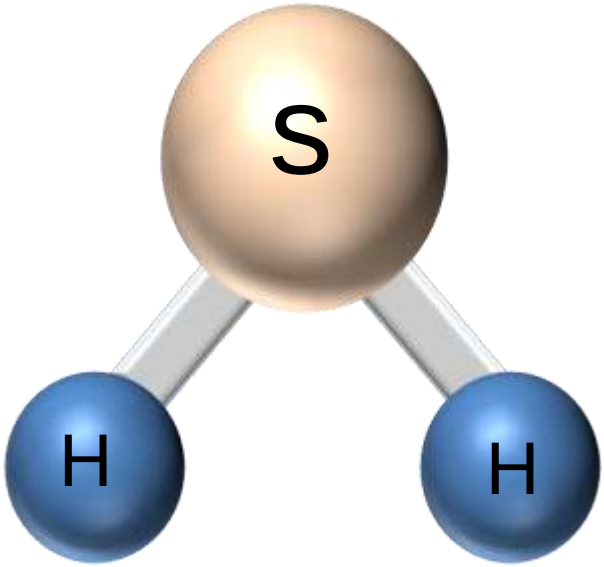
DELAWARE
TOXICS RELEASE INVENTORY
DATA DETAIL

2012



HYDROGEN SULFIDE
H_2S

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

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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.

Front Cover: *The cover is an image of a hydrogen sulfide molecule. In 2012, hydrogen sulfide was added to the list of reportable TRI chemicals. In the first year of reporting, hydrogen sulfide accounted for 82% of all on-site management activities for TRI chemicals reported by TRI facilities in Delaware.*

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A Message from DNREC Secretary Collin O'Mara

The 2012 Toxics Release Inventory (TRI) reporting year for Delaware was marked with significant progress in reducing air emissions, but some significant increases resulting from facilities restarting and the addition of hydrogen sulfide being added to TRI reporting requirements for the first time. The addition of hydrogen sulfide alone accounted for 78 percent of all reported TRI waste activities in 2012. This represents new data available to the public, but does not necessarily reflect new chemical activities. Of the 329 million pounds of hydrogen sulfide reported for 2012, 99.98 percent was treated onsite. The majority of hydrogen sulfide is reported as treated by the Delaware City refinery, where it is converted to elemental sulfur, which is then sold for agricultural and chemical manufacturing uses.

While interest in TRI data has typically been focused on the reported amounts of chemicals released directly to the environment, data for additional categories such as waste treatment and recycling are important to consider as well. Facility efforts to collect and transform waste into useful products should be recognized along with efforts to reduce releases. Of all the TRI waste reported for 2012, less than 2 percent was reported as released onsite to Delaware's air, water, or land. Over 98 percent was reported as either treated on- or offsite by various means (recycling, energy recovery, treatment, or being sent to a publicly owned treatment works).

The 2012 reporting year also marked a complete year of the Delaware City refinery returning to full operations. Overall onsite releases for all facilities for 2012 increased by 32 percent compared to 2011. While 2% of this increase was due to the addition of hydrogen sulfide, the rest was primarily due to the refinery returning to full production. Overall releases increased compared to 2011, when the refinery was not in full production. However, as compared to the last full year of production, 2008, onsite releases from all TRI facilities are down 45 percent. There also have been some very noteworthy reductions in TRI data. The efforts of power plants and the implementation of Regulation 1146 have resulted in significant reductions in releases, specifically in releases to air. Releases to air decreased by more than 54 percent, or 1.3 million pounds, compared to 2011. The Indian River Generating Station accounted for the vast majority of the decrease, reducing their releases of hydrochloric acid to air by 1.3 million pounds from 2011 and decreasing by a total of 2.1 million pounds over the past two reporting years.

As this year has included significant changes and new data, I encourage people to utilize this TRI annual report and the additional resources available through the Emergency Planning and Community Right-to-Know Act to become familiar with the chemical activities occurring in their community.

Sincerely,

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

Executive Summary

The 2012 Toxics Release Inventory data set marks 26 years of data collected from covered facilities being made available to the public. The Toxics Release Inventory continues to strive to provide the public with information about chemical uses, releases, and waste management activities occurring at these facilities.

Overall on-site releases and other waste management activities reported in Delaware increased significantly in 2012 compared to 2011. Total on-site releases increased by 1,267,000 pounds (32%), on-site waste-management activities (recycling, energy recovery, and treatment) increased by 344,699,000 pounds (619%), and off-site transfers were up by 1,602,000 pounