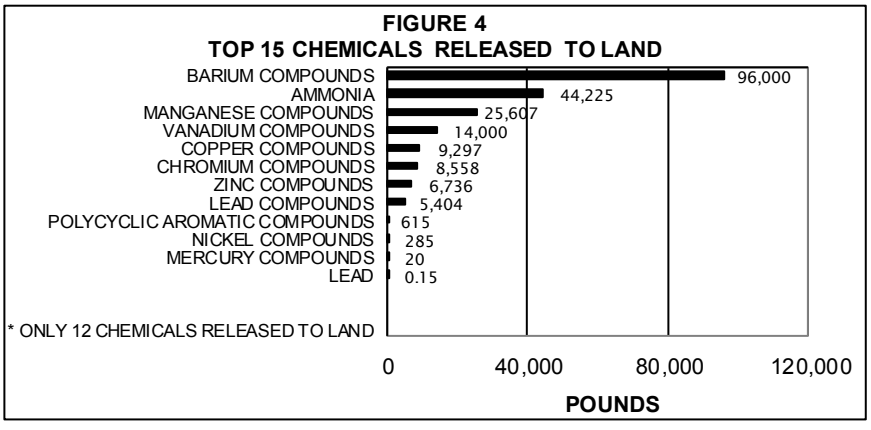
TABLE 4
TRI CHEMICALS
RELEASED TO WATER BY BASIN

BASIN	RELEASE (IN POUNDS)	PERCENT
CHESAPEAKE	0	0.0%
DELAWARE BAY	563,928	93.9%
INLAND BAYS	2,010	0.3%
PIEDMONT	34,345	5.7%
STATE TOTAL	600,283	100.0%

Releases to Land

Releases to land, as shown in Figure 1 on page 8, are relatively small, amounting to 5% of total on-site releases in 17 reports. Figure 4 shows the relative contribution for all 12 chemicals reported as being released to land. Nearly all the releases to land are metals and metal compounds except for ammonia, and Polycyclic aromatic compounds (PACs). Most of the metals and metal compounds reported are formed during combustion from metal impurities that exist in coal or oil, or in the base metal from metal working processes. Barium compounds comprise 46% of the total releases to land, and all the metallic compounds compose 78% of all releases to land. Metallic compounds - barium, manganese, vanadium, copper, chromium, zinc, lead, and mercury - released to on-site land by the Indian River Power Plant and shown as part of Figure 4, accounted for 92% of the total metal releases to land and 73% of all releases to

FIGURE 4
TOP 15 CHEMICALS RELEASED TO LAND



land. Additional discussion about these releases to land and their trends can be found in the Trend Analysis Section starting on page 43. Mountaire Farms of Delaware reported all the ammonia releases, 44,225 pounds, to land.

Descriptions about some of the hazards these chemicals released to air, water, and land may present can be found in Appendix K.

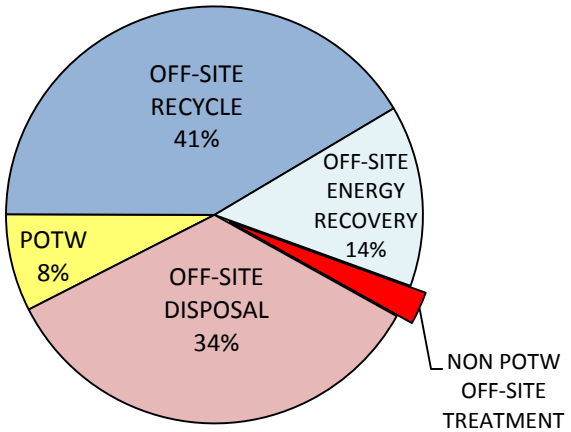
Off-Site Transfers

Off-Site transfers are material transfers to off-site locations for the purpose of disposal, recycling, energy recovery, or treatment. Treatment could be at a private waste treatment facility or at a POTW, typically a city or county wastewater treatment plant. The amounts of chemical wastes transferred off-site, higher by 18% since 2009, are 23% of total waste and more than three times the amounts released on-site. The primary reason for the increase was the 1,780,000-pound increase in manganese compounds transferred for off-site disposal by the DuPont Edge Moor facility and the 912,000-pound increase in zinc compounds transferred off-site for recycle by the Evraz Claymont Steel facility.

Figure 5 shows the relative portions transferred to the five off-site transfer categories. Table 2 on page 6 shows these amounts in tabular form, and Appendices D and G provide additional detail for transfers from each facility.

TRI chemicals in wastes are transported by various means from Delaware to their final destinations, many of which are out-of-state. TRI chemicals were sent to 19 states, some as far away as Kansas and Texas, and also to Canada, in addition to locations in Delaware. Over 91% of TRI chemicals in all wastes and over 99% of non-POTW wastes transferred off-site were sent to out-of-state locations for further processing and/or disposal. However, over 99% of POTW wastes generated by Delaware facilities are treated in-state.

FIGURE 5
2010 OFF-SITE TRANSFERS



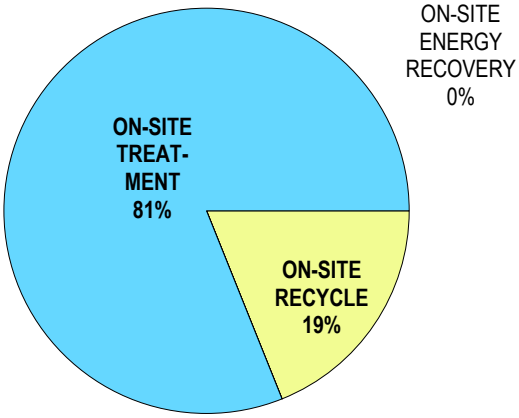
While on-site releases account for 7.5% of total TRI waste, reported off-site transfers account for 23% of the total TRI wastes. Off-site transfer to recycle operations accounted for 41% of the amounts within the five categories in off-site transfers, while energy recovery accounted for 14%, disposals accounted for 34% of the transfers, and transfers to POTWs accounted for 8%. Eighty-five percent of the transfers to POTWs were to the City of Wilmington POTW, and all but 5,691 pounds of the 996,970 pounds treated at all POTWs were treated at Delaware POTW facilities. BASF Newport and the Rohm & Haas B2 B3 B8 facility combined for 94% of the total TRI chemical transfers to the Wilmington POTW.

See page 51 for more information on Delaware facilities receiving TRI chemicals from other Delaware TRI facilities and from out-of-state TRI facilities.

On-Site Waste Management

On-Site waste management is the amount of waste that never leaves the facility site and is managed by the facility on-site. The categories of **Recycle, Energy Recovery, and Treatment** are used to define on-site management activities related to TRI chemical wastes. The total amount of TRI chemicals managed on-site is 70% of the total TRI chemical waste and almost 10 times the amounts released on-site. Figure 6 shows the portions of these wastes processed on-site. Appendices D and G provide additional detail about management of this chemical waste.

FIGURE 6
2010 ON-SITE WASTE MANAGEMENT



TOTAL REPORTED
40,574,132 POUNDS

Recycled waste (7.7 million pounds) is the quantity of toxic material recovered at the facility and made available for further use. The Rohm & Haas B2 B3 B8 and Medal facilities combined to report 90% of the total amount recycled.

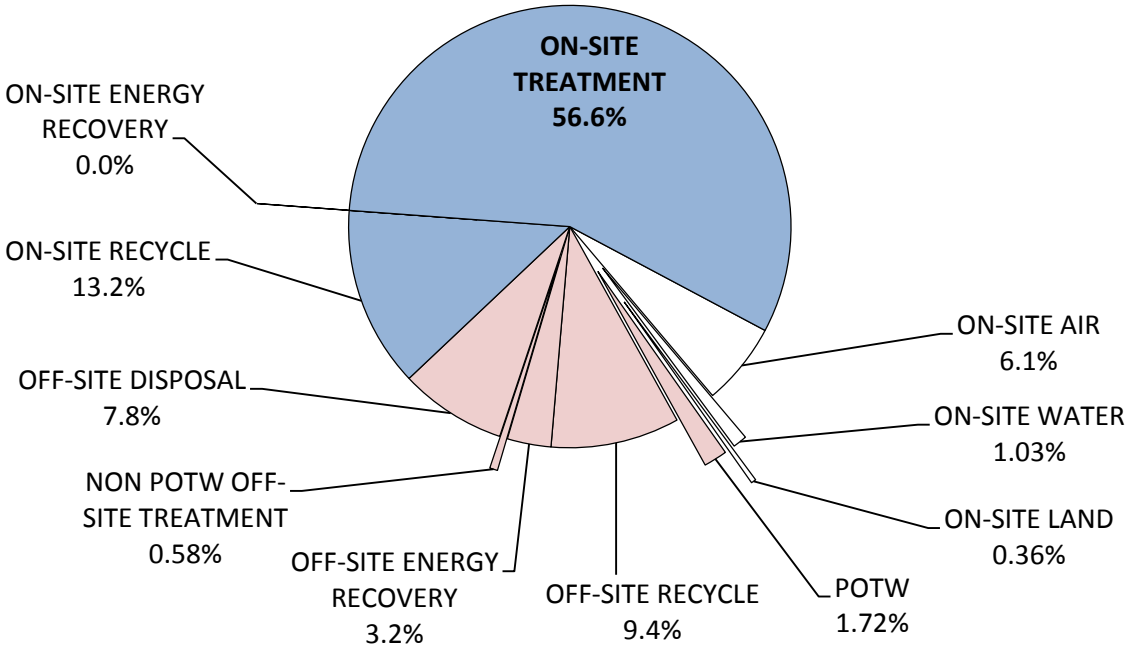
Energy Recovery includes the quantity of toxic material that had heat value and was combusted in some form of energy recovery device such as a furnace. The Delaware City Refinery had been the only facility in the State to report on-site energy recovery, but because it was idle, it did not report any energy recovery activities for 2010.

Waste Treatment includes the amount of toxic material that was destroyed in on-site waste treatment operations. The Delaware City Refinery, DuPont Edge Moor, Noramco, and the Indian River Power Plant have the highest total amounts of on-site waste treatment, combining for 31.3 million pounds (95%) of the 32.9 million pounds of TRI waste treated on-site. Treatment of hydrochloric acid at the DuPont Edge Moor facility in the amount of 20.9 million pounds was the highest single on-site treatment amount.

Total TRI 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 7 is a perspective of the total TRI chemical waste picture in Delaware. About 7.5% of the total reported TRI waste is released on-site, 22.7% is transferred off-site for treatment or disposal, and 69.8% is managed on-site through treatment, energy recovery, and recycle operations by the facilities generating the waste. Figure 7 shows the relative portions of each major and sub-segment of TRI release and waste management.

FIGURE 7
TOTAL 2010 TRI CHEMICAL MANAGEMENT
TOTAL REPORTED: 58,111,368 POUNDS



TOXICS RELEASE INVENTORY

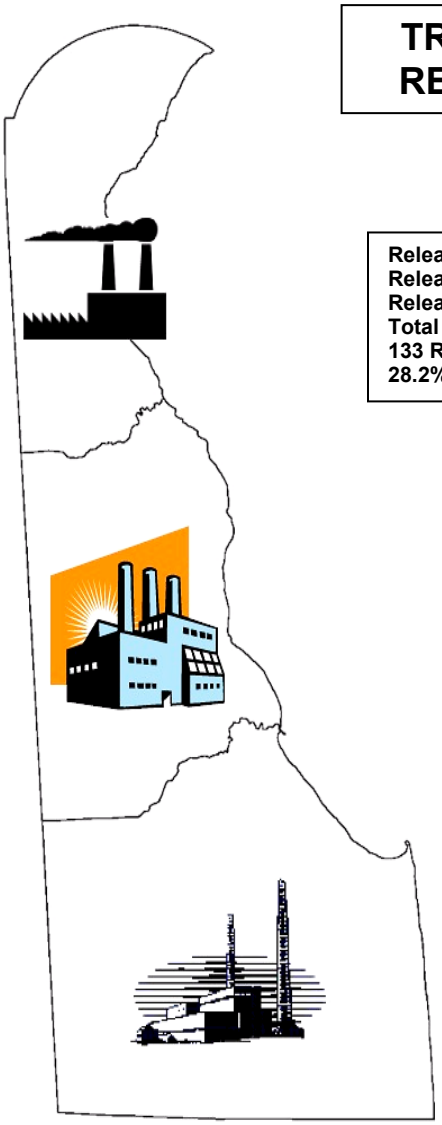
2010 Data Detail

On-Site Releases by County

Figure 8 below provides basic on-site release information for each county in the State.

FIGURE 8

TRI ON-SITE RELEASES REPORTED BY COUNTY



NEW CASTLE

Releases to Air = 796,657 Pounds
Releases to Water = 414,447 Pounds
Releases to Land = 12,355 Pounds
Total On-Site Releases = 1,223,459 Pounds
133 Reports, 30 Facilities
28.2% of Statewide Releases

KENT

Releases to Air = 146,670 Pounds
Releases to Water = 0 Pounds
Releases to Land = 0 Pounds
Total On-Site Releases = 146,670 Pounds
28 Reports, 12 Facilities
3.4% of Statewide Releases

SUSSEX

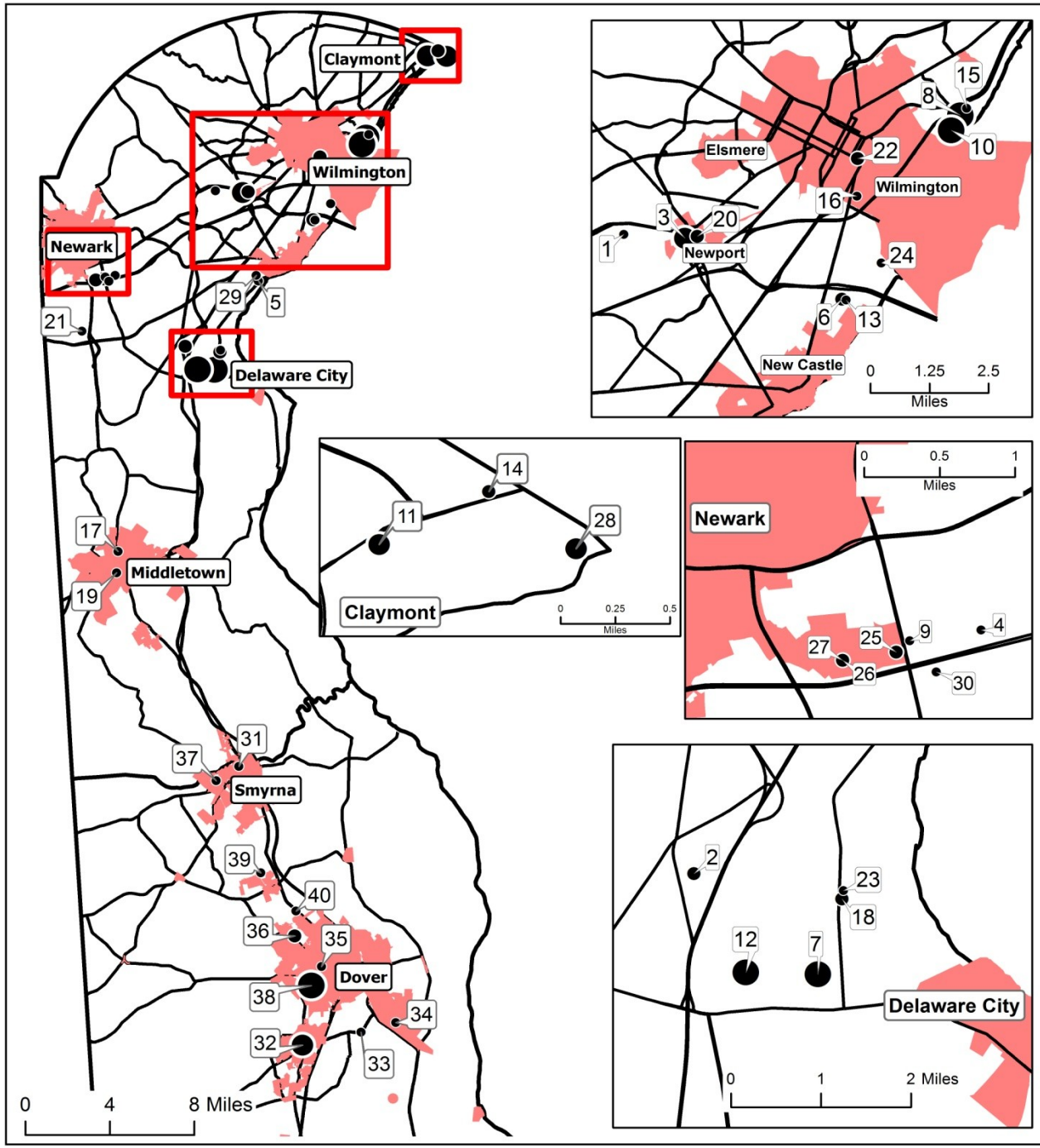
Releases to Air = 2,576,792 Pounds
Releases to Water = 185,836 Pounds
Releases to Land = 198,392 Pounds
Total On-Site Releases = 2,961,020 Pounds
66 Reports, 19 Facilities
68.4% of Statewide Releases

Source: DNREC 2010 TRI Database 10-1-11

Facility Locations

Figure 9 on the following two pages shows the location of each reporting facility in the State. The size of the facility location marker depicts the size of its on-site release relative to other facilities in Delaware. Facility contact information is in Appendix B.

FIGURE 9 TRI FACILITY LOCATOR MAP



MAP ID	FACILITY
	NEW CASTLE COUNTY
1	AGILENT TECHNOLOGIES NEWPORT
2	ARLON
3	BASF NEWPORT
4	CHROME DEPOSIT
5	COLOR WORKS PAINTING
6	CRODA
7	DELAWARE CITY REFINERY
8	DUPONT EDGE MOOR
9	E A R
10	EDGE MOOR/HAY ROAD POWER PLANTS
11	EVRAZ CLAYMONT STEEL
12	FORMOSA PLASTICS
13	FUJIFILM
14	HONEYWELL
15	IKO
16	INSTEEL WIRE
17	JOHNSON CONTROLS
18	KUEHNE
19	MACDERMID
20	MEDAL
21	MOTECH AMERICAS
22	NORAMCO
23	OCCIDENTAL CHEMICAL
24	PRINCE MINERALS
25	ROHM & HAAS B2 B3 B8
26	ROHM & HAAS B5 B6
27	ROHM & HAAS B7 B15
28	SUNOCO
29	V&S DELAWARE GALVANIZING
30	VP RACING FUELS
	KENT COUNTY
31	BUCK ALGONQUIN
32	CAMDEL METALS
33	CARL KING
34	DOVER AFB
35	HANESBRANDS
36	HIRSH INDUSTRIES
37	METAL MASTERS
38	NRG ENERGY DOVER
39	PPG DOVER
40	SERVICE ENERGY DOVER

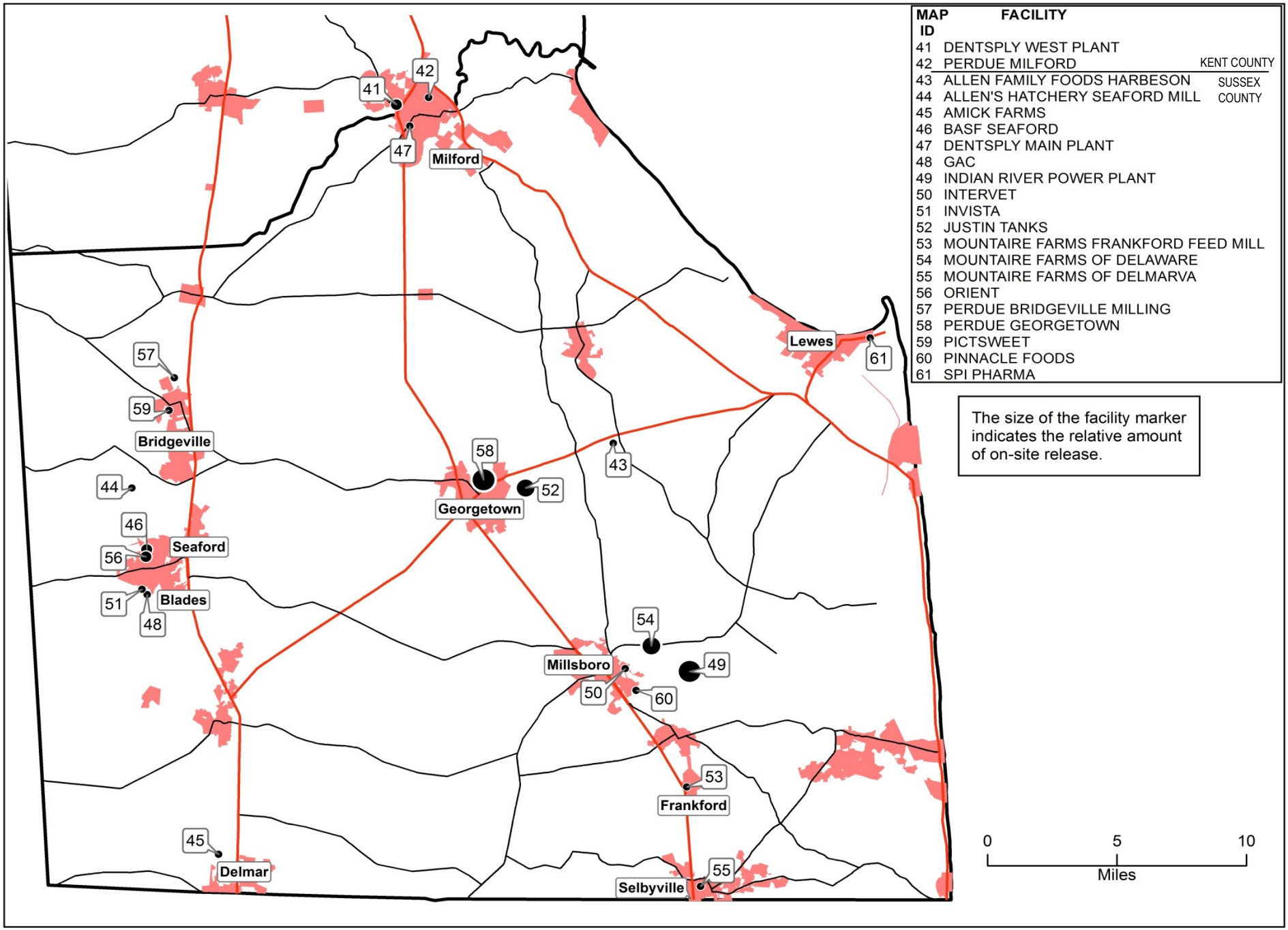


FIGURE 9 TRI FACILITY LOCATOR MAP

NAICS Industry Groups

Starting with the 2006 reporting year, NAICS codes replaced the SIC codes. Table 5 provides a description of each NAICS industry group and the number of facilities in each group that reported in Delaware, along with the total reported amounts for each NAICS code. This table also provides on-site releases, off-site transfers, and wastes managed on-site for each group.

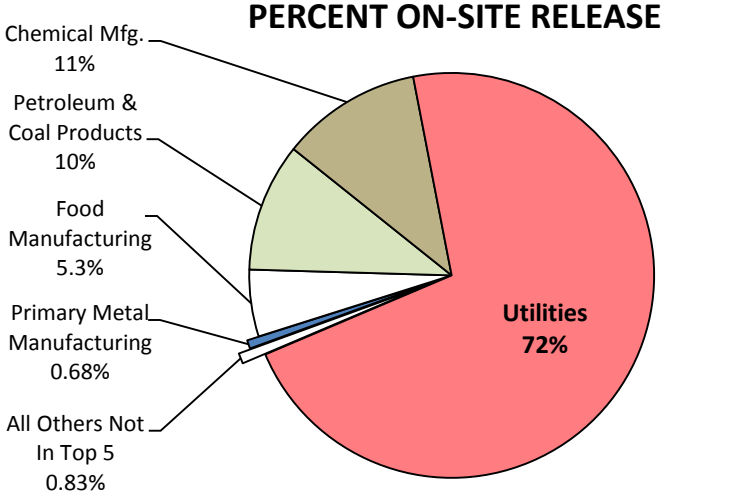
TABLE 5
2010 TRI DATA BY PRIMARY NAICS GROUP

(in pounds)

NAICS CODE	INDUSTRY GROUP	REPORTS	FACILITIES	FORM A	FORM R	ON-SITE RELEASE	OFF-SITE TRANSFERS	ON-SITE WASTE MGMT.
212	Mining	3	1	0	3	162	53	0
221	Utilities	29	3	1	28	3,103,882	28,290	2,830,963
311	Food Manufacturing	33	11	18	15	231,210	0	82,802
313	Textile Products Mfg.	4	2	0	4	4,154	714,722	4,668,643
324	Petroleum & Coal Products Mfg.	31	5	3	28	444,628	105,824	427,952
325	Chemical Manufacturing	82	19	4	78	486,085	7,162,546	30,011,574
326	Plastics & Rubber Mfg.	9	4	0	9	16,601	98,212	2,552,198
331	Primary Metal Manufacturing	13	3	0	13	29,357	2,560,041	0
332	Fabricated Metal Product Mfg.	6	5	0	6	3	63,036	0
333	Equipment Mfg.	0	0	0	0	0	0	0
334	Computer and Electronic Product Mfg.	2	1	0	2	0	797	0
335	Electrical Equipment Mfg.	2	1	0	2	128	2,443,786	0
336	Transportation Equipment Mfg.	0	0	0	0	0	0	0
337	Furniture Manufacturing	1	1	0	1	7,968	0	0
339	Misc. Manufacturing	4	2	0	4	6,570	28,780	0
424	Wholesalers, Non-Durable Goods	2	1	2	0	0	0	0
454	Non-Store Retailers	3	1	3	0	0	0	0
928	National Security	3	1	0	3	401	0	0
	TOTAL	**227**	**61**	**31**	**196**	**4,331,149**	**13,206,088**	**40,574,132**

Figure 10 shows the percent contribution of each of the top five NAICS groups and all others not in the top five, compared to the reported total on-site releases. Three of these top five, NAICS groups 221 (Utilities), 324 (Petroleum and Coal Products Mfg.) and 325 (Chemical Mfg.), combine for 93% of the total on-site releases within the State. Facilities not in the top five NAICS industry groups reported contributions of only 35,987 pounds on-site, or 0.83% of the 2010 on-site release total. Chemical manufacturing alone accounted for 74% of all on-site TRI waste management.

FIGURE 10
TOP 5 NAICS INDUSTRIES FOR 2010
PERCENT ON-SITE RELEASE



RELEASES FROM THE TOP 15 FACILITIES

FIGURE 11
2010 ON SITE RELEASES
TOP 15 FACILITIES

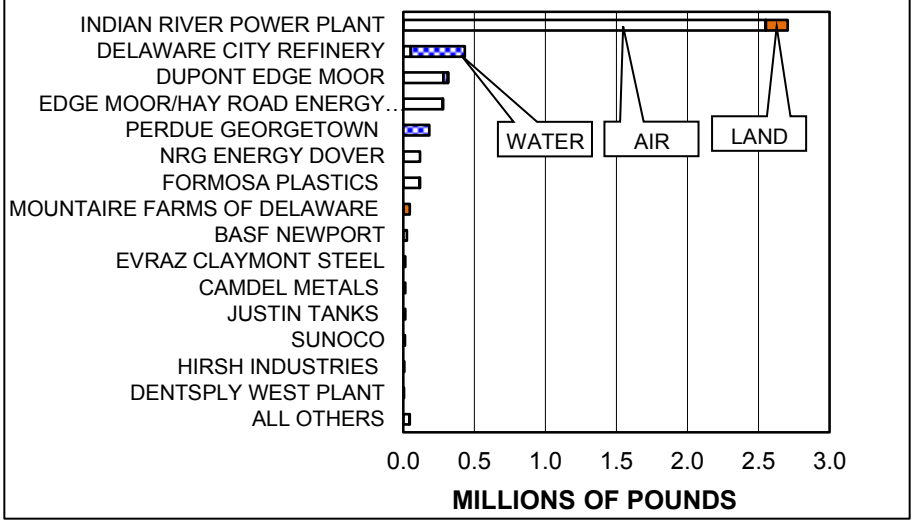


Figure 11 shows the relative contribution of each of the top 15 reporting facilities to on-site releases. The top three facilities are, or have as a significant portion of their facility, an energy generating operation. Of the 4,311,274 pounds that were reported as released on-site by all 61 facilities Statewide, the top 15 facilities accounted for 4,293,642 pounds, or 99.1% of the total on-site releases.

Table 6 shows the 2010 ranking of the top 15 facilities along with their 2009 ranking and the reported amounts of on-site releases for both years. Releases to the environment because of remedial actions, accidents, or one-time catastrophic events are included in these values. The percent change in total on-site releases for each of the top 15 facilities from 2009 to 2010 is also shown, and some of these changes are significant. Ten facilities reported an increase in on-site releases, while five reported a decrease. Changes at the facility, such as the way

TABLE 6

TOP 15 FACILITIES - 2009 AND 2010 RANKING BY ON SITE RELEASE

(in pounds)

2009 RANK	2010 RANK	FACILITY	2010 TOTAL TO AIR	2010 TOTAL TO WATER	2010 TOTAL TO LAND	2010 ON-SITE RELEASE	2009 ON-SITE RELEASE	2009 TO 2010 CHANGE IN RELEASES	
1	1	INDIAN RIVER POWER PLANT	2,550,092	2,010	154,167	2,706,269	2,254,648	451,621	20%
2	2	DELAWARE CITY REFINERY	52,221	380,082	-	432,303	1,596,283	(1,163,981)	-73%
4	3	DUPONT EDGE MOOR	282,450	32,173	615	315,239	291,594	23,645	8%
3	4	EDGE MOOR/HAY ROAD ENERGY CENTERS	278,180	1,820	-	280,000	562,494	(282,494)	-50%
5	5	PERDUE GEORGETOWN	152	183,826	-	183,978	192,999	(9,021)	-5%
6	6	NRG ENERGY DOVER	117,613	-	-	117,613	117,124	489	0%
7	7	FORMOSA PLASTICS	115,384	12	-	115,396	87,000	28,396	33%
9	8	MOUNTAIRE FARMS OF DELAWARE	2,330	-	44,225	46,555	29,745	16,810	57%
11	9	BASF NEWPORT	26,851	-	-	26,851	14,430	12,421	86%
14	10	EVRAZ CLAYMONT STEEL	3,418	352	11,740	15,510	10,121	5,389	53%
16	11	CAMDEL METALS	13,847	-	-	13,847	9,476	4,371	46%
10	12	JUSTIN TANKS	13,464	-	-	13,464	16,680	(3,215)	-19%
13	13	SUNOCO	12,078	-	-	12,078	11,473	605	5%
12	14	HIRSH INDUSTRIES	7,968	-	-	7,968	13,032	(5,064)	-39%
17	15	DENTSPLY WEST PLANT	6,570	-	-	6,570.38	7,606	(1,036)	-14%
		ALL OTHERS	**37,499**	**8**	**0**	**37,507**	**107,613**	**(70,106)**	**-65%**
		TOP 15	**3,482,620**	**600,275**	**210,747**	**4,293,642**	**5,214,704**	**(921,063)**	**-18%**
		STATE TOTALS, ALL FACILITIES	**3,520,119**	**600,283**	**210,747**	**4,331,149**	**5,322,317**	**(991,168)**	**-19%**

Source: 2009 and 2010 DNREC TRI Databases, October 2011

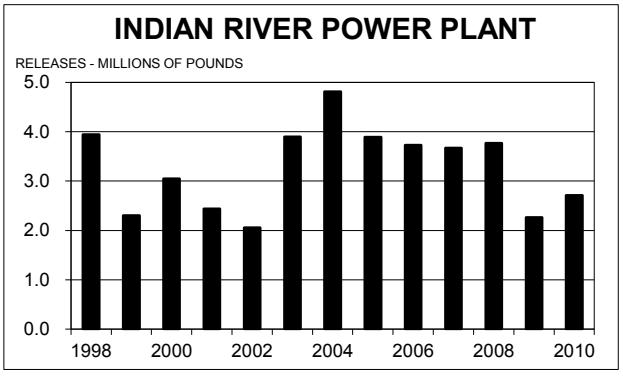
releases are estimated, how waste is managed, changes in raw materials or processing methods, or installation of new or improved equipment possibly used to limit or eliminate releases of specific chemicals or all chemicals, may affect reported releases. Changes in production amounts may or may not affect releases from a facility; nine of the top 15 facilities reported increased production for 2010, but not all nine reported increases in on-site releases. Details for some of these changes are provided on the following pages. Interested individuals are also encouraged to contact facilities (see Appendix B for contact information) and inquire as to the reasons why changes occurred.

The next several pages present a brief description of each of the top 15 facilities to provide an understanding of the use and importance of some of the TRI chemicals and basic operations at these facilities. As in Table 6, this rank for the 2010 reporting year is based on total reported on-site releases. The facility description explains the general 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. The graph for each facility includes all chemicals, including any newly reportable chemicals, which have been reported by the facility. Comparisons must be made carefully as **the scales on each of the facility graphs are different.** Appendix C provides a complete list of 2010 on-site release data grouped by facility and chemical.

The DNREC TRI program visits select facilities Statewide during the year to get a better understanding of operations at the facilities, to discuss TRI issues such as data quality that may have developed in the course of reporting, and to introduce new facilities and\or facility coordinators to the TRI program and its reporting requirements. Twelve visits were conducted for the 2010 reporting year.

Although the TRI program itself has no limits for emissions, other DNREC and Federal programs do issue permits and limit emissions from operating facilities.

Rank #1 – NRG Indian River Power Plant –This 784 megawatt facility, located near Millsboro, produces electricity, primarily from the combustion of coal. Oil- and coal-fired power plants were required to report under TRI for the first time for 1998. While ranked #1 in on-site release amounts, the facility continues to install significant emission reduction equipment and implement operating strategies. Including compliance with the Delaware Regulation 1146 (Electric Generating Unit Multi-Pollutant Regulation). On-site releases at this facility increased by 20%, or 452,000 pounds, for 2010 compared to 2009 because of higher chloride content in the coal consumed. Production in terms of coal consumed for 2010 was reported as 3% lower than for 2009.



The Indian River Plant reported on sixteen TRI chemicals for 2010. Eight of these were metal compounds, three were non-metallic PBTs, three were acid gasses, and the remaining two were ammonia and naphthalene. All the compounds except ammonia are formed during the combustion process as a result of impurities within the coal and oil. Ammonia is a product of the nitrogen oxide emissions reduction process.

Beginning in 2003, actual stack sample data (as compared to EPA emission factor methods) were used to calculate hydrochloric acid gas releases. These methods were applied to the entire year, and this resulted in significantly higher release amounts for hydrochloric acid gas for 2003 and 2004. In 2005, coal analysis and emission factors were used to calculate the hydrochloric acid gas. This gave a more representative total release for the year because it represents all the data for the year, not just the data collected during a single stack test. Acid gasses as hydrochloric acid, sulfuric acid, and hydrofluoric acid, accounted for 91% of the facility's on-site releases in 2010.

Coal analysis data, emissions data, and emissions factors are used as a basis for calculating releases. Coal consumption increased 2.1% in 2007, 2.3% in 2008, but was lower by 24% in 2009 and 3% lower for 2010 based on coal burn records. Indian River burned lower sulfur bituminous coal (25% lower typically) in 2008-2009, which contributed to lower TRI on-site release amounts of acid gasses. In 2008, reported releases to air of acid gasses decreased by 416,000 pounds (15%) and by another 1,107,000 pounds (40%) in 2009. Although reported release of hydrofluoric acid gas decreased by 4,000 pounds and sulfuric acid gas decreased by 31,000 pounds, hydrochloric acid gas increased by 789,000 pounds for 2010. This increase was due to a substantial change in the chlorine content of the coal consumed in Unit 4. While the overall amount of coal combusted in Unit 4 decreased by about 7% from 2009 to 2010, the weighted average of chlorine in the coal increased in 2010. This resulted in an overall increase in the HCl emissions by approximately 55%.

For 2010, all ash was disposed of in the on-site landfill. Total on-site release and off-site disposal of these metallic compounds decreased by 335,000 pounds (67%) compared to 2009. Metal compounds, formed as a result of impurities in the coal, are largely captured (95.6%) in the fly ash and bottom ash. Starting in 2004, coal analysis data and emissions data were used to calculate mercury and other metal compound values. In 2008, continuous mercury emission monitors were installed on the four units and were used for reporting the 2009-2010 mercury amounts.

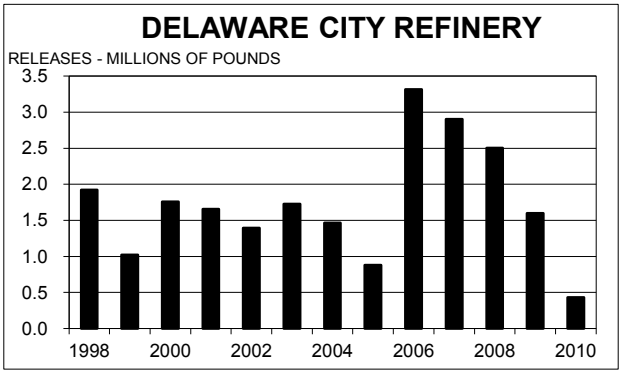
Activated Carbon Injection on all units captures mercury from the flue gas. The mercury is bound to the carbon particles, collected, disposed of in the on-site landfill and is reported as an on-site release. On-site mercury releases to air decreased from a high of 314 pounds in 2003, down to 90 pounds for 2010, because of these factors.

In 2010, Unit #2 was retired. This eliminated some of the on-site releases for 2010. Unit #1 was retired in May 2011, so additional reductions in on-site releases should be reported next year. Along with these shutdowns, additional controls are being installed on Unit #4, which will continue to operate. Selective Catalytic Reduction and a Circulating Dry Scrubber with a baghouse should reduce on-site releases to air even further. These controls are expected to be completed by the end of 2011. Also, Unit #3, the last of the older units, will be retired by the end of 2013. Plant-wide emissions for TRI pollutants are expected to drop significantly through 2014, compared to 2009. As always, economic factors may influence total emissions as the facility runs at lower or higher rates to meet demand for power.

Ammonia is released in the power production process solely from the use of urea, a pollution control agent used in Selective Non-Catalytic Reduction (SNCR) technology for reducing NOx (Nitrogen oxides) by limiting their formation and release to the atmosphere. Ammonia release increased 34,000 pounds in 2010, which was due to differences in the ammonia stack test results between 2009 and 2010. From 2009 to 2010, the stack test results from Unit 1 increased by 50%, while Units 2 and 3 showed decreases of 40% and 29%, respectively. However, Unit 4 stack test results showed an increase resulting in an overall increase from Unit 4 of 32,000 pounds. This increase, combined with the increase from Unit 1 and decreases from Units 2 and 3 led to an overall increase in the ammonia release of approximately 34,000 pounds.

Naphthalene is in the oil consumed at the facility.

Rank #2 – Delaware City Refinery - The Delaware City Refinery, formerly owned and operated by The Delaware City Refining Group Inc. (Premcor) refines crude oil into automobile gasoline, home heating oil, and a variety of other petroleum products. The Delaware City Refining Group (Premcor) purchased the facility from Motiva Enterprises, L.L.C. in May 2004, and subsequently became a subsidiary of Valero Energy Corporation. The facility idled most refinery process units in November 2009. In June 2010, PBF Energy purchased the refinery from Valero and began extensive maintenance activity to prepare the equipment for restart. The Delaware City Refinery (DCR) began restarting process unit operations in 2011.



Although the facility had no production from refinery process units in 2010, some operations continued during all or part of the year, and these were responsible for the majority of the releases reported. These operations included storage of products in tanks, wastewater treatment operations, steam production from boilers, loading operations at the marine docks and sales terminal, and waste handling.

The refinery reported on 16 TRI chemicals for 2010, down from 39 reported for 2009. The total facility-reported on-site releases decreased by 1.1 million pounds (70%) and the total on-site waste management amounts decreased by 16.5 million pounds (40%) in 2010. These decreases were primarily the result of the non-operation of refinery process units during calendar year 2010. Releases of 1,2,4-trimethylbenzene, benzene, benzo(g,h,i)perylene, cumene, ethylbenzene, n-hexane, tert-butyl alcohol, propylene, toluene and xylene reported were mostly releases to air generated from the storage and transfer of petroleum products. Some of these chemicals were also present in wastes transferred off-site. The chemicals 2,4-dimethylphenol and nitrates were released from the refinery wastewater treatment plant effluent. The amount each of these chemicals that was released decreased in 2010 due to decreased flows from the outfalls.

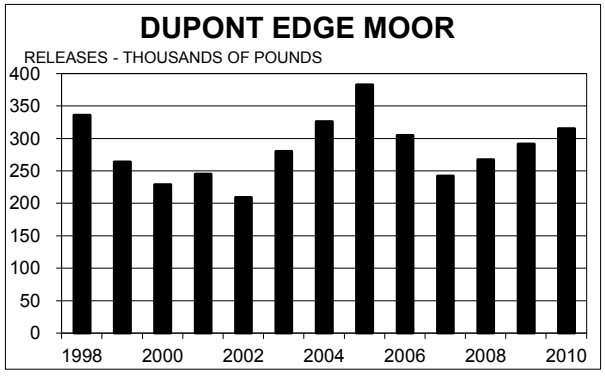
The largest contributors to the on-site release reduction were a reduction of 956,000 pounds in nitrate compounds released to water, a reduction of 15,000 pounds in toluene released to air, a reduction of 28,000 pounds in propylene released to air, and a reduction of 9,300 pounds in benzene released to air. No 2010 reports were required for some important chemicals reported for 2009; ammonia, carbonyl sulfide, ethylene, hydrochloric acid, and sulfuric acid. Other chemicals also reported smaller reductions.

Propylene releases decreased in 2010 mostly due to the closure of the Frozen Earth Propane Storage unit in late 2010. Propylene releases are expected to further decrease in 2011. In previous years, the refinery has reported the release of dioxins which were generated from the Gasification Unit. The Gasification Unit was decommissioned in the fall of 2009 and the refinery has no intentions to restart the unit. Therefore, dioxins were not reported in 2010 and are not expected to be included in future TRI reports.

The above changes, along with other smaller increases and decreases, resulted in a net decrease of 1,123,000 pounds (70%) in reported on-site releases for the facility in 2010 compared to 2009.

Although most DCR refining operations had no activity reportable to TRI in 2010, off-site transfers increased by 14,000 pounds. Many pieces of equipment were repaired, modified, or taken out of service during maintenance activities conducted in preparation of the restart of the refinery. As part of these activities, 98,000 pounds of asbestos were removed from the equipment and disposed off-site, and this more than offset the reductions reported for other TRI chemicals.

Rank #3 - DuPont Edge Moor - The Edge Moor Plant is one of three domestic DuPont facilities that manufacture titanium dioxide, a white pigment that is used in the paint and paper industries. The facility also produces titanium tetrachloride and ferric chloride. The plant is located along the Delaware River a few miles north of the Port of Wilmington.



DuPont Edge Moor reported on 22 TRI chemicals for 2010. Production was higher by 25% in 2010, and total on-site releases increased by 7.5% compared to 2009. The on-site release of carbonyl sulfide increased by 48,800 pounds (23%) in 2010 as a result of the increased production, variable composition of raw material, and process parameter variations. Carbonyl sulfide is a gas by-product of the titanium dioxide production process, and is produced from the use of sulfur-bearing coke in the process of manufacturing the titanium dioxide from titanium-rich ores.

Release of manganese compounds to water decreased by approximately 20%. The annual manganese release can fluctuate with discharge flow rates and naturally occurring manganese in ore.

Of the 22 reported TRI chemicals, carbonyl sulfide accounted for 83% of the facility total reported on-site release amounts, and manganese compounds accounted for 9%.

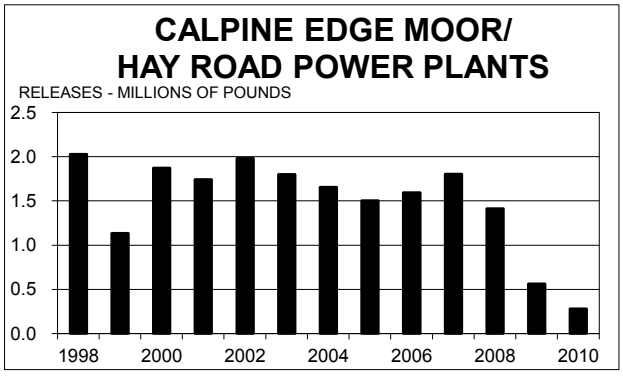
In 2002, DuPont announced a goal to reduce the generation rate of dioxin and dioxin-like compounds (DLCs) by 90% by the end of 2007 compared with 2001 levels. DuPont Edge Moor completed a major capital project in 2007 to provide these reductions. Through 2009, DuPont reduced by more than 99.9% the on-site release of DLCs compared to 2001 levels and reduced off-site transfer for disposal of these compounds from the Edge Moor facility by 99.7% by implementing the capital project and by making process modifications.

Over 99.78% (243.99 grams out of 244.54 grams generated) of the DLCs generated are contained within the solid material sent off-site. Of the remaining 0.22% of DLCs that were released on-site, there was an 81% decrease reported for 2010 compared to the DLCs released in 2009.

The on-site release of DLCs (0.55 grams) decreased by 2.31 grams in 2010 compared to 2009. This decrease was all due to a decrease of DLCs released to water. The DLCs released to water were calculated based on sampling analysis completed as required by the NPDES permit. The majority (73%) of the DLCs released to water reported by DuPont Edge Moor is either a dioxin or furan of the lowest toxicity level.

The term "dioxins" is used in this report to indicate a group of 17 dioxins and dioxin-like compounds (including furans) reportable to TRI, out of a family of several hundred dioxins and dioxin-like compounds. Among the "dioxins" included in TRI reports is the very toxic 2,3,7,8-TCDD dioxin, which is the congener generally of most concern, and most commonly covered by the news media. Toxicity levels of these 17 compounds vary greatly, and some compounds in this group have toxicity levels **3,000 times less** than the 2,3,7,8-TCDD dioxin. Because of this great variation, toxicity equivalent quantities (TEQ) are also calculated and presented in this report. The majority (81%) of the "dioxins" reported by DuPont Edge Moor is either a furan or dioxin of the lowest or next to lowest toxicity level. All TRI "dioxins" are reportable in grams and were converted to pounds for this report (1 gram = 0.002205 pounds).

Rank #4 - Calpine Edge Moor/Hay Road Power Plants - Oil- and coal-fired power plants were required to report under TRI for the first time for 1998. The Calpine Edge Moor/Hay Road facilities are located along the Delaware River a mile north of the Port of Wilmington and produced electricity during 2010 from the combustion of coal, oil, and natural gas. The power plants near Wilmington consist of four Edge Moor units totaling 720 megawatts (MW) and eight Hay Road combustion turbine units totaling 1,082 MW.



On April 21, 2010, Pepco Holdings, Inc. (PHI) sold the generation assets owned by Conectiv Energy to Calpine Corporation. Based in Houston, Texas. Calpine Corporation is an electricity generating company. The sale closed June 30, 2010. On July 1, 2010, the Edge Moor, DE facility began burning natural gas exclusively and all coal combustion was discontinued. The Hay Road facility also burns natural gas.

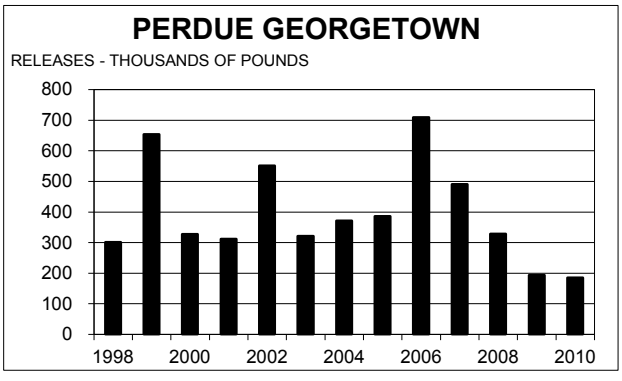
The Edge Moor/Hay Road Power Plants reported on nine TRI chemicals for 2010. These facilities reported two acid gasses, three metal compounds, three non-metallic PBTs, and ammonia. Acid gas emissions -- hydrochloric acid, hydrogen fluoride and sulfuric acid -- accounted for over 98% of all on-site releases.

Electricity production at the facilities increased 61% in 2010. However, overall on-site releases decreased 50% compared to 2009 and are now at 14% of the facility's 1998 level. A significant portion of the decrease in on-site release amounts for 2010 was for hydrochloric and sulfuric acid gasses, the result of a decrease in coal and oil use due to fuel conversion to natural gas. Another significant portion of the decrease was the result of implementing major sections of Delaware Regulation 1146 (Electric Generating Unit (EGU) Multi-Pollutant Regulation) in 2009, including the usage of dry sorbent injection (DSI) for reductions in sulfuric and hydrochloric acid gasses. See pages 52 and L-7 for more detail on Regulation 1146. Additionally, an activated carbon injection system was utilized beginning in 2009 to reduce mercury emissions. Mercury on-site release for 2008 was 140 pounds compared to 11 pounds for 2010.

All listed compounds except ammonia are formed during the combustion process because of impurities within the fuel. Ammonia is released from the Edge Moor facility solely from the use of urea, a pollution control agent used for limiting the formation of oxides of nitrogen to the atmosphere. Ammonia is also used at the Hay Road facility for pollution control.

Over 89% of the metal compounds produced as a result of fuel combustion are largely captured in the fly ash and bottom ash and were not released, but disposed of in an off-site landfill. The remaining 11% of metals not captured in ash were released to on-site air (6%) and water (5%). On-site releases of metal compounds accounted for 1.2% of the facility total on-site releases.

Rank #5 - Perdue Farms Georgetown - Perdue Farms is a producer of poultry products. The Georgetown facility processes chickens for sale to the retail market.



Perdue Georgetown reported on four TRI chemicals for 2010. Over 99.9% of the on-site releases were nitrate compounds. The Perdue wastewater treatment plant digests ammonia and production waste from the poultry processing plant's wastewater stream and converts some of these wastes to nitrate compounds, which are discharged into a local stream.

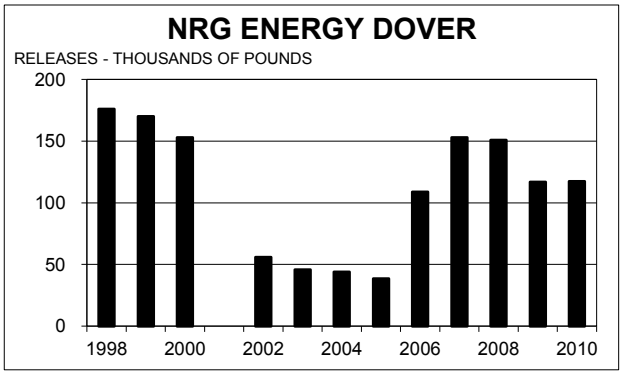
These reported on-site release amounts have varied in recent years because of changes in plant operation and in the way the amount of nitrate compounds released are estimated. In 2006, the reported amount increased as a result of optimization testing for the new NPDES permit. In 2007, the nitrate compound amount reported at the plant significantly decreased as a result of reduced nitrate concentrations, reduced wastewater amounts, and application of a more accurate factor for nitrate releases. In 2008, nitrate compounds continued to decrease as the wastewater system operations continued to improve through revisions to the original operational concepts and engineered design.

In 2010, the reported nitrate compound amount declined by 4.7% compared to 2009. Although this is a reduction, it is within the working range of the optimized biological treatment system performance when considering the variables of production, water usage, biomass performance, and stormwater treatment. Since 2006, release of nitrate compounds to water has declined by 73%. Over the years covered by the graph, changes in production levels had little influence on the change in release amounts.

This facility converted to natural gas in boilers in December 2010. This will reduce harmful emissions such as sulfur dioxide (SO_2) and nitrogen oxides (NOx); however, all of the toxic chemicals from boiler operation that are reportable to TRI except benzo (g,h,i) perylene and polycyclic aromatic compounds are already below the TRI reporting thresholds.

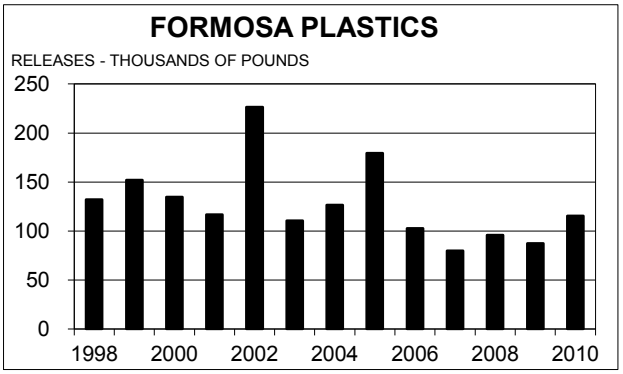
Rank #6 - NRG Dover Plant - Oil- and coal-fired power plants were required to report under TRI for the first time for 1998. This facility, located on the west side of Dover, produces electricity primarily from the combustion of coal and natural gas. Electricity production increased 13% for 2010.

The NRG Dover Plant reported on four TRI chemicals for 2010. Two of these were acid gasses - hydrochloric acid and sulfuric acid – which are formed during the combustion process. Acid gas releases on-site accounted for over 99.9% of the facility on-site releases. Small amounts of metal compounds - mercury and lead compounds - are also formed during combustion because of metallic impurities in the coal. Of the lead compounds, 97.7% was captured in the fly ash and bottom ash and sent to an off-site landfill, and for mercury compounds, 17.2% was captured in the ash. The remaining 2.8 pounds of lead compounds and 7.2 pounds of mercury compounds were released on-site to air.



Although electricity production increased 24% in 2006, estimated release of hydrochloric acid increased to 100,000 pounds, a 213% increase over 2005. This increase was because of a change in coal suppliers in 2006, and analyses showed the new coal to have higher chlorine content than previously fired coals. In 2007, electricity production increased 39% and on-site releases increased in proportion to this increase. In 2008, electricity production decreased 17% and on-site releases decreased slightly. For 2009, total on-site releases were lower by 22% compared to 2008 largely due to a 25% reduction in coal-fired electricity production and a 47% increase in gas-fired electricity production compared to 2008. For 2010, electricity production was 113% of 2009, while on-site releases increased less than 1%. This was because the facility burned more natural gas but about the same amount of coal.

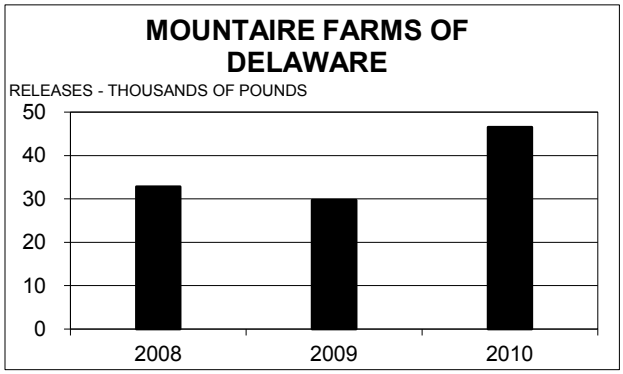
Rank #7 - Formosa Plastics - Formosa Plastics, located in the Delaware City complex, produces polyvinyl chloride (PVC) resin for bulk sale to other industries that produce PVC based products, such as containers, flooring, carpet backing, upholstery, toys, and gloves.



Formosa reported on four TRI chemicals for 2010. Vinyl chloride monomer (VCM) accounted for 49% of the facility 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. Vinyl acetate accounted for 40% of Formosa's on-site releases for 2010. Vinyl acetate is a raw material used in certain products and is released through the drying process. Permits regulate the concentration of the residual monomer in the PVC before drying. Ammonia is also used in several of Formosa's products and is released during the PVC drying process. Ammonia accounted for 11% of Formosa's on-site releases in 2010. Formosa also reported a small amount of dioxin and dioxin-like compounds in both on-site releases and off-site transfer for disposal. Trace amounts of dioxins and dioxin-like compounds were detected in the plant emission and waste and recycled solids, possibly the result of on-site incineration of waste gasses. Scrubber water from the incinerator is processed by the on-site wastewater treatment system.

For 2010, total on-site releases were up by 33%, and production was up by 25% over the 2009 level. Reported release of vinyl acetate increased 44% and vinyl chloride increased 28%, while the ammonia release was 17% greater. These increases are related to the increases in overall production in 2010 and the more frequent uses of VAM in the copolymerization process of VAM and VCM.

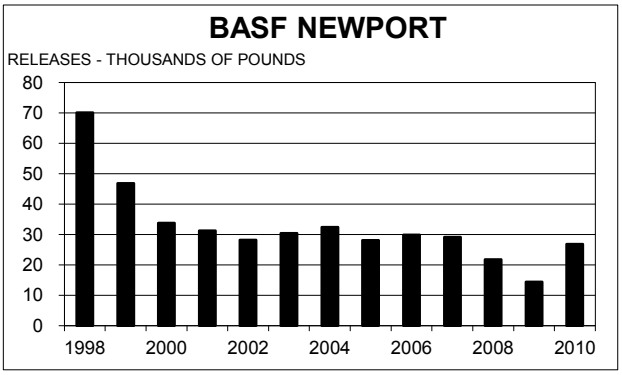
Rank #8 – Mountaire Farms of Delaware – This facility is located in Millsboro, and hatches chickens for growers, produces feed for poultry growers, and produces retail, wholesale and export chicken products. The predominant chemical release reported is ammonia. Total on-site release for 2010 was 46,555 pounds; of that total, reported ammonia released was 46,553 pounds. Production at this facility increased 56% compared to 2009, and on-site releases are in line with this increase. Before 2008, this facility had not reported to TRI since 2003.



Five percent (2,328 pounds) of the on-site ammonia release was to air, and 95% (44,225 pounds) was to land. Ammonia is a byproduct of poultry processing and is treated in the on-site wastewater treatment plant. Due to changes in operations at the wastewater facility in 2008, an increase in ammonia in the treated wastewater effluent occurred and ammonia became reportable for 2008. This effluent is spray irrigated onto cropland, and the ammonia is utilized by the crops.

The facility replaced two fuel oil boilers with natural gas boilers, and converted two dryers to natural gas from oil during 2010. Additional boiler conversions are taking place now in 2011. On-site releases of combustion products were not high enough to meet the reporting thresholds, and releases from natural gas are lower than from oil.

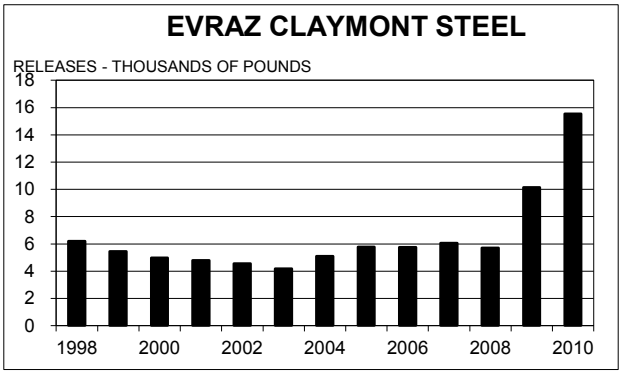
Rank #9 – BASF Newport – Ciba Corporation transitioned to BASF Corporation in 2010. BASF is located in Newport and manufactures pigments for the paints, plastic, and printing industries. They reported on eight TRI chemicals for 2010. All on-site releases were to air.



Methanol was the predominant chemical released on-site in 2010 (95% of total on-site releases). Methanol is used as a reactant and a solvent in the pigment manufacturing process. About one-third of the 2.1 million pounds of methanol reported is recycled, about two-thirds is treated rather than released, and 1.24% is released to the on-site environment.

Total pigment production was up 85% in 2010 due to an upturn in business, which resulted in an increase of on-site releases by 84%. BASF has expanded and modernized the Newport facility since 1998. Although current facility production is almost double the 1998 production, the facility has achieved a 62% reduction in on-site releases during this time. The facility has also reduced transfers of methanol to off-site water treatment by 72% since 1998.

Rank #10 – Evraz Claymont Steel - Located on a 425-acre site in Claymont, Evraz Claymont Steel, formerly known as CitiSteel, manufactures high-strength low-alloy carbon steel plate for heavy construction and industrial applications. The facility purchases and recycles up to 500,000 tons of scrap steel annually and melts it in an electric arc furnace, making this facility the largest metal recycler in the state of Delaware. The melted steel is cast into large slabs which are rolled into plates of thicknesses from 1/4 to 5-1/2 inches. The plates are sold throughout North America.



Evraz Claymont Steel (ECS) reported on-site releases of eight TRI chemicals; seven metallic compounds and dioxin compounds, for 2010. Most of the on-site releases, 76%, were to land. For 2010, production increased 60% and on-site releases increased 53%. Manganese compounds was the largest on-site release, at 71% of the total. The increase in the 2008-9 total on-site release amount was due, in significant part, to the large increase in manganese compounds released to land. This increase was caused by the use of more recent analytical data which indicated a higher concentration of manganese in the on-site cooling water reservoir.

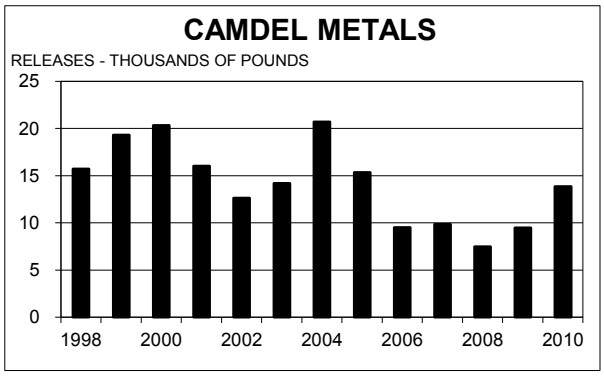
Generally, the metal compounds showed increases in on-site releases that corresponded to the 60% increase in production. Zinc compounds was one exception, showing an increase of

92% because of a large increase in releases to air. This was the result of both the production increase and a 35% higher zinc content in the raw materials. Mercury compounds was another exception, not showing any change from the 2009 data despite the production increases, proving the viability of the company's Mercury Source Reduction Program.

In 2006, ECS implemented a comprehensive Mercury Source Reduction Program. This program was designed to recover mercury switches used in lighting and braking systems in 2002 and older vehicles as they are being prepared for recycle. Mercury in these switches can contaminate steel scrap destined for recycling, and a portion of this mercury can be released to air during the steel melting process. In August 2006, ECS joined with other stakeholders and the EPA in announcing EPA's National Vehicle Mercury Switch Recovery Program, and in 2007, ECS established an enhanced mercury pollution prevention program that emphasized purchasing motor vehicle scrap from providers that participated in the mercury switch recovery program. Although the vehicles are prepared for recycling before they reach the ECS facility, the company has committed to purchasing shredded automobile scrap steel only from suppliers that are participating in the switch recovery program. The EPA reimbursement phase of this program has now ended, but 8,371 pounds of mercury have been recovered from 3,805,373 switches collected throughout the nation, including 5.3 pounds from 2,419 switches collected in Delaware. Most states are still accepting the recovered switches.

A Consent Decree was entered into between DNREC and ECS in 2010 requiring ECS to maintain its participation in the mercury pollution prevention program. Also, the Consent Decree requires the installation of additional baghouse capacity to capture and collect dust from certain operations in the melt shop area, including the electric arc furnace, stir station, and ladle reheat operation. This work has begun, and completion of this work is expected no later than August 2013.

Rank #11 - Camdel Metals - Camdel Metals Corporation specializes in the production of seamless stainless steel coiled and straight length tubing. These tubes are produced for numerous applications in the petrochemical, oil and gas, subsea and downhole drilling, geothermal, flow measurement and sensing, chromatography, medical, ship building, military/aerospace, semiconductor, and instrumentation industries. Camdel Metals produces continuous seamless coils which can be in excess of 6,000 feet long. The tubing ranges in size from .020 to 3/4 inch outer diameter.

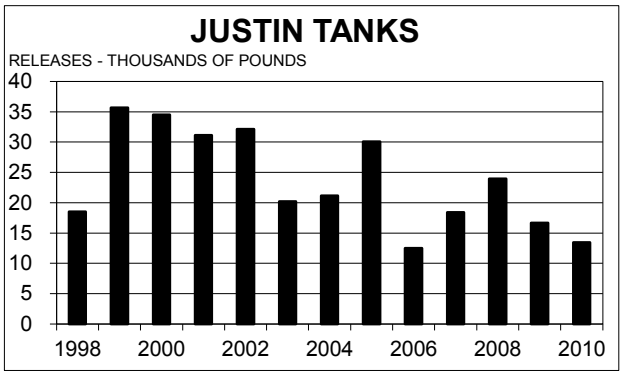


Trichloroethylene (TCE) is the primary TRI chemical reported by Camdel Metals, and makes up 100% of the on-site release amount. It is used as a solvent to clean the tubing. Production increases related to TCE use in 2003 (15%) and 2004 (43%) accounted for most of the on-site release increases since 2002, and releases generally tracked production. Although production volume related to use of trichloroethylene fell 15% in 2006, trichloroethylene releases fell by 38%, the result of improved process control and waste management. In 2008, production declined by 20%, but TCE releases decreased by 24%, the result of additional process control and preventative maintenance actions. In 2009, on-site releases increased as the result of better calculations

of waste streams, while production was lower. In 2010, production increased by 32%, and on-site releases of TCE increased to 13,847 pounds, a 46% increase. Over 99% of the scrap metal generated at the facility is sent off site for recycle.

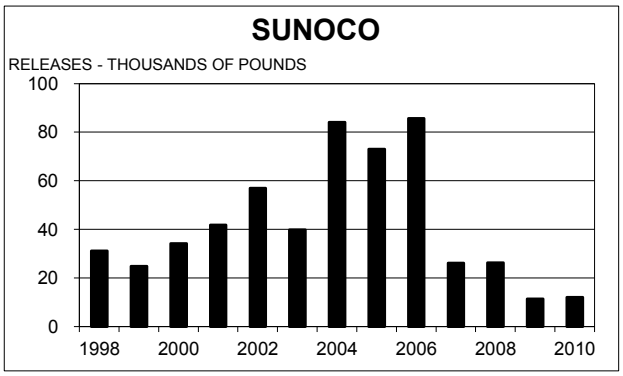
Rank #12 - Justin Tanks – Justin Tanks, located in Georgetown, manufactures a wide variety of Fiberglass Reinforced Plastic (FRP) tanks for use in the chemical, agricultural, and food industries.

Justin Tanks reported on one TRI chemical, styrene, for 2010. Styrene is used as a monomer in the polymerization of fiberglass resin. The majority of the styrene is released to the air during the process of applying fiberglass reinforcement to the tank. During polymerization and curing, small amounts of styrene are released, and the amount of styrene release diminishes to zero at full cure. No release occurs after the tank polymerization and curing process is complete.



Following an increase of 30% in 2008 partially related to an increase in production, 2009 on-site releases decreased 30% compared to 2008, and 2010 on-site releases decreased 19% compared to 2009, the result of a decrease in production for both years.

Rank #13 – Sunoco Refining and Marketing – The Sunoco facility, located in Marcus Hook, PA, extends into the North Claymont area of Delaware. The Marcus Hook facility can process 180,000 barrels a day of crude oil into fuels – including gasoline, aviation fuel, 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 that use them to make a variety of other products.



After an explosion and fire in May 2009, Sunoco announced that the ethylene complex in the refinery would close due to insufficient demand for ethylene, ethylene oxide, and cyclohexane to justify the cost of repair and replacement of damaged equipment. This facility now only has a few tanks along with two heaters and a Sulfur Recovery Unit on the site in Delaware.

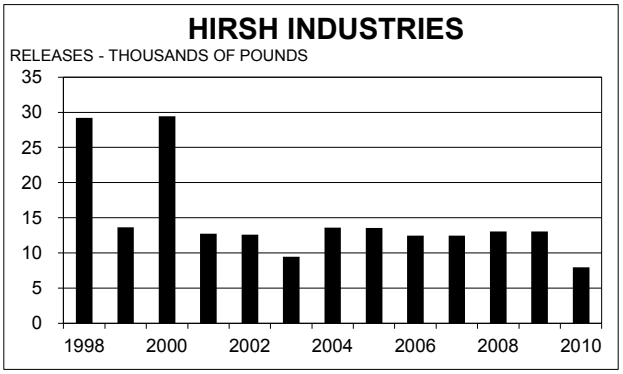
The portion of the Sunoco facility in Delaware reported eight TRI chemicals for 2010. N-hexane and benzene accounted for 96% of the total on-site Delaware releases for 2010, and smaller amounts of ethylene, lead, naphthalene, nickel, toluene, and xylene were also reported as released to air from the tanks in Delaware.

For 2010, on-site releases increased by 605 pounds (5.3%). Ethylene releases decreased 6,448 pounds and ethylene oxide releases decreased 684 pounds, while n-hexane increased 7,327 pounds. The decrease in ethylene and ethylene oxide releases were due to sources in

the Ethylene Complex being shut down after the May 2009 explosion and fire. The increase of n-hexane was the result of improved speciated emissions calculations.

On September 6, 2011, Sunoco announced that it would exit the refining business. Sunoco has begun the process to sell its refineries at Marcus Hook and Philadelphia, PA with the intent to finalize the sale or idle the refineries by July 2012. Minimal impact of this action should be seen in the 2011 reports. More significant impact may be seen for the 2012 reports, depending on the success and conditions of sale at the Marcus Hook facility, and possible operation by the new owner of the facility.

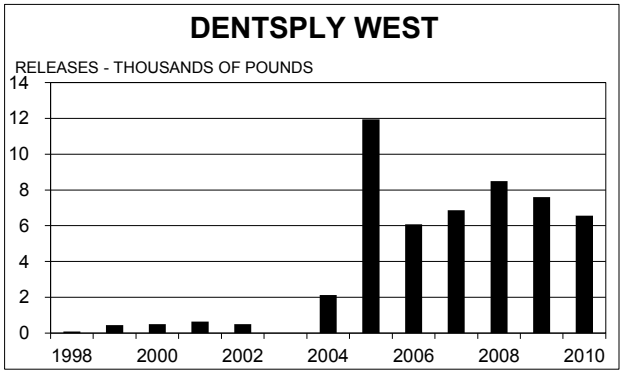
Rank #14 – Hirsh Industries – Hirsh Industries produces a line of consumer durables. These products include file cabinets, shelving units, and lateral filing systems. These products are used in home and office applications. Hirsh Industries is located in North Dover.



Hirsh reported one TRI chemical for 2010, certain glycol ethers. It is used as a component in the water based coatings for their painting process. The volume of production activities involving certain glycol ethers was unchanged in 2010 but on-site releases were down by 39% compared to 2009. Total reported TRI on-site release is now at 27% of the 1998 amount.

Hirsh Industries has been working to meet the requirements of the new emission regulations which went into effect January 1, 2011. These regulations required a 23% reduction in VOC (volatile organic compounds) contents, down from 3.0 lbs./gallon to 2.3 lbs./gallon as applied. Hirsh's coating vendors had already been supplying products with mostly compliant VOC levels prior to the deadline and in all instances successfully met or exceeded the new VOC requirements by the deadline, resulting in Hirsh's overall emissions reductions for 2010.

Rank #15 – DENTSPLY West – The DENTSPLY International, Caulk Division (Caulk) produces a line of consumable products for the dental industry. These products include dental adhesives, dental impression materials, and restoratives. These products are used in dental maintenance and restoration applications. Caulk's East Masten Circle facility (DENTSPLY West) and the West Clarke Avenue facility (DENTSPLY Main) are located in Milford.



DENTSPLY West reported three TRI chemicals in 2010. The predominant chemical released on-site was methanol. Methanol is used as a processing aid in the manufacture of polymethacrylates. Releases of methanol were reported as 4,620 pounds for 2010, about the same as for 2009, but down 18% from the 5,207 pounds reported for 2008. The reason for the decrease in reported release of methanol for 2010 is that production involving the use of methanol was down 35% compared to the 2009 level.

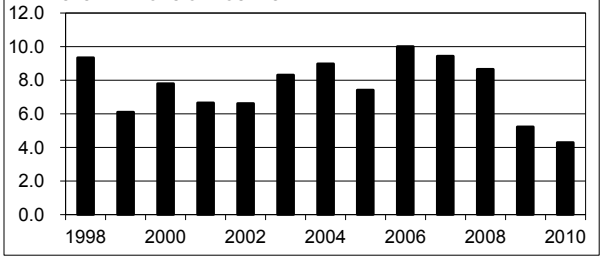
Methyl methacrylate (MMA) was the second highest amount chemical released. Releases of MMA were down by 758 pounds (29%) compared to 2009. Releases of toluene were down by 290 pounds (39%) for 2010. Although production involving MMA and toluene was about the same as for 2009, the declines in reported releases of MMA and toluene were the result of better manufacturing controls for MMA and less cleaning using toluene.

Reported on-site releases have increased significantly since 2002 because of increased production, addition of new equipment, and more accurate reporting methods. In 2005, the facility reported significant increases in on-site releases for toluene and MMA, and the facility reported on-site release of methanol in 2005 for the first time since 2002. This facility did not submit any TRI reports for 2003.

The DENTSPLY Main facility is one of two facilities in the state that report on elemental mercury. Virtually all of their mercury is used in their products or recycled (2,467 pounds recycled), with reported on-site mercury releases to air of 0.02 pounds.

Combined Top 15 Facilities Trend - Figure 12 shows the totals for reported on-site releases for the top 15 facilities during 1998-2010. The total on-site release trend for these 15 facilities is down 18% since 2009 and 54% since 1998. These facilities represent over 99% of the total on-site releases in the State for 2010, while the remaining 46 facilities represent less than 1%. Six facilities of the top 15 facilities reported decreases in on-site releases in 2010 and nine reported increases. The largest change was the 956,000-pound decrease in nitrate compounds released to water reported by the Delaware City Refinery. Also reporting significant decreases in on-site releases greater than 200,000 pounds were the Calpine Edge Moor/Hay Road and Indian River Power Plants, reporting on hydrochloric acid and barium compounds, respectively. The largest increase was the 789,000-pound increase of hydrochloric acid reported by the Indian River Power Plant.

FIGURE 12
TOP 15 FACILITIES
ON-SITE RELEASES



Facilities No Longer Reporting to TRI

In the normal annual cycle of TRI reporting, some facilities may fall below the reporting thresholds and new facilities may need to start reporting. In recent years, this involved the annual loss of 3-4 facilities, and 1-2 new facilities started to report each year. For 2009, Dow Reichhold and the Chrysler and General Motors assembly plants closed and an additional four smaller facilities (Air Liquide, AstraZeneca, The Marble Works, and McKee Run Power Plant) fell below the reporting thresholds, while one new facility (V&S Delaware Galvanizing) started to report. The three larger closed facilities reported a total of 191,600 pounds of on-site releases for 2008, their last year of declining production. For 2010, Clariant Corp. in Milford closed and Hanover foods in Clayton fell below the reporting thresholds. Clariant reported 5 pounds of zinc compounds and Hanover Foods reported 10,000 pounds of ammonia as released on-site for 2009.

Persistent Bioaccumulative Toxic (PBT) Chemicals, 2000-2010

For reporting year 2000 and beyond, the EPA established substantially lower reporting thresholds for 12 existing chemicals and one chemical category that are highly persistent and bioaccumulative in the environment. Six new chemicals and one new category were also added to the PBT list for 2000. The new thresholds apply regardless of whether the PBT chemical is manufactured, processed, or otherwise used.

TABLE 7
2010 DELAWARE PBT CHEMICALS AND REPORTING THRESHOLDS
(pounds/year)

Chemical or Chemical Category	Threshold (Pounds)	2010 REPORTS
Aldrin	100	0
Benzo[g,h,I]perylene	10	7
Chlorodane	10	0
Dioxin and dioxin-like compounds category	0.1 grams	5
Heptachlor	10	0
Hexachlorobenzene	10	1
Isodrin	10	0
Lead *	100	4
Lead and lead compounds *	100	11
Mercury	10	2
Mercury compounds	10	5
Methoxychlor	100	0
Octachlorostyrene	10	1
Pendimethalin	100	0
Pentachlorobenzene	10	1
Polychlorinated biphenyls (PCBs)	10	1
Polycyclic aromatic compounds category	100	11
Tetrabromobisphenol A	100	0
Toxaphene	10	0
Trifluralin	100	0
* Lower Threshold For 2001 Reports	TOTAL	49

Table 7 provides a current list of the PBT chemicals and their thresholds, and the number of reports received for each chemical for 2010.

PBTs are receiving increased scrutiny as we learn more about them, and reporting of PBTs is being progressively more emphasized. These chemicals are of particular concern because they are not only toxic, but also because they remain in the environment for long periods of time, are not readily destroyed, and accumulate in body tissues. Beginning with reporting year 2001, the thresholds for lead and lead compounds were reduced to 100 pounds, down from the previous 25,000 pounds for manufactured and processed, and 10,000 pounds for otherwise used, except lead contained in stainless steel, brass, or bronze alloys.

Beginning with reporting year 2008, additional toxicity information became available for dioxin and dioxin-like compounds (DLCs). The 17 compounds that fall under the TRI category of DLCs have a wide range (1.0000 to 0.0003) of toxicity; these values are called the Toxic Equivalent Factor (TEF). In order to compare them on an equal toxicity basis, we multiply the TEF by the pounds reported to get the Toxic Equivalent Quantity (TEQ). These amounts are provided along with the original amount reported in pounds. See pages 34-36 for additional detail on dioxins.

Not all of the PBT chemicals released before 2001 were reportable, even though it is likely these chemicals were released at, or near, the 2001 reported rate if the facility had no significant change in its operation. For example, 15 facilities reported lead or lead compounds in 2010 compared to seven in 2000. All but two of these facilities were in

operation prior to 2001.

Table 8 shows the results of PBT reporting for 2008-2010 compared to total 2010 TRI data. The total count of PBT reports, 49, is lower than the counts of 54-60 for recent years. PBT on-site releases for 2010 comprise about 0.21% of the total TRI on-site releases. Total PBT wastes are about 4.7% of total TRI wastes. No PBT reports can be filed on Form A.

PBT on-site releases were lower for 2010 by 11,038 pounds (55%); the decrease was almost entirely because of the reduced amounts of lead compounds disposed of in the Indian River Power Plant on-site landfill, and the reduced amounts released to air by the Edge Moor/Hay Road Power Plant. These reductions were offset by an increase in lead compounds releases to water by the Edge Moor/Hay Road Power plant and an increase in release to air by the Evraz Claymont Steel facility. Since 2001, the trend of PBT on-site releases is down 71%.

Total PBT wastes decreased by 866,000 pounds (24%) in 2010, largely because of decreased transfers to off-site recycle of lead compounds by the Johnson Controls facility.

Table 9 shows the amounts of each PBT chemical reported as released by the TRI reporting facilities in 2010. Lead compounds, largely released from coal-fired power plants, made up 85% of the total on-site PBT releases for 2010.

TABLE 8

2010 TRI PBT DATA SUMMARY

(IN POUNDS)

	PBTs only 2008	PBTs only 2009	PBTs only 2010	All TRI Chemicals 2010
No. of Facilities	27	25	26	61
No. of Form As	NA	NA	NA	31
No. of Form Rs	60	54	49	196
No. of Chemicals	11	11	11	79
On-site Releases				
Air	3,716	1,568	1,768	3,520,119
Water	1,008	492	1,143	600,283
Land	28,948	18,052	6,039	210,747
On-Site Releases	33,673	20,112	8,949	4,331,149
Off-site Transfers				
POTW's	4	2	5	996,970
Recycle	3,322,811	3,500,383	2,659,278	5,469,246
Energy Recovery	55	55	0	1,857,131
Treatment	0	0	0	336,190
Disposal	58,847	59,069	45,758	4,546,552
Total Transfers	3,381,717	3,559,509	2,705,041	13,206,088
On-site Waste Mgmt.				
Recycle	3	3	3	7,678,337
Energy Recovery	0	0	0	0
Treatment	873	736	202	32,895,795
Total On-site Mgmt.	876	739	205	40,574,132
Total Waste	3,416,266	3,580,360	2,714,195	58,111,368

TABLE 9

2010 PBT RELEASE BY CHEMCAL

(REPORTED AMOUNTS IN POUNDS)

2010 PBT CHEMICAL	FORM R REPORTS	ON-SITE RELEASES				TRANSFERS OFF SITE	ON-SITE WASTE MGMT.
		TOTAL AIR	TOTAL WATER	TOTAL LAND	ON-SITE TOTAL		
BENZO(G,H,I)PERYLENE	7	154.57	1.11	0.00	155.68	0.00	111.00
DIOXIN AND DIOXIN-LIKE COMPOUNDS	5	0.0185	0.0011	0.00	0.0196	0.5382	0.00
HEXACHLOROBENZENE	1	0.1108	0.2000	0.00	0.3108	34.70	0.00
LEAD	4	193.37	0.00	0.15	193.52	1,776.10	0.00
LEAD COMPOUNDS	11	1,134.36	1,140.05	5,404.00	7,678.41	2,700,233.25	0.00
MERCURY	2	0.02	0.16	0.00	0.18	2,467.40	0.00
MERCURY COMPOUNDS	5	167.64	0.00	20.00	187.64	66.79	0.00
OCTACHLOROSTYRENE	1	0.0007	0.00	0.00	0.00	2.70	0.00
PENTACHLOROBENZENE	1	0.1232	0.1000	0.00	0.2232	1.00	0.00
POLYCHLORINATED BIPHENYLS	1	0.0061	0.00	0.00	0.0061	0.90	0.00
POLYCYCLIC AROMATIC COMPOUNDS	11	117.36	0.96	615.00	733.32	457.46	93.66
TOTALS	**49**	**1,767.58**	**1,142.59**	**6,039.15**	**8,949.31**	**2,705,040.84**	**204.66**

Source: 2010 DNREC TRI Database, October 2011

Dioxins are reportable in grams and have been converted to pounds for this report.

Four decimal places are used where small amountsa are not 0 .

Evraz Claymont Steel reported the largest PBT release to air, 423 pounds, and the Edge Moor/Hay Road Power Plants reported the largest releases to water, 1,039 pounds. The Indian River Power Plant reported the largest release, 5,347 pounds, to land. These three reports were all for lead compounds. Over 91% of the PBT amounts transferred off-site for recycle was lead compounds from Johnson Controls. Additional detail for mercury and mercury compounds is on page 37.

The Delaware City Refinery reported almost the entire amount of on-site PBT chemical waste management with 111 pounds of benzo(g,h,i)perylene and 91 pounds of polycyclic aromatic compounds being treated on-site. Appendix I shows the PBT data detail, listing each PBT chemical and the facilities reporting on it. Also, see additional facility information in the Top 15 section starting on page 18 regarding reasons for changes in reports from other PBT-reporting facilities.

Dioxin and Dioxin-Like Compounds

The term “dioxins” is used by the EPA TRI program and in this report to indicate the group of 17 dioxins and dioxin-like compounds (DLCs) reportable to TRI, out of a family of several hundred dioxins and dioxin-like compounds, including furans. On May 10, 2007, the EPA Toxics Release Inventory Program issued a final rule expanding reporting requirements for the DLCs category. The final rule requires that, in addition to the total grams released for the entire category, facilities must report the quantity of each individual member for each release and waste management activity on a new form (Schedule 1). The reporting requirements of the final rule applied to the 2008 reporting year and to following years.

The reason for this rule is that the toxicity levels of these 17 DLCs vary greatly, and some compounds in this group have Toxic Equivalent Factors (TEF) **3,333 times less** than others. Because of this great variation, the Toxicity Equivalent Quantity (TEQ) is a way to show toxic chemical amounts on an equal toxicity basis. The EPA and DNREC use the individual mass quantity data to calculate TEQ amounts (Weight X TEF = TEQ). This data is available to the public along with the mass data. Table 10 below shows all 17 DLCs that are reportable to TRI and some basic information about them.

TABLE 10
DIOXIN TOXIC EQUIVALENT FACTORS (TEF)

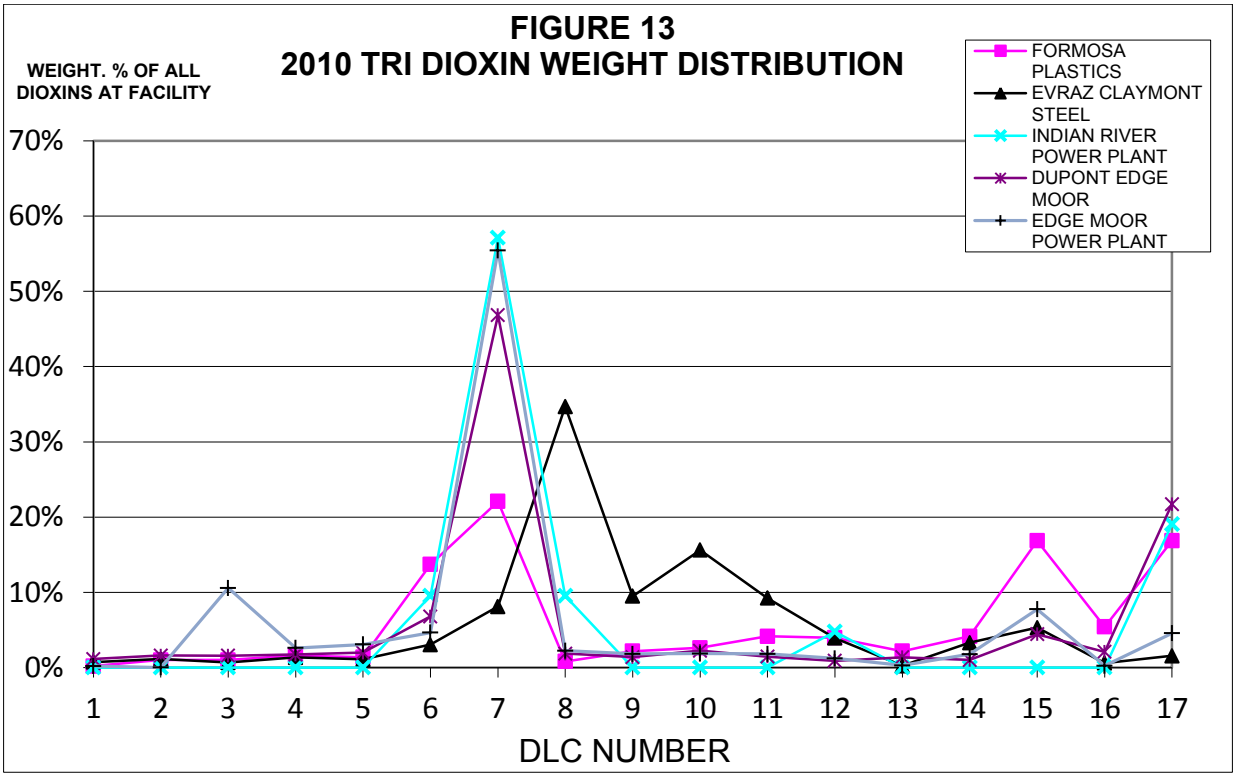
TRI No.	Dioxin Chemical (DLC) Name	Abbreviated Name	CAS	TEF
1	2,3,7,8-tetrachlorodibenzo-p-dioxin	2,3,7,8-TCDD	1746-01-6	1.0000
2	1,2,3,7,8-pentachlorodibenzo-p-dioxin	1,2,3,7,8-PeCDD	40321-76-4	1.0000
3	1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	1,2,3,4,7,8-HxCDD	39227-28-6	0.1000
4	1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	1,2,3,6,7,8-HxCDD	57653-85-7	0.1000
5	1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	1,2,3,7,8,9-HxCDD	19408-74-3	0.1000
6	1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	1,2,3,4,6,7,8-HpCDD	35822-46-9	0.0100
7	1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	1,2,3,4,6,7,8,9-OCDD	3268-87-9	0.0003
8	2,3,7,8-tetrachlorodibenzofuran	2,3,7,8-TCDF	51207-31-9	0.1000
9	1,2,3,7,8-pentachlorodibenzofuran	1,2,3,7,8-PeCDF	57117-41-6	0.0300
10	2,3,4,7,8-pentachlorodibenzofuran	2,3,4,7,8-PeCDF	57117-31-4	0.3000
11	1,2,3,4,7,8-hexachlorodibenzofuran	1,2,3,4,7,8-HxCDF	70648-26-9	0.1000
12	1,2,3,6,7,8-hexachlorodibenzofuran	1,2,3,6,7,8-HxCDF	57117-44-9	0.1000
13	1,2,3,7,8,9-hexachlorodibenzofuran	1,2,3,7,8,9-HxCDF	72918-21-9	0.1000
14	2,3,4,6,7,8-hexachlorodibenzofuran	2,3,4,6,7,8-HxCDF	60851-34-5	0.1000
15	1,2,3,4,6,7,8-heptachlorodibenzofuran	1,2,3,4,6,7,8-HpCDF	67562-39-4	0.0100
16	1,2,3,4,7,8,9-heptachlorodibenzofuran	1,2,3,4,7,8,9-HpCDF	55673-89-7	0.0100
17	1,2,3,4,6,7,8,9-octachlorodibenzofuran	1,2,3,4,6,7,8,9-OCDF	39001-02-0	0.0003

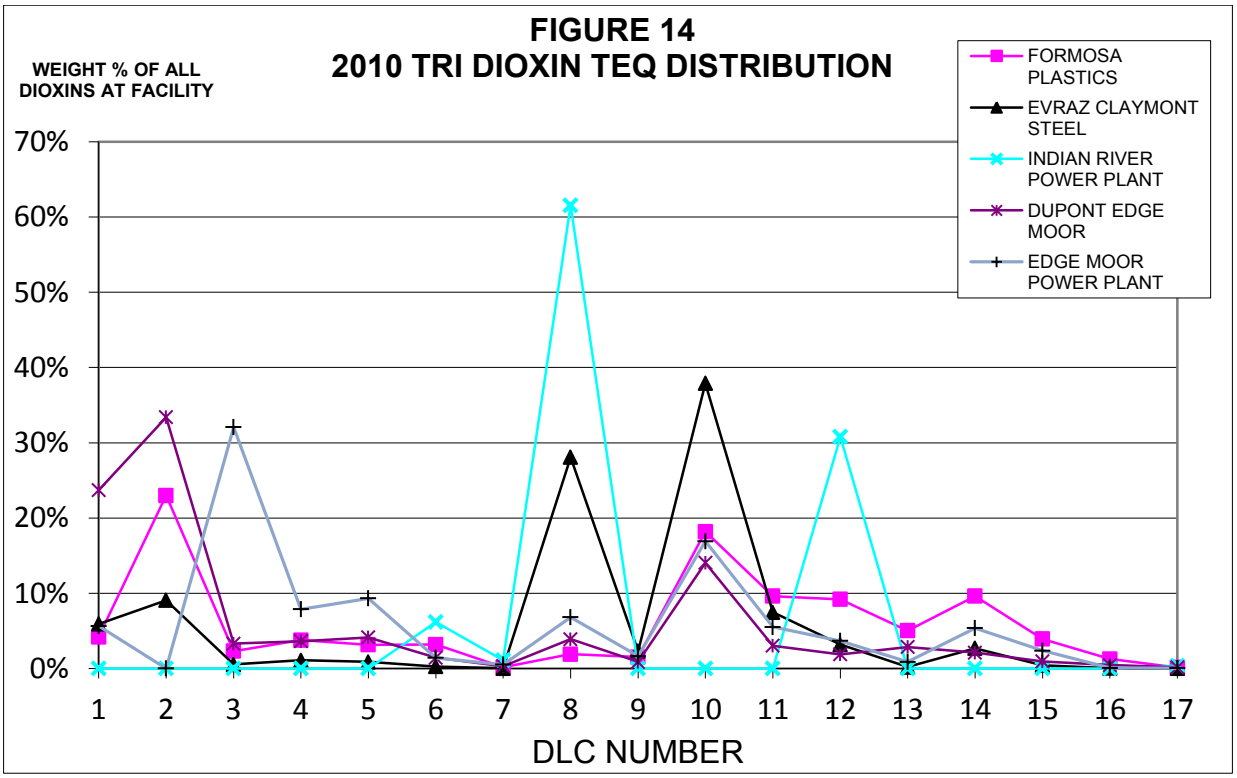
Among the "dioxins" included in TRI reports is the very toxic 2,3,7,8-TCDD dioxin (#1 in Table 10 on page 34), which is the congener generally of most concern and most commonly covered by the news media. All TRI "dioxins" are reportable in grams and were converted to pounds for this report since all other chemicals are reported in pounds (1 gram = 0.002205 pounds). You can see that TRI dioxin numbers 1 and 2 have the highest TEF (1.0000), and numbers 7 and 17 have the lowest (0.0003). This is a range of 3,333 to 1. In order to show the toxicity effects of the 17 dioxins on an equal basis, the amounts released in pounds are multiplied by their TEF. The resulting TEQ allows them to be compared on an equal toxicity level.

Figure 13 on this page and Figure 14 on the next page show the distribution of the weight and TEQ fractions of the 17 DLCs reported as on-site releases by each of the five facilities in Delaware that reported on dioxins. You can see how, because of the different processes at the facilities, the weight fractions of the 17 compounds reported vary between facilities.

Also, you can see how, for a dioxin like numbers 1 and 2, where the TEF is highest at 1.000, the TEQ amounts are greater than the weight percentages. Conversely, for dioxin numbers 7 and 17, where the TEF values are a low 0.003, the TEQ amounts are smaller than their weight percentages. This impact can be seen where the Indian River Power Plant reported dioxin number 7 (TEF = 0.003) as 57% of the total weight in figure 13, but this was only 1.1% of the TEQ in Figure 14.

FIGURE 13
2010 TRI DIOXIN WEIGHT DISTRIBUTION





The total on-site release amounts in pounds and their corresponding TEQ amounts reported in Delaware were calculated and are presented in the Table 11. In addition, the pounds released or managed as waste are shown in Appendix I. Table 11 provides a summary of information for the five facilities in Delaware that reported on dioxins for 2010. Because of the differences in distribution of individual dioxins and dioxin-like compounds, the rankings could change when comparing by pounds or by TEQ, although they did not change for 2010.

TABLE 11
FACILITIES SORTED BY DIOXIN TOXIC EQUIVALENT QUANTITY (TEQ)
2010 AMOUNTS

FACILITY	TOTAL ON-SITE TEQ RELEASE	ON-SITE TEQ RANK	TOTAL ON-SITE LBS. RELEASE	ON-SITE LBS. RANK
EVRAZ CLAYMONT STEEL	0.001711	1	0.013850	1
EDGE MOOR/HAY ROAD POWER PLANTS	0.000133	2	0.004038	2
DUPONT EDGE MOOR	0.000058	3	0.001208	3
INDIAN RIVER POWER PLANT	0.000007	4	0.000463	4
FORMOSA PLASTICS	0.0000005	5	0.000011	5

Mercury and Mercury Compounds

For 2010, total on-site releases of mercury declined 60 pounds (24%), following a decline of 469 pounds for 2009. On-site releases of mercury and mercury compounds are down 89% since 2000.

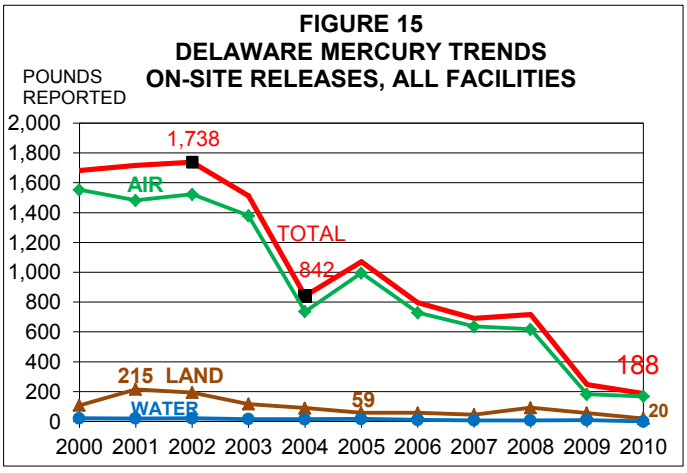
Mercury (elemental mercury) and mercury compounds are an important part of the PBT category, and this section discusses some of the data in these reports. Control of mercury and mercury compounds is becoming increasingly important as we learn more about mercury, and that mercury is a serious pollutant. Children, including unborn babies, exposed to mercury compounds can have impaired functions, including verbal, attention, motor control, and intelligence. Adults may be at lower risk than children, but mercury in fish consumed by adults may lead to problems similar to those found in children, as well as reproductive and cardiovascular problems. A significant source of mercury pollution comes from the air, as mercury released from power plants is deposited on water and land, whose runoff may also migrate to the water. Many lakes and streams are impaired as a result of mercury contamination from coal-burning power plants. As mercury makes its way into the food chain, restrictions on eating fish harvested from these water bodies are becoming more commonplace.

In an effort to reduce mercury, sulfur dioxide (SO_2), and nitrogen oxides (NO_x) releases to the environment, Delaware enacted Regulation 1146 (Electric Generating Unit Multi-Pollutant Regulation) in 2006. With regard to mercury, Regulation 1146 requires coal-fired electric generating units with a rating of 25 megawatts or larger to control their mercury emissions to a rate no greater than 1.0 lb. /TBTU (trillion BTU), or an 80% reduction from baseline, starting January 1, 2009. Regulation 1146 further requires those same units to control their mercury emissions to a more restrictive rate of no greater than 0.6 lb. /TBU, or a 90% reduction from baseline, starting January 1, 2013. At this time, all of the subject units in Delaware are in compliance with this regulation.

At the Indian River Power Plant, operation of the four units against the above criteria was also modified by a Consent Decree. This decree requires complete shutdown of Units 1 and 2 by the end 2011 and complete shutdown of Unit 3 by 2013, rather than allowing them to operate even at reduced levels of emissions. Unit 4 will continue to operate, and pollution control equipment is being installed now to allow it to meet the Regulation 1146 criteria for 2013. The Edge Moor and Invista power plants have converted to natural gas and may not have any reportable mercury emissions in the future. Please see more detail in the Facility Profiles section, pages 18-21.

Figure 15 shows the combined trend for mercury and mercury compounds. The reduction from 2002-2004 was from reduced amounts reported by the Occidental Chemical facility. Significant reductions in on-site mercury releases were expected as a result of Delaware's Regulation 1146 with the above conversions starting in 2009, and these expectations are verified in the data. The declining economy also played a part in the declining trend for 2009.

FIGURE 15
DELAWARE MERCURY TRENDS
ON-SITE RELEASES, ALL FACILITIES

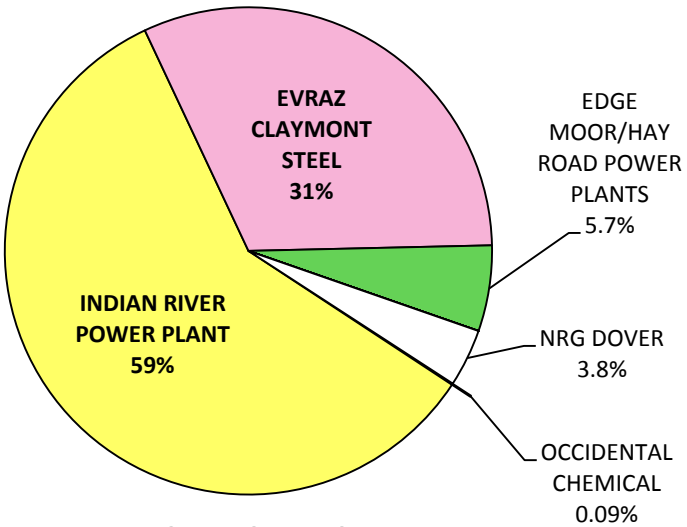


For 2010, reductions were more modest, but with some facilities converting to natural gas, their reductions are or will be 100%. Although not covered by Regulation 1146, Evraz Claymont Steel, the second largest contributor, also produced good results from its pollution control efforts. Production was up 60% for 2010, while reported on-site mercury release was unchanged.

Reports of on-site releases of mercury in **mercury compounds** by Delaware facilities decreased 473 pounds (66%) in 2009 from the production decreases and pollution control improvements discussed above, which effected significant reductions in releases at the mercury-reporting facilities. For 2010, the reduction was 52 pounds. Half of this reduction was from the idle Delaware City Refinery, which reported no mercury compound releases for 2010, down from 26 pounds for 2009. After the restart, we expect that the refinery would report some mercury compound releases for 2011. The Indian River Power Plant reported a reduction of 17 pounds (13%), and INVISTA reported a reduction of 13 pounds (100%) for 2010 as the INVISTA conversion to natural gas was completed in 2009.

For reported on-site release amounts of **elemental mercury**, Occidental Chemical contributed virtually all 8 pounds released on-site in 2009 as the facility completes cleanup activities related to its chlor-alkali plant shutdown, down from a peak of 1,097 pounds reported in 2000. For 2010, this facility reported 0.16 pounds released on-site as the facility nears the end of its shutdown. The facility transferred off-site 0.40 pounds of elemental mercury in 2010 for disposal from the closure of this facility, down from a peak of 16,520 pounds in 2008. Occidental Chemical reported no mercury sent off-site for recycle in 2010, following 540,000 pounds in 2005-6, 2,000 pounds in 2008, and 21 pounds in 2009 as part of the facility shutdown activity started in November 2005.

FIGURE 16
2010 ON-SITE MERCURY RELEASES FROM DELAWARE FACILITIES



188 POUNDS REPORTED RELEASED ON-SITE

Figure 16 shows the percentage contributed by each of the facilities that reported a mercury or mercury compound release in 2010. Two facilities, Dentsply Caulk Lakeview and Intervet, were required to report because of mercury manufacture, process, or otherwise use activities, but did not have any on-site mercury releases to report for 2010. On-site release amounts for mercury and mercury compounds can also be found in Appendix F on page F-9 and Appendix I on page I-2.

Nationwide, the top three states releasing mercury and mercury compounds on-site for 2010 were: Nevada, 4,174,191 pounds mostly to land from several mining facilities; Alaska, 126,963 pounds mostly to land from several mining facilities; and Utah, 44.780 pounds mostly to land from two mining facilities. Delaware is #44 in the national rankings for on-site release of mercury and mercury compounds.

Carcinogenic TRI Chemicals

Some chemicals are reportable under TRI because they are human carcinogens. Table 12 shows those carcinogens that were reported by Delaware facilities for 2010. 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, or group of chemicals, with chemicals in both IARC 2A and 2B classifications. Of the 4.3 million pounds of TRI chemicals reported by facilities as released on-site to the environment in 2010, 3.7% (158,951 pounds) were known or suspected carcinogens. For additional information on cancer rates and causes, please go to the Department of Public Health cancer web site listed in the "For Further Information" section on page 60.

Carcinogen Trends, 2000-2010

Thirty-eight facilities reported on carcinogens for 2010, the same as for 2009. However, releases on-site of all carcinogens decreased 13% (23,645 pounds) compared to 2009 and have decreased 82% (698,000 pounds) since the peak in 1998. The number of carcinogen reports decreased by six to 70 in 2010, and the total number of reported carcinogenic chemicals decreased by two to 26. Additional information on lead and lead compounds is in the PBT section on pages 32-34, and in Appendix I. Additional carcinogen detail is in Appendix J.

TABLE 12
CARCINOGENS REPORTED BY DELAWARE FACILITIES FOR 2010

CHEMICAL NAME	IARC	NO. OF REPORTS
ARSENIC COMPOUNDS	1	3
BENZENE	1	3
CHROMIUM COMPOUNDS	1	4
ETHYLENE OXIDE	1	1
NICKEL COMPOUNDS	1	2
VINYL CHLORIDE	1	1
1,3-BUTADIENE	2A	0
4,4'-METHYLENEBIS(2-CHLOROANILINE)	2A	2
CREOSOTE	2A	0
POLYCHLORINATED BIPHENYLS	2A	1
TRICHLOROETHYLENE	2A	1
POLYCYCLIC AROMATIC COMPOUNDS*	2A,2B	11
COBALT COMPOUNDS	2A	1
DICHLOROMETHANE	2B	1
ETHYL ACRYLATE	2B	1
ETHYLBENZENE	2B	3
HEXACHLOROBENZENE	2B	1
LEAD	2B	4
LEAD COMPOUNDS	2B	11
NAPHTHALENE	2B	6
NICKEL	2B	3
NITROBENZENE	2B	1
P-CHLOROANILINE	2B	1
PROPYLENE OXIDE	2B	1
STYRENE	2B	2
TETRACHLOROETHYLENE	2B	1
TOLUENE DIISOCYANATE (MIXED ISOMERS	2B	3
VINYL ACETATE	2B	1
	TOTAL =	70

Source: 2010 DNREC TRI Database, October 2011

* Polycyclic aromatic compounds is a class that has chemicals with both 2A and 2B classifications.

Table 13 shows amounts released on-site from 2000-2010, and Figure 17 shows the trend, which has been generally down during this time period.

TABLE 13

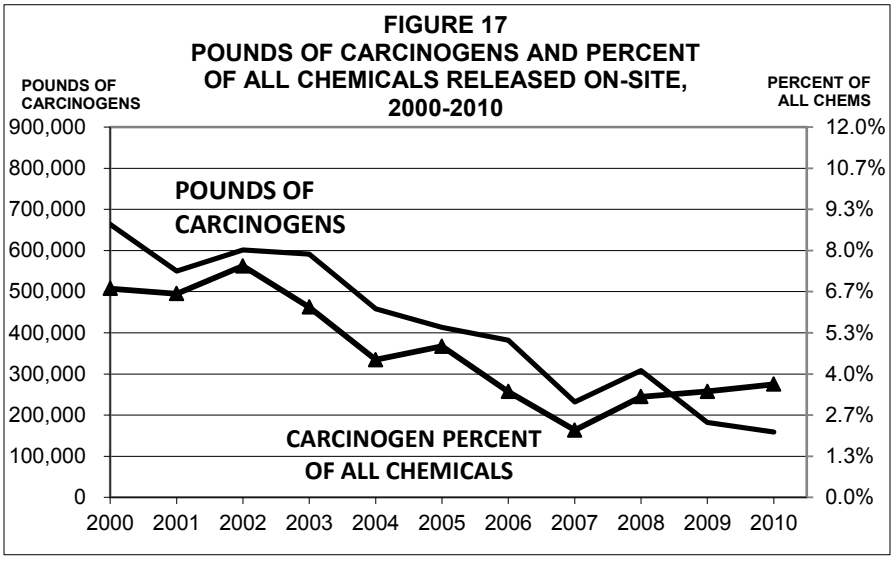
2000-2010 TRI CARCINOGENS

REPORTED ON-SITE RELEASES

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
KNOWN											
AIR	209,828	209,295	177,473	123,191	96,562	98,107	66,475	56,287	69,781	60,664	63,975
WATER	4,395	9,114	9,682	9,339	9,817	4,643	5,222	6,435	4,452	2,059	576
LAND	258,008	169,197	170,074	312,576	173,414	134,194	143,115	46,021	104,112	26,843	8,843
KNOWN TOTAL	472,231	387,606	357,229	445,106	279,793	236,944	214,812	108,743	178,345	89,567	73,394
PROBABLE											
AIR	55,418	44,326	35,581	24,216	27,417	23,600	18,946	18,628	14,604	11,112	13,964
WATER	0	0	0	4	4	4	4	4	5	5	1
LAND	0	0	0	0	0	0	0	8,212	8,661	7,115	615
PROBABLE TOTAL	55,418	44,326	35,581	24,220	27,421	23,604	18,950	26,845	23,270	18,232	14,580
POSSIBLE											
AIR	135,946	91,851	189,296	98,699	99,543	104,480	102,414	70,722	77,436	56,817	64,270
WATER	271	4,873	2,109	1,431	2,308	3,416	1,544	1,655	1,170	522	1,177
LAND	40	21,607	17,475	21,714	49,266	44,500	44,251	24,005	28,203	17,459	5,404
POSSIBLE TOTAL	136,257	118,331	208,880	121,844	151,117	152,396	148,210	96,382	106,809	74,798	70,851
TOTAL AIR	401,192	345,472	402,350	246,106	223,522	226,188	187,836	145,637	161,821	128,593	142,209
TOAL WATER	4,666	13,987	11,791	10,773	12,129	8,062	6,770	8,094	5,627	2,586	1,755
TOTAL LAND	258,048	190,804	187,549	334,290	222,680	178,694	187,366	78,238	140,976	51,417	14,862
GRAND TOTAL	663,906	550,263	601,690	591,169	458,331	412,943	381,972	231,970	308,424	182,596	158,826

Source: DNREC TRI 2010 Database, October 2011

FIGURE 17
POUNDS OF CARCINOGENS AND PERCENT OF ALL CHEMICALS RELEASED ON-SITE, 2000-2010



For 2008-2010, the rate of decrease in total on-site chemical release has been greater than the rate of carcinogen decrease. Although the pounds of carcinogen releases have declined, the total chemical release has declined faster and the carcinogen percent of total chemicals reported as released on-site has increased slightly.

For 2010, on-site releases of all carcinogens are down 13%, or 23,645 pounds. Figure 18 shows a trend of each of the category releases by media and the total reported carcinogen release. As in Figure 17, the general trend has been down. Releases to air and land largely influenced the total, depending on the year, while releases to water play a much smaller part.

Known Carcinogens

Known Carcinogens, although smallest in number of chemicals and having the least number of reports, is significant because of its high toxicity classification and also because of the three carcinogen categories, it reports the largest amount of on-site releases. Figure 19 shows the trend of each of the three carcinogen groups and their effect on the total on-site release. On-site releases of known carcinogens are down 16,000 pounds (18%) since 2009, largely a result of declines in on-site releases of chromium compounds in ash to the on-site landfill at the Indian River Power Plant, and in the release of benzene to air at the Delaware City Refinery. These declines were partially offset by increases in release to air for vinyl chloride at Formosa Plastics.

FIGURE 18
RELEASES TO AIR, WATER, AND LAND
ALL CARCINOGENS

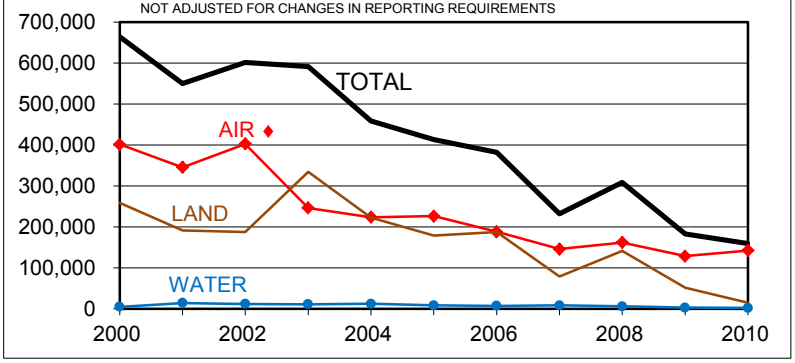
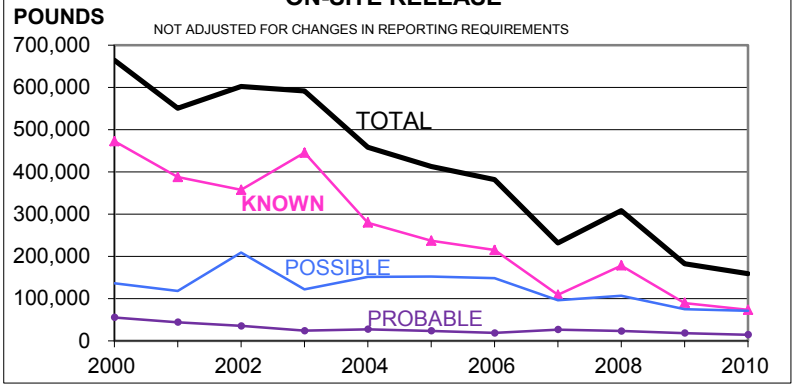


FIGURE 19
TOTAL TRI CARCINOGEN
ON-SITE RELEASE



About 87% of the total known carcinogen amount was reported released on-site to air, 12% to land, and 1% to water for 2010. Releases to air of known carcinogens are 45% of all carcinogen on-site releases to air, and 40% of all carcinogen releases. Reported releases to air of known carcinogens increased by 5.5% (3,300 pounds) in 2010 and are now at 30.6% of the amount reported in 1998. Vinyl chloride, with a total release to air of 56,000 pounds and only reported by Formosa Plastics, is highest in total releases in the known carcinogen category. It is responsible for the increase in known carcinogen releases to air for 2010, increasing by 12,400 pounds, or 28%. Vinyl chloride contributed 88% of the known carcinogen category releases to air in 2010, 39% of all carcinogen releases to air, and 35% of carcinogen total on-site releases in 2010. The second highest known carcinogen and highest known carcinogen released to land in 2010 was chromium compounds. Releases to land of known carcinogens are 60% of all carcinogen on-site releases to land. Coal combustion produces ash, which contains chromium compounds. Chromium compounds, 91% of which were released to land at 8,558 pounds, were reported mostly by The Indian River Power Plant.

Benzene, largely released to air, and all from the Delaware City Refinery and Sunoco, has declined 92% from 58,000 pounds in 1995 (from the Delaware City refinery and the now closed Metachem facility) to 4,707 pounds in 2010. Benzene, third highest of the known carcinogens, made up 23% of the known carcinogen releases to air for 1995 but only 7.4% for 2010.

Ethylene oxide, all of which was released to air (2,475 pounds), ranks fourth in total on-site releases in the known carcinogen category. Croda reported all of the ethylene oxide releases on-site for 2010, up from 1,495 pounds reported for 2009.

Nickel compounds ranks fifth in total on-site releases in the known carcinogen category at 541 pounds. The Dupont Edge Moor and Evraz Claymont Steel facilities reported nickel compounds released for 2010. Releases to air (5%), water (42%), and land (53%) were reported by these two facilities. Nickel compounds contributed 39% (227 pounds) of all the known carcinogen releases to water (576 pounds), with chromium compounds contributing 48% (277 pounds) released to water.

Probable Carcinogens

The probable carcinogen on-site release total decreased by 3,651 pounds (20%) for 2009-2010 and is now at 14,580 pounds. This is the smallest amount of the three carcinogen categories. Probable carcinogens are now at 26% of the 2000 amount. The majority (96%) of the 14,580 pounds of the four probable carcinogens reported was released to on-site air, while 4% was released to land during 2010. Almost all (99%) of the releases to air were trichloroethylene reported by Camdel Metals The trend for trichloroethylene release increased 4,371 pounds (46%) from 2009-2010 with the Camdel Metals production increase, but has declined 53% from 1995-2010, down from 29,332 pounds in 1995 to 13,847 pounds in 2010. An amount for 1,3,-butadiene, once reported by the Delaware City Refinery and Dow Reichhold, was not reported in Delaware for 2010, down from the 72,439 pounds reported in 1995. Polycyclic aromatic compounds was the only other probable carcinogen reported with any significant release. The 733 pounds released to air and land, mostly from the DuPont Edge Moor facility, made up 5% of the total releases for this category.

Possible Carcinogens

This category has the most chemicals and reports, but is second to the known carcinogen category in on-site release amounts. About 90% of the total possible carcinogen amount is reported as released on-site to air, 8% to land, and 2% to water. The trend for 2010 is down by 5.3%, or 4,000 pounds. The highest chemical release in this category is vinyl acetate at 46,028 pounds, all of which was reported released to air by Formosa Plastics. Reported on-site releases of vinyl acetate increased by 14,085 pounds (44%) for 2010.

Styrene is the second highest release in the possible carcinogen category. For 2010, Justin Tanks reported 13,464 pounds, down from 16,680 pounds reported for 2009, and 98% of the total styrene release for 2010. The other producer reporting styrene was BASF Seaford with 357 pounds. Reported styrene releases for 2010 declined by a total of 3,234 pounds (19%). Former reporters of styrene, Dow Reichhold, closed in 2008, while the Delaware City Refinery and The Marble Works were below the threshold for reporting for 2010.

Lead compounds was the third highest on-site release of a possible carcinogen, with 7,678 pounds released on-site, a reduction of 11,239 pounds, or 59% compared to 2009. The Indian River Power Plant reported the highest release, 5,347 pounds to land and 401 pounds released to air, followed by the Calpine Edge Moor/Hay Road Power Plants, reporting 176 pounds released to air and 1,040 pounds released to water.

Naphthalene is the fourth highest amount of possible carcinogens released, with 849 pounds reported released on-site. All but 5 pounds were released to air, and 661 pounds of the releases were from the Delaware City Refinery. The remainder was from the Dover Air Force Base (183 pounds), Sunoco (3 pounds), and INVISTA (2 pounds).

As before, in ***Limitations of TRI Data*** on Pages 4-5, we urge caution when using this data, as **the TRI data does not indicate the amount, if any, of human exposure**.

Discussion about specific facilities and their releases can be found on pages 18-31 in the Top 15 Facilities section.

Trend Analysis

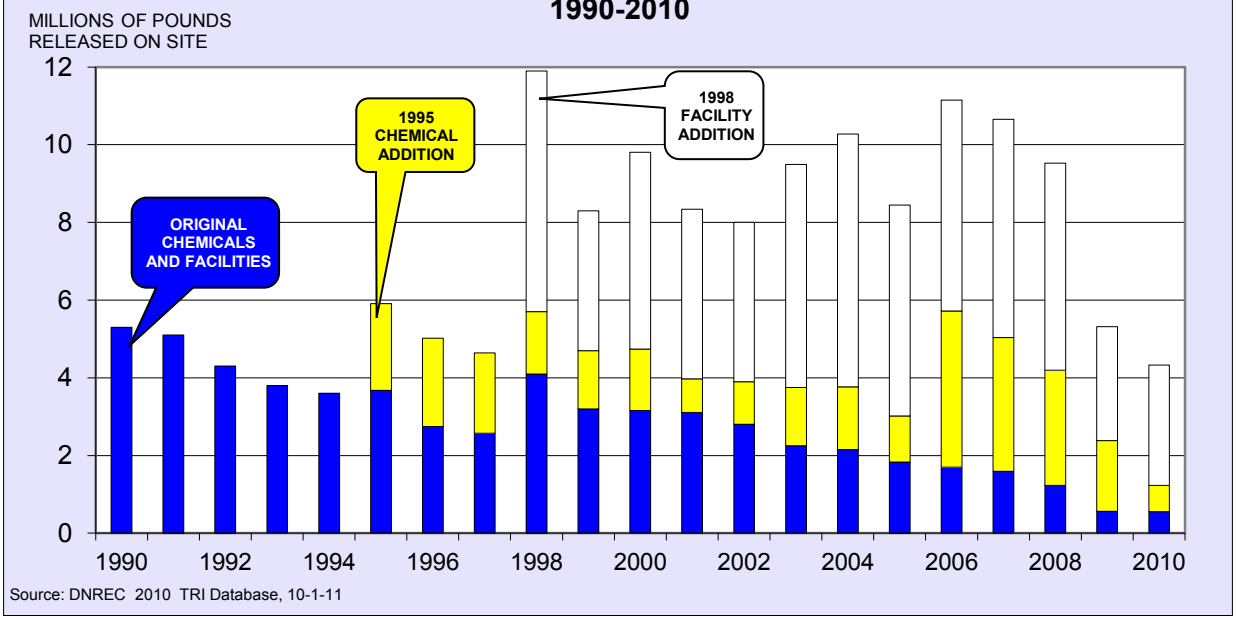
Effect of Chemical and Facility Group Additions, 1990-2010

Significant groups of chemicals and facilities were added to the TRI program at two times:

- **Chemical List Changes - 1995**
  For reporting year 1995 and beyond, the EPA significantly expanded the list of chemicals. The list increased by 282 chemicals and chemical categories, added to the original list of 238 chemicals. Also during 1989-1995, other chemicals and categories were added or deleted, including chemical categories which are highly persistent and bioaccumulative in the environment (PBTs), bringing the total chemical count to 581 and the chemical category count to 30. See page 32 for details on the PBT chemical reports.
- **Industry Expansion - 1998**
  Beginning with the 1998 reporting year, the EPA added seven industries to the list of facilities covered under TRI. Prior to the 1998 reporting year, only manufacturers (SIC codes 2000-3999) and Federal facilities were required to report (see Table 1 on page 3). The greatest impact to Delaware is the Electric Utilities (NAICS 221). The industry expansion significantly increased the amount of reported releases. This did not necessarily represent an increase in toxic releases in Delaware, but rather provided additional information to the public. Other smaller groups, or even individual chemicals, were also added or deleted over this time.

Figure 20 shows these effects starting in 1990 and following the trend of each group since it was added to the TRI program. Data from the beginning of the TRI program in 1987-89 is excluded because reporting requirements changed significantly and a valid comparison of this data with later data is not feasible.

FIGURE 20
EFFECT OF CHEMICAL AND FACILITY GROUP ADDITIONS
1990-2010



Source: DNREC 2010 TRI Database, 10-1-11

The trend of each group and the reports affecting the trends will be discussed in this Trend Analysis section. All groups show generally decreasing trends over time, with increases and decreases reflecting both changes in business conditions and improvements in analysis. Table 14 shows the amount reported in millions of pounds for each group at the time it was added, the 2010 reported amount, and the amount of change since the time it was added. If each group had remained constant at the time of its addition, amounts reported for 2010 would be 13.73 million pounds instead of the 4.33 million pounds actually reported for 2010. This is the first year that the total on-site releases for all three groups have been less than the amount reported by original chemicals and facilities for 1990. Because of several factors, including facility efforts to reduce pollution, increased regulation, shutdown of facilities, and declining business conditions, the reporting facilities in Delaware have effected a reduction of 9.40 million pounds, or 68%, in their reported TRI chemical releases since 1990.

TABLE 14
TREND OF ON-SITE RELEASES FOR CHEMICAL AND FACILITY ADDITIONS

GROUP	STARTING YEAR AMOUNT Millions of Pounds	2010 AMOUNT Millions of Pounds	CHANGE SINCE STARTING Millions of Pounds	PERCENT CHANGE
Original Facilities and Chemicals	5.30	0.56	- 4.74	-89%
1995 Chemical Addition	2.23	0.67	- 1.56	-70%
1998 Facility Addition	6.20	3.10	- 3.10	-50%
TOTAL	13.73	4.33	- 9.40	-68%

Business conditions have played an especially strong role in the 2009 and 2010 declines in on-site releases, as the reported Production Indexes (PI) for most of the top 15 facilities were lower in 2009 than for 2008. Facility closings in 2009 accounted for only 191,000 pounds of the change, and other factors, such as increased pollution control at the facilities, were at work in effecting a much larger reduction in TRI waste in general, and in on-site releases in particular. Production does not translate directly into releases, because some facilities may have releases during times of no production when pollution control systems such as wastewater treatment continue to operate. This was true for the Delaware City Refinery, as it was shut down for all of 2010, yet reported on-site releases of 432,000 pounds, down from the 1,596,000 pounds reported for 2009. The refinery has re-started, and on-site releases may increase for 2011. However, some facilities may be able to incrementally increase production with no increase in releases because of increased pollution control efforts that occur at the same time.

Release and Waste Management Trends, 2000-2010

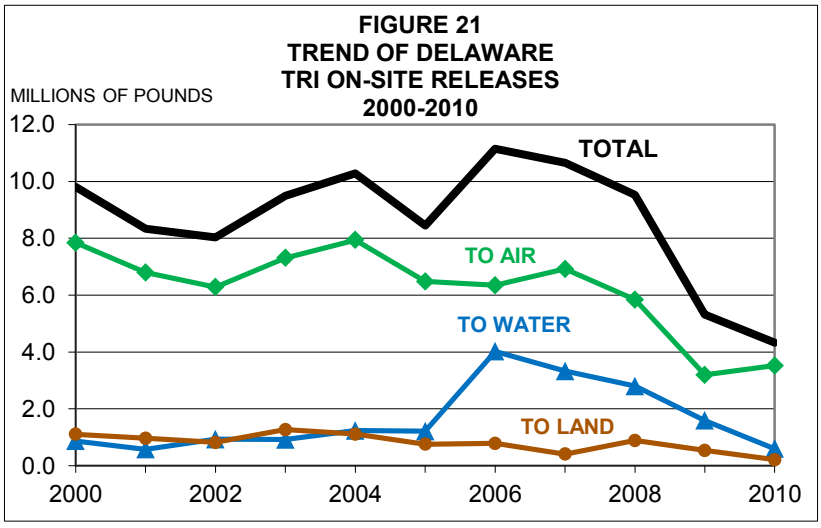
TRI data is available back to 1987, the first year of the TRI program. Changes in reporting requirements over time have caused an increase both in the number of chemicals and in the number industries subject to reporting. As explained above and on page 5, significant changes to the TRI reporting requirements occurred in 1995, 1998 and 2000, when large increases in chemicals (1995), industries subject to reporting (1998), and reductions in PBT thresholds (2000) occurred. **This section shows all reporting results including these additions.** Comparison of this data with earlier data must be done carefully, as some chemicals and/or industries may not have been required to report over the entire time.

The analysis presented in this section uses 2000 as a base year for presenting trends for all reportable chemicals and facilities, and is **not adjusted** for any changes in reporting requirements. Figure 21 shows the on-site release trends during 2000-2010, and Table 16 on page 48 shows amounts reported for each of the last 10 years.

On-Site Releases, 2000-2010

On-site releases include emissions to the air, discharges to bodies of water, and releases at the facility to land, including on-site landfills. On-site release amounts decreased 19% (991,000 pounds) since 2009. Figure 21 shows the trend of on-site releases since 2000.

FIGURE 21
TREND OF DELAWARE
TRI ON-SITE RELEASES
2000-2010



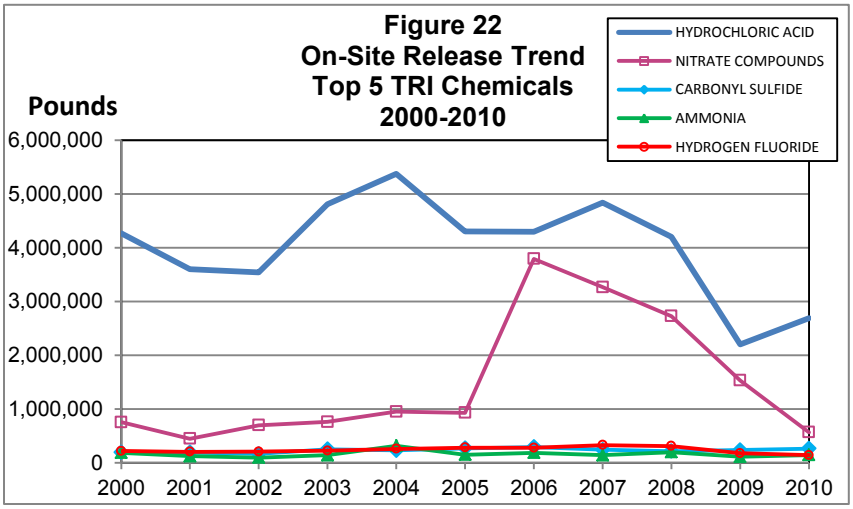
Significant changes in the amounts reported for 2009-2010 include the facilities and chemicals shown in Table 15 below. To put the changes in perspective for 2010, there were 75 reports with a higher amount, but 101 reports with a lower amount. There were six reports with an increase greater than 10,000 pounds, but 20 reports with a decrease greater than 10,000 pounds.

TABLE 15
REPORTS OF MAJOR CHANGES IN ON-SITE RELEASES for 2010

FACILITY	CHEMICAL	MEDIA	CHANGE IN ON-SITE RELEASES (pounds)
Delaware City Refinery	Nitrate compounds	Water	-956,000
Edge Moor/Hay Rd. Power Plants	Hydrochloric acid	Air	-232,000
Indian River Power Plant	Barium compounds	Land	-211,000
Delaware City Refinery	Sulfuric acid	Air	-82,000
Mountaire Farms of Delaware	Ammonia	Land	+17,000
Indian River Power Plant	Ammonia	Air	+34,000
DuPont Edge Moor	Carbonyl sulfide	Air	+49,000
Indian River Power Plant	Hydrochloric acid	Air	+789,000

Some of these changes (higher or lower) like the changes in hydrochloric acid amounts may have been caused by normal year-to-year variations in production levels at the facility or in the chemical content of raw materials, or by the new Delaware Regulation 1146, which started to take effect in 2009. Some changes may also have been caused by improvements in the way facilities estimate amounts. Changes in the reports shown in Table 15 above are the primary reason for the reduction in the totals for 2009-2010. Changes are also discussed in the Top 15 Facility Profiles and Facilities No Longer Reporting sections on pages 18-31. In addition, you may contact the facility (Appendix B) for a more in-depth discussion of the reasons for specific changes, and consult the appendices for the exact amounts that were reported.

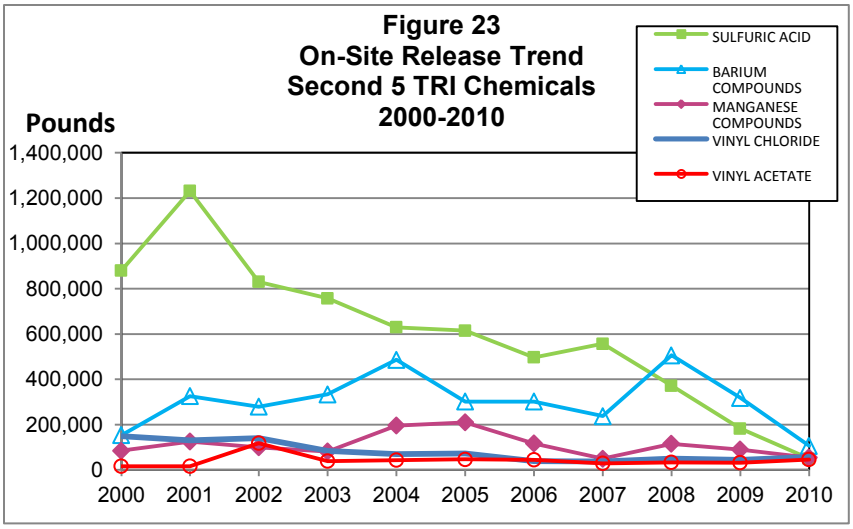
Figure 22 shows the trend since 2000 for the top five chemicals based on on-site release amounts reported for 2010 in Delaware. These five chemicals represent 88% of all on-site releases from the 79 chemicals reported. You can see that the trends for hydrochloric acid and nitrate compounds have trended down significantly since 2006. Reported releases of nitrate compounds peaked in 2006, when the Delaware City refinery started using a more accurate method for measuring its nitrate compound releases. As a group, on-site releases from these five chemicals are down 57% since 2006.



Part of the reason for the downward trend in hydrochloric acid is Delaware Regulation 1146, which began to be implemented in 2009 at the electric generating facilities (see pages 19 and 24, and page L-7 in Appendix L for details). Another reason for the change in on-site releases for many chemicals is that the economy, which affects production at the facilities and ultimately many of their on-site releases, has declined in recent years and indirectly caused part of the reduction. This effect is discussed later in this report on page 57 in the *TRI and the Economy* section.

Figure 23 shows the trend of the second five chemicals (6-10), again showing the downward trends for most of these chemicals. As a group, on-site releases from these chemicals are down 69% since 2006, with sulfuric acid and barium compounds providing most of the reductions during this time. These five chemicals represent 7% of all on-site releases from the 79 chemicals reported for 2010.

Figure 23
On-Site Release Trend
Second 5 TRI Chemicals
2000-2010



Eleven of the chemicals ranked in the remaining 15 of the top 25 chemicals also show downward trends with reductions ranging from 19% to 78%. The remaining four chemicals in this group showed increases of 4% to 100%. However, the total of all 69 chemicals not in the top 10 reported for 2010 represents only 5% of total on-site releases.

TABLE 16
2000-2010 TRI DATA SUMMARY
(IN POUNDS)

NOT ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS

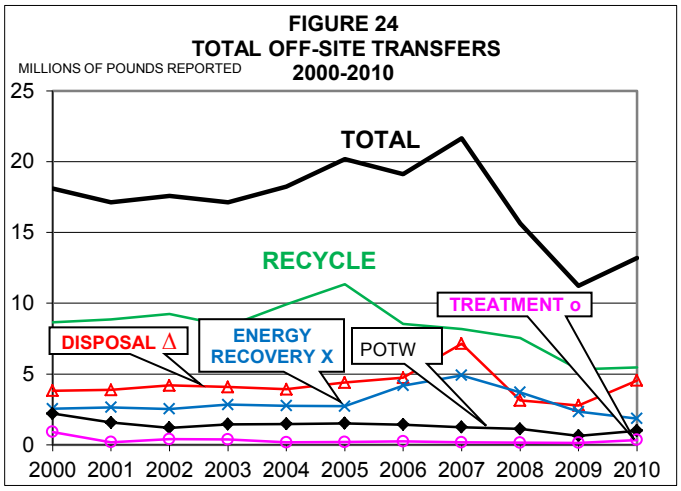
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
No. of Facilities	80	82	83	85	74	73	70	69	69	63	61
No. of Form As	61	57	55	55	52	53	45	44	31	29	31
No. of Form Rs	310	316	317	327	310	294	287	295	288	226	196
No. of Chemicals	109	104	106	103	103	103	101	102	100	90	79
On-Site Releases											
Air	7,841,017	6,796,684	6,281,850	7,308,283	7,935,921	6,478,578	6,341,764	6,920,245	5,840,142	3,194,351	3,520,119
Water	866,312	573,937	928,813	918,650	1,231,061	1,211,798	4,022,175	3,327,675	2,796,686	1,590,477	600,283
Land	1,103,632	965,666	814,385	1,268,396	1,111,392	752,894	781,701	406,188	885,976	537,489	210,747
Unadjusted On-Site Releases	9,810,961	8,336,287	8,025,048	9,495,329	10,278,374	8,443,270	11,145,640	10,654,109	9,522,805	5,322,317	4,331,149
Off-site Transfers											
POTWs	2,199,807	1,575,732	1,201,161	1,452,241	1,466,469	1,514,575	1,421,647	1,243,125	1,117,335	636,602	996,970
Recycle	8,649,678	8,845,326	9,248,730	8,376,865	9,910,935	11,345,835	8,534,537	8,181,423	7,535,371	5,334,458	5,469,246
Energy Recovery	2,543,840	2,642,626	2,538,090	2,834,075	2,755,903	2,724,080	4,180,596	4,910,600	3,707,411	2,336,579	1,857,131
Treatment	901,604	183,567	398,572	370,950	174,893	194,679	237,073	171,044	150,297	140,248	336,190
Disposal	3,816,862	3,878,689	4,196,691	4,084,899	3,919,638	4,400,538	4,739,232	7,145,314	3,129,281	2,785,524	4,546,552
Total Transfers	18,111,791	17,125,940	17,583,245	17,119,029	18,227,837	20,179,707	19,113,085	21,651,506	15,639,694	11,233,412	13,206,088
On-Site Waste Mgmt.											
Recycle	31,188,694	24,133,885	25,033,817	22,404,667	8,772,135	10,079,028	10,594,593	10,945,896	10,870,477	5,630,119	7,678,337
Energy Recovery	29,095,221	25,863,740	15,740,469	16,323,700	23,440,027	19,624,524	17,937,031	20,387,061	20,932,200	14,670,034	0
Treatment	64,404,879	40,734,134	33,392,650	30,443,585	31,807,455	38,330,991	39,516,068	39,879,302	42,281,742	38,179,139	32,895,795
Total On-Site Mgmt.	124,688,794	90,731,759	74,166,935	69,171,952	64,019,617	68,034,543	68,047,692	71,212,259	74,084,419	58,479,292	40,574,132
Total Waste	152,611,546	116,193,986	99,775,229	95,786,309	92,525,828	96,657,520	98,306,417	103,517,874	99,246,918	75,035,020	58,111,368

NOT ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS

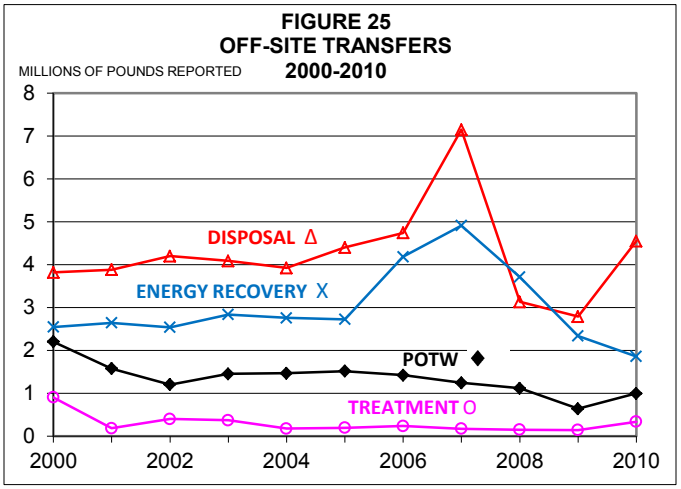
SOURCE: DNREC 2010 DATABASE, OCTOBER 2011

Off-Site Transfers, 2000-2010

An off-site transfer is a transfer of toxic chemicals in wastes to another facility that is physically separate from the reporting facility and may even be out-of-state. Chemicals are reported as transferred to an off-site facility when they are transported away from the reporting facility for the purposes of treatment at a publicly-owned treatment works (POTW), recycle, disposal, energy recovery, or non-POTW treatment facility. Although the off-site transfers may be of less immediate local concern than on-site releases, the transfers to POTWs, treatment, and disposal still represent toxic chemicals in wastes that must be ultimately accounted for.



As noted on page 11 and seen in Table 16 on page 48, the amounts reported as transferred off-site are over three times greater than the amounts of on-site releases. Figures 24 and 25 show the trends in amounts of TRI chemicals in wastes transferred off-site for all facilities and chemicals reporting since 2000. To increase clarity, the lower portion (0 - 8 million pounds) of Figure 24 is expanded in Figure 25. For comparison, please look at the corresponding values in Table 16. Off-site transfers increased 18% (1.97 million pounds) in 2010, driven by increases in amounts sent off-site for disposal, non-POTW treatment, and treatment at POTWs.



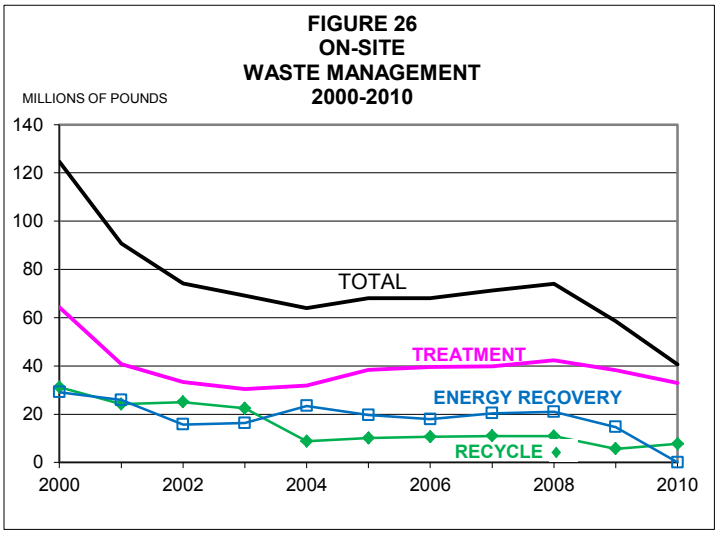
As shown in table 17 below, the largest decrease was in lead compounds recycled by Johnson Controls and toluene sent off-site for energy recovery at Noramco. BASF Newport reported the largest increase in POTW treatment, for methanol, of 318,000 pounds. Evraz Claymont Steel sent off-site for recycle 912,000 more pounds of zinc compounds, and DuPont Edge Moor sent off-site 1,780,000 more pounds of manganese compounds for disposal in 2010, compared to 2009. Sixty-three reports showed decreases, while 66 reported increases for 2010.

TABLE 17
MAJOR CHANGES IN OFF-SITE TRANSFERS FOR 2010

FACILITY	CHEMICAL	OFF-SITE METHOD	CHANGE (pounds)
Johnson Controls	Lead Compounds	Recycle	-920,000
Noramco	Toluene	Energy Recovery	-357,000
BASF Newport	Methanol	POTW	+318,000
Evraz Claymont Steel	Zinc Compounds	Recycle	+912,000
DuPont Edge Moor	Manganese Compounds	Disposal	+1,780,000

On-Site Waste Management, 2000-2010

In some facilities, wastes are managed on-site instead of being sent off-site for processing or disposal. On-site waste management (recycle, recovered for energy, or treated at the facility) is the processing of chemicals in wastes that do not leave the site of the reporting facility.



Although these amounts represent a loss of raw materials and/or finished product to the facility as waste, they are not as much of a threat to the environment as the other on-site release categories since these amounts are treated or recycled and not disposed of or released on-site. There is, of course, the risk that these chemicals may be released accidentally on-site to the environment during the waste management process. Also, most waste management operations are not 100% efficient, so a portion of the waste being treated in these operations will be released on-site and must be accounted for in the on-site releases reported by the treatment facility. Figure 26 shows the trends for the on-site waste management activities since 1998. The decrease (27%) in 2001 was due to several reported decreases, ten each of over one million pounds and five of those over 5 million pounds, including formaldehyde, methanol, MTBE, zinc compounds, and hydrochloric acid. Recent changes have been less dramatic, although the total on-site waste management amount did decrease by 17.9 million pounds, or 31%, for 2010. The top three reports of reductions were from the idle Delaware City Refinery. The refinery was the only facility to report energy recovery amounts for 2009; it did not report any energy recovery activity for 2010 because it was idle.

Changes greater than one million pounds reported in on-site waste management for 2010 are:

TABLE 18
MAJOR CHANGES IN ON-SITE WASTE MANAGEMENT FOR 2010

FACILITY	CHEMICAL	ON-SITE WASTE MANAGEMENT METHOD	AMOUNT OF CHANGE (pounds)
Delaware City Refinery	Ammonia	Energy Recovery	-11,000,000
Delaware City Refinery	Carbonyl Sulfide	Treatment	-7,800,000
Delaware City Refinery	Carbon Disulfide	Energy Recovery	-3,200,000
Indian River Power Plant	Ammonia	Treatment	-1,100,000
Rohm & Haas B2 B3 B8	N,N-Dimethylformamide	Recycle	+1,400,000
DuPont Edge Moor	Phosgene	Treatment	+1,800,000
DuPont Edge Moor	Hydrochloric Acid	Treatment	+3,900,000

These changes were balanced by smaller increases and decreases from other reports. Twenty-four reports showed an increase in a waste management amount, while 43 reports showed a decrease for 2010. Total pounds for on-site waste management decreased by 79 million pounds, or 66%, since 1998. The on-site waste management amount totals are in Table 16 on page 48, and Figure 6 on page 12 shows the relative amounts.

Receiving TRI Chemicals in Wastes

When a facility transfers TRI chemical waste off-site, these wastes go to a receiving facility. Table 19 shows the total amounts of TRI chemicals reported as sent to Delaware facilities from both in-state and out-of-state TRI facilities, for 2010. None of these receiving facilities in Delaware are required to report to the TRI program based on the reporting requirements shown on pages 2-4. Historically, few TRI facilities in Delaware receive wastes from other TRI facilities. The DNREC TRI program does not receive reports from any out-of-state TRI facilities that transfer wastes into Delaware. This data was obtained from the EPA.

TABLE 19

SUMMARY OF REPORTED TRI TRANSFERS

TO DELAWARE FACILITIES

FROM OTHER TRI FACILITIES IN 2010

(IN POUNDS)

DELAWARE RECEIVING FACILITY	TOTAL TRANSFERS TO DELAWARE FROM DELAWARE TRI FACILITIES	TOTAL TRANSFERS TO DELAWARE FROM OUT-OF-STATE TRI FACILITIES	TOTAL TRANSFERS RECEIVED BY DELAWARE FACILITIES
CLEAN EARTH OF DELAWARE		1,219	1,219
CORRADO AMERICAN	410		410
CREATIVE FLOORS		42	42
DELAWARE RECYCABLE PRODUCTS	14,691		14,691
DIAMOND STATE RECYCLING CORP.	455		455
DSWA CHERRY ISLAND LANDFILL	70		70
DSWA PIGEON POINT LANDFILL		8	8
DSWA GEORGETOWN LANDFILL	13		13
DSWA SANDTOWN LANDFILL	762		762
DUPONT EXPERIMENTAL STATION		10,053	10,053
FCC ENVIRONMENTAL	159	32,070	32,229
INDIAN RIVER LANDFILL	81		81
INDUSTRIAL RESOURCE NETWORK		250	250
KENT COUNTY WASTEWATER TREATMENT PLANT	76,899		76,899
KENT SCRAP METAL	80,451		80,451
NEW CASTLE WATERWATER TREATMENT PLANT	62,846		62,846
PIGEON POINT LANDFILL	1,163		1,163
SEAFORD WASTEWATER TREATMENT PLANT	1,024		1,024
VFL TECHNOLOGY CORP.	5,024	906	5,930
WILMINGTON WATERWATER TREATMENT PLANT	850,508	38	850,545
TOTAL TRI TRANSFERS REPORTED	**1,094,555**	**44,586**	**1,139,141**

Source: U.S. EPA 2010 Data Run, August 19, 2011

The top receiving facility is the Wilmington Wastewater Treatment Plant, receiving TRI chemicals in wastewater from regional customers. Kent Scrap Metal received the second largest amount, for recycle, from one Delaware customer. The Kent County Wastewater Treatment Plant (WWTP) received the third highest amount, from two facilities in Kent County. The fourth largest amount transferred to a Delaware facility was to the New Castle Wastewater Treatment Plant, receiving TRI chemicals for treatment from two facilities in the county. FCC Environmental in Wilmington received the fifth highest amount, from a variety of petrochemical and electric generating facilities. The sixth largest transfer amount was to Delaware Recyclable Products, receiving mostly metal compounds from three Delaware facilities. These six receiving facilities accounted for 98% of all TRI chemicals received in Delaware from all in-state and out-of-state TRI facilities.

Pollution Prevention/Reduction Programs in Delaware

Data for TRI reportable chemicals and other chemicals is becoming increasingly more available to the public. This data availability has focused public attention and awareness 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 are aware of the public availability of the data in this and other EPCRA reports and have implemented programs to reduce or eliminate releases of these chemicals. These programs may take the form of efficiency improvements, reuse, recycle, energy and material 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's 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 and identified prior to issuance of a permit. For example, the Engineering and Compliance Branch in the Division of Air Quality 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. In addition, the Engineering and Compliance staff monitors TRI data to assess whether a facility complies 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 deficiencies at a facility that might result in an increased risk of an accidental release.

The Solid and Hazardous Waste Management Section 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. During 2010, DNREC's Division of Air Quality monitored ambient air quality at ten locations around the State. For more information, please refer to the Delaware Air Quality Report paragraph in the For Further Information section on page 60 of this report.

In 2006, Delaware promulgated Regulation 1146, Electric Generating Unit (EGU) Multi-Pollutant Regulation, to establish sulfur dioxide (SO_2), nitrogen oxides (NOx), and mercury (Hg) air emissions limitations for coal-fired and residual oil-fired EGUs located in Delaware. Regulation 1146 established two phases of emissions limitations, with the first phase becoming effective in 2009, and a more restrictive second phase of emissions limitations becoming effective in 2013. Reductions in NOx, SO_2 and Hg emissions have been achieved by the Delaware EGUs subject to Delaware Regulation 1146, and full compliance with the Regulation's more restrictive second phase emissions limitations for 2013 is anticipated.

The reduction in NOx, SO_2, and mercury emissions is:

1. Reducing the impact of those emissions on public health;
2. Aiding in Delaware's attainment of the State and National Ambient Air Quality Standard (NAAQS) for ground level ozone and fine particulate matter;
3. Helping to address local scale fine particulate and mercury problems attributable to coal and residual oil-fired electric generating units;
4. Improving visibility and helping to satisfy Delaware's EGU-related haze obligations.

In May 2011, the EPA proposed its "National Emissions Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units". The EPA is expected to finalize the proposed rule in December 2011, which will include emissions limits that will be fully effective in 2016. When finalized, the EPA's proposed rule will:

1. Reduce the emissions of hazardous air pollutant (HAP) metals such as mercury (Hg), arsenic (As), nickel (Ni), cadmium (Cd), chromium (Cr), lead (Pb) and selenium (Se).
2. Reduce the emissions of acid gasses including hydrogen chloride (HCl) and hydrogen fluoride (HF).
3. Reduce the emissions of particulate matter.

National Perspective

The national 2010 TRI data analysis was recently released by the EPA. Placing the 2010 Delaware reports alongside the 2010 EPA reports yields some rankings that provide a perspective for Delaware in the national TRI picture. Changes in the 2010 national values because of report revisions may change these rankings.

This data shows that Delaware ranks 44th in the nation in total on-site releases by state for all TRI chemicals. This is 0.12% of the total on-site release amounts nationwide. Rankings can also be based on other criteria. Because Delaware has a small population (#45) and area (#49), releases are spread over fewer people and a smaller area, increasing the ranking on a per-person or per-square mile basis.

TABLE 20
RANKING OF ON-SITE RELEASES FOR SELECT STATES

State	Rank, Based on Pounds	Total On-Site Release (Pounds)	Rank, Based on Release Per Person	Rank, Based on Pounds Release Per Square Mile
Alaska	1	835,475,264	1	15
Nevada	2	477,815,982	2	1
Utah	3	210,791,176	3	4
Texas	4	185,588,416	24	23
Delaware	44	4,331,149	32	8

The reported totals for seven states were each over 100 million pounds in 2010.

Figure 27 shows the amounts of TRI on-site releases reported by states in the region for 2010. This figure shows the amounts of on-site releases reported by four nearby states. Pennsylvania reported 68,036,367 pounds of TRI chemicals released on-site for 2010. All these states showed decreases in their reported on-site release amounts since 2009, led by Maryland with a 60.4% decline.

FIGURE 27
TOTAL TRI ON-SITE RELEASES
DELAWARE AND NEARBY STATES

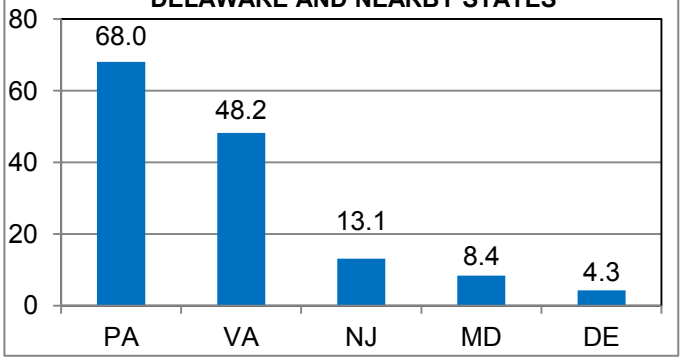


Table 21 shows that 94 facilities had more **total on-site releases** than all the facilities in Delaware combined.

TABLE 21
SELECT FACILITY TOTAL ON-SITE RELEASES COMPARED TO DELAWARE

Facility, State	Rank	Total On-Site Release (Pounds)
Red Dog Operations, Alaska	1	777,395,653
Newmont Copper Canyon Mine, Nevada	2	208,126,257
Newmont Mining, Golconda, Nevada	3	169,175,459
All Facilities Combined, Delaware	95	4,331,149

Thirteen facilities each reported over 20 million pounds released on site in 2010.

Nationwide, forty-one facilities each released more **dioxins* on-site** than all the facilities in Delaware combined.

TABLE 22
COMPARISON OF DIOXIN TOTALS FOR SELECT FACILITIES TO DELAWARE TOTAL

Facility, State	Rank	Total On-Site Dioxin Release (Grams)
Westlake Vinyls, Kentucky	1	14,144.60
US Magnesium, Utah	2	8,158.14
Dow Chemical, Texas	3	7,562.02
All Facilities Combined, Delaware	42	8.88

Fourteen facilities each reported over 50 grams on dioxins* released on site in 2010 and five of these released over 1,000 grams.

* See pages 3, 5, 23, 32-36 for notes on "Dioxins." The amounts reported do not differentiate between the highly toxic and the less toxic dioxins and dioxin-like compounds in this group.

Table 23 shows that eleven states had more **total production of dioxins** (total on-and off-site release and disposal) than Delaware.

TABLE 23
COMPARISON OF DIOXIN TOTAL PRODUCTION AND ON-SITE RELEASES FOR SELECT STATES

State	Total Prod. Rank	Total Production of Dioxins, Grams	On-Site Dioxin Release or Disposal - Grams (On-Site Rank)
Kentucky	1	17,142.16	14,230.55 (1)
Texas	2	13,826.13	7,674.33 (3)
Utah	3	8,212.26	8,190.02 (2)
Ohio	4	7,292.99	7,184.63 (4)
Delaware	**12**	**252.98**	**8.88 (38)**

Nationwide, for on-site release of **dioxins***, Delaware ranked #38 based on grams weight.

* Delaware total dioxin production was #12 for 2010, largely based on the report from the DuPont Edge Moor facility. Almost this entire amount (243.99 grams) was transferred off-site to a permitted out-of-state landfill. For more information, read the DuPont Edge Moor facility profile on pages 22-23.

Some facilities in Delaware do rank near the top of the national rankings for specific releases. **Formosa Plastics** ranks #2 for on-site release of vinyl chloride and #10 for on-site release of vinyl acetate. **DuPont Edge Moor** facility ranks #9 for off-site transfer to disposal of dioxin and dioxin-like compounds, #4 for off-site transfer of chromium compounds, #4 for off-site transfer of vanadium compounds, and #1 for off-site transfer to disposal of manganese compounds. **DuPont Edge Moor** ranks #12 for on-site release of carbonyl sulfide. **Evraz Claymont Steel** ranks #67 for on-site release of dioxins. **Mountaire Farms of Delaware** ranks #5 for ammonia release for treatment to on-site land. The **Dover Air force Base** ranks #41 within all 80 Air Force facilities total for on-site releases.

Delaware is ranked #20 for 2010 in the state rankings for on-site release of hydrochloric acid. The **Indian River Power Plant** ranks #15 within all facilities for on-site release of hydrochloric acid and #77 within the coal and oil-fired electric generating facilities group (NAICS 2211) for total on-site release of all TRI chemicals.

Occidental Chemical, closed as of November 2005, but continuing remediation activities, no longer ranks in the top 100 for on-site release or off-site disposal of mercury. **Delaware** ranks #44 within the states for on-site release of mercury and mercury compounds for 2010. Every Delaware facility reporting on mercury compounds is far below the top 100 for on-site release or off-site transfer of mercury compounds.

Nearby Facilities in Adjacent States

Some facilities, although not in Delaware, may be important to the environment in Delaware. These facilities are located near our border and may release TRI chemicals, particularly to the air or water, which may migrate into Delaware. Below is a listing of some nearby facilities with significant TRI release amounts. This data is from the EPA's TRI Electronic Facility Data Release (e-FDR) database using individual facility data for the 2010 reporting year.

TABLE 24

On-Site Releases From Nearby Facilities in Adjacent States

Facility	State	Chemical	Media	Amount (Pounds)
DuPont Chambers Works, Deepwater	New Jersey	Nitrate Compounds	Water	4,401,000 **
DuPont Chambers Works, Deepwater	New Jersey	Sodium Nitrite	Water	266,300 ***
DuPont Chambers Works, Deepwater	New Jersey	Ammonia	Air	588,400 **
National Refrigeration, Rosenhayn	New Jersey	HCFC-22	Air	427,500 ***
Paulsboro Refining Co.	New Jersey	Benzene	Air	19,300 **
Paulsboro Refining Co.	New Jersey	Hydrogen Cyanide	Air	230,100 ***
U.S. Army, Ft. Dix	New Jersey	Lead Compounds	Land	73,527 **

* Near the Delaware State total for this chemical

** Exceeds the Delaware State total for this chemical

*** Chemical not reported for 2010 in Delaware

Table 24, Continued

Facility	State	Chemical	Media	Amount (Pounds)
JBS Rendering, Souderton	Pennsylvania	Nitrate Compounds	Water	741,700 **
QG, LLC, Chester	Pennsylvania	Toluene	Air	621,800 **
Sunoco, Philadelphia	Pennsylvania	Sulfuric Acid	Air	201,000 **
Sunoco, Philadelphia	Pennsylvania	N-hexane	Air	37,400 **
Sunoco, Philadelphia	Pennsylvania	Phenol	Air	50,400 ***
Sunoco, Marcus Hook	Pennsylvania	Propylene	Air	142,300 **
Sunoco, Philadelphia	Pennsylvania	Benzene	Air	86,000 **
Arkema, Bristol	Pennsylvania	Methyl Methacrylate	Air	42,100 **
RR Donnelley, Lancaster	Pennsylvania	Toluene	Air	163,900 **
Accellent, Trappe	Pennsylvania	Trichloroethylene	Air	69,600 **
Montgomery Chemical, Conshohocken	Pennsylvania	Methanol	Air	67,200 **
Grace Davison Curtis Bay Works, Baltimore	Maryland	Ammonia	Air	231,800 **
Crown Food Packaging, Baltimore	Maryland	N-Butyl Alcohol	Air	114,800 **
Salisbury Feed & Grain	Maryland	N-hexane	Air	251,000 **
Plymouth Tube, Salisbury	Maryland	Trichloroethylene	Air	56,800 **
Brandon Shores Power Plant, Baltimore	Maryland	Hydrochloric acid	Air	1,500,000
Erachem, Baltimore	Maryland	Nitrate Compounds	Water	922,500 **
Brandon Shores Power Plant, Baltimore	Maryland	Sulfuric acid	Air	310,000 **
Brandon Shores Power Plant, Baltimore	Maryland	Hydrogen Fluoride	Air	120,000 *
Perdue Farms, Accomack	Virginia	Nitrate compounds	Water	1,964,000 **
Tyson Foods, Temperanceville	Virginia	Nitrate Compounds	Water	1,154,000 **

* Near the Delaware State total for this chemical

** Exceeds the Delaware State total for this chemical

*** Chemical not reported for 2010 in Delaware

As noted on pages 4-5, these amounts do not indicate the amount of human exposure. However, they do provide a comparison between releases in Delaware and some TRI chemicals released by some nearby facilities in neighboring states.

TRI and the Economy

The economy in Delaware influenced facilities that closed, and other facilities that continue to operate. Although many of the changes noted in this report were the result of normal changes within the facilities, one was the result of a facility shutdown. The Delaware City Refinery suspended its refining operations in November 2009 and did not operate during 2010, but is preparing to resume processing in 2011.

The Production Index (PI) that is reported along with TRI release and waste management data is one way to estimate the impact of the economy, because the PI is the amount of production or activity directly associated with the chemical being reported. Some facilities, such as the power plants, can report the same PI for almost all of their chemicals, as they are directly related to the production of power. Other facilities, such as the ones in chemical manufacturing, report different PIs for different chemicals, as they are related more to the manufacture of specific chemicals. For some facilities, the determination of a PI is not precise, and therefore the PI may not be an exact indicator of production or chemical activity.

For the top 15 facilities, the PI was in a range of 0.27 to 1.80 with an average of 0.88. The amount of change in on-site release predicted by the PI reported by each facility was a total reduction of 1,131,900 pounds compared to 2009. The actual total change in on-site releases was a reduction of only 921,000 pounds for these facilities, 210,900 pounds less than predicted. This is because some facilities that decreased their production saw a smaller decrease in on-site releases, or even an increase, and some facilities that increased their production saw their on-site releases increase even more.

The PI and the corresponding predicted amounts compared to 2009 represent the effect of the economy. The 210,900-pound difference between the predicted amount and the actual 2010 amount represents the effect of pollution control efforts and other changing conditions at the facilities. For 2010, the reduction was less than predicted, so the changing conditions and collective pollution control efforts for the top 15 facilities resulted in releases higher than expected.

In addition to pollution control, the quality of their raw materials may affect releases for some facilities. For example, the Indian River Power Plant had a PI of 0.80 (80%) so their predicted on-site release amount was lower by 451,000 pounds. Although the facility reported reductions for many of its TRI chemicals because of the lower PI, they received coal that contained higher amounts of chlorine in 2010. Their actual release of hydrochloric acid increased because of the coal quality and as a result they reported total on-site releases 452,000 pounds higher (20%) for 2010.

However, there were some cases where release amounts were less than predicted. For example, the DuPont Edge Moor facility reported a PI of 1.25 (125%) while on-site releases increased only 8% because of reductions in hydrochloric acid and manganese compounds releases. The Calpine Edge Moor/Hay Road Power Plants reported a PI of 1.61 yet had a reduction of 50% because of their conversion to natural gas. The effects of other pollution control efforts at other facilities may have been because of increased regulation or because of plant or company-sponsored pollution control initiatives.

As noted in this report, the Delaware City Refinery outage for 2010 contributed about 1,200,000 pounds toward the total 991,000-pound reduction for all Delaware facilities in on-site releases for 2010. Increases by other facilities partially offset this reduction. With the current depressed state of the national economy, it is likely that many facilities in many other states will also report lower amounts for 2010. For 2009, total TRI on-site releases were down by 12% for the nation, but down 44% in Delaware and also down 19% for Delaware in 2010.

International "TRI"

The United States Toxics Release Inventory (TRI), the oldest and most comprehensive Pollutant Release and Transfer Register (PRTR) system in the world, is one of several similar programs established, or being established, by countries around the world. Industrial facilities in these countries are required to report their emissions and other waste management of toxic chemicals to databases in their respective countries. These databases are designed to track the quantities of chemicals that are released to the air, land or water, or transferred to another site for recycle, treatment or disposal. The term used internationally for these TRI-like systems is Pollutant Release and Transfer Register (PRTR). Corporate leaders, environmental advocates, policy makers and the public alike can use this PRTR information to track pollution performance and develop strategies to reduce emissions and protect our shared environment and improve quality of life. The web site for these PRTR programs is http://www.prtr.net/. There are now over 23 countries participating in PRTR programs, with links to at least seven international programs, and more being developed each year.

Each country that develops a PRTR often expands on or modifies the basic program elements. The U.S. TRI, for example, provides the public with data for on-site waste management of chemicals. The Canadian PRTR, called the National Pollutant Release Inventory (NPRI) collects data on many of the same chemicals on the US TRI list, including dioxins and PACs, but also on Criteria Pollutants (CO, NOx, SO2, particulate matter <100 microns, <10 microns, and <2.5 microns, and VOCs). Mexico implemented a mandatory PRTR, Registro de Emisiones y Transferencia de Contaminantes (RETC), which reported for the first time for 2004, but fewer chemicals (104) are reported at this time.

In North America, the governments of the U.S., Canada and Mexico are working together to improve the ability to compare data from their three PRTR systems. This work is coordinated by the North American Commission for Environmental Cooperation (NACEC), an organization created with the North American Free Trade Association (NAFTA). The NACEC's work includes publishing an annual report titled *Taking Stock* that compiles and compares the PRTR data, and operating a searchable website of comparable North American PRTR data. The link to the EPA web site is http://www.epa.gov/tri/programs/international/index.htm for the North America PRTR.

European countries, Japan, and Australia also have their own pollution inventory programs. Reporting requirements, including reportable chemicals, reporting thresholds, and reporting dates, for these programs vary by country.

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 2010 TRI report may be viewed at: http://www.dnrec.delaware.gov/SERC/Pages/Reports.aspx. Additional information not contained in this report is available to the public through the EPCRA Reporting Program located within DNREC. A second, less technical data summary is available at the same location. A searchable database for TRI and other EPCRA programs is located at: http://www.dnrec.delaware.gov/SERC/Services/Pages/DataSearch.aspx.

Scan this image with your smart phone to access DNREC TRI data and reports.

The reports submitted by facilities are available for review through the Freedom of Information Act (FIOA) process from DNREC's EPCRA Reporting Program located at 655 South Bay Road, Suite 5N, in Dover. Custom reports can also be generated from the database. For information on placing a request, call the TRI Coordinator at (302) 739-9405 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. The two-page fact sheets (ToxFAQ's) are available upon request from DNREC's TRI program or available through the Agency for Toxic Substances and Disease Registry (ATSDR) at: http://www.atsdr.cdc.gov/toxfaqs/index.asp or from the New Jersey Department of Health at: http://web.doh.state.nj.us/rtkhsfs/indexFs.aspx

EPA's TRI Home Page - The TRI home page provides information on the many facets of the TRI program at the EPA, including an Executive Summary, Q&A's, a link now to the preliminary 2010 national TRI data and later this year to the complete 2010 data, a current list of reportable chemicals, 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/.

TRI Reporting Forms – Reporting instructions, reporting guidance, and examples of the traditional paper reporting forms are at epa.gov/tri/report/index.htm.

Toxics Release Inventory National Analysis - The EPA's annual TRI report. It covers national information and provides a good perspective on how Delaware compares to other states: http://www.epa.gov/tri/tridata/tri09/nationalanalysis/index.htm. The 2010 edition of this report will be available in late 2010. It can also be obtained by calling the Federal EPCRA Information Hotline at 1-800-424-9346. Other searchable database programs such as Envirofacts, TRI.net, and TRI-CHIP are EPA-developed programs that provide public access to multiple environmental databases, including TRI. Links are available to data about hazardous waste, water permits, drinking water, Superfund sites, air, water, toxics, and more.

Chemical Reporting Rule – The EPA has issued the final Chemical Data Reporting (CDR) Rule. The purpose of this program is to collect information from manufacturers and importers of chemical substances and to make that information available for use by EPA. The rule was enhanced for 2012 reporting. More information can be found at: http://www.epa.gov/iur/.

Delaware Dept. of Public Health Cancer Rates and Causes - This site provides data and answers to many cancer-related questions: http://www.state.de.us/dhss/dph/dpc/cancer.html.

Right-to-Know Network (RTK NET) - Searchable nationwide TRI data is available through RTK NET. RTK NET 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.rtknet.org .

The Office of Pollution Prevention & Toxics - (OPPTS) 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.
  OPPTS is at: http://www.epa.gov/oppt/index.htm

Risk Screening Environmental Indicators (RSEI). This model was developed by the EPA's Office of Pollution Prevention & Toxics as a risk-screening tool that provides a relative comparison of TRI releases. This application is available by download through the Internet at: http://www.epa.gov/oppt/rsei/pubs/get_rsei.html#new.

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 more information, please call (302) 323-4542. This report is available on-line at: http://www.awm.delaware.gov/AQM/Pages/AQMPublicationsandReports.aspx and air toxics information is at: http://www.awm.delaware.gov/AQM/Pages/DATAS1.aspx. 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, including this report and other publications and reports, which are available at: http://www.dnrec.delaware.gov/info/pages/ELibrary.aspx.

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 and Public Information tab at: http://www.serc.delaware.gov/epcra.shtml.

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

TRI Coordinator
EPCRA Reporting Program
Emergency Prevention and Response Section
DNREC Division of Waste and Hazardous Substances
655 S. Bay Rd., Suite 5N
Dover, DE 19901
Tel. (302) 739-9405, Fax (302) 739-3106
E-mail: john.parker@state.de.us

APPENDICES

2010

APPENDIX A

WHAT IS COMMUNITY RIGHT-TO-KNOW?

TOXICS RELEASE INVENTORY

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. 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. Presidents have 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 develops 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 Safety and Health 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 MSDSs for hazardous chemicals on site 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, can be filed on-line

using Tier II Manager™ and data is available immediately for use by the EPCRA Reporting Program and emergency planning and response agencies. The data provides information on the identity, hazards, amounts, and locations of reportable chemicals at the facility, as well as emergency contacts, and a site plan.

Fees are also collected based on the number and type of chemicals reported. The fees are primarily used to support operations of the LEPCs.

TOXICS RELEASE INVENTORY (TRI) REPORTING

Facilities covered under TRI are required to file annual reports for on-site releases, off-site transfers, and on-site waste management activities related to their use of certain toxic chemicals. These reports can be filed electronically at the same time to EPA and DNREC using EPA's TRI-ME (TRI Made Easy) program. This data 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 planners use the toxic "alternative" scenario as 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 may ask facilities to explain the risk management programs that they use to prevent or minimize the consequence of a catastrophic release. 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) or by contacting the EPA reading room in Philadelphia at: http://www.epa.gov/libraries/region3.html

In Delaware, the Extremely Hazardous Substances Risk Management Act, first passed in 1988, and amended in 1998, adopted new federal guidelines that enhance the community right-to-know information. The Delaware Accidental Release Program (ARP) has been granted full authority by the US EPA to administer the program within DNREC, reviews the facility RMPs 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.awm.delaware.gov/EPR/Pages/AccidentalReleasePrevention.aspx.

APPENDIX B

WHAT IS COMMUNITY RIGHT-TO-KNOW?

TOXICS RELEASE INVENTORY

AGILENT TECHNOLOGIES NEWPORT
538 FIRST STATE BLVD.
NEWPORT, DE 19804
RENEE LEWANDOWSKI
(302) 636-3668

ALLEN FAMILY FOODS HARBESON
18752 HARBESON ROAD
HARBESON, DE 19951
SCOTT HEVNER
(302) 629-9163

ALLEN'S HATCHERY SEAFORD MILL
20799 ALLEN ROAD
SEAFORD, DE 19973
SCOTT HEVNER
(302) 629-9163

AMICK FARMS
10281 AMICK DRIVE
DELMAR, DE 19940
SCOTT LEE
(302) 846-9511

ARLON
1100 GOVERNOR LEA RD
BEAR, DE 19701
ROBERT CARINI
(302) 834-2100

BASF NEWPORT
205 S JAMES ST
NEWPORT, DE 19804
MAUREEN PAUKERT
(973) 245-6077

BASF SEAFORD
100 INDUSTRIAL BLVD
SEAFORD, DE 19973
MAUREEN PAUKERT
(973) 245-6077

BUCK ALGONQUIN
370 N MAIN ST
SMYRNA, DE 19977
STEPHEN GASTON
(410) 643-7145

CAMDEL METALS
124 VEPCO BOULEVARD
CAMDEN, DE 19934
JOHN P. COATES
(302) 697-9521

CARL KING
1400 E LEBANON RD
DOVER, DE 19901
RANDY WAYNE
(301) 322-3111

CHROME DEPOSIT
9 TYLER WAY
NEWARK, DE 19713
JOHN BLASKO
(302) 368-7525

COLOR WORKS PAINTING
251 EDWARDS AVE
NEW CASTLE, DE 19720
SEAN HISTED
(302) 324-8411

CRODA
315 CHERRY LN
NEW CASTLE, DE 19720
ROBERT J. TOUHEY
(302) 429-5269

DELAWARE CITY REFINING COMPANY
4550 WRANGLE HILL RD
DELAWARE CITY, DE 19706
LISA LINDSEY
(856) 224-4354

DENTSPLY MAIN PLANT
38 W CLARKE AVE
MILFORD, DE 19963
ANDY JOHNSON
(302) 422-4511

DENTSPLY WEST PLANT
779 E MASTEN CIR
MILFORD, DE 19963
ANDY JOHNSON
(302) 422-4511

DOVER AFB
436 CES/CC 600 CHEVRON AVE
DOVER AFB, DE 19902
JENNIFER VALLEE
(302) 677-3370

DUPONT EDGE MOOR
104 HAY RD
EDGEMOOR, DE 19809
RICHARD A. STRAITMAN
(302) 999-5226

E A R
650 DAWSON DR
NEWARK, DE 19713
TOM FLAHERTY
(302) 286-2415

EDGE MOOR/HAY ROAD ENERGY CENTERS
200 HAY RD
WILMINGTON, DE 19809
NORMA DUNN
(713) 830-8833

EVRAZ CLAYMONT STEEL
4001 PHILADELPHIA PIKE
CLAYMONT, DE 19703
TOMASZ WESOLOWSKI
(302) 792-5400

FORMOSA PLASTICS
780 SCHOOLHOUSE RD
DELAWARE CITY, DE 19706-0320
VINCENT OU
(302) 836-2256

FUJIFILM
233 CHERRY LN
NEW CASTLE, DE 19720
STEVE POORMAN
(302) 472-1218

GAC
25938 NANTICOKE ST
SEAFORD, DE 19973
MICHAEL THRASHER
(813) 248-2101

HANESBRANDS
631 RIDGELY ST - SUITE #1
DOVER, DE 19904-2772
TOMMY THOMPSON
(336) 519-2715

HIRSH INDUSTRIES
1525 MCKEE RD
DOVER, DE 19904
KEN MURR
(302) 678-3454

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

IKO
120 HAY RD
WILMINGTON, DE 19809
GREG BOOEN
(302) 764-3100

INDIAN RIVER POWER PLANT
29416 POWER PLANT RD
DAGSBORO, DE 19939
MEREDITH MOORE
(609) 524-4522

INSTEEL WIRE
800 NEW CASTLE AVE
WILMINGTON, DE 19801
W. GARY LOGAN
(302) 981-8137

INTERVET
29160 INTERVET LN
MILLSBORO, DE 19966
RONALD VEROSKO
(302) 934-4265

INVISTA
25876 DUPONT RD
SEAFORD, DE 19973
STEVEN R. KIMPTON
(302) 629-1865

JOHNSON CONTROLS
700 N BROAD ST
MIDDLETOWN, DE 19709
RICK THOMPSON
(302) 378-9985

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

KUEHNE
1645 RIVER RD
DELAWARE CITY, DE 19706
ALAN ROGERS
(302) 824-4557

MACDERMID
701 INDUSTRIAL DR
MIDDLETOWN, DE 19709
J. LOUIS GRAHAM, QEP
(302) 378-3100

MEDAL
305 WATER ST
NEWPORT, DE 19804
BILL BIGNALL
(302) 225-2132

METAL MASTERS
100 INDUSTRIAL BLVD
CLAYTON, DE 19938
RICHARD J. MURPHY
(302) 653-3000

MOTECH AMERICAS
231 LAKE DR PENCADER CORPORATE
NEWARK, DE 19702
JAMES TOMPKINS
(302) 451-2692

MOUNTAIRE FARMS FRANKFORD MILL
11 DAISEY ST
FRANKFORD, DE 19945
ROGER MARINO
(302) 934-3123

MOUNTAIRE FARMS OF DELAWARE
29106 JOHN J WILLIAMS HWY
MILLSBORO, DE 19966
ROGER MARINO
(302) 934-3123

MOUNTAIRE FARMS OF DELMARVA
HOOSIER ST & RAILROAD AVE
SELBYVILLE, DE 19975
ROGER MARINO
(302) 934-3123

NORAMCO
500 SWEDES LANDING RD
WILMINGTON, DE 19801
JOHN DALY
(302) 888-4477

NRG ENERGY DOVER
1280 W N ST
DOVER, DE 19904-7756
MEREDITH MOORE
(609) 524-4522

OCCIDENTAL CHEMICAL
1657 RIVER RD
NEW CASTLE, DE 19720-5194
JOHN B. ARMSTRONG
(302) 834-3831

ORIENT
111 PARK AVE
SEAFORD, DE 19973
KURT SCHIMMEL
(302) 628-1300

PERDUE BRIDGEVILLE MILLING
16447 ADAMS RD
BRIDGEVILLE, DE 19933
JULIE DEYOUNG
(410) 543-3166

PERDUE GEORGETOWN
20621 SAVANNAH RD
GEORGETOWN, DE 19947
JULIE DEYOUNG
(410) 543-3166

PERDUE MILFORD
255 N REHOBOTH BLVD
MILFORD, DE 19963
JULIE DEYOUNG
(410) 543-3166

PICTSWEET
18215 WESLEY CHURCH RD
BRIDGEVILLE, DE 19933
ALLEN WATTS
(731) 663-7600

PINNACLE FOODS
29984 PINNACLE WAY
MILLSBORO, DE 19966
DOUG EMMETT
(973) 541-8646

PPG DOVER
1886 LYNNBURY WOODS RD
DOVER, DE 19904
MITCH MAGEE
(302) 678-9800

PRINCE MINERALS
301 PIGEON POINT RD
NEW CASTLE, DE 19720
MARY SIMPLER
(646) 747-4176

ROHM & HAAS B2 B3 B8
451 BELLEVUE RD
NEWARK, DE 19713
PETER PALENA
(302) 366-0500

ROHM & HAAS B5 B6
351 BELLEVUE RD
NEWARK, DE 19713
PETER PALENA
(302) 366-0500

ROHM & HAAS B7 B15
50 BELLEVUE RD
NEWARK, DE 19713
PETER PALENA
(302) 366-0500

SERVICE ENERGY DOVER
3799 N DUPONT HWY
DOVER, DE 19901
DON STEINER
(302) 734-7433

SPI PHARMA
40 CAPE HENLOPEN DR
LEWES, DE 19958-1196
BRAD GARDNER
(302) 360-7266

SUNOCO
100 GREEN ST.
MARCUS HOOK, PA 19061
SCOTT BAKER
(610) 859-1071

V&S DELAWARE GALVANIZING
511 CARROLL DRIVE
NEW CASTLE, DE 19720
JOHNNY ROIBU
(302) 322-1420

VP RACING FUELS
16 BROOKHILL DR
NEWARK, DE 19714
JIM KELLY
(302) 368-1500

APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
AGILENT TECHNOLOGIES NEWPORT							
ACETONITRILE		33	0	0	33	13,054	0
METHANOL		730	0	0	730	40,497	0
TOLUENE		21	0	0	21	131,337	0
AGILENT TECHNOLOGIES NEWPORT Total		**784**	**0**	**0**	**784**	**184,888**	**0**
ALLEN FAMILY FOODS HARBESON							
NITRATE COMPOUNDS	1	0	0	0	0	0	0
ALLEN FAMILY FOODS HARBESON Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**
ALLEN'S HATCHERY SEAFORD MILL							
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
ALLEN'S HATCHERY SEAFORD MILL Total	**3**	**0**	**0**	**0**	**0**	**0**	**0**
AMICK FARMS							
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
AMICK FARMS Total	**3**	**0**	**0**	**0**	**0**	**0**	**0**
ARLON							
COPPER		5	0	0	5	1,700	0
ETHYLBENZENE		319	0	0	319	260	29,000
XYLENE (MIXED ISOMERS)		1,320	0	0	1,320	1,400	114,000
ARLON Total		**1,644**	**0**	**0**	**1,644**	**3,360**	**143,000**

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
BASF NEWPORT							
ANILINE		39	0	0	39	310,391	1,142
BIPHENYL		124	0	0	124	326,763	2,321
CYCLOHEXANE		56	0	0	56	39,033	3,483
METHANOL		25,401	0	0	25,401	769,243	1,255,555
NITRATE COMPOUNDS		0	0	0	0	55,376	0
NITRIC ACID		0	0	0	0	0	28,135
P-CHLOROANILINE		13	0	0	13	9,803	327
XYLENE (MIXED ISOMERS)		1,218	0	0	1,218	1,001	5,669
BASF NEWPORT Total		**26,851**	**0**	**0**	**26,851**	**1,511,610**	**1,296,632**
BASF SEAFORD							
AMMONIA		5,047	0	0	5,047	1,080	9,161
BUTYL ACRYLATE		193	0	0	193	204	100
CERTAIN GLYCOL ETHERS		5	0	0	5	761	0
ETHYL ACRYLATE		219	0	0	219	204	22
METHYL METHACRYLATE		275	0	0	275	204	449
STYRENE		357	0	0	357	598	1,046
BASF SEAFORD Total		**6,096**	**0**	**0**	**6,096**	**3,051**	**10,778**
BUCK ALGONQUIN							
COPPER		0	0	0	0	0	0
BUCK ALGONQUIN Total		**0**	**0**	**0**	**0**	**0**	**0**
CAMDEL METALS							
CHROMIUM		0	0	0	0	39,489	0
MANGANESE		0	0	0	0	3,869	0
NICKEL		0	0	0	0	37,613	0
TRICHLOROETHYLENE		13,847	0	0	13,847	8,145	0
CAMDEL METALS Total		**13,847**	**0**	**0**	**13,847**	**89,116**	**0**

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
CARL KING							
1,2,4-TRIMETHYLBENZENE	1	0	0	0	0	0	0
NAPHTHALENE	1	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	1	0	0	0	0	0	0
CARL KING Total	**3**	**0**	**0**	**0**	**0**	**0**	**0**
CHROME DEPOSIT							
LEAD COMPOUNDS		0	0	0	0	5,009	0
CHROME DEPOSIT Total		**0**	**0**	**0**	**0**	**5,009**	**0**
COLOR WORKS PAINTING							
MANGANESE		0	0	0	0	455	0
COLOR WORKS PAINTING Total		**0**	**0**	**0**	**0**	**455**	**0**
CRODA							
CERTAIN GLYCOL ETHERS		4	0	0	4	1,078	0
DIETHANOLAMINE		38	0	0	38	5,965	0
ETHYLENE OXIDE		2,475	0	0	2,475	0	0
METHANOL		869	0	0	869	36,252	0
PROPYLENE OXIDE		657	0	0	657	0	0
CRODA Total		**4,043**	**0**	**0**	**4,043**	**43,295**	**0**
DELAWARE CITY REFINERY							
1,2,4-TRIMETHYLBENZENE		180	5	0	185	0	5,400
2,4-DIMETHYLPHENOL		0	40	0	40	0	1,800
ASBESTOS (FRIABLE)		0	0	0	0	98,300	0
BENZENE		1,250	5	0	1,255	1,329	27,560
BENZO(G,H,I)PERYLENE		2	1	0	3	0	111
CUMENE		114	5	0	119	0	350
ETHYLBENZENE		239	5	0	244	186	6,589

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
LEAD COMPOUNDS		10	0	0	10	134	0
NAPHTHALENE		656	5	0	661	0	1,200
N-HEXANE		7,960	5	0	7,965	0	187,800
NITRATE COMPOUNDS		0	380,000	0	380,000	0	0
POLYCYCLIC AROMATIC COMPOUNDS		0	1	0	1	410	91
PROPYLENE		34,800	0	0	34,800	0	100,000
TERT-BUTYL ALCOHOL		3,870	0	0	3,870	0	0
TOLUENE		2,210	5	0	2,215	505	60,988
XYLENE (MIXED ISOMERS)		930	5	0	935	1,214	36,060
DELAWARE CITY REFINERY Total		**52,221**	**380,082**	**0**	**432,303**	**102,078**	**427,949**
DENTSPLY MAIN PLANT							
MERCURY		0	0	0	0	2,467	0
DENTSPLY MAIN PLANT Total		**0**	**0**	**0**	**0**	**2,467**	**0**
DENTSPLY WEST PLANT							
METHANOL		4,260	0	0	4,260	8,044	0
METHYL METHACRYLATE		1,850	0	0	1,850	2,014	0
TOLUENE		460	0	0	460	16,255	0
DENTSPLY WEST PLANT Total		**6,570**	**0**	**0**	**6,570**	**26,313**	**0**
DOVER AFB							
ETHYLBENZENE		28	0	0	28	0	0
LEAD		190	0	0	190	0	0
NAPHTHALENE		183	0	0	183	0	0
DOVER AFB Total		**401**	**0**	**0**	**401**	**0**	**0**
DUPONT EDGE MOOR							
ARSENIC COMPOUNDS		0	55	0	55	0	0
BARIUM COMPOUNDS		2	3,828	0	3,830	14,269	0
CARBONYL SULFIDE		262,079	0	0	262,079	0	0
CHLORINE		3,172	0	0	3,172	0	3,057,882

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
CHROMIUM COMPOUNDS		1	23	0	24	387,985	0
COBALT COMPOUNDS		0	27	0	27	8,903	0
COPPER COMPOUNDS		0	169	0	169	3,328	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS		0	0	0	0	1	0
HEXACHLOROBENZENE		0	0	0	0	35	0
HYDROCHLORIC ACID		15,242	0	0	15,242	0	20,910,931
LEAD COMPOUNDS		0	43	0	43	42,710	0
MANGANESE COMPOUNDS		1	27,670	0	27,671	3,514,348	0
NICKEL COMPOUNDS		1	193	0	194	28,739	0
OCTACHLOROSTYRENE		0	0	0	0	3	0
PENTACHLOROBENZENE		0	0	0	0	1	0
PHOSGENE		446	0	0	446	0	1,993,361
POLYCHLORINATED BIPHENYLS		0	0	0	0	1	0
POLYCYCLIC AROMATIC COMPOUNDS		69	0	615	684	0	0
TITANIUM TETRACHLORIDE		20	0	0	20	0	1,245,062
TOLUENE		1,404	0	0	1,404	6	0
VANADIUM COMPOUNDS		1	43	0	44	333,288	0
ZINC COMPOUNDS		12	122	0	134	38,394	0
DUPONT EDGE MOOR Total		**282,450**	**32,173**	**615**	**315,239**	**4,372,010**	**27,207,236**
E A R							
DIISOCYANATES		1	0	0	1	650	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)		3	0	0	3	165	0
E A R Total		**3**	**0**	**0**	**3**	**815**	**0**
EDGE MOOR/HAY ROAD ENERGY CENTERS							
AMMONIA		561	0	0	561	386	0
BARIUM COMPOUNDS		1,276	780	0	2,056	25,365	0
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS		0	0	0	0	0	0

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	ON-SITE RELEASES TO WATER	ON-SITE RELEASES TO LAND	ON-SITE RELEASES TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
HYDROCHLORIC ACID		265,150	0	0	265,150	0	0
LEAD COMPOUNDS		176	1,040	0	1,216	2,374	0
MERCURY COMPOUNDS		11	0	0	11	61	0
POLYCYCLIC AROMATIC COMPOUNDS		19	0	0	19	0	0
SULFURIC ACID		10,987	0	0	10,987	0	29,375
EDGE MOOR/HAY ROAD ENERGY CENTERS Total		**278,180**	**1,820**	**0**	**280,000**	**28,185**	**29,375**
EVRAZ CLAYMONT STEEL							
CHROMIUM COMPOUNDS		113	4	158	275	35,552	0
COPPER COMPOUNDS		137	64	397	598	38,433	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS		0	0	0	0	0	0
LEAD COMPOUNDS		423	50	57	530	215,606	0
MANGANESE COMPOUNDS		346	43	10,607	10,996	201,650	0
MERCURY COMPOUNDS		59	0	0	59	3	0
NICKEL COMPOUNDS		28	34	285	347	5,727	0
ZINC COMPOUNDS		2,312	157	236	2,705	1,973,949	0
EVRAZ CLAYMONT STEEL Total		**3,418**	**352**	**11,740**	**15,510**	**2,470,920**	**0**
FORMOSA PLASTICS							
AMMONIA		13,201	0	0	13,201	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS		0	0	0	0	0	0
VINYL ACETATE		46,028	0	0	46,028	0	0
VINYL CHLORIDE		56,155	12	0	56,167	9	268,094
FORMOSA PLASTICS Total		**115,384**	**12**	**0**	**115,396**	**9**	**268,094**
FUJIFILM							
ETHYLENE GLYCOL		1	0	0	1	403	0
NITRATE COMPOUNDS		0	0	0	0	1,228	0
FUJIFILM Total		**1**	**0**	**0**	**1**	**1,631**	**0**

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
GAC							
1,2,4-TRIMETHYLBENZENE	1	0	0	0	0	0	0
GAC Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**
HANESBRANDS							
NITRATE COMPOUNDS		0	0	0	0	76,689	0
HANESBRANDS Total		**0**	**0**	**0**	**0**	**76,689**	**0**
HIRSH INDUSTRIES							
CERTAIN GLYCOL ETHERS		7,968	0	0	7,968	0	0
HIRSH INDUSTRIES Total		**7,968**	**0**	**0**	**7,968**	**0**	**0**
HONEYWELL							
AMMONIA		1,778	0	0	1,778	21	0
BORON TRIFLUORIDE		442	0	0	442	5	130,000
HYDROGEN FLUORIDE		544	0	0	544	0	80
METHANOL		4	0	0	4	60	60
N-HEXANE		2,910	0	0	2,910	17,410	165,995
HONEYWELL Total		**5,678**	**0**	**0**	**5,678**	**17,496**	**296,135**
IKO							
POLYCYCLIC AROMATIC COMPOUNDS		0	0	0	0	48	3
IKO Total		**0**	**0**	**0**	**0**	**48**	**3**
INDIAN RIVER POWER PLANT							
AMMONIA		73,000	0	0	73,000	0	2,500,000
BARIUM COMPOUNDS		3,600	250	96,000	99,850	13	0
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0
CHROMIUM COMPOUNDS		500	250	8,400	9,150	0	0
COPPER COMPOUNDS		500	750	8,900	10,150	0	0

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FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
DIOXIN AND DIOXIN-LIKE COMPOUNDS		0	0	0	0	0	0
HYDROCHLORIC ACID		2,300,000	0	0	2,300,000	0	0
HYDROGEN FLUORIDE		140,000	0	0	140,000	0	16,000
LEAD COMPOUNDS		401	0	5,347	5,748	0	0
MANGANESE COMPOUNDS		500	5	15,000	15,505	0	0
MERCURY COMPOUNDS		90	0	20	110	0	0
NAPHTHALENE	1	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS		1	0	0	1	0	0
SULFURIC ACID		30,000	0	0	30,000	0	260,000
VANADIUM COMPOUNDS		500	5	14,000	14,505	0	0
ZINC COMPOUNDS		1,000	750	6,500	8,250	0	0
INDIAN RIVER POWER PLANT Total	**1**	**2,550,092**	**2,010**	**154,167**	**2,706,269**	**13**	**2,776,000**
INSTEEL WIRE							
LEAD COMPOUNDS		0	0	0	0	5	0
INSTEEL WIRE Total		**0**	**0**	**0**	**0**	**5**	**0**
INTERVET							
MERCURY COMPOUNDS		0	0	0	0	2	0
INTERVET Total		**0**	**0**	**0**	**0**	**2**	**0**
INVISTA							
NAPHTHALENE		2	0	0	2	107	0
N-HEXANE		480	0	0	480	60	0
INVISTA Total		**482**	**0**	**0**	**482**	**167**	**0**
JOHNSON CONTROLS							
ANTIMONY COMPOUNDS		0	0	0	0	9,493	0
LEAD COMPOUNDS		120	8	0	128	2,434,293	0
JOHNSON CONTROLS Total		**120**	**8**	**0**	**128**	**2,443,786**	**0**

Source: DNREC 2010 TRI Database, October, 2011
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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
JUSTIN TANKS							
STYRENE		13,464	0	0	13,464	301	0
JUSTIN TANKS Total		**13,464**	**0**	**0**	**13,464**	**301**	**0**
KUEHNE							
CHLORINE		1,000	0	0	1,000	0	0
KUEHNE Total		**1,000**	**0**	**0**	**1,000**	**0**	**0**
MACDERMID							
TOLUENE DIISOCYANATE (MIXED ISOMERS)		7	0	0	7	0	682
MACDERMID Total		**7**	**0**	**0**	**7**	**0**	**682**
MEDAL							
METHANOL		265	0	0	265	25,056	1,296,701
N-HEXANE		585	0	0	585	0	1,112,497
N-METHYL-2-PYRROLIDONE		639	0	0	639	68,680	0
MEDAL Total		**1,489**	**0**	**0**	**1,489**	**93,736**	**2,409,198**
METAL MASTERS							
CHROMIUM		1	0	0	1	13,603	0
NICKEL		1	0	0	1	42,255	0
METAL MASTERS Total		**1**	**0**	**0**	**1**	**55,858**	**0**
MOTECH AMERICAS							
COPPER		0	0	0	0	735	0
LEAD		0	0	0	0	62	0
MOTECH AMERICAS Total		**0**	**0**	**0**	**0**	**797**	**0**

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
MOUNTAIRE FARMS FRANKFORD							
ARSENIC COMPOUNDS	1	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		1	0	0	1	0	0
ZINC COMPOUNDS	1	0	0	0	0	0	0
MOUNTAIRE FARMS FRANKFORD Total	**4**	**1**	**0**	**0**	**1**	**0**	**0**
MOUNTAIRE FARMS OF DELAWARE							
AMMONIA		2,328	0	44,225	46,553	0	46,553
ARSENIC COMPOUNDS	1	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		2	0	0	2	0	0
ZINC COMPOUNDS	1	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE Total	**4**	**2,330**	**0**	**44,225**	**46,555**	**0**	**46,553**
MOUNTAIRE FARMS OF DELMARVA							
BENZO(G,H,I)PERYLENE		1	0	0	1	0	0
POLYCYCLIC AROMATIC COMPOUNDS		23	0	0	23	0	0
MOUNTAIRE FARMS OF DELMARVA Total		**23**	**0**	**0**	**23**	**0**	**0**
NORAMCO							
DICHLOROMETHANE		488	0	0	488	21,592	58,281
FORMIC ACID		10	0	0	10	0	0
METHANOL		281	0	0	281	163,677	163,678
N,N-DIMETHYLANILINE		0	0	0	0	9,433	0
N-BUTYL ALCOHOL		10	0	0	10	394,841	394,841
TOLUENE		210	0	0	210	298,118	298,118
NORAMCO Total		**999**	**0**	**0**	**999**	**887,661**	**914,918**

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
NRG ENERGY DOVER							
HYDROCHLORIC ACID		109,518	0	0	109,518	0	0
LEAD COMPOUNDS		3	0	0	3	91	0
MERCURY COMPOUNDS		7	0	0	7	2	0
SULFURIC ACID		8,085	0	0	8,085	0	25,588
NRG ENERGY DOVER Total		**117,613**	**0**	**0**	**117,613**	**92**	**25,588**
OCCIDENTAL CHEMICAL							
MERCURY		0	0	0	0	0	0
OCCIDENTAL CHEMICAL Total		**0**	**0**	**0**	**0**	**0**	**0**
ORIENT							
ANILINE		3,233	0	0	3,233	5	12,599
CHROMIUM COMPOUNDS		0	0	0	0	0	0
NITROBENZENE		265	0	0	265	1	0
ZINC COMPOUNDS		0	0	0	0	0	0
ORIENT Total		**3,498**	**0**	**0**	**3,498**	**6**	**12,599**
PERDUE BRIDGEVILLE MILLING							
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
PERDUE BRIDGEVILLE MILLING Total	**3**	**0**	**0**	**0**	**0**	**0**	**0**

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
PERDUE GEORGETOWN							
BENZO(G,H,I)PERYLENE		152	0	0	152	0	0
NITRATE COMPOUNDS		0	183,826	0	183,826	0	0
PERACETIC ACID		0	0	0	0	0	13,049
POLYCYCLIC AROMATIC COMPOUNDS		0	0	0	0	0	0
PERDUE GEORGETOWN Total		**152**	**183,826**	**0**	**183,978**	**0**	**13,049**
PERDUE MILFORD							
PERACETIC ACID		0	0	0	0	0	23,200
PERDUE MILFORD Total		**0**	**0**	**0**	**0**	**0**	**23,200**
PICTSWEET							
AMMONIA		650	0	0	650	0	0
PICTSWEET Total		**650**	**0**	**0**	**650**	**0**	**0**
PINNACLE FOODS							
BENZO(G,H,I)PERYLENE		0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS		2	0	0	2	0	0
PINNACLE FOODS Total		**2**	**0**	**0**	**2**	**0**	**0**
PPG DOVER							
CERTAIN GLYCOL ETHERS		10	0	0	10	1,750	0
ETHYLENE GLYCOL		5	0	0	5	3,856	0
ZINC COMPOUNDS		255	0	0	255	2,710	0
PPG DOVER Total		**270**	**0**	**0**	**270**	**8,316**	**0**
PRINCE MINERALS							
BARIUM COMPOUNDS		4	0	0	4	1	0
LEAD COMPOUNDS		1	0	0	1	1	0
MANGANESE COMPOUNDS		158	0	0	158	51	0
PRINCE MINERALS Total		**162**	**0**	**0**	**162**	**53**	**0**

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
ROHM & HAAS B2 B3 B8							
DIISOCYANATES		0	0	0	0	900	0
N,N-DIMETHYLFORMAMIDE		4,153	0	0	4,153	635,560	4,668,643
PHTHALIC ANHYDRIDE		1	0	0	1	1,573	0
ROHM & HAAS B2 B3 B8 Total		**4,154**	**0**	**0**	**4,154**	**638,033**	**4,668,643**
ROHM & HAAS B5 B6							
4,4'-METHYLENEBIS(2-CHLOROANILINE)	1	0	0	0	0	0	0
DIISOCYANATES		2	0	0	2	4,779	0
N-METHYL-2-PYRROLIDONE		2,994	0	0	2,994	109,603	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)		2	0	0	2	1,076	4,500
ROHM & HAAS B5 B6 Total	**1**	**2,998**	**0**	**0**	**2,998**	**115,458**	**4,500**
ROHM & HAAS B7 B15							
4,4'-METHYLENEBIS(2-CHLOROANILINE)	1	0	0	0	0	0	0
N-METHYL-2-PYRROLIDONE		2,744	0	0	2,744	16,946	0
ROHM & HAAS B7 B15 Total	**1**	**2,744**	**0**	**0**	**2,744**	**16,946**	**0**
SERVICE ENERGY DOVER							
1,2,4-TRIMETHYLBENZENE	1	0	0	0	0	0	0
TOLUENE	1	0	0	0	0	0	0
SERVICE ENERGY DOVER Total	**2**	**0**	**0**	**0**	**0**	**0**	**0**
SPI PHARMA							
CHLORINE	1	0	0	0	0	0	0
NITRIC ACID	1	0	0	0	0	0	0
SPI PHARMA Total	**2**	**0**	**0**	**0**	**0**	**0**	**0**

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APPENDIX C

2010 ON-SITE RELEASES BY FACILITY AND CHEMICAL

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
SUNOCO							
BENZENE		3,452	0	0	3,452	0	0
ETHYLENE		206	0	0	206	0	0
LEAD		2	0	0	2	0	0
NAPHTHALENE		3	0	0	3	0	0
N-HEXANE		8,124	0	0	8,124	0	0
NICKEL		9	0	0	9	0	0
TOLUENE		121	0	0	121	0	0
XYLENE (MIXED ISOMERS)		161	0	0	161	0	0
SUNOCO Total		**12,078**	**0**	**0**	**12,078**	**0**	**0**
V&S DELAWARE GALVANIZING							
LEAD		1	0	0	2	1,714	0
V&S DELAWARE GALVANIZING Total		**1**	**0**	**0**	**2**	**1,714**	**0**
VP RACING FUELS							
BENZENE	1	0	0	0	0	0	0
LEAD COMPOUNDS		1	0	0	1	10	0
METHANOL		175	0	0	175	1,249	0
TOLUENE		71	0	0	71	2,440	0
XYLENE (MIXED ISOMERS)	1	0	0	0	0	0	0
VP RACING FUELS Total	**2**	**247**	**0**	**0**	**247**	**3,699**	**0**
STATE TOTALS	**31**	**3,520,119**	**600,283**	**210,747**	**4,331,149**	**13,206,088**	**40,574,132**

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APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
AGILENT TECHNOLOGIES NEWPORT										
ACETONITRILE	0	0	13,054	0	0	13,054	0	0	0	0
METHANOL	0	0	40,316	181	0	40,497	0	0	0	0
TOLUENE	0	0	129,747	1,590	0	131,337	0	0	0	0
AGILENT TECHNOLOGIES NEWPORT Total	**0**	**0**	**183,117**	**1,771**	**0**	**184,888**	**0**	**0**	**0**	**0**
ALLEN FAMILY FOODS HARBESON										
NITRATE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ALLEN FAMILY FOODS HARBESON Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ALLEN'S HATCHERY SEAFORD MILL										
COPPER COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ALLEN'S HATCHERY SEAFORD MILL Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
AMICK FARMS										
COPPER COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
AMICK FARMS Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ARLON										
COPPER	0	1,500	0	0	200	1,700	0	0	0	0
ETHYLBENZENE	0	0	0	260	0	260	0	0	29,000	29,000
XYLENE (MIXED ISOMERS)	0	0	0	1,400	0	1,400	0	0	114,000	114,000
ARLON Total	**0**	**1,500**	**0**	**1,660**	**200**	**3,360**	**0**	**0**	**143,000**	**143,000**

Source: DNREC 2010 TRI Database, October, 2011

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APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
BASF NEWPORT										
ANILINE	19,865	0	174,286	116,240	0	310,391	0	0	1,142	1,142
BIPHENYL	34,143	0	175,606	117,014	0	326,763	0	0	2,321	2,321
CYCLOHEXANE	0	39,033	0	0	0	39,033	0	0	3,483	3,483
METHANOL	533,958	229,710	2,575	3,000	0	769,243	424,500	0	831,055	1,255,555
NITRATE COMPOUNDS	27,688	0	0	0	27,688	55,376	0	0	0	0
NITRIC ACID	0	0	0	0	0	0	0	0	28,135	28,135
P-CHLOROANILINE	2,622	0	4,234	2,947	0	9,803	0	0	327	327
XYLENE (MIXED ISOMERS)	280	0	274	447	0	1,001	0	0	5,669	5,669
BASF NEWPORT Total	**618,556**	**268,743**	**356,975**	**239,648**	**27,688**	**1,511,610**	**424,500**	**0**	**872,132**	**1,296,632**
BASF SEAFORD										
AMMONIA	1,018	0	0	56	6	1,080	0	0	9,161	9,161
BUTYL ACRYLATE	0	0	204	0	0	204	0	0	100	100
CERTAIN GLYCOL ETHERS	0	0	0	689	72	761	0	0	0	0
ETHYL ACRYLATE	0	0	204	0	0	204	0	0	22	22
METHYL METHACRYLATE	0	0	204	0	0	204	0	0	449	449
STYRENE	0	0	598	0	0	598	0	0	1,046	1,046
BASF SEAFORD Total	**1,018**	**0**	**1,210**	**745**	**78**	**3,051**	**0**	**0**	**10,778**	**10,778**
BUCK ALGONQUIN										
COPPER	0	0	0	0	0	0	0	0	0	0
BUCK ALGONQUIN Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CAMDEL METALS										
CHROMIUM	0	39,292	0	0	197	39,489	0	0	0	0
MANGANESE	0	3,852	0	0	17	3,869	0	0	0	0
NICKEL	0	37,307	0	0	306	37,613	0	0	0	0
TRICHLOROETHYLENE	0	0	0	8,145	0	8,145	0	0	0	0
CAMDEL METALS Total	**0**	**80,451**	**0**	**8,145**	**520**	**89,116**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
CARL KING										
1,2,4-TRIMETHYLBENZENE	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	0	0	0	0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	0	0	0	0	0	0	0	0	0	0
CARL KING Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CHROME DEPOSIT										
LEAD COMPOUNDS	0	5,000	0	0	9	5,009	0	0	0	0
CHROME DEPOSIT Total	**0**	**5,000**	**0**	**0**	**9**	**5,009**	**0**	**0**	**0**	**0**
COLOR WORKS PAINTING										
MANGANESE	0	455	0	0	0	455	0	0	0	0
COLOR WORKS PAINTING Total	**0**	**455**	**0**	**0**	**0**	**455**	**0**	**0**	**0**	**0**
CRODA										
CERTAIN GLYCOL ETHERS	1,078	0	0	0	0	1,078	0	0	0	0
DIETHANOLAMINE	120	0	0	5,445	400	5,965	0	0	0	0
ETHYLENE OXIDE	0	0	0	0	0	0	0	0	0	0
METHANOL	8,002	0	27,850	0	400	36,252	0	0	0	0
PROPYLENE OXIDE	0	0	0	0	0	0	0	0	0	0
CRODA Total	**9,200**	**0**	**27,850**	**5,445**	**800**	**43,295**	**0**	**0**	**0**	**0**
DELAWARE CITY REFINERY										
1,2,4-TRIMETHYLBENZENE	0	0	0	0	0	0	0	0	5,400	5,400
2,4-DIMETHYLPHENOL	0	0	0	0	0	0	0	0	1,800	1,800
ASBESTOS (FRIABLE)	0	0	0	0	98,300	98,300	0	0	0	0
BENZENE	0	0	1,107	179	43	1,329	0	0	27,560	27,560
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0	0	111	111
CUMENE	0	0	0	0	0	0	0	0	350	350
ETHYLBENZENE	0	0	28	76	82	186	0	0	6,589	6,589

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APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	**POTW**	**RECYCLE**	**ENERGY RECOVERY**	**TREATMENT**	**DISPOSAL**	**TOTAL**	**RECYCLE**	**ENERGY RECOVERY**	**TREATMENT**	**TOTAL**
LEAD COMPOUNDS	0	0	0	0	134	134	0	0	0	0
NAPHTHALENE	0	0	0	0	0	0	0	0	1,200	1,200
N-HEXANE	0	0	0	0	0	0	0	0	187,800	187,800
NITRATE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	410	0	0	0	410	0	0	91	91
PROPYLENE	0	0	0	0	0	0	0	0	100,000	100,000
TERT-BUTYL ALCOHOL	0	0	0	0	0	0	0	0	0	0
TOLUENE	0	0	76	317	112	505	0	0	60,988	60,988
XYLENE (MIXED ISOMERS)	0	0	118	406	690	1,214	0	0	36,060	36,060
DELAWARE CITY REFINERY Total	**0**	**410**	**1,329**	**978**	**99,361**	**102,078**	**0**	**0**	**427,949**	**427,949**
DENTSPLY MAIN PLANT										
MERCURY	0	2,467	0	0	0	2,467	0	0	0	0
DENTSPLY MAIN PLANT Total	**0**	**2,467**	**0**	**0**	**0**	**2,467**	**0**	**0**	**0**	**0**
DENTSPLY WEST PLANT										
METHANOL	143	0	7,901	0	0	8,044	0	0	0	0
METHYL METHACRYLATE	67	0	1,947	0	0	2,014	0	0	0	0
TOLUENE	0	0	16,255	0	0	16,255	0	0	0	0
DENTSPLY WEST PLANT Total	**210**	**0**	**26,103**	**0**	**0**	**26,313**	**0**	**0**	**0**	**0**
DOVER AFB										
ETHYLBENZENE	0	0	0	0	0	0	0	0	0	0
LEAD	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	0	0	0	0	0	0	0	0	0	0
DOVER AFB Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
DUPONT EDGE MOOR										
ARSENIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
BARIUM COMPOUNDS	0	2	0	0	14,267	14,269	0	0	0	0
CARBONYL SULFIDE	0	0	0	0	0	0	0	0	0	0
CHLORINE	0	0	0	0	0	0	0	0	3,057,882	3,057,882

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
CHROMIUM COMPOUNDS	0	0	0	0	387,985	387,985	0	0	0	0
COBALT COMPOUNDS	0	0	0	0	8,903	8,903	0	0	0	0
COPPER COMPOUNDS	0	0	0	0	3,328	3,328	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	0	0	1	1	0	0	0	0
HEXACHLOROBENZENE	0	0	0	0	35	35	0	0	0	0
HYDROCHLORIC ACID	0	0	0	0	0	0	0	0	20,910,931	20,910,931
LEAD COMPOUNDS	0	0	0	0	42,710	42,710	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	3,514,348	3,514,348	0	0	0	0
NICKEL COMPOUNDS	0	0	0	0	28,739	28,739	0	0	0	0
OCTACHLOROSTYRENE	0	0	0	0	3	3	0	0	0	0
PENTACHLOROBENZENE	0	0	0	0	1	1	0	0	0	0
PHOSGENE	0	0	0	0	0	0	0	0	1,993,361	1,993,361
POLYCHLORINATED BIPHENYLS	0	0	0	0	1	1	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
TITANIUM TETRACHLORIDE	0	0	0	0	0	0	0	0	1,245,062	1,245,062
TOLUENE	0	6	0	0	0	6	0	0	0	0
VANADIUM COMPOUNDS	0	0	0	0	333,288	333,288	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	38,394	38,394	0	0	0	0
DUPONT EDGE MOOR Total	**0**	**8**	**0**	**0**	**4,372,002**	**4,372,010**	**0**	**0**	**27,207,236**	**27,207,236**
E A R										
DIISOCYANATES	0	0	0	650	0	650	0	0	0	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0	0	0	165	0	165	0	0	0	0
E A R Total	**0**	**0**	**0**	**815**	**0**	**815**	**0**	**0**	**0**	**0**
EDGE MOOR/HAY ROAD ENERGY CENTERS										
AMMONIA	193	0	0	0	193	386	0	0	0	0
BARIUM COMPOUNDS	0	0	0	0	25,365	25,365	0	0	0	0
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	0	0	0	0	0	0	0	0

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
HYDROCHLORIC ACID	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	2	0	0	0	2,371	2,374	0	0	0	0
MERCURY COMPOUNDS	0	0	0	0	61	61	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
SULFURIC ACID	0	0	0	0	0	0	0	0	29,375	29,375
EDGE MOOR/HAY ROAD ENERGY CENTERS Total	**195**	**0**	**0**	**0**	**27,990**	**28,185**	**0**	**0**	**29,375**	**29,375**
EVRAZ CLAYMONT STEEL										
CHROMIUM COMPOUNDS	0	33,804	0	0	1,748	35,552	0	0	0	0
COPPER COMPOUNDS	0	35,845	0	0	2,588	38,433	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	0	215,526	0	0	80	215,606	0	0	0	0
MANGANESE COMPOUNDS	0	192,839	0	0	8,811	201,650	0	0	0	0
MERCURY COMPOUNDS	0	0	0	0	3	3	0	0	0	0
NICKEL COMPOUNDS	0	4,447	0	0	1,280	5,727	0	0	0	0
ZINC COMPOUNDS	0	1,973,767	0	0	182	1,973,949	0	0	0	0
EVRAZ CLAYMONT STEEL Total	**0**	**2,456,228**	**0**	**0**	**14,692**	**2,470,920**	**0**	**0**	**0**	**0**
FORMOSA PLASTICS										
AMMONIA	0	0	0	0	0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
VINYL ACETATE	0	0	0	0	0	0	0	0	0	0
VINYL CHLORIDE	0	0	0	0	9	9	0	0	268,094	268,094
FORMOSA PLASTICS Total	**0**	**0**	**0**	**0**	**9**	**9**	**0**	**0**	**268,094**	**268,094**
FUJIFILM										
ETHYLENE GLYCOL	139	0	264	0	0	403	0	0	0	0
NITRATE COMPOUNDS	782	0	446	0	0	1,228	0	0	0	0
FUJIFILM Total	**921**	**0**	**710**	**0**	**0**	**1,631**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
GAC										
1,2,4-TRIMETHYLBENZENE	0	0	0	0	0	0	0	0	0	0
GAC Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HANESBRANDS										
NITRATE COMPOUNDS	76,689	0	0	0	0	76,689	0	0	0	0
HANESBRANDS Total	**76,689**	**0**	**0**	**0**	**0**	**76,689**	**0**	**0**	**0**	**0**
HIRSH INDUSTRIES										
CERTAIN GLYCOL ETHERS	0	0	0	0	0	0	0	0	0	0
HIRSH INDUSTRIES Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HONEYWELL										
AMMONIA	21	0	0	0	0	21	0	0	0	0
BORON TRIFLUORIDE	0	0	0	1	4	5	0	0	130,000	130,000
HYDROGEN FLUORIDE	0	0	0	0	0	0	0	0	80	80
METHANOL	60	0	0	0	0	60	0	0	60	60
N-HEXANE	10	0	17,000	400	0	17,410	140,995	0	25,000	165,995
HONEYWELL Total	**91**	**0**	**17,000**	**401**	**4**	**17,496**	**140,995**	**0**	**155,140**	**296,135**
IKO										
POLYCYCLIC AROMATIC COMPOUNDS	0	29	0	0	19	48	3	0	0	3
IKO Total	**0**	**29**	**0**	**0**	**19**	**48**	**3**	**0**	**0**	**3**
INDIAN RIVER POWER PLANT										
AMMONIA	0	0	0	0	0	0	0	0	2,500,000	2,500,000
BARIUM COMPOUNDS	0	0	0	0	13	13	0	0	0	0
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0	0	0	0
CHROMIUM COMPOUNDS	0	0	0	0	0	0	0	0	0	0
COPPER COMPOUNDS	0	0	0	0	0	0	0	0	0	0

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	**POTW**	**RECYCLE**	**ENERGY RECOVERY**	**TREATMENT**	**DISPOSAL**	**TOTAL**	**RECYCLE**	**ENERGY RECOVERY**	**TREATMENT**	**TOTAL**
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
HYDROCHLORIC ACID	0	0	0	0	0	0	0	0	0	0
HYDROGEN FLUORIDE	0	0	0	0	0	0	0	0	16,000	16,000
LEAD COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MERCURY COMPOUNDS	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
SULFURIC ACID	0	0	0	0	0	0	0	0	260,000	260,000
VANADIUM COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER POWER PLANT Total	**0**	**0**	**0**	**0**	**13**	**13**	**0**	**0**	**2,776,000**	**2,776,000**
INSTEEL WIRE										
LEAD COMPOUNDS	0	5	0	0	0	5	0	0	0	0
INSTEEL WIRE Total	**0**	**5**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**
INTERVET										
MERCURY COMPOUNDS	0	0	0	0	2	2	0	0	0	0
INTERVET Total	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**
INVISTA										
NAPHTHALENE	0	102	5	0	0	107	0	0	0	0
N-HEXANE	0	57	3	0	0	60	0	0	0	0
INVISTA Total	**0**	**159**	**8**	**0**	**0**	**167**	**0**	**0**	**0**	**0**
JOHNSON CONTROLS										
ANTIMONY COMPOUNDS	0	9,493	0	0	0	9,493	0	0	0	0
LEAD COMPOUNDS	2	2,434,058	0	0	233	2,434,293	0	0	0	0
JOHNSON CONTROLS Total	**2**	**2,443,551**	**0**	**0**	**233**	**2,443,786**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
JUSTIN TANKS										
STYRENE	0	0	0	301	0	301	0	0	0	0
JUSTIN TANKS Total	**0**	**0**	**0**	**301**	**0**	**301**	**0**	**0**	**0**	**0**
KUEHNE										
CHLORINE	0	0	0	0	0	0	0	0	0	0
KUEHNE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
MACDERMID										
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0	0	0	0	0	0	0	0	682	682
MACDERMID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**682**	**682**
MEDAL										
METHANOL	0	0	0	25,056	0	25,056	1,296,701	0	0	1,296,701
N-HEXANE	0	0	0	0	0	0	1,112,497	0	0	1,112,497
N-METHYL-2-PYRROLIDONE	62,755	5,925	0	0	0	68,680	0	0	0	0
MEDAL Total	**62,755**	**5,925**	**0**	**25,056**	**0**	**93,736**	**2,409,198**	**0**	**0**	**2,409,198**
METAL MASTERS										
CHROMIUM	0	13,403	0	0	200	13,603	0	0	0	0
NICKEL	0	42,055	0	0	200	42,255	0	0	0	0
METAL MASTERS Total	**0**	**55,458**	**0**	**0**	**400**	**55,858**	**0**	**0**	**0**	**0**
MOTECH AMERICAS										
COPPER	1	733	0	0	1	735	0	0	0	0
LEAD	0	60	0	0	2	62	0	0	0	0
MOTECH AMERICAS Total	**1**	**793**	**0**	**0**	**3**	**797**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
MOUNTAIRE FARMS FRANKFORD FEED MILL										
ARSENIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
COPPER COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
MOUNTAIRE FARMS OF DELAWARE										
AMMONIA	0	0	0	0	0	0	0	0	46,553	46,553
ARSENIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
COPPER COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**46,553**	**46,553**
MOUNTAIRE FARMS OF DELMARVA										
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELMARVA Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NORAMCO										
DICHLOROMETHANE	0	0	21,592	0	0	21,592	35,689	0	22,592	58,281
FORMIC ACID	0	0	0	0	0	0	0	0	0	0
METHANOL	8,183	0	155,494	0	0	163,677	0	0	163,678	163,678
N,N-DIMETHYLANILINE	9,433	0	0	0	0	9,433	0	0	0	0
N-BUTYL ALCOHOL	19,742	0	375,099	0	0	394,841	0	0	394,841	394,841
TOLUENE	3	0	298,115	0	0	298,118	0	0	298,118	298,118
NORAMCO Total	**37,361**	**0**	**850,300**	**0**	**0**	**887,661**	**35,689**	**0**	**879,229**	**914,918**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
NRG ENERGY DOVER										
HYDROCHLORIC ACID	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	0	0	0	0	91	91	0	0	0	0
MERCURY COMPOUNDS	0	0	0	0	2	2	0	0	0	0
SULFURIC ACID	0	0	0	0	0	0	0	0	25,588	25,588
NRG ENERGY DOVER Total	**0**	**0**	**0**	**0**	**92**	**92**	**0**	**0**	**25,588**	**25,588**
OCCIDENTAL CHEMICAL										
MERCURY	0	0	0	0	0	0	0	0	0	0
OCCIDENTAL CHEMICAL Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ORIENT										
ANILINE	5	0	0	0	0	5	0	0	12,599	12,599
CHROMIUM COMPOUNDS	0	0	0	0	0	0	0	0	0	0
NITROBENZENE	1	0	0	0	0	1	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ORIENT Total	**6**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**12,599**	**12,599**
PERDUE BRIDGEVILLE MILLING										
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0	0	0	0
COPPER COMPOUNDS	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
PERDUE GEORGETOWN										
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0	0	0	0
NITRATE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
PERACETIC ACID	0	0	0	0	0	0	0	0	13,049	13,049
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
PERDUE GEORGETOWN Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13,049**	**13,049**
PERDUE MILFORD										
PERACETIC ACID	0	0	0	0	0	0	0	0	23,200	23,200
PERDUE MILFORD Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23,200**	**23,200**
PICTSWEET										
AMMONIA	0	0	0	0	0	0	0	0	0	0
PICTSWEET Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PINNACLE FOODS										
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
PINNACLE FOODS Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PPG DOVER										
CERTAIN GLYCOL ETHERS	1,245	0	0	5	500	1,750	0	0	0	0
ETHYLENE GLYCOL	3,346	0	0	250	260	3,856	0	0	0	0
ZINC COMPOUNDS	1,100	0	0	0	1,610	2,710	0	0	0	0
PPG DOVER Total	**5,691**	**0**	**0**	**255**	**2,370**	**8,316**	**0**	**0**	**0**	**0**
PRINCE MINERALS										
BARIUM COMPOUNDS	0	0	0	0	1	1	0	0	0	0
LEAD COMPOUNDS	0	0	0	0	1	1	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	51	51	0	0	0	0
PRINCE MINERALS Total	**0**	**0**	**0**	**0**	**53**	**53**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
ROHM & HAAS B2 B3 B8										
DIISOCYANATES	0	0	0	900	0	900	0	0	0	0
N,N-DIMETHYLFORMAMIDE	182,973	32,109	392,529	27,949	0	635,560	4,667,952	0	691	4,668,643
PHTHALIC ANHYDRIDE	1,300	0	0	273	0	1,573	0	0	0	0
ROHM & HAAS B2 B3 B8 Total	**184,273**	**32,109**	**392,529**	**29,122**	**0**	**638,033**	**4,667,952**	**0**	**691**	**4,668,643**
ROHM & HAAS B5 B6										
4,4'-METHYLENEBIS(2-CHLOROANILINE)	0	0	0	0	0	0	0	0	0	0
DIISOCYANATES	0	0	0	4,779	0	4,779	0	0	0	0
N-METHYL-2-PYRROLIDONE	0	95,982	0	13,621	0	109,603	0	0	0	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0	0	0	1,076	0	1,076	0	0	4,500	4,500
ROHM & HAAS B5 B6 Total	**0**	**95,982**	**0**	**19,476**	**0**	**115,458**	**0**	**0**	**4,500**	**4,500**
ROHM & HAAS B7 B15										
4,4'-METHYLENEBIS(2-CHLOROANILINE)	0	0	0	0	0	0	0	0	0	0
N-METHYL-2-PYRROLIDONE	0	14,574	0	2,372	0	16,946	0	0	0	0
ROHM & HAAS B7 B15 Total	**0**	**14,574**	**0**	**2,372**	**0**	**16,946**	**0**	**0**	**0**	**0**
SERVICE ENERGY DOVER										
1,2,4-TRIMETHYLBENZENE	0	0	0	0	0	0	0	0	0	0
TOLUENE	0	0	0	0	0	0	0	0	0	0
SERVICE ENERGY DOVER Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SPI PHARMA										
CHLORINE	0	0	0	0	0	0	0	0	0	0
NITRIC ACID	0	0	0	0	0	0	0	0	0	0
SPI PHARMA Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX D

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
FACILITY/CHEMICAL	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
SUNOCO										
BENZENE	0	0	0	0	0	0	0	0	0	0
ETHYLENE	0	0	0	0	0	0	0	0	0	0
LEAD	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	0	0	0	0	0	0	0	0	0	0
N-HEXANE	0	0	0	0	0	0	0	0	0	0
NICKEL	0	0	0	0	0	0	0	0	0	0
TOLUENE	0	0	0	0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	0	0	0	0	0	0	0	0	0	0
SUNOCO Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
V&S DELAWARE GALVANIZING										
LEAD	0	1,714	0	0	0	1,714	0	0	0	0
V&S DELAWARE GALVANIZING Total	**0**	**1,714**	**0**	**0**	**0**	**1,714**	**0**	**0**	**0**	**0**
VP RACING FUELS										
BENZENE	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	0	9	0	0	1	10	0	0	0	0
METHANOL	0	1,240	0	0	9	1,249	0	0	0	0
TOLUENE	0	2,436	0	0	4	2,440	0	0	0	0
XYLENE (MIXED ISOMERS)	0	0		0	0	0	0	0	0	0
VP RACING FUELS Total	**0**	**3,685**	**0**	**0**	**14**	**3,699**	**0**	**0**	**0**	**0**
STATE TOTALS	**996,970**	**5,469,246**	**1,857,131**	**336,190**	**4,546,552**	**13,206,088**	**7,678,337**	**0**	**32,895,795**	**40,574,132**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX E

2010 ON-SITE RELEASE SUMMARY BY FACILITY

FACILITY - RANKED BY TOTAL ON-SITE RELEASE	ON-SITE RELEASES				TRANSFERS	ON-SITE
	TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE	WASTE MGMT.
INDIAN RIVER POWER PLANT	2,550,092	2,010	154,167	2,706,269	13	2,776,000
DELAWARE CITY REFINERY	52,221	380,082	0	432,303	102,078	427,949
DUPONT EDGE MOOR	282,450	32,173	615	315,239	4,372,010	27,207,236
EDGE MOOR/HAY ROAD ENERGY CENTERS	278,180	1,820	0	280,000	28,185	29,375
PERDUE GEORGETOWN	152	183,826	0	183,978	0	13,049
NRG ENERGY DOVER	117,613	0	0	117,613	92	25,588
FORMOSA PLASTICS	115,384	12	0	115,396	9	268,094
MOUNTAIRE FARMS OF DELAWARE	2,330	0	44,225	46,555	0	46,553
BASF NEWPORT	26,851	0	0	26,851	1,511,610	1,296,632
EVRAZ CLAYMONT STEEL	3,418	352	11,740	15,510	2,470,920	0
CAMDEL METALS	13,847	0	0	13,847	89,116	0
JUSTIN TANKS	13,464	0	0	13,464	301	0
SUNOCO	12,078	0	0	12,078	0	0
HIRSH INDUSTRIES	7,968	0	0	7,968	0	0
DENTSPLY WEST PLANT	6,570	0	0	6,570	26,313	0
BASF SEAFORD	6,096	0	0	6,096	3,051	10,778
HONEYWELL	5,678	0	0	5,678	17,496	296,135
ROHM & HAAS B2 B3 B8	4,154	0	0	4,154	638,033	4,668,643
CRODA	4,043	0	0	4,043	43,295	0
ORIENT	3,498	0	0	3,498	6	12,599
ROHM & HAAS B5 B6	2,998	0	0	2,998	115,458	4,500
ROHM & HAAS B7 B15	2,744	0	0	2,744	16,946	0
ARLON	1,644	0	0	1,644	3,360	143,000
MEDAL	1,489	0	0	1,489	93,736	2,409,198
KUEHNE	1,000	0	0	1,000	0	0
NORAMCO	999	0	0	999	887,661	914,918
AGILENT TECHNOLOGIES NEWPORT	784	0	0	784	184,888	0
PICTSWEET	650	0	0	650	0	0
INVISTA	482	0	0	482	167	0
DOVER AFB	401	0	0	401	0	0
PPG DOVER	270	0	0	270	8,316	0
VP RACING FUELS	247	0	0	247	3,699	0
PRINCE MINERALS	162	0	0	162	53	0
JOHNSON CONTROLS	120	8	0	128	2,443,786	0
MOUNTAIRE FARMS OF DELMARVA	23	0	0	23	0	0

Source: DNREC 2010 TRI Database, October, 2011
All amounts are in pounds

APPENDIX E

2010 ON-SITE RELEASE SUMMARY BY FACILITY

FACILITY - RANKED BY TOTAL ON-SITE RELEASE	ON-SITE RELEASES				TRANSFERS	ON-SITE
	TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE	WASTE MGMT.
MACDERMID	6.6	0	0	6.6	0	682
E A R	3.5	0	0	3.5	815	0
PINNACLE FOODS	2.0	0	0	2.0	0	0
V&S DELAWARE GALVANIZING	1.37	0	0.15	1.52	1,714	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	1.48	0	0	1.48	0	0
METAL MASTERS	1.0	0	0	1.0	55,858	0
FUJIFILM	1.0	0	0	1.0	1,631	0
OCCIDENTAL CHEMICAL	0	0.16	0	0.16	0.40	0
DENTSPLY MAIN PLANT	0.0200	0.0000	0.0000	0.0200	2,467	0
INSTEEL WIRE	0.0017	0.0000	0.0000	0.0017	5.0	0
ALLEN FAMILY FOODS HARBESON	0	0	0	0	0	0
ALLEN'S HATCHERY SEAFORD MILL	0	0	0	0	0	0
AMICK FARMS	0	0	0	0	0	0
BUCK ALGONQUIN	0	0	0	0	0	0
CARL KING	0	0	0	0	0	0
CHROME DEPOSIT	0	0	0	0	5,009	0
COLOR WORKS PAINTING	0	0	0	0	455	0
GAC	0	0	0	0	0	0
HANESBRANDS	0	0	0	0	76,689	0
IKO	0	0	0	0	48	3
INTERVET	0	0	0	0	2	0
MOTECH AMERICAS	0	0	0	0	797	0
PERDUE BRIDGEVILLE MILLING	0	0	0	0	0	0
PERDUE MILFORD	0	0	0	0	0	23,200
SERVICE ENERGY DOVER	0	0	0	0	0	0
SPI PHARMA	0	0	0	0	0	0
FACILITY TOTALS	**3,520,119**	**600,283**	**210,747**	**4,331,149**	**13,206,088**	**40,574,132**

Source: DNREC 2010 TRI Database, October, 2011
All amounts are in pounds

APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	ON-SITE RELEASES TO WATER	ON-SITE RELEASES TO LAND	ON-SITE RELEASES TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
1,2,4-TRIMETHYLBENZENE							
CARL KING	1	0	0	0	0	0	0
DELAWARE CITY REFINERY		180	5	0	185	0	5,400
GAC	1	0	0	0	0	0	0
SERVICE ENERGY DOVER	1	0	0	0	0	0	0
1,2,4-TRIMETHYLBENZENE Total	**3**	**180**	**5**	**0**	**185**	**0**	**5,400**
2,4-DIMETHYLPHENOL							
DELAWARE CITY REFINERY		0	40	0	40	0	1,800
2,4-DIMETHYLPHENOL Total		0	40	0	40	0	1,800
4,4'-METHYLENEBIS(2-CHLOROANILINE)							
ROHM & HAAS B5 B6	1	0	0	0	0	0	0
ROHM & HAAS B7 B15	1	0	0	0	0	0	0
4,4'-METHYLENEBIS(2-CHLOROANILINE) Total	2	0	0	0	0	0	0
ACETONITRILE							
AGILENT TECHNOLOGIES NEWPORT		33	0	0	33	13,054	0
ACETONITRILE Total		33	0	0	33	13,054	0
AMMONIA							
BASF SEAFORD		5,047	0	0	5,047	1,080	9,161
EDGE MOOR/HAY ROAD ENERGY CENTERS		561	0	0	561	386	0
FORMOSA PLASTICS		13,201	0	0	13,201	0	0
HONEYWELL		1,778	0	0	1,778	21	0
INDIAN RIVER POWER PLANT		73,000	0	0	73,000	0	2,500,000
MOUNTAIRE FARMS OF DELAWARE		2,328	0	44,225	46,553	0	46,553
PICTSWEET		650	0	0	650	0	0
AMMONIA Total		96,565	0	44,225	140,790	1,487	2,555,714

Source: DNREC 2010 TRI Database, October, 2011
A "1" in the Form A column indicates a Form A report

All Amounts Are in Pounds

APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	ON-SITE RELEASES TO WATER	ON-SITE RELEASES TO LAND	ON-SITE RELEASES TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
ANILINE							
BASF NEWPORT		39	0	0	39	310,391	1,142
ORIENT		3,233	0	0	3,233	5	12,599
ANILINE Total		3,272	0	0	3,272	310,396	13,741
ANTIMONY COMPOUNDS							
JOHNSON CONTROLS		0	0	0	0	9,493	0
ANTIMONY COMPOUNDS Total		0	0	0	0	9,493	0
ARSENIC COMPOUNDS							
DUPONT EDGE MOOR		0	55	0	55	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	1	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	1	0	0	0	0	0	0
ARSENIC COMPOUNDS Total	2	0	55	0	55	0	0
ASBESTOS (FRIABLE)							
DELAWARE CITY REFINERY		0	0	0	0	98,300	0
ASBESTOS (FRIABLE) Total		0	0	0	0	98,300	0
BARIUM COMPOUNDS							
DUPONT EDGE MOOR		2	3,828	0	3,830	14,269	0
EDGE MOOR/HAY ROAD ENERGY CENTERS		1,276	780	0	2,056	25,365	0
INDIAN RIVER POWER PLANT		3,600	250	96,000	99,850	13	0
PRINCE MINERALS		4	0	0	4	1	0
BARIUM COMPOUNDS Total		4,882	4,858	96,000	105,740	39,648	0
BENZENE							
DELAWARE CITY REFINERY		1,250	5	0	1,255	1,329	27,560
SUNOCO		3,452	0	0	3,452	0	0
VP RACING FUELS	1	0	0	0	0	0	0
BENZENE Total	1	4,702	5	0	4,707	1,329	27,560

Source: DNREC 2010 TRI Database, October, 2011
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All Amounts Are in Pounds

APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
BENZO(G,H,I)PERYLENE							
DELAWARE CITY REFINERY		2	1	0	3	0	111
EDGE MOOR/HAY ROAD ENERGY CENTERS		0	0	0	0	0	0
INDIAN RIVER POWER PLANT		0	0	0	0	0	0
MOUNTAIRE FARMS OF DELMARVA		1	0	0	1	0	0
PERDUE BRIDGEVILLE MILLING		0	0	0	0	0	0
PERDUE GEORGETOWN		152	0	0	152	0	0
PINNACLE FOODS		0	0	0	0	0	0
BENZO(G,H,I)PERYLENE Total		155	1	0	156	0	111
BIPHENYL							
BASF NEWPORT		124	0	0	124	326,763	2,321
BIPHENYL Total		124	0	0	124	326,763	2,321
BORON TRIFLUORIDE							
HONEYWELL		442	0	0	442	5	130,000
BORON TRIFLUORIDE Total		442	0	0	442	5	130,000
BUTYL ACRYLATE							
BASF SEAFORD		193	0	0	193	204	100
BUTYL ACRYLATE Total		193	0	0	193	204	100
CARBONYL SULFIDE							
DUPONT EDGE MOOR		262,079	0	0	262,079	0	0
CARBONYL SULFIDE Total		262,079	0	0	262,079	0	0

Source: DNREC 2010 TRI Database, October, 2011
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All Amounts Are in Pounds

APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
CERTAIN GLYCOL ETHERS							
BASF SEAFORD		5	0	0	5	761	0
CRODA		4	0	0	4	1,078	0
HIRSH INDUSTRIES		7,968	0	0	7,968	0	0
PPG DOVER		10	0	0	10	1,750	0
CERTAIN GLYCOL ETHERS Total		7,987	0	0	7,987	3,589	0
CHLORINE							
DUPONT EDGE MOOR		3,172	0	0	3,172	0	3,057,882
KUEHNE		1,000	0	0	1,000	0	0
SPI PHARMA	1	0	0	0	0	0	0
CHLORINE Total	1	4,172	0	0	4,172	0	3,057,882
CHROMIUM							
CAMDEL METALS		0	0	0	0	39,489	0
METAL MASTERS		1	0	0	1	13,603	0
CHROMIUM Total		1	0	0	1	53,092	0
CHROMIUM COMPOUNDS							
DUPONT EDGE MOOR		1	23	0	24	387,985	0
EVRAZ CLAYMONT STEEL		113	4	158	275	35,552	0
INDIAN RIVER POWER PLANT		500	250	8,400	9,150	0	0
ORIENT		0	0	0	0	0	0
CHROMIUM COMPOUNDS Total		614	277	8,558	9,449	423,537	0
COBALT COMPOUNDS							
DUPONT EDGE MOOR		0	27	0	27	8,903	0
COBALT COMPOUNDS Total		0	27	0	27	8,903	0

Source: DNREC 2010 TRI Database, October, 2011
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All Amounts Are in Pounds

APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	ON-SITE RELEASES TO WATER	ON-SITE RELEASES TO LAND	ON-SITE RELEASES TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
COPPER							
ARLON		5	0	0	5	1,700	0
BUCK ALGONQUIN		0	0	0	0	0	0
MOTECH AMERICAS		0	0	0	0	735	0
COPPER Total		5	0	0	5	2,435	0
COPPER COMPOUNDS							
ALLEN'S HATCHERY SEAFORD MILL	1	0	0	0	0	0	0
AMICK FARMS	1	0	0	0	0	0	0
DUPONT EDGE MOOR		0	169	0	169	3,328	0
EVRAZ CLAYMONT STEEL		137	64	397	598	38,433	0
INDIAN RIVER POWER PLANT		500	750	8,900	10,150	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	1	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	1	0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING	1	0	0	0	0	0	0
COPPER COMPOUNDS Total	5	637	983	9,297	10,917	41,761	0
CUMENE							
DELAWARE CITY REFINERY		114	5	0	119	0	350
CUMENE Total		114	5	0	119	0	350
CYCLOHEXANE							
BASF NEWPORT		56	0	0	56	39,033	3,483
CYCLOHEXANE Total		56	0	0	56	39,033	3,483
DICHLOROMETHANE							
NORAMCO		488	0	0	488	21,592	58,281
DICHLOROMETHANE Total		488	0	0	488	21,592	58,281

Source: DNREC 2010 TRI Database, October, 2011
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All Amounts Are in Pounds

APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
DIETHANOLAMINE							
CRODA		38	0	0	38	5,965	0
DIETHANOLAMINE Total		38	0	0	38	5,965	0
DIISOCYANATES							
E A R		1	0	0	1	650	0
ROHM & HAAS B2 B3 B8		0	0	0	0	900	0
ROHM & HAAS B5 B6		2	0	0	2	4,779	0
DIISOCYANATES Total		3	0	0	3	6,329	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS							
DUPONT EDGE MOOR		0	0	0	0	1	0
EDGE MOOR/HAY ROAD ENERGY CENTERS		0	0	0	0	0	0
EVRAZ CLAYMONT STEEL		0	0	0	0	0	0
FORMOSA PLASTICS		0	0	0	0	0	0
INDIAN RIVER POWER PLANT		0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS Total		0	0	0	0	1	0
ETHYL ACRYLATE							
BASF SEAFORD		219	0	0	219	204	22
ETHYL ACRYLATE Total		219	0	0	219	204	22
ETHYLBENZENE							
ARLON		319	0	0	319	260	29,000
DELAWARE CITY REFINERY		239	5	0	244	186	6,589
DOVER AFB		28	0	0	28	0	0
ETHYLBENZENE Total		586	5	0	591	446	35,589

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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
ETHYLENE							
SUNOCO		206	0	0	206	0	0
ETHYLENE Total		206	0	0	206	0	0
ETHYLENE GLYCOL							
FUJIFILM		1	0	0	1	403	0
PPG DOVER		5	0	0	5	3,856	0
ETHYLENE GLYCOL Total		6	0	0	6	4,259	0
ETHYLENE OXIDE							
CRODA		2,475	0	0	2,475	0	0
ETHYLENE OXIDE Total		2,475	0	0	2,475	0	0
FORMIC ACID							
NORAMCO		10	0	0	10	0	0
FORMIC ACID Total		10	0	0	10	0	0
HEXACHLOROBENZENE							
DUPONT EDGE MOOR		0	0	0	0	35	0
HEXACHLOROBENZENE Total		0	0	0	0	35	0
HYDROCHLORIC ACID							
DUPONT EDGE MOOR		15,242	0	0	15,242	0	20,910,931
EDGE MOOR/HAY ROAD ENERGY CENTERS		265,150	0	0	265,150	0	0
INDIAN RIVER POWER PLANT		2,300,000	0	0	2,300,000	0	0
NRG ENERGY DOVER		109,518	0	0	109,518	0	0
HYDROCHLORIC ACID Total		2,689,910	0	0	2,689,910	0	20,910,931

Source: DNREC 2010 TRI Database, October, 2011
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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	ON-SITE RELEASES TO WATER	ON-SITE RELEASES TO LAND	ON-SITE RELEASES TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
HYDROGEN FLUORIDE							
HONEYWELL		544	0	0	544	0	80
INDIAN RIVER POWER PLANT		140,000	0	0	140,000	0	16,000
HYDROGEN FLUORIDE Total		140,544	0	0	140,544	0	16,080
LEAD							
DOVER AFB		190	0	0	190	0	0
MOTECH AMERICAS		0	0	0	0	62	0
SUNOCO		2	0	0	2	0	0
V&S DELAWARE GALVANIZING		1	0	0	2	1,714	0
LEAD Total		193	0	0	194	1,776	0
LEAD COMPOUNDS							
CHROME DEPOSIT		0	0	0	0	5,009	0
DELAWARE CITY REFINERY		10	0	0	10	134	0
DUPONT EDGE MOOR		0	43	0	43	42,710	0
EDGE MOOR/HAY ROAD ENERGY CENTERS		176	1,040	0	1,216	2,374	0
EVRAZ CLAYMONT STEEL		423	50	57	530	215,606	0
INDIAN RIVER POWER PLANT		401	0	5,347	5,748	0	0
INSTEEL WIRE		0	0	0	0	5	0
JOHNSON CONTROLS		120	8	0	128	2,434,293	0
NRG ENERGY DOVER		3	0	0	3	91	0
PRINCE MINERALS		1	0	0	1	1	0
VP RACING FUELS		1	0	0	1	10	0
LEAD COMPOUNDS Total		1,134	1,140	5,404	7,678	2,700,233	0
MANGANESE							
CAMDEL METALS		0	0	0	0	3,869	0
COLOR WORKS PAINTING		0	0	0	0	455	0
MANGANESE Total		0	0	0	0	4,324	0

Source: DNREC 2010 TRI Database, October, 2011
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All Amounts Are in Pounds

APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
MANGANESE COMPOUNDS							
ALLEN'S HATCHERY SEAFORD MILL	1	0	0	0	0	0	0
AMICK FARMS	1	0	0	0	0	0	0
DUPONT EDGE MOOR		1	27,670	0	27,671	3,514,348	0
EVRAZ CLAYMONT STEEL		346	43	10,607	10,996	201,650	0
INDIAN RIVER POWER PLANT		500	5	15,000	15,505	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	1	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	1	0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING	1	0	0	0	0	0	0
PRINCE MINERALS		158	0	0	158	51	0
MANGANESE COMPOUNDS Total	5	1,005	27,718	25,607	54,330	3,716,049	0
MERCURY							
DENTSPLY MAIN PLANT		0	0	0	0	2,467	0
OCCIDENTAL CHEMICAL		0	0	0	0	0	0
MERCURY Total		0	0	0	0	2,467	0
MERCURY COMPOUNDS							
EDGE MOOR/HAY ROAD ENERGY CENTERS		11	0	0	11	61	0
EVRAZ CLAYMONT STEEL		59	0	0	59	3	0
INDIAN RIVER POWER PLANT		90	0	20	110	0	0
INTERVET		0	0	0	0	2	0
NRG ENERGY DOVER		7	0	0	7	2	0
MERCURY COMPOUNDS Total		168	0	20	188	67	0
METHANOL							
AGILENT TECHNOLOGIES NEWPORT		730	0	0	730	40,497	0
BASF NEWPORT		25,401	0	0	25,401	769,243	1,255,555
CRODA		869	0	0	869	36,252	0

Source: DNREC 2010 TRI Database, October, 2011
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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
DENTSPLY WEST PLANT		4,260	0	0	4,260	8,044	0
HONEYWELL		4	0	0	4	60	60
MEDAL		265	0	0	265	25,056	1,296,701
NORAMCO		281	0	0	281	163,677	163,678
VP RACING FUELS		175	0	0	175	1,249	0
METHANOL Total		31,985	0	0	31,985	1,044,078	2,715,994
METHYL METHACRYLATE							
BASF SEAFORD		275	0	0	275	204	449
DENTSPLY WEST PLANT		1,850	0	0	1,850	2,014	0
METHYL METHACRYLATE Total		2,125	0	0	2,125	2,218	449
N,N-DIMETHYLANILINE							
NORAMCO		0	0	0	0	9,433	0
N,N-DIMETHYLANILINE Total		0	0	0	0	9,433	0
N,N-DIMETHYLFORMAMIDE							
ROHM & HAAS B2 B3 B8		4,153	0	0	4,153	635,560	4,668,643
N,N-DIMETHYLFORMAMIDE Total		4,153	0	0	4,153	635,560	4,668,643
NAPHTHALENE							
CARL KING	1	0	0	0	0	0	0
DELAWARE CITY REFINERY		656	5	0	661	0	1,200
DOVER AFB		183	0	0	183	0	0
INDIAN RIVER POWER PLANT	1	0	0	0	0	0	0
INVISTA		2	0	0	2	107	0
SUNOCO		3	0	0	3	0	0
NAPHTHALENE Total	2	844	5	0	849	107	1,200

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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
N-BUTYL ALCOHOL							
NORAMCO		10	0	0	10	394,841	394,841
N-BUTYL ALCOHOL Total		10	0	0	10	394,841	394,841
N-HEXANE							
DELAWARE CITY REFINERY		7,960	5	0	7,965	0	187,800
HONEYWELL		2,910	0	0	2,910	17,410	165,995
INVISTA		480	0	0	480	60	0
MEDAL		585	0	0	585	0	1,112,497
SUNOCO		8,124	0	0	8,124	0	0
N-HEXANE Total		20,059	5	0	20,064	17,470	1,466,292
NICKEL							
CAMDEL METALS		0	0	0	0	37,613	0
METAL MASTERS		1	0	0	1	42,255	0
SUNOCO		9	0	0	9	0	0
NICKEL Total		10	0	0	10	79,868	0
NICKEL COMPOUNDS							
DUPONT EDGE MOOR		1	193	0	194	28,739	0
EVRAZ CLAYMONT STEEL		28	34	285	347	5,727	0
NICKEL COMPOUNDS Total		29	227	285	541	34,466	0
NITRATE COMPOUNDS							
ALLEN FAMILY FOODS HARBESON	1	0	0	0	0	0	0
BASF NEWPORT		0	0	0	0	55,376	0
DELAWARE CITY REFINERY		0	380,000	0	380,000	0	0
FUJIFILM		0	0	0	0	1,228	0
HANESBRANDS		0	0	0	0	76,689	0
PERDUE GEORGETOWN		0	183,826	0	183,826	0	0
NITRATE COMPOUNDS Total	1	0	563,826	0	563,826	133,293	0

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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
NITRIC ACID							
BASF NEWPORT		0	0	0	0	0	28,135
SPI PHARMA	1	0	0	0	0	0	0
NITRIC ACID Total	1	0	0	0	0	0	28,135
NITROBENZENE							
ORIENT		265	0	0	265	1	0
NITROBENZENE Total		265	0	0	265	1	0
N-METHYL-2-PYRROLIDONE							
MEDAL		639	0	0	639	68,680	0
ROHM & HAAS B5 B6		2,994	0	0	2,994	109,603	0
ROHM & HAAS B7 B15		2,744	0	0	2,744	16,946	0
N-METHYL-2-PYRROLIDONE Total		6,377	0	0	6,377	195,229	0
OCTACHLOROSTYRENE							
DUPONT EDGE MOOR		0	0	0	0	3	0
OCTACHLOROSTYRENE Total		0	0	0	0	3	0
P-CHLOROANILINE							
BASF NEWPORT		13	0	0	13	9,803	327
P-CHLOROANILINE Total		13	0	0	13	9,803	327
PENTACHLOROBENZENE							
DUPONT EDGE MOOR		0	0	0	0	1	0
PENTACHLOROBENZENE Total		0	0	0	0	1	0
PERACETIC ACID							
PERDUE GEORGETOWN		0	0	0	0	0	13,049
PERDUE MILFORD		0	0	0	0	0	23,200
PERACETIC ACID Total		0	0	0	0	0	36,249

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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	ON-SITE RELEASES TO WATER	ON-SITE RELEASES TO LAND	ON-SITE RELEASES TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
PHOSGENE							
DUPONT EDGE MOOR		446	0	0	446	0	1,993,361
PHOSGENE Total		446	0	0	446	0	1,993,361
PHTHALIC ANHYDRIDE							
ROHM & HAAS B2 B3 B8		1	0	0	1	1,573	0
PHTHALIC ANHYDRIDE Total		1	0	0	1	1,573	0
POLYCHLORINATED BIPHENYLS							
DUPONT EDGE MOOR		0	0	0	0	1	0
POLYCHLORINATED BIPHENYLS Total		0	0	0	0	1	0
POLYCYCLIC AROMATIC COMPOUNDS							
DELAWARE CITY REFINERY		0	1	0	1	410	91
DUPONT EDGE MOOR		69	0	615	684	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS		19	0	0	19	0	0
IKO		0	0	0	0	48	3
INDIAN RIVER POWER PLANT		1	0	0	1	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL		1	0	0	1	0	0
MOUNTAIRE FARMS OF DELAWARE		2	0	0	2	0	0
MOUNTAIRE FARMS OF DELMARVA		23	0	0	23	0	0
PERDUE BRIDGEVILLE MILLING		0	0	0	0	0	0
PERDUE GEORGETOWN		0	0	0	0	0	0
PINNACLE FOODS		2	0	0	2	0	0
POLYCYCLIC AROMATIC COMPOUNDS Total		117	1	615	733	457	94
PROPYLENE							
DELAWARE CITY REFINERY		34,800	0	0	34,800	0	100,000
PROPYLENE Total		34,800	0	0	34,800	0	100,000

Source: DNREC 2010 TRI Database, October, 2011
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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	ON-SITE RELEASES TO WATER	ON-SITE RELEASES TO LAND	ON-SITE RELEASES TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
PROPYLENE OXIDE							
CRODA		657	0	0	657	0	0
PROPYLENE OXIDE Total		657	0	0	657	0	0
STYRENE							
BASF SEAFORD		357	0	0	357	598	1,046
JUSTIN TANKS		13,464	0	0	13,464	301	0
STYRENE Total		13,821	0	0	13,821	899	1,046
SULFURIC ACID							
EDGE MOOR/HAY ROAD ENERGY CENTERS		10,987	0	0	10,987	0	29,375
INDIAN RIVER POWER PLANT		30,000	0	0	30,000	0	260,000
NRG ENERGY DOVER		8,085	0	0	8,085	0	25,588
SULFURIC ACID Total		49,072	0	0	49,072	0	314,963
TERT-BUTYL ALCOHOL							
DELAWARE CITY REFINERY		3,870	0	0	3,870	0	0
TERT-BUTYL ALCOHOL Total		3,870	0	0	3,870	0	0
TITANIUM TETRACHLORIDE							
DUPONT EDGE MOOR		20	0	0	20	0	1,245,062
TITANIUM TETRACHLORIDE Total		20	0	0	20	0	1,245,062
TOLUENE							
AGILENT TECHNOLOGIES NEWPORT		21	0	0	21	131,337	0
DELAWARE CITY REFINERY		2,210	5	0	2,215	505	60,988
DENTSPLY WEST PLANT		460	0	0	460	16,255	0
DUPONT EDGE MOOR		1,404	0	0	1,404	6	0

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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
NORAMCO		210	0	0	210	298,118	298,118
SERVICE ENERGY DOVER	1	0	0	0	0	0	0
SUNOCO		121	0	0	121	0	0
VP RACING FUELS		71	0	0	71	2,440	0
TOLUENE Total	1	4,497	5	0	4,502	448,661	359,106
TOLUENE DIISOCYANATE (MIXED ISOMERS)							
E A R		3	0	0	3	165	0
MACDERMID		7	0	0	7	0	682
ROHM & HAAS B5 B6		2	0	0	2	1,076	4,500
TOLUENE DIISOCYANATE (MIXED ISOMERS) Total		11	0	0	11	1,241	5,182
TRICHLOROETHYLENE							
CAMDEL METALS		13,847	0	0	13,847	8,145	0
TRICHLOROETHYLENE Total		13,847	0	0	13,847	8,145	0
VANADIUM COMPOUNDS							
DUPONT EDGE MOOR		1	43	0	44	333,288	0
INDIAN RIVER POWER PLANT		500	5	14,000	14,505	0	0
VANADIUM COMPOUNDS Total		501	48	14,000	14,549	333,288	0
VINYL ACETATE							
FORMOSA PLASTICS		46,028	0	0	46,028	0	0
VINYL ACETATE Total		46,028	0	0	46,028	0	0
VINYL CHLORIDE							
FORMOSA PLASTICS		56,155	12	0	56,167	9	268,094
VINYL CHLORIDE Total		56,155	12	0	56,167	9	268,094

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APPENDIX F

2010 ON-SITE RELEASES BY CHEMICAL AND FACILITY

CHEMICAL/FACILITY	FORM A	ON-SITE RELEASES TO AIR	ON-SITE RELEASES TO WATER	ON-SITE RELEASES TO LAND	ON-SITE RELEASES TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
XYLENE (MIXED ISOMERS)							
ARLON		1,320	0	0	1,320	1,400	114,000
BASF NEWPORT		1,218	0	0	1,218	1,001	5,669
CARL KING	1	0	0	0	0	0	0
DELAWARE CITY REFINERY		930	5	0	935	1,214	36,060
SUNOCO		161	0	0	161	0	0
VP RACING FUELS	1	0	0	0	0	0	0
XYLENE (MIXED ISOMERS) Total	2	3,629	5	0	3,634	3,615	155,729
ZINC COMPOUNDS							
ALLEN'S HATCHERY SEAFORD MILL	1	0	0	0	0	0	0
AMICK FARMS	1	0	0	0	0	0	0
DUPONT EDGE MOOR		12	122	0	134	38,394	0
EVRAZ CLAYMONT STEEL		2,312	157	236	2,705	1,973,949	0
INDIAN RIVER POWER PLANT		1,000	750	6,500	8,250	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	1	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	1	0	0	0	0	0	0
ORIENT		0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING	1	0	0	0	0	0	0
PPG DOVER		255	0	0	255	2,710	0
ZINC COMPOUNDS Total	5	3,579	1,029	6,736	11,344	2,015,053	0
STATE TOTALS	**31**	**3,520,119**	**600,283**	**210,747**	**4,331,149**	**13,206,088**	**40,574,132**

Source: DNREC 2010 TRI Database, October, 2011
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APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
1,2,4-TRIMETHYLBENZENE										
CARL KING	0	0	0	0	0	0	0	0	0	0
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	5,400	5,400
GAC	0	0	0	0	0	0	0	0	0	0
SERVICE ENERGY DOVER	0	0	0	0	0	0	0	0	0	0
1,2,4-TRIMETHYLBENZENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5,400**	**5,400**
2,4-DIMETHYLPHENOL										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	1,800	1,800
2,4-DIMETHYLPHENOL Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,800**	**1,800**
4,4'-METHYLENEBIS(2-CHLOROANILINE)										
ROHM & HAAS B5 B6	0	0	0	0	0	0	0	0	0	0
ROHM & HAAS B7 B15	0	0	0	0	0	0	0	0	0	0
4,4'-METHYLENEBIS(2-CHLOROANILINE) Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ACETONITRILE										
AGILENT TECHNOLOGIES NEWPORT	0	0	13,054	0	0	13,054	0	0	0	0
ACETONITRILE Total	**0**	**0**	**13,054**	**0**	**0**	**13,054**	**0**	**0**	**0**	**0**
AMMONIA										
BASF SEAFORD	1,018	0	0	56	6	1,080	0	0	9,161	9,161
EDGE MOOR/HAY ROAD ENERGY CENTERS	193	0	0	0	193	386	0	0	0	0
FORMOSA PLASTICS	0	0	0	0	0	0	0	0	0	0
HONEYWELL	21	0	0	0	0	21	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	2,500,000	2,500,000
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	46,553	46,553
PICTSWEET	0	0	0	0	0	0	0	0	0	0
AMMONIA Total	**1,232**	**0**	**0**	**56**	**199**	**1,487**	**0**	**0**	**2,555,714**	**2,555,714**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
ANILINE										
BASF NEWPORT	19,865	0	174,286	116,240	0	310,391	0	0	1,142	1,142
ORIENT	5	0	0	0	0	5	0	0	12,599	12,599
ANILINE Total	**19,870**	**0**	**174,286**	**116,240**	**0**	**310,396**	**0**	**0**	**13,741**	**13,741**
ANTIMONY COMPOUNDS										
JOHNSON CONTROLS	0	9,493	0	0	0	9,493	0	0	0	0
ANTIMONY COMPOUNDS Total	**0**	**9,493**	**0**	**0**	**0**	**9,493**	**0**	**0**	**0**	**0**
ARSENIC COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
ARSENIC COMPOUNDS Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ASBESTOS (FRIABLE)										
DELAWARE CITY REFINERY	0	0	0	0	98,300	98,300	0	0	0	0
ASBESTOS (FRIABLE) Total	**0**	**0**	**0**	**0**	**98,300**	**98,300**	**0**	**0**	**0**	**0**
BARIUM COMPOUNDS										
DUPONT EDGE MOOR	0	2	0	0	14,267	14,269	0	0	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	25,365	25,365	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	13	13	0	0	0	0
PRINCE MINERALS	0	0	0	0	1	1	0	0	0	0
BARIUM COMPOUNDS Total	**0**	**2**	**0**	**0**	**39,646**	**39,648**	**0**	**0**	**0**	**0**
BENZENE										
DELAWARE CITY REFINERY	0	0	1,107	179	43	1,329	0	0	27,560	27,560
SUNOCO	0	0	0	0	0	0	0	0	0	0
VP RACING FUELS	0	0	0	0	0	0	0	0	0	0
BENZENE Total	**0**	**0**	**1,107**	**179**	**43**	**1,329**	**0**	**0**	**27,560**	**27,560**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
BENZO(G,H,I)PERYLENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	111	111
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELMARVA	0	0	0	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING	0	0	0	0	0	0	0	0	0	0
PERDUE GEORGETOWN	0	0	0	0	0	0	0	0	0	0
PINNACLE FOODS	0	0	0	0	0	0	0	0	0	0
BENZO(G,H,I)PERYLENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**111**	**111**
BIPHENYL										
BASF NEWPORT	34,143	0	175,606	117,014	0	326,763	0	0	2,321	2,321
BIPHENYL Total	**34,143**	**0**	**175,606**	**117,014**	**0**	**326,763**	**0**	**0**	**2,321**	**2,321**
BORON TRIFLUORIDE										
HONEYWELL	0	0	0	1	4	5	0	0	130,000	130,000
BORON TRIFLUORIDE Total	**0**	**0**	**0**	**1**	**4**	**5**	**0**	**0**	**130,000**	**130,000**
BUTYL ACRYLATE										
BASF SEAFORD	0	0	204	0	0	204	0	0	100	100
BUTYL ACRYLATE Total	**0**	**0**	**204**	**0**	**0**	**204**	**0**	**0**	**100**	**100**
CARBONYL SULFIDE										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	0	0
CARBONYL SULFIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
CERTAIN GLYCOL ETHERS										
BASF SEAFORD	0	0	0	689	72	761	0	0	0	0
CRODA	1,078	0	0	0	0	1,078	0	0	0	0
HIRSH INDUSTRIES	0	0	0	0	0	0	0	0	0	0
PPG DOVER	1,245	0	0	5	500	1,750	0	0	0	0
CERTAIN GLYCOL ETHERS Total	**2,323**	**0**	**0**	**694**	**572**	**3,589**	**0**	**0**	**0**	**0**
CHLORINE										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	3,057,882	3,057,882
KUEHNE	0	0	0	0	0	0	0	0	0	0
SPI PHARMA	0	0	0	0	0	0	0	0	0	0
CHLORINE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,057,882**	**3,057,882**
CHROMIUM										
CAMDEL METALS	0	39,292	0	0	197	39,489	0	0	0	0
METAL MASTERS	0	13,403	0	0	200	13,603	0	0	0	0
CHROMIUM Total	**0**	**52,695**	**0**	**0**	**397**	**53,092**	**0**	**0**	**0**	**0**
CHROMIUM COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	387,985	387,985	0	0	0	0
EVRAZ CLAYMONT STEEL	0	33,804	0	0	1,748	35,552	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
ORIENT	0	0	0	0	0	0	0	0	0	0
CHROMIUM COMPOUNDS Total	**0**	**33,804**	**0**	**0**	**389,733**	**423,537**	**0**	**0**	**0**	**0**
COBALT COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	8,903	8,903	0	0	0	0
COBALT COMPOUNDS Total	**0**	**0**	**0**	**0**	**8,903**	**8,903**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
COPPER										
ARLON	0	1,500	0	0	200	1,700	0	0	0	0
BUCK ALGONQUIN	0	0	0	0	0	0	0	0	0	0
MOTECH AMERICAS	1	733	0	0	1	735	0	0	0	0
COPPER Total	**1**	**2,233**	**0**	**0**	**201**	**2,435**	**0**	**0**	**0**	**0**
COPPER COMPOUNDS										
ALLEN'S HATCHERY SEAFORD MILL	0	0	0	0	0	0	0	0	0	0
AMICK FARMS	0	0	0	0	0	0	0	0	0	0
DUPONT EDGE MOOR	0	0	0	0	3,328	3,328	0	0	0	0
EVRAZ CLAYMONT STEEL	0	35,845	0	0	2,588	38,433	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING	0	0	0	0	0	0	0	0	0	0
COPPER COMPOUNDS Total	**0**	**35,845**	**0**	**0**	**5,916**	**41,761**	**0**	**0**	**0**	**0**
CUMENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	350	350
CUMENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**350**	**350**
CYCLOHEXANE										
BASF NEWPORT	0	39,033	0	0	0	39,033	0	0	3,483	3,483
CYCLOHEXANE Total	**0**	**39,033**	**0**	**0**	**0**	**39,033**	**0**	**0**	**3,483**	**3,483**
DICHLOROMETHANE										
NORAMCO	0	0	21,592	0	0	21,592	35,689	0	22,592	58,281
DICHLOROMETHANE Total	**0**	**0**	**21,592**	**0**	**0**	**21,592**	**35,689**	**0**	**22,592**	**58,281**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
DIETHANOLAMINE										
CRODA	120	0	0	5,445	400	5,965	0	0	0	0
DIETHANOLAMINE Total	**120**	**0**	**0**	**5,445**	**400**	**5,965**	**0**	**0**	**0**	**0**
DIISOCYANATES										
E A R	0	0	0	650	0	650	0	0	0	0
ROHM & HAAS B2 B3 B8	0	0	0	900	0	900	0	0	0	0
ROHM & HAAS B5 B6	0	0	0	4,779	0	4,779	0	0	0	0
DIISOCYANATES Total	**0**	**0**	**0**	**6,329**	**0**	**6,329**	**0**	**0**	**0**	**0**
DIOXIN AND DIOXIN-LIKE COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	1	1	0	0	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	0	0	0	0	0	0
EVRAZ CLAYMONT STEEL	0	0	0	0	0	0	0	0	0	0
FORMOSA PLASTICS	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS Total	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**
ETHYL ACRYLATE										
BASF SEAFORD	0	0	204	0	0	204	0	0	22	22
ETHYL ACRYLATE Total	**0**	**0**	**204**	**0**	**0**	**204**	**0**	**0**	**22**	**22**
ETHYLBENZENE										
ARLON	0	0	0	260	0	260	0	0	29,000	29,000
DELAWARE CITY REFINERY	0	0	28	76	82	186	0	0	6,589	6,589
DOVER AFB	0	0	0	0	0	0	0	0	0	0
ETHYLBENZENE Total	**0**	**0**	**28**	**336**	**82**	**446**	**0**	**0**	**35,589**	**35,589**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
ETHYLENE										
SUNOCO	0	0	0	0	0	0	0	0	0	0
ETHYLENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ETHYLENE GLYCOL										
FUJIFILM	139	0	264	0	0	403	0	0	0	0
PPG DOVER	3,346	0	0	250	260	3,856	0	0	0	0
ETHYLENE GLYCOL Total	**3,485**	**0**	**264**	**250**	**260**	**4,259**	**0**	**0**	**0**	**0**
ETHYLENE OXIDE										
CRODA	0	0	0	0	0	0	0	0	0	0
ETHYLENE OXIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FORMIC ACID										
NORAMCO	0	0	0	0	0	0	0	0	0	0
FORMIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HEXACHLOROBENZENE										
DUPONT EDGE MOOR	0	0	0	0	35	35	0	0	0	0
HEXACHLOROBENZENE Total	**0**	**0**	**0**	**0**	**35**	**35**	**0**	**0**	**0**	**0**
HYDROCHLORIC ACID										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	20,910,931	20,910,931
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
NRG ENERGY DOVER	0	0	0	0	0	0	0	0	0	0
HYDROCHLORIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20,910,931**	**20,910,931**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
HYDROGEN FLUORIDE										
HONEYWELL	0	0	0	0	0	0	0	0	80	80
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	16,000	16,000
HYDROGEN FLUORIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16,080**	**16,080**
LEAD										
DOVER AFB	0	0	0	0	0	0	0	0	0	0
MOTECH AMERICAS	0	60	0	0	2	62	0	0	0	0
SUNOCO	0	0	0	0	0	0	0	0	0	0
V&S DELAWARE GALVANIZING	0	1,714	0	0	0	1,714	0	0	0	0
LEAD Total	**0**	**1,774**	**0**	**0**	**2**	**1,776**	**0**	**0**	**0**	**0**
LEAD COMPOUNDS										
CHROME DEPOSIT	0	5,000	0	0	9	5,009	0	0	0	0
DELAWARE CITY REFINERY	0	0	0	0	134	134	0	0	0	0
DUPONT EDGE MOOR	0	0	0	0	42,710	42,710	0	0	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS	2	0	0	0	2,371	2,374	0	0	0	0
EVRAZ CLAYMONT STEEL	0	215,526	0	0	80	215,606	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
INSTEEL WIRE	0	5	0	0	0	5	0	0	0	0
JOHNSON CONTROLS	2	2,434,058	0	0	233	2,434,293	0	0	0	0
NRG ENERGY DOVER	0	0	0	0	91	91	0	0	0	0
PRINCE MINERALS	0	0	0	0	1	1	0	0	0	0
VP RACING FUELS	0	9	0	0	1	10	0	0	0	0
LEAD COMPOUNDS Total	**4**	**2,654,598**	**0**	**0**	**45,630**	**2,700,233**	**0**	**0**	**0**	**0**
MANGANESE										
CAMDEL METALS	0	3,852	0	0	17	3,869	0	0	0	0
COLOR WORKS PAINTING	0	455	0	0	0	455	0	0	0	0
MANGANESE Total	**0**	**4,307**	**0**	**0**	**17**	**4,324**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
MANGANESE COMPOUNDS										
ALLEN'S HATCHERY SEAFORD MILL	0	0	0	0	0	0	0	0	0	0
AMICK FARMS	0	0	0	0	0	0	0	0	0	0
DUPONT EDGE MOOR	0	0	0	0	3,514,348	3,514,348	0	0	0	0
EVRAZ CLAYMONT STEEL	0	192,839	0	0	8,811	201,650	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING	0	0	0	0	0	0	0	0	0	0
PRINCE MINERALS	0	0	0	0	51	51	0	0	0	0
MANGANESE COMPOUNDS Total	**0**	**192,839**	**0**	**0**	**3,523,210**	**3,716,049**	**0**	**0**	**0**	**0**
MERCURY										
DENTSPLY MAIN PLANT	0	2,467	0	0	0	2,467	0	0	0	0
OCCIDENTAL CHEMICAL	0	0	0	0	0	0	0	0	0	0
MERCURY Total	**0**	**2,467**	**0**	**0**	**0**	**2,467**	**0**	**0**	**0**	**0**
MERCURY COMPOUNDS										
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	61	61	0	0	0	0
EVRAZ CLAYMONT STEEL	0	0	0	0	3	3	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
INTERVET	0	0	0	0	2	2	0	0	0	0
NRG ENERGY DOVER	0	0	0	0	2	2	0	0	0	0
MERCURY COMPOUNDS Total	**0**	**0**	**0**	**0**	**66**	**67**	**0**	**0**	**0**	**0**
METHANOL										
AGILENT TECHNOLOGIES NEWPORT	0	0	40,316	181	0	40,497	0	0	0	0
BASF NEWPORT	533,958	229,710	2,575	3,000	0	769,243	424,500	0	831,055	1,255,555
CRODA	8,002	0	27,850	0	400	36,252	0	0	0	0

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
DENTSPLY WEST PLANT	143	0	7,901	0	0	8,044	0	0	0	0
HONEYWELL	60	0	0	0	0	60	0	0	60	60
MEDAL	0	0	0	25,056	0	25,056	1,296,701	0	0	1,296,701
NORAMCO	8,183	0	155,494	0	0	163,677	0	0	163,678	163,678
VP RACING FUELS	0	1,240	0	0	9	1,249	0	0	0	0
METHANOL Total	**550,346**	**230,950**	**234,136**	**28,237**	**409**	**1,044,078**	**1,721,201**	**0**	**994,793**	**2,715,994**
METHYL METHACRYLATE										
BASF SEAFORD	0	0	204	0	0	204	0	0	449	449
DENTSPLY WEST PLANT	67	0	1,947	0	0	2,014	0	0	0	0
METHYL METHACRYLATE Total	**67**	**0**	**2,151**	**0**	**0**	**2,218**	**0**	**0**	**449**	**449**
N,N-DIMETHYLANILINE										
NORAMCO	9,433	0	0	0	0	9,433	0	0	0	0
N,N-DIMETHYLANILINE Total	**9,433**	**0**	**0**	**0**	**0**	**9,433**	**0**	**0**	**0**	**0**
N,N-DIMETHYLFORMAMIDE										
ROHM & HAAS B2 B3 B8	182,973	32,109	392,529	27,949	0	635,560	4,667,952	0	691	4,668,643
N,N-DIMETHYLFORMAMIDE Total	**182,973**	**32,109**	**392,529**	**27,949**	**0**	**635,560**	**4,667,952**	**0**	**691**	**4,668,643**
NAPHTHALENE										
CARL KING	0	0	0	0	0	0	0	0	0	0
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	1,200	1,200
DOVER AFB	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
INVISTA	0	102	5	0	0	107	0	0	0	0
SUNOCO	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE Total	**0**	**102**	**5**	**0**	**0**	**107**	**0**	**0**	**1,200**	**1,200**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
N-BUTYL ALCOHOL										
NORAMCO	19,742	0	375,099	0	0	394,841	0	0	394,841	394,841
N-BUTYL ALCOHOL Total	**19,742**	**0**	**375,099**	**0**	**0**	**394,841**	**0**	**0**	**394,841**	**394,841**
N-HEXANE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	187,800	187,800
HONEYWELL	10	0	17,000	400	0	17,410	140,995	0	25,000	165,995
INVISTA	0	57	3	0	0	60	0	0	0	0
MEDAL	0	0	0	0	0	0	1,112,497	0	0	1,112,497
SUNOCO	0	0	0	0	0	0	0	0	0	0
N-HEXANE Total	**10**	**57**	**17,003**	**400**	**0**	**17,470**	**1,253,492**	**0**	**212,800**	**1,466,292**
NICKEL										
CAMDEL METALS	0	37,307	0	0	306	37,613	0	0	0	0
METAL MASTERS	0	42,055	0	0	200	42,255	0	0	0	0
SUNOCO	0	0	0	0	0	0	0	0	0	0
NICKEL Total	**0**	**79,362**	**0**	**0**	**506**	**79,868**	**0**	**0**	**0**	**0**
NICKEL COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	28,739	28,739	0	0	0	0
EVRAZ CLAYMONT STEEL	0	4,447	0	0	1,280	5,727	0	0	0	0
NICKEL COMPOUNDS Total	**0**	**4,447**	**0**	**0**	**30,019**	**34,466**	**0**	**0**	**0**	**0**
NITRATE COMPOUNDS										
ALLEN FAMILY FOODS HARBESON	0	0	0	0	0	0	0	0	0	0
BASF NEWPORT	27,688	0	0	0	27,688	55,376	0	0	0	0
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	0	0
FUJIFILM	782	0	446	0	0	1,228	0	0	0	0
HANESBRANDS	76,689	0	0	0	0	76,689	0	0	0	0
PERDUE GEORGETOWN	0	0	0	0	0	0	0	0	0	0
NITRATE COMPOUNDS Total	**105,159**	**0**	**446**	**0**	**27,688**	**133,293**	**0**	**0**	**0**	**0**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
NITRIC ACID										
BASF NEWPORT	0	0	0	0	0	0	0	0	28,135	28,135
SPI PHARMA	0	0	0	0	0	0	0	0	0	0
NITRIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28,135**	**28,135**
NITROBENZENE										
ORIENT	1	0	0	0	0	1	0	0	0	0
NITROBENZENE Total	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
N-METHYL-2-PYRROLIDONE										
MEDAL	62,755	5,925	0	0	0	68,680	0	0	0	0
ROHM & HAAS B5 B6	0	95,982	0	13,621	0	109,603	0	0	0	0
ROHM & HAAS B7 B15	0	14,574	0	2,372	0	16,946	0	0	0	0
N-METHYL-2-PYRROLIDONE Total	**62,755**	**116,481**	**0**	**15,993**	**0**	**195,229**	**0**	**0**	**0**	**0**
OCTACHLOROSTYRENE										
DUPONT EDGE MOOR	0	0	0	0	3	3	0	0	0	0
OCTACHLOROSTYRENE Total	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**0**
P-CHLOROANILINE										
BASF NEWPORT	2,622	0	4,234	2,947	0	9,803	0	0	327	327
P-CHLOROANILINE Total	**2,622**	**0**	**4,234**	**2,947**	**0**	**9,803**	**0**	**0**	**327**	**327**
PENTACHLOROBENZENE										
DUPONT EDGE MOOR	0	0	0	0	1	1	0	0	0	0
PENTACHLOROBENZENE Total	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**
PERACETIC ACID										
PERDUE GEORGETOWN	0	0	0	0	0	0	0	0	13,049	13,049
PERDUE MILFORD	0	0	0	0	0	0	0	0	23,200	23,200
PERACETIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**36,249**	**36,249**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
PHOSGENE										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	1,993,361	1,993,361
PHOSGENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,993,361**	**1,993,361**
PHTHALIC ANHYDRIDE										
ROHM & HAAS B2 B3 B8	1,300	0	0	273	0	1,573	0	0	0	0
PHTHALIC ANHYDRIDE Total	**1,300**	**0**	**0**	**273**	**0**	**1,573**	**0**	**0**	**0**	**0**
POLYCHLORINATED BIPHENYLS										
DUPONT EDGE MOOR	0	0	0	0	1	1	0	0	0	0
POLYCHLORINATED BIPHENYLS Total	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**
POLYCYCLIC AROMATIC COMPOUNDS										
DELAWARE CITY REFINERY	0	410	0	0	0	410	0	0	91	91
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	0	0	0	0	0	0
IKO	0	29	0	0	19	48	3	0	0	3
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELMARVA	0	0	0	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING	0	0	0	0	0	0	0	0	0	0
PERDUE GEORGETOWN	0	0	0	0	0	0	0	0	0	0
PINNACLE FOODS	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS Total	**0**	**439**	**0**	**0**	**19**	**457**	**3**	**0**	**91**	**94**
PROPYLENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	100,000	100,000
PROPYLENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**100,000**	**100,000**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
PROPYLENE OXIDE										
CRODA	0	0	0	0	0	0	0	0	0	0
PROPYLENE OXIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
STYRENE										
BASF SEAFORD	0	0	598	0	0	598	0	0	1,046	1,046
JUSTIN TANKS	0	0	0	301	0	301	0	0	0	0
STYRENE Total	**0**	**0**	**598**	**301**	**0**	**899**	**0**	**0**	**1,046**	**1,046**
SULFURIC ACID										
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	0	0	0	0	29,375	29,375
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	260,000	260,000
NRG ENERGY DOVER	0	0	0	0	0	0	0	0	25,588	25,588
SULFURIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**314,963**	**314,963**
TERT-BUTYL ALCOHOL										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	0	0
TERT-BUTYL ALCOHOL Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TITANIUM TETRACHLORIDE										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	1,245,062	1,245,062
TITANIUM TETRACHLORIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,245,062**	**1,245,062**
TOLUENE										
AGILENT TECHNOLOGIES NEWPORT	0	0	129,747	1,590	0	131,337	0	0	0	0
DELAWARE CITY REFINERY	0	0	76	317	112	505	0	0	60,988	60,988
DENTSPLY WEST PLANT	0	0	16,255	0	0	16,255	0	0	0	0
DUPONT EDGE MOOR	0	6	0	0	0	6	0	0	0	0

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
NORAMCO	3	0	298,115	0	0	298,118	0	0	298,118	298,118
SERVICE ENERGY DOVER	0	0	0	0	0	0	0	0	0	0
SUNOCO	0	0	0	0	0	0	0	0	0	0
VP RACING FUELS	0	2,436	0	0	4	2,440	0	0	0	0
TOLUENE Total	**3**	**2,442**	**444,193**	**1,907**	**116**	**448,661**	**0**	**0**	**359,106**	**359,106**
TOLUENE DIISOCYANATE (MIXED ISOMERS)										
E A R	0	0	0	165	0	165	0	0	0	0
MACDERMID	0	0	0	0	0	0	0	0	682	682
ROHM & HAAS B5 B6	0	0	0	1,076	0	1,076	0	0	4,500	4,500
TOLUENE DIISOCYANATE (MIXED ISOMERS) Total	**0**	**0**	**0**	**1,241**	**0**	**1,241**	**0**	**0**	**5,182**	**5,182**
TRICHLOROETHYLENE										
CAMDEL METALS	0	0	0	8,145	0	8,145	0	0	0	0
TRICHLOROETHYLENE Total	**0**	**0**	**0**	**8,145**	**0**	**8,145**	**0**	**0**	**0**	**0**
VANADIUM COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	333,288	333,288	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
VANADIUM COMPOUNDS Total	**0**	**0**	**0**	**0**	**333,288**	**333,288**	**0**	**0**	**0**	**0**
VINYL ACETATE										
FORMOSA PLASTICS	0	0	0	0	0	0	0	0	0	0
VINYL ACETATE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VINYL CHLORIDE										
FORMOSA PLASTICS	0	0	0	0	9	9	0	0	268,094	268,094
VINYL CHLORIDE Total	**0**	**0**	**0**	**0**	**9**	**9**	**0**	**0**	**268,094**	**268,094**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX G

2010 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
CHEMICAL/FACILITY	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
XYLENE (MIXED ISOMERS)										
ARLON	0	0	0	1,400	0	1,400	0	0	114,000	114,000
BASF NEWPORT	280	0	274	447	0	1,001	0	0	5,669	5,669
CARL KING	0	0	0	0	0	0	0	0	0	0
DELAWARE CITY REFINERY	0	0	118	406	690	1,214	0	0	36,060	36,060
SUNOCO	0	0	0	0	0	0	0	0	0	0
VP RACING FUELS	0	0		0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS) Total	**280**	**0**	**392**	**2,253**	**690**	**3,615**	**0**	**0**	**155,729**	**155,729**
ZINC COMPOUNDS										
ALLEN'S HATCHERY SEAFORD MILL	0	0	0	0	0	0	0	0	0	0
AMICK FARMS	0	0	0	0	0	0	0	0	0	0
DUPONT EDGE MOOR	0	0	0	0	38,394	38,394	0	0	0	0
EVRAZ CLAYMONT STEEL	0	1,973,767	0	0	182	1,973,949	0	0	0	0
INDIAN RIVER POWER PLANT	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS FRANKFORD FEED MILL	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
ORIENT	0	0	0	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE MILLING	0	0	0	0	0	0	0	0	0	0
PPG DOVER	1,100	0	0	0	1,610	2,710	0	0	0	0
ZINC COMPOUNDS Total	**1,100**	**1,973,767**	**0**	**0**	**40,186**	**2,015,053**	**0**	**0**	**0**	**0**
STATE TOTALS	**996,970**	**5,469,246**	**1,857,131**	**336,190**	**4,546,552**	**13,206,088**	**7,678,337**	**0**	**32,895,795**	**40,574,132**

Source: DNREC 2010 TRI Database, October, 2011

All Amounts Are in Pounds

APPENDIX H

2010 ON-SITE RELEASE SUMMARY BY CHEMICAL

CHEMICAL - RANKED BY TOTAL ON-SITE RELEASE	ON-SITE RELEASES				TRANSFERS OFF-SITE	ON-SITE WASTE MGMT.
	TO AIR	TO WATER	TO LAND	TOTAL		
HYDROCHLORIC ACID	2,689,910	0	0	2,689,910	0	20,910,931
NITRATE COMPOUNDS	0	563,826	0	563,826	133,293	0
CARBONYL SULFIDE	262,079	0	0	262,079	0	0
AMMONIA	96,565	0	44,225	140,790	1,487	2,555,714
HYDROGEN FLUORIDE	140,544	0	0	140,544	0	16,080
BARIUM COMPOUNDS	4,882	4,858	96,000	105,740	39,648	0
VINYL CHLORIDE	56,155	12	0	56,167	9	268,094
MANGANESE COMPOUNDS	1,005	27,718	25,607	54,330	3,716,049	0
SULFURIC ACID	49,072	0	0	49,072	0	314,963
VINYL ACETATE	46,028	0	0	46,028	0	0
PROPYLENE	34,800	0	0	34,800	0	100,000
METHANOL	31,985	0	0	31,985	1,044,078	2,715,994
N-HEXANE	20,059	5	0	20,064	17,470	1,466,292
VANADIUM COMPOUNDS	501	48	14,000	14,549	333,288	0
TRICHLOROETHYLENE	13,847	0	0	13,847	8,145	0
STYRENE	13,821	0	0	13,821	899	1,046
ZINC COMPOUNDS	3,579	1,029	6,736	11,344	2,015,053	0
COPPER COMPOUNDS	637	983	9,297	10,917	41,761	0
CHROMIUM COMPOUNDS	614	277	8,558	9,449	423,537	0
CERTAIN GLYCOL ETHERS	7,987	0	0	7,987	3,589	0
LEAD COMPOUNDS	1,134	1,140	5,404	7,678	2,700,233	0
N-METHYL-2-PYRROLIDONE	6,377	0	0	6,377	195,229	0
BENZENE	4,702	5	0	4,707	1,329	27,560
TOLUENE	4,497	5	0	4,502	448,661	359,106
CHLORINE	4,172	0	0	4,172	0	3,057,882
N,N-DIMETHYLFORMAMIDE	4,153	0	0	4,153	635,560	4,668,643
TERT-BUTYL ALCOHOL	3,870	0	0	3,870	0	0
XYLENE (MIXED ISOMERS)	3,629	5	0	3,634	3,615	155,729
ANILINE	3,272	0	0	3,272	310,396	13,741
ETHYLENE OXIDE	2,475	0	0	2,475	0	0
METHYL METHACRYLATE	2,125	0	0	2,125	2,218	449
POLYCYCLIC AROMATIC COMPOUNDS	117	1	615	733	457	94
NAPHTHALENE	844	5	0	849	107	1,200
PROPYLENE OXIDE	657	0	0	657	0	0
ETHYLBENZENE	586	5	0	591	446	35,589
NICKEL COMPOUNDS	29	227	285	541	34,466	0
DICHLOROMETHANE	488	0	0	488	21,592	58,281
PHOSGENE	446	0	0	446	0	1,993,361
BORON TRIFLUORIDE	442	0	0	442	5	130,000
NITROBENZENE	265	0	0	265	1	0
ETHYL ACRYLATE	219	0	0	219	204	22
ETHYLENE	206	0	0	206	0	0
LEAD	193	0	0	194	1,776	0
BUTYL ACRYLATE	193	0	0	193	204	100

APPENDIX H

2010 ON-SITE RELEASE SUMMARY BY CHEMICAL

CHEMICAL - RANKED BY TOTAL ON-SITE RELEASE	ON-SITE RELEASES				TRANSFERS OFF-SITE	ON-SITE WASTE MGMT.
	TO AIR	TO WATER	TO LAND	TOTAL		
MERCURY COMPOUNDS	168	0	20	188	67	0
1,2,4-TRIMETHYLBENZENE	180	5	0	185	0	5,400
BENZO(G,H,I)PERYLENE	155	1	0	156	0	111
BIPHENYL	124	0	0	124	326,763	2,321
CUMENE	114	5	0	119	0	350
CYCLOHEXANE	56	0	0	56	39,033	3,483
ARSENIC COMPOUNDS	0	55	0	55	0	0
2,4-DIMETHYLPHENOL	0	40	0	40	0	1,800
DIETHANOLAMINE	38	0	0	38	5,965	0
ACETONITRILE	33	0	0	33	13,054	0
COBALT COMPOUNDS	0	27	0	27	8,903	0
TITANIUM TETRACHLORIDE	20	0	0	20	0	1,245,062
P-CHLOROANILINE	13	0	0	13	9,803	327
TOLUENE DIISOCYANATE (MIXED ISOMERS)	11	0	0	11	1,241	5,182
FORMIC ACID	10	0	0	10	0	0
N-BUTYL ALCOHOL	10	0	0	10	394,841	394,841
NICKEL	10	0	0	10	79,868	0
ETHYLENE GLYCOL	6	0	0	6	4,259	0
COPPER	5	0	0	5	2,435	0
DIISOCYANATES	3	0	0	3	6,329	0
PHTHALIC ANHYDRIDE	1	0	0	1	1,573	0
CHROMIUM	1	0	0	1	53,092	0
HEXACHLOROBENZENE	0.11	0.20	0.00	0.31	35	0
PENTACHLOROBENZENE	0	0	0	0.22	1	0
MERCURY	0	0	0	0.18	2,467	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0	0	0.020	1	0
POLYCHLORINATED BIPHENYLS	0	0	0	0.0061	1	0
OCTACHLOROSTYRENE	0	0	0	0.00070	3	0
4,4'-METHYLENEBIS(2-CHLOROANILINE)	0	0	0	0	0	0
ANTIMONY COMPOUNDS	0	0	0	0	9,493	0
ASBESTOS (FRIABLE)	0	0	0	0	98,300	0
MANGANESE	0	0	0	0	4,324	0
N,N-DIMETHYLANILINE	0	0	0	0	9,433	0
NITRIC ACID	0	0	0	0	0	28,135
PERACETIC ACID	0	0	0	0	0	36,249
STATE TOTALS	**3,520,119**	**600,283**	**210,747**	**4,331,149**	**13,206,088**	**40,574,132**

All amounts are in pounds

Source: DNREC 2010 TRI Database, October, 2011

APPENDIX I

2010 PBT RELEASE AND TRANSFER DETAIL

PBT CHEMICAL / FACILITY	ON-SITE RELEASES AIR	WATER	LAND	TOTAL	TRANSFERS OFF SITE	ON-SITE WASTE MGMT.
BENZO(G,H,I)PERYLENE						
DELAWARE CITY REFINERY	2.00	1.10	0.00	3.10	0.00	111.00
EDGE MOOR/HAY ROAD ENERGY CENTERS	0.02	0.01	0.00	0.03	0.00	0.00
INDIAN RIVER POWER PLANT	0.05	0.00	0.00	0.05	0.00	0.00
MOUNTAIRE FARMS OF DELMARVA	0.50	0.00	0.00	0.50	0.00	0.00
PERDUE BRIDGEVILLE MILLING	0.00	0.00	0.00	0.00	0.00	0.00
PERDUE GEORGETOWN	152.00	0.00	0.00	152.00	0.00	0.00
PINNACLE FOODS	0.00	0.00	0.00	0.00	0.00	0.00
BENZO(G,H,I)PERYLENE Total	**154.57**	**1.11**	**0.00**	**155.68**	**0.00**	**111.00**
DIOXIN AND DIOXIN-LIKE COMPOUNDS						
DUPONT EDGE MOOR	0.000096	0.001112	0.000000	0.001208	0.537908	0.000000
EDGE MOOR/HAY ROAD ENERGY CENTERS	0.004038	0.000000	0.000000	0.004038	0.000000	0.000000
EVRAZ CLAYMONT STEEL	0.013850	0.000000	0.000000	0.013850	0.000000	0.000000
FORMOSA PLASTICS	0.000011	0.000000	0.000000	0.000011	0.000315	0.000000
INDIAN RIVER POWER PLANT	0.000463	0.000000	0.000000	0.000463	0.000000	0.000000
DIOXIN AND DIOXIN-LIKE COMPOUNDS Total	**0.018458**	**0.001112**	**0.000000**	**0.019570**	**0.538223**	**0.000000**
HEXACHLOROBENZENE						
DUPONT EDGE MOOR	0.11	0.20	0.00	0.31	34.70	0.00
HEXACHLOROBENZENE Total	**0.11**	**0.20**	**0.00**	**0.31**	**34.70**	**0.00**
LEAD						
DOVER AFB	190.00	0.00	0.00	190.00	0.00	0.00
MOTECH AMERICAS	0.00	0.00	0.00	0.00	62.10	0.00
SUNOCO	2.00	0.00	0.00	2.00	0.00	0.00
V&S DELAWARE GALVANIZING	1.37	0.00	0.15	1.52	1,714.00	0.00
LEAD Total	**193.37**	**0.00**	**0.15**	**193.52**	**1,776.10**	**0.00**
LEAD COMPOUNDS						
CHROME DEPOSIT	0.00	0.00	0.00	0.00	5,009.00	0.00
DELAWARE CITY REFINERY	9.50	0.00	0.00	9.50	134.00	0.00
DUPONT EDGE MOOR	0.01	43.12	0.00	43.13	42,710.48	0.00
EDGE MOOR/HAY ROAD ENERGY CENTERS	176.30	1,039.60	0.00	1,215.90	2,373.60	0.00
EVRAZ CLAYMONT STEEL	423.00	49.53	57.00	529.53	215,606.00	0.00
INDIAN RIVER POWER PLANT	401.00	0.00	5,347.00	5,748.00	0.00	0.00
INSTEEL WIRE	0.00	0.00	0.00	0.00	5.00	0.00
JOHNSON CONTROLS	119.80	7.80	0.00	127.60	2,434,293.21	0.00
NRG ENERGY DOVER	2.80	0.00	0.00	2.80	90.71	0.00
PRINCE MINERALS	0.90	0.00	0.00	0.90	1.00	0.00
VP RACING FUELS	1.05	0.00	0.00	1.05	10.00	0.00
LEAD COMPOUNDS Total	**1,134.36**	**1,140.05**	**5,404.00**	**7,678.41**	**2,700,233.00**	**0.00**

Source: DNREC TRI 2010 Database, October 2011.
All Amounts are in Pounds.

APPENDIX I

2010 PBT RELEASE AND TRANSFER DETAIL

	ON-SITE RELEASES				TRANSFERS	ON-SITE
PBT CHEMICAL / FACILITY	**AIR**	**WATER**	**LAND**	**TOTAL**	**OFF SITE**	**WASTE MGMT.**
MERCURY						
DENTSPLY MAIN PLANT	0.02	0.00	0.00	0.02	2,467.00	0.00
OCCIDENTAL CHEMICAL	0.00	0.16	0.00	0.16	0.40	0.00
MERCURY Total	**0.02**	**0.16**	**0.00**	**0.18**	**2,467.40**	**0.00**
MERCURY COMPOUNDS						
EDGE MOOR/HAY ROAD ENERGY CENTERS	10.70	0.00	0.00	10.70	60.60	0.00
EVRAZ CLAYMONT STEEL	59.40	0.00	0.00	59.40	2.80	0.00
INDIAN RIVER POWER PLANT	90.34	0.00	20.00	110.34	0.00	0.00
INTERVET	0.00	0.00	0.00	0.00	1.89	0.00
NRG ENERGY DOVER	7.20	0.00	0.00	7.20	1.50	0.00
MERCURY COMPOUNDS Total	**167.64**	**0.00**	**20.00**	**187.64**	**66.79**	**0.00**
OCTACHLOROSTYRENE						
DUPONT EDGE MOOR	0.00	0.00	0.00	0.00	2.70	0.00
OCTACHLOROSTYRENE Total	**0.00**	**0.00**	**0.00**	**0.00**	**2.70**	**0.00**
PENTACHLOROBENZENE						
DUPONT EDGE MOOR	0.12	0.10	0.00	0.22	1.00	0.00
PENTACHLOROBENZENE Total	**0.12**	**0.10**	**0.00**	**0.22**	**1.00**	**0.00**
POLYCHLORINATED BIPHENYLS						
DUPONT EDGE MOOR	0.01	0.00	0.00	0.01	0.90	0.00
POLYCHLORINATED BIPHENYLS Total	**0.01**	**0.00**	**0.00**	**0.01**	**0.90**	**0.00**
POLYCYCLIC AROMATIC COMPOUNDS						
DELAWARE CITY REFINERY	0.00	0.90	0.00	0.90	409.90	91.00
DUPONT EDGE MOOR	68.89	0.00	615.00	683.89	0.00	0.00
EDGE MOOR/HAY ROAD ENERGY CENTERS	19.10	0.06	0.00	19.16	0.00	0.00
IKO	0.00	0.00	0.00	0.00	47.56	2.66
INDIAN RIVER POWER PLANT	1.03	0.00	0.00	1.03	0.00	0.00
MOUNTAIRE FARMS FRANKFORD FEED MILL	1.48	0.00	0.00	1.48	0.00	0.00
MOUNTAIRE FARMS OF DELAWARE	2.26	0.00	0.00	2.26	0.00	0.00
MOUNTAIRE FARMS OF DELMARVA	22.60	0.00	0.00	22.60	0.00	0.00
PERDUE BRIDGEVILLE MILLING	0.00	0.00	0.00	0.00	0.00	0.00
PERDUE GEORGETOWN	0.00	0.00	0.00	0.00	0.00	0.00
PINNACLE FOODS	2.00	0.00	0.00	2.00	0.00	0.00
POLYCYCLIC AROMATIC COMPOUNDS Total	**117.36**	**0.96**	**615.00**	**733.32**	**457.46**	**93.66**
STATE PBT TOTALS	**1,767.58**	**1,142.59**	**6,039.15**	**8,949.31**	**2,705,040.59**	**204.66**

Source: DNREC TRI 2010 Database, October 2011.
All Amounts are in Pounds.

APPENDIX J

2010 CARCINOGEN RELEASE AND TRANSFER DETAIL

CARCINOGEN / FACILITY	TOTAL ON-SITE RELEASES AIR	WATER	LAND	TOTAL	TRANSFERS OFF SITE	ON-SITE WASTE MGMT.
4,4'-METHYLENEBIS(2-CHLOROANILINE)						
ROHM & HAAS B5 B6	0.00	0.00	0.00	0.00	0.00	0.00
ROHM & HAAS B7 B15	0.00	0.00	0.00	0.00	0.00	0.00
4,4'-METHYLENEBIS(2-CHLOROANILINE) Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
ARSENIC COMPOUNDS						
DUPONT EDGE MOOR	0.00	55.00	0.00	55.00	0.00	0.00
MOUNTAIRE FARMS FRANKFORD FEED MILL	0.00	0.00	0.00	0.00	0.00	0.00
MOUNTAIRE FARMS OF DELAWARE	0.00	0.00	0.00	0.00	0.00	0.00
ARSENIC COMPOUNDS Total	**0.00**	**55.00**	**0.00**	**55.00**	**0.00**	**0.00**
ASBESTOS (FRIABLE)						
DELAWARE CITY REFINERY	0.00	0.00	0.00	0.00	98,300.00	0.00
ASBESTOS (FRIABLE) Total	**0.00**	**0.00**	**0.00**	**0.00**	**98,300.00**	**0.00**
BENZENE						
DELAWARE CITY REFINERY	1,250.00	5.00	0.00	1,255.00	1,329.00	27,560.00
SUNOCO	3,452.00	0.00	0.00	3,452.00	0.00	0.00
VP RACING FUELS	0.00	0.00	0.00	0.00	0.00	0.00
BENZENE Total	**4,702.00**	**5.00**	**0.00**	**4,707.00**	**1,329.00**	**27,560.00**
CHROMIUM COMPOUNDS						
DUPONT EDGE MOOR	1.00	23.00	0.00	24.00	387,985.00	0.00
EVRAZ CLAYMONT STEEL	113.00	4.00	158.00	275.00	35,552.00	0.00
INDIAN RIVER POWER PLANT	500.00	250.00	8,400.00	9,150.00	0.00	0.00
ORIENT	0.00	0.00	0.00	0.00	0.00	0.00
CHROMIUM COMPOUNDS Total	**614.00**	**277.00**	**8,558.00**	**9,449.00**	**423,537.00**	**0.00**
COBALT COMPOUNDS						
DUPONT EDGE MOOR	0.00	27.00	0.00	27.00	8,903.00	0.00
COBALT COMPOUNDS Total	**0.00**	**27.00**	**0.00**	**27.00**	**8,903.00**	**0.00**
DICHLOROMETHANE						
NORAMCO	488.00	0.00	0.00	488.00	21,592.22	58,281.00
DICHLOROMETHANE Total	**488.00**	**0.00**	**0.00**	**488.00**	**21,592.22**	**58,281.00**
ETHYL ACRYLATE						
BASF SEAFORD	219.00	0.00	0.00	219.00	204.00	22.00
ETHYL ACRYLATE Total	**219.00**	**0.00**	**0.00**	**219.00**	**204.00**	**22.00**

Source: DNREC 2010 TRI Database, October 2011
All amounts are in pounds

APPENDIX J

2010 CARCINOGEN RELEASE AND TRANSFER DETAIL

	TOTAL ON-SITE RELEASES				TRANSFERS	ON-SITE
CARCINOGEN / FACILITY	AIR	WATER	LAND	TOTAL	OFF SITE	WASTE MGMT.
ETHYLBENZENE						
ARLON	319.00	0.00	0.00	319.00	260.00	29,000.00
DELAWARE CITY REFINERY	239.00	5.00	0.00	244.00	186.00	6,589.00
DOVER AFB	28.00	0.00	0.00	28.00	0.00	0.00
ETHYLBENZENE Total	**586.00**	**5.00**	**0.00**	**591.00**	**446.00**	**35,589.00**
ETHYLENE OXIDE						
CRODA	2,475.00	0.00	0.00	2,475.00	0.00	0.00
ETHYLENE OXIDE Total	**2,475.00**	**0.00**	**0.00**	**2,475.00**	**0.00**	**0.00**
HEXACHLOROBENZENE						
DUPONT EDGE MOOR	0.11	0.20	0.00	0.31	34.70	0.00
HEXACHLOROBENZENE Total	**0.11**	**0.20**	**0.00**	**0.31**	**34.70**	**0.00**
LEAD						
DOVER AFB	190.00	0.00	0.00	190.00	0.00	0.00
MOTECH AMERICAS	0.00	0.00	0.00	0.00	62.10	0.00
SUNOCO	2.00	0.00	0.00	2.00	0.00	0.00
V&S DELAWARE GALVANIZING	1.37	0.00	0.15	1.52	1,714.00	0.00
LEAD Total	**193.37**	**0.00**	**0.15**	**193.52**	**1,776.10**	**0.00**
LEAD COMPOUNDS						
CHROME DEPOSIT	0.00	0.00	0.00	0.00	5,009.00	0.00
DELAWARE CITY REFINERY	9.50	0.00	0.00	9.50	134.00	0.00
DUPONT EDGE MOOR	0.01	43.12	0.00	43.13	42,710.48	0.00
EDGE MOOR/HAY ROAD ENERGY CENTERS	176.30	1,039.60	0.00	1,215.90	2,373.60	0.00
EVRAZ CLAYMONT STEEL	423.00	49.53	57.00	529.53	215,606.00	0.00
INDIAN RIVER POWER PLANT	401.00	0.00	5,347.00	5,748.00	0.00	0.00
INSTEEL WIRE	0.00	0.00	0.00	0.00	5.00	0.00
JOHNSON CONTROLS	119.80	7.80	0.00	127.60	2,434,293.21	0.00
NRG ENERGY DOVER	2.80	0.00	0.00	2.80	90.71	0.00
PRINCE MINERALS	0.90	0.00	0.00	0.90	1.00	0.00
VP RACING FUELS	1.05	0.00	0.00	1.05	10.00	0.00
LEAD COMPOUNDS Total	**1,134.36**	**1,140.05**	**5,404.00**	**7,678.41**	**2,700,233.00**	**0.00**
NAPHTHALENE						
CARL KING	0.00	0.00	0.00	0.00	0.00	0.00
DELAWARE CITY REFINERY	656.00	5.00	0.00	661.00	0.00	1,200.00
DOVER AFB	183.00	0.00	0.00	183.00	0.00	0.00
INDIAN RIVER POWER PLANT	0.00	0.00	0.00	0.00	0.00	0.00
INVISTA	2.00	0.00	0.00	2.00	107.00	0.00
SUNOCO	3.00	0.00	0.00	3.00	0.00	0.00
NAPHTHALENE Total	**844.00**	**5.00**	**0.00**	**849.00**	**107.00**	**1,200.00**

Source: DNREC 2010 TRI Database, October 2011
All amounts are in pounds

APPENDIX J

2010 CARCINOGEN RELEASE AND TRANSFER DETAIL

	TOTAL ON-SITE RELEASES				TRANSFERS	ON-SITE
CARCINOGEN / FACILITY	**AIR**	**WATER**	**LAND**	**TOTAL**	**OFF SITE**	**WASTE MGMT.**
NICKEL						
CAMDEL METALS	0.00	0.00	0.00	0.00	37,613.00	0.00
METAL MASTERS	0.50	0.00	0.00	0.50	42,255.00	0.00
SUNOCO	9.00	0.00	0.00	9.00	0.00	0.00
NICKEL Total	**9.50**	**0.00**	**0.00**	**9.50**	**79,868.00**	**0.00**
NICKEL COMPOUNDS						
DUPONT EDGE MOOR	1.00	193.00	0.00	194.00	28,739.00	0.00
EVRAZ CLAYMONT STEEL	28.00	34.00	285.00	347.00	5,727.00	0.00
NICKEL COMPOUNDS Total	**29.00**	**227.00**	**285.00**	**541.00**	**34,466.00**	**0.00**
NITROBENZENE						
ORIENT	265.00	0.00	0.00	265.00	1.00	0.00
NITROBENZENE Total	**265.00**	**0.00**	**0.00**	**265.00**	**1.00**	**0.00**
P-CHLOROANILINE						
BASF NEWPORT	13.00	0.00	0.00	13.00	9,803.00	327.00
P-CHLOROANILINE Total	**13.00**	**0.00**	**0.00**	**13.00**	**9,803.00**	**327.00**
POLYCHLORINATED BIPHENYLS						
DUPONT EDGE MOOR	0.01	0.00	0.00	0.01	0.90	0.00
POLYCHLORINATED BIPHENYLS Total	**0.01**	**0.00**	**0.00**	**0.01**	**0.90**	**0.00**
POLYCYCLIC AROMATIC COMPOUNDS						
DELAWARE CITY REFINERY	0.00	0.90	0.00	0.90	409.90	91.00
DUPONT EDGE MOOR	68.89	0.00	615.00	683.89	0.00	0.00
EDGE MOOR/HAY ROAD ENERGY CENTERS	19.10	0.06	0.00	19.16	0.00	0.00
IKO	0.00	0.00	0.00	0.00	47.56	2.66
INDIAN RIVER POWER PLANT	1.03	0.00	0.00	1.03	0.00	0.00
MOUNTAIRE FARMS FRANKFORD FEED MILL	1.48	0.00	0.00	1.48	0.00	0.00
MOUNTAIRE FARMS OF DELAWARE	2.26	0.00	0.00	2.26	0.00	0.00
MOUNTAIRE FARMS OF DELMARVA	22.60	0.00	0.00	22.60	0.00	0.00
PERDUE BRIDGEVILLE MILLING	0.00	0.00	0.00	0.00	0.00	0.00
PERDUE GEORGETOWN	0.00	0.00	0.00	0.00	0.00	0.00
PINNACLE FOODS	2.00	0.00	0.00	2.00	0.00	0.00
POLYCYCLIC AROMATIC COMPOUNDS Total	**117.36**	**0.96**	**615.00**	**733.32**	**457.46**	**93.66**
PROPYLENE OXIDE						
CRODA	657.16	0.00	0.00	657.16	0.00	0.00
PROPYLENE OXIDE Total	**657.16**	**0.00**	**0.00**	**657.16**	**0.00**	**0.00**

Source: DNREC 2010 TRI Database, October 2011
All amounts are in pounds

APPENDIX J

2010 CARCINOGEN RELEASE AND TRANSFER DETAIL

	TOTAL ON-SITE RELEASES				TRANSFERS	ON-SITE
CARCINOGEN / FACILITY	**AIR**	**WATER**	**LAND**	**TOTAL**	**OFF SITE**	**WASTE MGMT.**
STYRENE						
BASF SEAFORD	357.00	0.00	0.00	357.00	598.00	1,046.00
JUSTIN TANKS	13,464.40	0.00	0.00	13,464.40	300.60	0.00
STYRENE Total	**13,821.40**	**0.00**	**0.00**	**13,821.40**	**898.60**	**1,046.00**
TOLUENE DIISOCYANATE (MIXED ISOMERS)						
E A R	2.53	0.00	0.00	2.53	165.00	0.00
MACDERMID	6.60	0.00	0.00	6.60	0.00	682.00
ROHM & HAAS B5 B6	1.80	0.00	0.00	1.80	1,076.00	4,500.00
TOLUENE DIISOCYANATE (MIXED ISOMERS) Total	**10.93**	**0.00**	**0.00**	**10.93**	**1,241.00**	**5,182.00**
TRICHLOROETHYLENE						
CAMDEL METALS	13,847.00	0.00	0.00	13,847.00	8,145.00	0.00
TRICHLOROETHYLENE Total	**13,847.00**	**0.00**	**0.00**	**13,847.00**	**8,145.00**	**0.00**
VINYL ACETATE						
FORMOSA PLASTICS	46,028.00	0.00	0.00	46,028.00	0.00	0.00
VINYL ACETATE Total	**46,028.00**	**0.00**	**0.00**	**46,028.00**	**0.00**	**0.00**
VINYL CHLORIDE						
FORMOSA PLASTICS	56,155.00	12.33	0.00	56,167.33	8.54	268,094.00
VINYL CHLORIDE Total	**56,155.00**	**12.33**	**0.00**	**56,167.33**	**8.54**	**268,094.00**
STATE TOTAL	**142,209**	**1,755**	**14,862**	**158,826**	**3,391,352**	**397,395**

Source: DNREC 2010 TRI Database, October 2011
All amounts are in pounds

COMMON TOXIC CHEMICALS AND THEIR HAZARDS

Presented here are the top 15 TRI chemicals in descending order of the amount released to on-site to air, water, and/or land for 2010. See Figures 2-4 on pages 9-10. 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 *Hazardous Substance Fact Sheets* provided by the New Jersey Department of Health and distributed by the EPA. The source for this information is listed under "Chemical Data fact Sheets" in the *For Further Information* section on page 59 of this report. The reader may also consult other chemical or toxicology reference materials to learn more about chemicals of interest. Another source is the *Agency For Toxic Substances And Disease Registry.* This source has a web site that has extensive information about many of the toxic chemicals in this report and a link to the web site is also on page 59. 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 2 on page 8

Hydrochloric Acid/Hydrogen Chloride (Aerosol portion only is reportable)
Used in: Metal processing and cleaning, analytical chemistry, and making other chemicals. Also produced during coal and oil combustion at power generating facilities.
Hazard: Corrosive. Liquid phase can cause skin and eye burns, aerosol phase can irritate the mouth, nose and throat. People working in occupations in which hydrochloric acid gas is being used or manufactured have the highest risk of being exposed. Most families will not be exposed to significant levels of hydrochloric acid gas.

Carbonyl Sulfide
Used in: Chemical manufacturing, also a by-product of petroleum refining.
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, and vomiting, increased or irregular heartbeat.

Hydrogen Fluoride
Used in: Etching glass, manufacturing chemicals and gasoline. Also produced during coal and oil combustion at power generating facilities.
Hazard: Corrosive. Liquid phase can cause skin and eye burns, aerosol phase can irritate the mouth, nose and throat. Exposures in the community, except possibly in cases of fires or spills, are usually much lower than those found in the workplace. Toxic by inhalation and ingestion or skin absorption.

Ammonia
Used in: Refrigerant, in manufacturing fertilizer, plastics, dyes, and textiles. A product of human activity, including natural organic decomposition, run-off from fields and feedlots, waste treatment plant and refinery/chemical manufacturing effluents. Ammonia is applied directly into soil on farm fields, and is used to make fertilizers for farm crops, lawns, and plants. Many household and industrial cleaners contain ammonia.
Hazard: May irritate lungs, eyes, nose, throat, and mouth. Corrosive, can severely damage eyes and cause permanent damage. Not normally a liquid at room temperatures, workplace contact with liquid can freeze skin.

APPENDIX K

COMMON TOXIC CHEMICALS AND THEIR HAZARDS

Vinyl Chloride
Used in: Plastics, adhesives and chemical manufacturing.
Hazard: Known 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. Vinyl chloride is not normally found in urban, suburban, or rural air in amounts that are detectable by the usual methods of analysis. Vinyl chloride is also in tobacco smoke.

Sulfuric Acid (Aerosol portion only is reportable)
Used in: Fertilizers, chemicals, dyes, petroleum refining, etching, analytical chemistry, metal manufacturing and plating, and explosives. Also produced during coal and oil combustion at power generating facilities.
Hazard: Corrosive. Liquid phase can cause skin and eye burns, aerosol phase can irritate the mouth, nose and throat. People working in occupations in which sulfuric acid gas is being used or manufactured have the highest risk of being exposed.

Vinyl Acetate
Used for: Plastics and chemical manufacturing.
Hazard: Inhalation can irritate the eyes, skin, nose, and throat. High levels of exposure can cause dizziness. May damage the lungs. Is a hazardous substance, is flammable and reactive. Is soluble in water and toxic to wildlife.

Propylene
Used in: Propylene is used in the production of many organic chemicals including resins, plastics, synthetic rubber and gasoline.
Hazard: Toxic by inhalation. Exposure to high levels can cause you to feel dizzy, lightheaded, and may cause unconsciousness. Boils at a low temperature ($-47^{O}C$) and is a highly flammable gas. Contact with liquid may cause frostbite. Exposure may damage the liver, and affect the nervous system.

Methanol
Used in: Solvents, cleaners, production of other chemicals.
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, to extract vegetable oils from crops such as soybeans, and in denaturing alcohols.
Hazard: Toxic when inhaled, ingested, or by skin contact. Exposure can cause numbness, lightheadedness, giddiness, headaches, and nausea. The only people known to have been affected by exposure to n-hexane used it at work. Flammable liquid and a fire hazard.

Trichloroethylene
Used in: As a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers.
Hazard: Toxic when inhaled. Breathing small amounts may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating. Breathing large amounts of trichloroethylene may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage. Nonflammable, colorless liquid.

Styrene
Used in: Making polystyrene plastics, protective coatings, polyesters, resins, and as a chemical intermediate.
Hazard: Possible carcinogen, mutagen. Toxic by inhalation or skin absorption. Found in some foods, styrene can also be transferred in low levels to food from polystyrene packaging material. Can cause eye, nose, and throat irritation. Repeated exposure may cause concentration and memory problems. Higher levels may cause dizziness. Very high levels of exposure may be fatal or cause brain and liver damage. You can also be exposed to styrene in the air through tobacco smoke.

Certain Glycol Ethers
Used in: Solvents, paint thinners.
Hazard: Can irritate the eyes, nose, throat, and skin. Toxic by inhalation and ingestion or skin absorption.
Repeated exposure may damage the liver and kidneys.

N-methyl-2-pyrrolidone
Used in: Used as a solvent in chemical processing, in paint thinners, and in pharmaceutical applications.
Hazard: Toxic when inhaled and may also be absorbed through the skin. Can irritate the skin and eyes, nose and throat. Exposure can cause headache, stomach pain, nausea and vomiting. Possible teratogen (may cause birth defects or interfere with fetal development).

Barium and Barium Compounds *
Used in: Barium is a silvery-white metal which exists in nature only in ores containing mixtures of elements. It combines with other chemicals such as sulfur or carbon and oxygen to form barium compounds. Barium compounds are used by the oil and gas industries to make drilling muds. They are also used to make paint, bricks, ceramics, glass, and rubber. Barium sulfate is sometimes used by doctors to perform medical tests and to take x-rays of the gastrointestinal tract.
Hazard: Toxic when inhaled, may irritate skin, eyes, nose and throat. Not a carcinogen.

WATER – From Figure 3 on page 9 - Chemicals not reported in the Air section above

Nitrate & Nitrite Compounds (Sodium Nitrate, Sodium Nitrite)
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 nitrates 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. High levels can displace oxygen from the bloodstream and produce blue color in the skin and lips. 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.

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

APPENDIX K

COMMON TOXIC CHEMICALS AND THEIR HAZARDS

Manganese and Manganese Compounds *
Used in: Dry-cell batteries, steelmaking, matches, fireworks, in animal feed, fertilizer, livestock nutritional supplements, in glazes and varnishes, and in ceramics, for water purification purposes in water and waste-treatment plants.
Hazard: Toxic when inhaled. Repeated exposure can cause brain damage, may damage kidneys and liver.

Lead and Lead Compounds *
Used in: Batteries, ammunition, cable covering, ceramic glazes, metal alloys, and solders.
Hazard: Toxic by ingestion. Can cause brain damage, particularly in children. Listed as a possible carcinogen.

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.

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 may affect the liver.

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.

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.

Arsenic compounds
Used in: Inorganic arsenic compounds are used in production of weed and insect killers, in medicine and chemistry, as a feed additive, and to preserve wood. Copper chromated arsenate (CCA) was used to make "pressure-treated" lumber, but is no longer used in the U.S. for residential uses. Organic arsenic compounds are used as pesticides, primarily on cotton plants. Found in abundance in the earth's soil and rocks.
Hazard: Toxic when inhaled, and may be absorbed through the skin. Contact with the eyes and skin may cause irritation and burns. Exposure may cause nervous system damage. Arsenic compounds are carcinogens.

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

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.

2,4-Dimethylphenol
Used in: Disinfectants, solvents, pharmaceuticals, herbicides, and insecticides. Is present in petroleum and coal tar.
Hazard: Toxic by inhalation or skin exposure. Will irritate and burn the skin and eyes. Can irritate the nose, throat, and lungs causing coughing and shortness of breath. High exposure can cause headache, nausea, and fainting. Repeated exposure may affect the liver and kidneys. Is on the hazardous substances list.

Cobalt Compounds
Used in: To produce alloys used in the manufacture of aircraft engines, magnets, grinding and cutting tools, artificial hip and knee joints. Cobalt compounds are also used to color glass, ceramics and paints, and used in porcelain enamel and paints. Radioactive cobalt 60 is used for commercial and medical purposes.
Hazard: Is probably a carcinogen. Toxic when inhaled or ingested. Can irritate the skin, eyes, nose and throat. May cause asthma-like symptoms, and affect the heart, thyroid, liver and kidneys.

Benzene
Used in: Making other chemicals which are used to make plastics, resins, and nylon and synthetic fibers. Benzene is 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: Toxic when inhaled or by skin contact. Can cause dizziness, nose and throat irritation, and irregular heartbeat. Higher concentrations can cause convulsions and death. Is a carcinogen and is highly flammable.

LAND – From Figure 4 on page 10 - Chemicals not reported in the Air and/or Water sections above. There were only 12 chemicals reported for 2010 as released to land and 10 of those have been described in the air and water sections above.

Polycyclic Aromatic Compounds (PACs)
Used in: Limited use, but a few of these compounds are used in manufacture of dyes, plastics, and pesticides.
Hazard: By inhalation and eating foods containing PACs. Inhalation hazard is from breathing air in areas where substances like coal, oil, and garbage are not burned completely, and in vicinity of agricultural burns and coal-tar and asphalt production facilities. Ingestion hazard is from eating foods such as charred meats, or drinking contaminated water or milk, which may contain PACs. Listed as a probable carcinogen.

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

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 may 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.

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

GLOSSARY AND ACRONYMS

Aerosol - A gaseous form of a chemical, which includes mists, vapors, gases, and fogs, would be considered an aerosol. Hydrochloric and sulfuric acid aerosols are the reportable form of these two chemicals. These acids in aqueous solutions are no longer reportable under TRI, but an aerosol that is generated from a solution is reportable.

Air Releases **-** Point and non-point air emissions, or releases to air. Point releases are those chemicals released through **stacks**, vents, or other confined spaces and are usually regulated by permit. Non-point, or **fugitive**, releases include chemical leaks from valves, pump seals, etc., evaporative losses from surface impoundments (ponds) or spills, or releases from building ventilation systems.

ARP - DNREC's Accidental Release Program - Formerly known as the Industrial Disaster Prevention program, ARP provides protection for the lives and health of the citizens of Delaware by ensuring that companies with extremely hazardous substances have proper control plans and operations in place to prevent disasters.

Article - The term "Article" in 40 CFR Section 372.3, is defined as a manufactured item: (1) which is formed to a specific shape or design during manufacture; (2) which has end use functions dependent in whole or in part upon shape or design; and (3) which does not release an EPCRA section 313 chemical under normal conditions of processing or use of that item at the facility or establishment.

ATSDR - Agency for Toxic Substances and Disease Registry – A federal public health agency of the U.S. Department of Health and Human Services**.** ATSDR serves the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and diseases related to toxic substances.

Bioaccumulate - Bioaccumulate means to increase the concentration of a chemical in a biological organism such as humans over time, compared to the chemical's concentration in the environment. Compounds accumulate in living things any time they are taken up and stored faster than they are broken down or excreted.

Bottom Ash - Ash that falls to the bottom of the combustion chamber in a process burning fuels like coal and oil. Bottom ash is removed for disposal on a regular basis. Also see **Fly Ash.**

CAA - Clean Air Act - The Clean Air Act is the law that defines EPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. The last major change in the law was enacted by Congress in 1990. Legislation passed since then has made several minor changes.

Carcinogen - A carcinogen is a substance that can cause cancer of some form.

CEM - Continuous Emissions Monitoring - A continuous emission monitoring system (CEMS) is the total equipment necessary for the determination of a gas or particulate matter concentration or emission rate using continuous pollutant analyzer measurements. CEMS are required under some of the EPA regulations for either continual compliance determinations or determination of when standards have been exceeded.

APPENDIX L

Glossary and Acronyms

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. SARA made several important changes and additions to the program, including provision for the TRI Program in the Emergency Planning and Community Right-to-Know Act. (See **EPCRA** and **SARA** below).

Chemical Abstracts Service (CAS) Registry Number - A numerical identification given to each unique chemical, which aids in the identification of a chemical with multiple synonyms (e.g., CAS 78-93-3 - methyl ethyl ketone, is also known as 2-butanone). Chemical categories under TRI do not possess a CAS numbers and are assigned category codes by the EPA. Lead compounds, for example, is category code N420.

Disposal - Any underground injection, placement in landfills/surface impoundments, land treatment, or other intentional land disposal.

DNREC - Delaware Department of Natural Resources and Environmental Control – The State agency in Delaware that is responsible for environmental concerns. It has seven divisions, and the Cabinet Secretary reports to the Governor. The Division of Waste and Hazardous Substances is responsible for this report, and the Divisions of Air Quality, Water, Community Services, Parks and Recreation, Fish and Wildlife, and Watershed Stewardship complete the Department.

Emission Factors – An Emission factor a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. Emission factors are published emission rates of chemicals in particular processes, which are based on averaging a large sampling of representative processes.

Energy Recovery - The use of a waste product to create and utilize energy to generate steam, electricity, etc. A TRI chemical in waste must contain enough heating value to sustain the combustion process; otherwise it is considered only treatment or incineration of the waste.

Environmental Fate - The disposition, over time, of a chemical in the environment. The bioaccumulation of a chemical in fish and the decomposition of a chemical when exposed to sunlight are examples of environmental fate.

EPA - United States Environmental Protection Agency.

EPCRA - Emergency Planning and Community Right-to-Know Act. Congress enacted the Emergency Planning and Community Right to Know Act as Title III of the Superfund Amendments and Reauthorization Act **(SARA**) of 1986. This act includes the TRI program, and more information can be found in Appendix A of this report.

EPCRA Section 313 Chemical - A chemical or chemical category listed in 40 CFR Section 372.65 (40 CFR Section 372.3) - see **Toxic Chemical and Modified Chemicals** below.

Facility - All buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with such person). A facility may contain more than one establishment, or distinct business unit.

Fluid Bed - A fluid bed process uses a gas introduced under a bed of fine solid material to separate and fluidize the material, creating a condition of rapid mixing. The bed has the appearance of a vigorously boiling liquid, and the bed of material takes on many of the properties of a fluid. It exerts pressure and the material will flow through a hole in the vessel and over or under a weir within the bed. The fluid bed process is used to improve reaction time, heat transfer, processing uniformity, and process yield or conversions.

Fluid Catalytic Cracker - In petroleum chemistry, cracking is the process whereby complex organic molecules are converted to simpler molecules (light hydrocarbons) by the breaking of carbon-carbon bonds. Fluid Catalytic Cracking (FCC) produces a high yield of gasoline and LPG from heavier crude oil distillation fractions and residues. FCC uses a very active hot catalyst where it contacts the heavy feed material in a reactor, vaporizes it, and the cracking reactions break down the high molecular weight oil into lighter components including LPG, gasoline, and diesel fuel.

Fluid Coker - Used in refineries, fluid coking is a continuous fluid bed technology that thermally converts heavy hydrocarbons to lighter products.

Fly Ash - Ash that becomes airborne and escapes in the exhaust air from a combustion process that burns fuels like coal or oil. Fly ash can be controlled with air pollution control devices like precipitators and filters. Also see **Bottom Ash.**

FOIA - Freedom of Information Act – Originally signed into law on July 4, 1966 and amended in 1996, 2002 and 2007. This act allows for the full or partial disclosure of previously unreleased information and documents controlled by the United States Government. The Act defines agency records subject to disclosure, outlines disclosure procedures and grants some exemptions to the statute. Many states, including Delaware, have their own FOIA statutes.

Form A - A two-page report that a facility may use when certain criteria are met for a given chemical that must be reported. Refer to page 2 in this report for general reporting requirements, and pages 3-4 for details on eligibility and a description of the Form A data elements. The Form A provides basic facility information and the chemical identity, but does not provide other data that is given on the Form R. The Form A form is shown in Appendix N.

Form R- A five-page report that a facility must use (except when Form A eligibility applies) for reporting on each TRI chemical that the facility exceeds an applicable threshold. The Form R form is shown in Appendix M.

Fugitive Emissions - See **Air Releases.**

Hazardous Air Pollutants (HAPs) - Air pollutants which are not covered by ambient air quality standards but which, as defined in the Clean Air Act, may present a threat of adverse human health effects or adverse environmental effects. Such pollutants include asbestos, beryllium, mercury, benzene, coke oven emissions, radionuclides, and vinyl chloride.

IARC - International Agency for Research on Cancer (IARC) – IARC is part of the World Health Organization. IARC coordinates and conducts research on the causes of human cancer, the mechanisms of carcinogenesis, and develops scientific strategies for cancer control.

Import - To cause a chemical to be imported into the customs territory of the United States. For purposes of the definition, “to cause” means to intend that the chemical be imported and to control the identity of the imported chemical and the amount of the imported chemical. For TRI reporting purposes, “import” is the same as “manufacture”, as in either case the facility has caused the chemical to become present at the facility.

LEPC - Local Emergency Planning Committee (LEPC). Each LEPC has specific duties to fulfill, and the State Emergency Response Commission (SERC) supervises and coordinates those activities. The LEPC's are required to have broad representation from many groups including state and local officials, media, law enforcement, fire service, EMS and health care, environmental, community groups and citizens and industrial facilities that use hazardous materials. The SERC also receives various reports from businesses that use or store hazardous chemicals, or that experience an emergency release of a hazardous substance, and must establish procedures for receiving and processing requests for information from the public. See **SERC** for more information.

Manufacture - To produce, prepare, compound or import a TRI chemical, including the coincidental production of the chemical as an intermediate, a by-product, or an impurity.

Mass Balance Calculation - A method of calculating amounts and concentrations at a point in a process based on known amounts and concentrations at other points in the process. The basic Mass Balance equation is: Input + Generation = Output + Consumption.

MSDS - Material Safety Data Sheet - A Material Safety Data Sheet (MSDS) is prepared by the manufacturer of a product. The purpose of the form is to provide information on the safe use, handling and potential hazards of a product. The form is required to be developed under 29 CFR Section 1910.1200(g). This form lists important attributes, including toxicity and safety information that a user or handler of the chemical is required to know about.

NAAQS - National Ambient Air Quality Standards - The Clean Air Act required EPA to set National Ambient Air Quality Standards (40 CFR Part 50) for pollutants considered harmful to public health and the environment. The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants. They are: Carbon monoxide, lead, nitrogen dioxide, particulate matter (10 and 2.5 microns), ozone, and sulfur dioxide. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

NAICS - North American Industrial Classification System – This is a systematic classification system which assigns a six-digit number to each commercial and industrial facility. It expands the four-digit classification categories used by the **Standard industrial Classification (SIC)** codes. It is used by government, industry, and sales organizations to reach targeted industries for data collection, enforcement, and sales. The TRI program converted to NAICS starting with the 2006 reporting year. The covered SIC codes were codes 10 (except 1011, 1081, and 1094), 12 (except 1241), or 20-39; industry codes 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce); or 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C, or 5169, or 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis). The NAICS codes are not directly translatable from the SIC codes, so a reference document is usually required to translate or compare the codes. The intent in converting to the NAICS codes was to more precisely define the TRI reporting universe without adding to or subtracting from it. Also see **SIC – Standard Industrial Classification.**

NESHAP - **National Emissions Standards for Hazardous Air Pollutants -** The Clean Air Act (**CAA**) requires the U. S. Environmental Protection Agency (**EPA**) to develop and enforce regulations to protect the general public from exposure to hazardous air pollutants (**HAPs**).

NPDES - National Pollutant Discharge Elimination System - The Clean Water Act (CWA) requires that all discharges of pollutants to surface waters (streams, rivers, lakes, bays, and oceans) must be authorized by a permit issued under the National Pollutant Discharge Elimination System (NPDES) program.

Off-site Transfers - Waste that is transferred off-site to another facility for the purpose of treatment, recycling, energy recovery, or disposal.

On-site Releases - Emissions from a facility to the environment as a result of normal operations or accidents. This includes emissions to the air, discharges to surface waters, disposal onto or in the ground, and underground injection. Underground injection is not an approved method of hazardous waste disposal in Delaware.

On-site Waste Management - Wastes that are treated, recycled, or recovered for energy at the facility. The disposal of a waste into an on-site landfill is considered a release by EPA, and thus is not included in this category.

OSHA - Occupational Safety and Health Administration - The Federal agency that has the responsibility to ensure a safe and healthful work environment.

Otherwise Use - Encompasses any activity involving a TRI chemical that does not fall under the definition of manufacture or process. A chemical that is not intentionally incorporated into a product, like a solvent used for cleaning, falls under the otherwise use category.

P2 - Pollution Prevention - Pollution Prevention (P2) means "source reduction," as defined under the Pollution Prevention Act and other practices that reduce or eliminate the creation of pollutants. This EPA program was created to encourage, assist and lead others to prevent pollution at the source. Improved operation and maintenance, material substitution, process and equipment modification, conservation practices, product modification, and in-process recycling are examples of pollution prevention. EPA provides incentives to businesses, including public recognition, tools, and technical assistance. Since reduction of waste at its source is emphasized, recycling, energy recovery, treatment, and disposal are not included within the definition of pollution prevention. Also see **Waste Management** below.

PAC - Polycyclic Aromatic Compounds - PACs are multi-numbered benzene-ring compounds. PACs contain polycyclic aromatic hydrocarbons (PAHs), substituted PAHs, and PAH derivatives.

PAH - Polynuclear Aromatic Hydrocarbon - Polynuclear aromatic hydrocarbons (PAHs) are hydrocarbon compounds with multiple benzene rings. PAHs are typical components of asphalts, fuels, oils, and greases. They are also called Polycyclic Aromatic Hydrocarbons. They are of concern because some of these compounds have been identified as carcinogens.

PCB - Polychlorinated Biphenyls - A group of toxic, persistent chemicals used in electrical transformers and capacitors for insulating purposes, and in gas pipeline systems as lubricants. The sale and new use of these chemicals were banned by law in 1979.

PBT - Persistent Bioaccumulative Toxin - PBT pollutants are chemicals that are toxic, persist in the environment and bioaccumulate (are not broken down or excreted), and thus pose risks to human health and ecosystems. The biggest concerns about PBT's are that they transfer rather easily among air, water, and land, and span boundaries of geography and generations.

PEL - Permissible Exposure Limit - OSHA sets permissible exposure limits (PELs) to protect workers against the health effects of exposure to hazardous substances. PELs are regulatory limits on the amount or concentration of a substance in the air. PELs are enforceable. OSHA PELs are based on an 8-hour time weighted average (TWA) exposure.

pH - pH is a measure of the acidity in a liquid. High acid content will be indicated by a pH of less than 7.0, and low acidity, called alkalinity, is indicated by a pH higher than 7.0. Although the pH scale is 0-14, it is a logarithmic scale and the range is based on powers of 10. In the case of pH, the range is 1×10^{-7} to 1×10^{7} (0.0000001 to 10,000,000).

PM - Particulate Matter - Tiny particles of solid or liquid suspended in a gas or liquid. Sources of particulate matter can be man-made or natural. Some particulates occur naturally, originating from volcanoes, dust storms, forest and grassland fires, living vegetation, and sea spray. Human activities, such as the burning of fossil fuels in vehicles, power plants and various industrial processes also generate significant amounts of particulates. Increased levels of fine particles in the air are linked to health hazards such as heart disease, altered lung function and lung cancer. The notation PM_{10} is used to describe particles of 10 micrometers or less and $PM_{2.5}$ represents particles less than 2.5 micrometers in diameter. One micrometer is one millionth of a meter, or about 0.00004 inches.

POTW - Publicly Owned Treatment Works - Usually a municipal wastewater treatment facility.

PPA - Pollution Prevention Act of 1990 - Pollution prevention became a national policy with the Pollution Prevention Act of 1990. The Act established the waste management hierarchy whereby wastes should be prevented or reduced at the source whenever feasible, and safe disposal is the option of last resort.

Process - To prepare a TRI chemical, after its manufacture, for distribution into commerce. Processing includes intentionally incorporating the chemical into a product or the reaction of the chemical to form another chemical or product.

RCRA - Resource Conservation and Recovery Act - The Resource Conservation and Recovery Act - commonly referred to as RCRA - is our nation's primary law governing the disposal of solid and hazardous waste. Congress passed RCRA on October 21, 1976 to address the increasing problems the nation faced from our growing volume of municipal and industrial waste. RCRA, which amended the Solid Waste Disposal Act of 1965, set national goals for:

- Protecting human health and the environment from the hazards of waste disposal.
- Conserving energy and natural resources.
- Reducing the amount of waste generated.
- Ensuring that wastes are managed in an environmentally-sound manner.

Recycle - The process of capturing a useful product from a waste stream. Solvent recovery, metals recovery, and acid regeneration are examples of recycling.

Regulation 1146 - This Delaware regulation establishes Nitrogen Oxides (NO_x), Sulfur Dioxide (SO_2), and mercury emissions limits to achieve reductions of those pollutants from Delaware's large electric generation units. The reduction in NO_X, SO_2, and mercury emissions will: 1) reduce the impact of those emissions on public health; 2) aid in Delaware's attainment of the State and National Ambient Air Quality Standard (NAAQS) for ground level ozone and fine particulate matter; 3) help address local scale fine particulate and mercury problems attributable to coal and residual oil-fired electric generating units, 4) satisfy Delaware's obligations under the Clean Air Mercury Rule (CAMR), and 5) improve visibility and help satisfy Delaware's EGU-related regional haze obligations.

Release - Any spilling, leaking, pumping, pouring, emitting, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discarding of barrels, containers, and other closed receptacles of any EPCRA Section 313 chemicals.

SARA - Superfund Amendments and Reauthorization Act of 1986 (SARA Title III), also known as The Emergency Planning and Community Right-to-Know Act (EPCRA), was enacted in 1986. This law provides an infrastructure at the state and local levels to plan for chemical emergencies. Facilities that store, use, or release certain chemicals, may be subject to various reporting requirements. Reported information is then made publicly available through the **Toxics Release Inventory** and other programs so that interested parties may become informed about potentially dangerous chemicals in their community.

Selective Catalytic Reduction (SCR) - Nitrogen oxides (NOx) emissions in boiler exhaust gas are converted into elemental nitrogen and water by injecting a nitrogen-based chemical reagent, most commonly ammonia, into the gas and then passing the gas through a catalyst bed where the NOx and ammonia react to form nitrogen and water vapor. Also see **SNCR** below.

Selective Non-Catalytic Reduction (SNCR) - Nitrogen oxides (NOx) emissions in boiler exhaust gas are converted into elemental nitrogen and water by injecting a nitrogen-based chemical reagent, most commonly urea or ammonia into the gas in the furnace. The SNCR method does not require a catalyst, but has lower conversion efficiency than the SCR method. Also see **SCR** above.

SERC - State Emergency Response Commission – The SERC's were created in response to the federal Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, and are comprised of representatives from various state and local government organizations and industry. The primary focus of a SERC is to enhance state and local emergency response and preparedness capabilities through better coordination and planning. See **LEPC (Local Emergency Planning committee)** for more information.

Standard Industrial Classification (SIC) Code - A four-digit code established by the Federal Office of Management and Budget used to describe the type of activity(s) at a facility. Facilities that engage in a variety of activities may possess multiple codes. Also see **North American Industrial Classification System (NAICS).** The TRI program converted to NAICS starting with the 2006 reporting year.

Stack Test - A process of sampling an exhaust stack to determine the contents, usually in percent concentration and cubic feet per hour. Sampling is usually done through a port or series of ports at an elevated point on the stack.

Teratogen - Any agent that can disturb the development of an embryo or fetus. Teratogens may cause a birth defect in the child. Or a teratogen may halt the pregnancy outright. The classes of teratogens include radiation, maternal infections, chemicals, and drugs.

TSCA - Toxic Substance Control Act – TSCA was enacted to provide information about all chemicals and to control the production of new chemicals that might present an unreasonable risk of injury to health or the environment. TSCA authorizes the Environmental Protection Agency to require testing of chemical substances. TSCA also provides authority to regulate the manufacturing, processing, import and use of chemicals. The manufacture use, and/or disposal of chemicals are covered in virtually every environmental law and in OSHA and DOT regulations, and TSCA fills the gaps in other laws and supplements sections of existing laws. EPA maintains and publishes the TSCA Inventory, which includes a list of chemicals manufactured, imported, or processed for commercial purposes in the United States. The TSCA Inventory is voluminous, with more than 75,000 chemical substances.

Toxic Chemical - A chemical or chemical category listed in 40 CFR Section 372.65 (40 CFR Section 372.3); causing acute human health risks, cancer or chronic (non-cancer) human health effects, and/or environmental effects.

Treatment - The removal, destruction, alteration, or stabilization of the waste. Biological treatment, incineration, and neutralization are examples of waste treatment. Wastewater treatment plants and hazardous waste incinerators are examples of treatment facilities.

TRI - The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990.

TSDF - Treatment, Storage, and Disposal Facility - A site where a hazardous substance is treated, stored or disposed of. TSDF facilities are regulated by EPA and states under the **Resource Conservation and Recovery Act (RCRA)**.

VOC - Volatile Organic Compounds - Chemical compounds containing carbon and hydrogen which readily evaporate at room temperature.

Waste Management - EPA interprets waste management to include the following activities: recycling, combustion for energy recovery, treatment for destruction, waste stabilization, and release, including disposal. Waste management does not include the storage, container transfer, or tank transfer if no recycling, combustion for energy, treatment for destruction, waste stabilization, or release of the chemical occurs at the facility.

More terms and acronyms can be found at: http://www.epa.gov/OCEPAterms/intro.htm .

Sample Form R
For Reporting year 2010

Form Approved OMB Number: 2025-0009
Approval Expires: 07/31/2011

EPA
United States Environmental Protection Agency

FORM R

Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986, also Known as Title III of the Superfund Amendments and Reauthorization Act

TRI Facility ID Number

Toxic Chemical, Category or Generic Name

WHERE TO SEND COMPLETED FORMS: 1. TRI Data Processing Center, P. O. Box 10163, Fairfax, VA 22038 2. APPROPRIATE STATE OFFICE (See Instructions in Appendix E)

This section only applies if you are revising or withdrawing a previously submitted form, otherwise leave blank.	Revision (enter up to two code(s))	Withdrawal (enter up to two code(s))

IMPORTANT: See instructions to determine when "Not Applicable (NA)" boxes should be checked.

PART 1. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR _____

SECTION 2. TRADE SECRET INFORMATION

2.1 Are you claiming the toxic chemical identified on page 2 trade secret? ☐ Yes (Answer question 2.2; Attach substantiation forms) ☐ No (Do not answer 2.2; Go to Section 3)

2.2 Is this copy ☐ Sanitized ☐ Unsanitized (Answer only if "YES" in 2.1)

SECTION 3. CERTIFICATION (Important: Read and sign after completing all form sections.)

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report.

Name and official title of owner/operator or senior management official:	Signature	Date Signed:

SECTION 4. FACILITY IDENTIFICATION

4.1 TRI Facility ID Number

Facility or Establishment Name

Facility or Establishment Name or Mailing Address (If different from street address)

Street

Mailing Address

City/County/State/Zip Code

City/State/Zip Code

Country (Non-US)

4.2 This report contains information for (Important: Check a or b; check c or d if applicable) a. ☐ An entire facility b. ☐ Part of a facility c. ☐ A Federal facility d. ☐ GOCO

4.3 Technical Contact Name

Telephone Number (include area code)

Email Address

4.4 Public Contact Name

Telephone Number (include area code)

Email Address

4.5 NAICS Code (s) (6 digits) Primary a. b. c. d. e. f.

4.6 Dun & Bradstreet Number (s) (9 digits) a. b.

SECTION 5. PARENT COMPANY INFORMATION

5.1 Name of Parent Company NA ☐

5.2 Parent Company's Dun & Bradstreet Number NA ☐

EPA Form 9350-1 (Rev. 10/2009) - Previous editions are obsolete.

Sample Form R
For Reporting year 2010

(IMPORTANT: Type or print; read instru

Form Approved OMB Number: 2025-0009
Approval Expires: 07/31/2011

FORM R

PART II. TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORM

TRI Facility ID Number

Toxic Chemical, Category or Generic Name

SECTION 1. TOXIC CHEMICAL IDENTITY **(Important: DO NOT complete this section if you completed Section 2 below.)**

1.1 CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)

1.2 Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)

1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY **(Important: DO NOT complete this section if you completed Section 1 above.)**

2.1 Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces and punctuation.)

SECTION 3. ACTIVITIES AND USES OF THE TOXIC CHEMICAL AT THE FACILITY
(Important: Check all that apply.)

3.1 Manufacture the toxic chemical:	3.2 Process the toxic chemical:	3.3 Otherwise use the toxic chemical:
a. ☐ Produce b. ☐ Import If produce or import c. ☐ For on-site use/processing d. ☐ For sale/distribution e. ☐ As a byproduct f. ☐ As an impurity	a. ☐ As a reactant b. ☐ As a formulation component c. ☐ As an article component d. ☐ Repackaging e. ☐ As an impurity	a. ☐ As a chemical processing aid b. ☐ As a manufacturing aid c. ☐ Ancillary or other use

SECTION 4. MAXIMUM AMOUNT OF THE TOXIC CHEMICAL ON SITE AT ANY TIME DURING THE CALENDAR YEAR

4.1 ☐ (Enter two digit code from Instruction package.)

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ON SITE

			A. Total Release (pounds/year*) (Enter a range code** or estimate)	B. Basis of Estimate (enter code)	C. % From Stormwater
5.1	Fugitive or non-point air emissions	NA ☐			
5.2	Stack or point air emissions	NA ☐			
5.3	Discharges to receiving streams or water bodies (enter one name per box)				
	Stream or Water Body Name				
5.3.1					
5.3.2					
5.3.3					

If additional pages of Part II, Section 5.3 are attached, indicate the total number of pages in this box ☐ and indicate the Part II, Section 5.3 page number in this box. ☐ (example: 1, 2, 3, etc.)

EPA Form 9350-1 (Rev. 10/2009) - Previous editions are obsolete.

*For Dioxin or Dioxin-like compounds, report in grams/year.

** Range Codes: A= 1-10 pounds; B= 11-499 pounds; C= 500-999 pounds.

(IMPORTANT: Type or print; read instructions before completing form)

Form Approved OMB Number: 2025-0009
Approval Expires: 07/31/2011

Sample Form R
For Reporting year 2010

FORM R

PART II. CHEMICAL - SPECIFIC INFORMATION (CONTINUED)

TRI Facility ID Number
Toxic Chemical, Category or Generic Name

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ON SITE (continued)

		NA	A. Total Release (pounds/year*) (enter range code ** or estimate)	B. Basis of Estimate (enter code)
5.4.1	Underground injection onsite to Class I Wells	☐		
5.4.2	Underground injection onsite to Class II-V Wells	☐		
5.5	Disposal to land onsite			
5.5.1A	RCRA Subtitle C landfills	☐		
5.5.1B	Other landfills	☐		
5.5.2	Land treatment/ application farming	☐		
5.5.3A	RCRA Subtitle C surface impoundments	☐		
5.5.3B	Other surface impoundments	☐		
5.5.4	Other disposal	☐		

SECTION 6. TRANSFERS OF THE TOXIC CHEMICAL IN WASTES TO OFF-SITE LOCATIONS

6.1 DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS (POTWs)

6.1.A Total Quantity Transferred to POTWs and Basis of Estimate

6.1.A.1 Total Transfers (pounds/year*) (enter range code ** or estimate)	6.1.A.2 Basis of Estimate (enter code)

6.1.B ____	POTW Name						
POTW Address							
City		State		County		Zip	
6.1.B ____	POTW Name						
POTW Address							
City		State		County		Zip	

If additional pages of Part II, Section 6.1 are attached, indicate the total number of pages in this box ☐ and indicate the Part II, Section 6.1 page number in this box ☐ (example: 1,2,3, etc.)

SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS

6.2. ____ Off-Site EPA Identification Number (RCRA ID No.)							
Off-Site Location Name							
Off-Site Address							
City		State		County		Zip	Country (Non-US)

Is location under control of reporting facility or parent company? ☐ Yes ☐ No

EPA Form 9350-1 (Rev. 10/2009) - Previous editions are obsolete.

* For Dioxin or Dioxin-like compounds, report in grams/year
** Range Codes: A=1-10 pounds; B=1-499 pounds; C=500 - 999 pounds.

Sample Form R
For Reporting year 2010

(IMPORTANT: Type or print; read instructions before completing form) umber: 2025-0009 /2011 Page 4 of 5

FORM R

PART II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)

I Facility ID Number

Toxic Chemical, Category or Generic Name

SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS (CONTINUED)

A. Total Transfers (pounds/year*) (enter range code**or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1.	1.	1. M
2.	2.	2. M
3.	3.	3. M
4.	4.	4. M

6.2_____ Off-Site EPA Identification Number (RCRA ID No.)

Off-Site Location Name

Off-Site Address

City | State | County | Zip | Country (Non-US)

Is location under control of reporting facility or parent company? Yes ☐ No ☐

A. Total Transfers (pounds/year*) (enter range code**or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1.	1.	1. M
2.	2.	2. M
3.	3.	3. M
4.	4.	4. M

SECTION 7A. ON-SITE WASTE TREATMENT METHODS AND EFFICIENCY

☐ Not Applicable (NA) - Check here if no on-site waste treatment is applied to any waste stream containing the toxic chemical or chemical category.

a. General Waste Stream [enter code]	b. Waste Treatment Method(s) Sequence [enter 3- or 4- character code(s)]								d. Waste Treatment Efficiency [enter 2 character code]
7A.1a	7A.1b	1		2		3		4	7A.1d
	5		6		7		8		
7A.2a	7A.2b	1		2		3		4	7A.2d
	5		6		7		8		
7A.3a	7A.3b	1		2		3		4	7A.3d
	5		6		7		8		
7A.4a	7A.4b	1		2		3		4	7A.4d
	5		6		7		8		
7A.5a	7A.5b	1		2		3		4	7A.5d
	5		6		7		8		

If additional pages of Part II, Section 6.2/7A are attached, indicate the total number of pages in this box ☐ and indicate the Part II, Section 6.2/7 page number in this box ☐ (example: 1,2,3,etc.)

EPA Form 9350-1 (Rev. 10/2009) - Previous editions are obsolete.

*For Dioxin or Dioxin-like compounds, report in grams/year

**Range Codes: A=1 - 10 pounds; B=11 - 499 pounds C= 500-999 pounds.

Sample Form R
For Reporting year 2010

efore completing form)

Form Approved OMB Number: 2025-0009
Approval Expires: 07/31/2011

FORM R

PART II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)

TRI Facility ID Number
Toxic Chemical, Category or Generic Name

SECTION 7B. ON-SITE ENERGY RECOVERY PROCESSES

☐ Not Applicable (NA) – Check here if no on-site energy recovery is applied to any waste stream containing the toxic chemical or chemical category.

Energy Recovery Methods [enter 3-character code(s)]

1 ☐ 2 ☐ 3 ☐

SECTION 7C. ON-SITE RECYCLING PROCESSES

☐ Not Applicable (NA) – Check here if no on-site recycling is applied to any waste stream containing the toxic chemical or chemical category.

Recycling Methods [enter 3-character code(s)]

1 ☐ 2 ☐ 3 ☐

SECTION 8. SOURCE REDUCTION AND RECYLING ACTIVITIES

		Column A Prior Year (pounds/year*)	Column B Current Reporting Year (pounds/year*)	Column C Following Year (pounds/year*)	Column D Second Following Year (pounds/year*)
8.1					
8.1a	Total on-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills				
8.1b	Total other on-site disposal or other releases				
8.1c	Total off-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills				
8.1d	Total other off-site disposal or other releases				
8.2	Quantity used for energy recovery onsite				
8.3	Quantity used for energy recovery offsite				
8.4	Quantity recycled onsite				
8.5	Quantity recycled offsite				
8.6	Quantity treated onsite				
8.7	Quantity treated offsite				
8.8	Quantity released to the environment as a result of remedial actions, catastrophic events, or one-time events not associated with production processes (pounds/year)*				
8.9	Production ratio or activity index				
8.10	Did your facility engage in any source reduction activities for this chemical during the reporting year? If not, enter "NA" in Section 8.10.1 and answer Section 8.11.				

	Source Reduction Activities [enter code(s)]	Methods to Identify Activity (enter codes)		
8.10.1		a.	b.	c.
8.10.2		a.	b.	c.
8.10.3		a.	b.	c.
8.10.4		a.	b.	c.

8.11	If you wish to submit additional optional information on source reduction, recycling, or pollution control activities, check "Yes."	Yes ☐

EPA Form 9350-1 (Rev. 10/2009) - Previous editions are obsolete.

*For Dioxin or Dioxin-like compounds, report in grams/year.

APPENDIX N

TRI REPORTING FORMS – FORM A

TOXICS RELEASE INVENTORY

Form Approved OMB Number: 2025-0010
Approval Expires: 07/31/2011

(IMPORTANT: Type or print; read instructions before completing form) **Page 1 of ___**

EPA
United States
Environmental Protection Agency

TOXICS RELEASE INVENTORY
FORM A

Sample Form A Page 1
For Reporting year 2010

WHERE TO SEND COMPLETED FORMS:	1. TRI Data Processing Center P. O. Box 10163 Fairfax, VA 22038 ATTN: TOXIC CHEMICAL RELEASE INVENTORY	2. APPROPRIATE STATE OFFICE (See instruction in Appendix E)	TRI Facility ID Number

This section only applies if you are revising or withdrawing a previously submitted form, otherwise leave blank.	**Revision (enter up to two code(s)**		**Withdrawal (enter up to two code(s)**	

IMPORTANT: See instructions to determine when "Not Applicable (NA)" boxes should be checked.

PART 1. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR _____

SECTION 2. TRADE SECRET INFORMATION

2.1	Are you claiming the toxic chemical identified on page 2 trade secret? ☐ Yes (Answer question 2.2; Attach substantiation forms) ☐ No (Do not answer 2.2; Go to Section 3)	2.2	Is this copy ☐ Sanitized ☐ Unsanitized (Answer only if "YES" in 2.1)

SECTION 3. CERTIFICATION (Important: Read and sign after completing all form sections.)

I hereby certify that to the best of my knowledge and belief, for each toxic chemical listed in the statement, the annual reportable amount as defined in 40 CFR 372.27 (a), did not exceed 500 pounds for this reporting year and that the chemical was manufactured, processed, or otherwise used in an amount not exceeding 1 million pounds during this reporting year.

Name and official title of owner/operator or senior management official:	Signature:	Date Signed:

SECTION 4. FACILITY IDENTIFICATION

4.1		TRI Facility ID Number	
Facility or Establishment Name		Facility or Establishment Name or Mailing Address (if different from street address)	
Street		Mailing Address	
City/County/State/Zip Code		City/State/Zip Code	Country (Non-US)

4.2	This report contains information for: (Important: Check c or d if applicable)				c. ☐ A Federal facility	d. ☐ GOCO	
4.3	Technical Contact Name				Telephone Number (include area code)		
	Email Address						
4.4	Public Contact Name				Telephone Number (include area code)		
	Email Address						
4.5	NAICS Code (s) (6 digits)	Primary a.	b.	c.	d.	e.	f.
4.7	Dun & Bradstreet Number (s) (9 digits)	a b.					

SECTION 5. PARENT COMPANY INFORMATION

5.1	Name of Parent Company	NA ☐	
5.2	Parent Company's Dun & Bradstreet Number	NA ☐	

EPA Form 9350-2 (Rev. 10/2009) - Previous editions are obsolete.

APPENDIX N

TRI REPORTING FORM A

TOXICS RELEASE INVENTORY

(IMPORTANT: Type or print; read instructions before completing form) Page ___ of ___

EPA FORM A
PART II. CHEMICAL IDENTIFICATION

TRIFID:

Do not use this form for reporting PBT chemicals including Dioxin and Dioxin-like Compounds*

Sample Form A Page 2
For Reporting year 2010

SECTION 1. TOXIC CHEMICAL IDENTITY Report ___ of ___

1.1 CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)

1.2 Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)

1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above)

2.1 Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

SECTION 1. TOXIC CHEMICAL IDENTITY Report ___ of ___

1.1 CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)

1.2 Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)

1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above)

2.1 Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

SECTION 1. TOXIC CHEMICAL IDENTITY Report ___ of ___

1.1 CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)

1.2 Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)

1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above.)

2.1 Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

SECTION 1. TOXIC CHEMICAL IDENTITY Report ___ of ___

1.1 CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)

1.2 Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)

1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above.)

2.1 Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

*See the TRI Reporting Forms and Instructions Manual for the list of PBT Chemicals (including Dioxin and Dioxin-like Compounds)

EPA Form 9350-2 (Rev. 10/2009) - Previous editions are obsolete.

(Make additional copies of this page, if needed)

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(IMPORTANT: Type or print; read instructions before completing form)

Form Approved OMB Number: 2025-0007
Approval Expires 07/31/2011

United States Environmental Protection Agency

FORM R Schedule 1

TRI Facility ID Number

PART II. CHEMICAL-SPECIFIC IN FORMATION (continued)

SECTION 5. QUANTITY OF DIOXIN AND DIOXIN-LIKE COMPOUNDS ENTERING EACH ENVIRONMENTAL MEDIUM ONSITE

		5.1	NA		5.2	NA		5.3	Discharges to receiving streams or water bodies (enter data for one stream or water body per box)		
		Fugitive or non-point air emissions			Stack or point air emissions			5.3.1	5.3.2	5.3.3
D. Mass (grams) of Each Compound in the category (1-17)	1									
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									

If additional pages of Section 5.3 are attached, indicate the total number of pages in this box ☐

and indicate the Section 5.3 page number in this box ☐ **(example: 1,2,3, etc.)**

(IMPORTANT: Type or print; read instructions before completing form)

Form Approved OMB Number: 2025-0007
Approval Expires 07/31/2011

TRI Facility ID Number

FORM R Schedule 1

PART II. CHEMICAL-SPECIFIC IN FORMATION (continued)

SECTION 5. QUANTITY OF DIOXIN AND DIOXIN-LIKE COMPOUNDS ENTERING EACH ENVIRONMENTAL MEDIUM ONSITE

		Underground Injection		**5.5** Disposal to land onsite					
		5.4.1 NA ☐ Underground Injection onsite to Class I Wells	**5.4.2** NA ☐ Underground Injection onsite to Class II-V Wells	**5.5.1.A** NA ☐ RCRA Subtitle C landfills	**5.5.1.B** NA ☐ Other landfills	**5.5.2** NA ☐ Land treatment/ application farming	**5.5.3.A** NA ☐ RCRA Subtitle C surface impoundments	**5.5.3.B** NA ☐ Other surface impoundments	**5.5.4** NA ☐ Other disposal
C. Mass (grams) of Each Compound in the category (1-17)	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
	11								
	12								
	13								
	14								
	15								
	16								
	17								

(IMPORTANT: Type or print; read instructions before completing form)

Form Approved OMB Number: 2025-0007
Approval Expires:07/31/2011

TRI Facility ID Number

FORM R Schedule 1
PART II. CHEMICAL-SPECIFIC INFORMATION (continued)

SECTION 6. TRANSFERS OF DIOXIN AND DIOXIN-LIKE COMPOUNDS IN WASTES TO OFF-SITE LOCATIONS

6.1 DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS (POTWs)

6.1.A.3 Mass (grams) of Each Compound in the Category (1-17)

1		2		3		4		5		6		7		8		9	
10		11		12		13		14		15		16		17			

6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS

6.2.___ D. Mass (grams) of Each Compound in the Category (1-17)

1.	1		2		3		4		5		6		7		8		
9		10		11		12		13		14		15		16		17	
2.	1		2		3		4		5		6		7		8		
9		10		11		12		13		14		15		16		17	
3.	1		2		3		4		5		6		7		8		
9		10		11		12		13		14		15		16		17	
4.	1		2		3		4		5		6		7		8		
9		10		11		12		13		14		15		16		17	

6.2.___ D. Mass (grams) of Each Compound in the Category (1-17)

1.	1		2		3		4		5		6		7		8		
9		10		11		12		13		14		15		16		17	
2.	1		2		3		4		5		6		7		8		
9		10		11		12		13		14		15		16		17	
3.	1		2		3		4		5		6		7		8		
9		10		11		12		13		14		15		16		17	
4.	1		2		3		4		5		6		7		8		
9		10		11		12		13		14		15		16		17	

If additional pages of Section 5.3 are attached, indicate the total number of pages in this box ☐

and indicate the Section 5.3 page number in this box ☐ **(example: 1,2,3, etc.)**

(IMPORTANT: Type or print; read instructions before completing form)

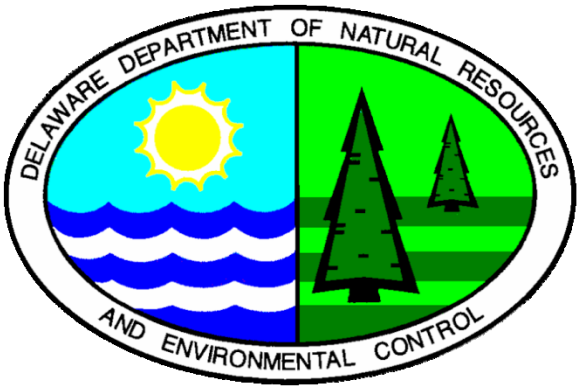
Form Approved OMB Number: 2025-0007
Approval Expires:07/31/2011

TRI Facility ID Number

FORM R Schedule 1
PART II. CHEMICAL-SPECIFIC INFORMATION (continued)

SECTION 8. SOURCE REDUCTION AND RECYCLING ACTIVITIES FOR DIOXIN AND DIOXIN-LIKE COMPOUNDS (current year only)

		8.1a Total onsite disposal to Class 1 Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	8.1b Total other onsite disposal or other releases	8.1c Total offsite disposal to Class 1 Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	8.1d Total other offsite disposal or other releases	8.2 Quantity used for energy recovery onsite	8.3 Quantity used for energy recovery offsite	8.4 Quantity recycled onsite	8.5 Quantity recycled offsite	8.6 Quantity treated onsite	8.7 Quantity treated offsite	8.8 Quantity released to the environment as a result of remedial actions, catastrophic events, or one-time events not associated with production processes
Column f. Mass (grams) of Each Compound in the category (1-17)	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											



EPCRA Reporting Program

Emergency Prevention and Response Section, DNREC
655 South Bay Rd., Suite 5N
Dover, DE 19901
(302) 739-9405

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and the diversity of its workforce.

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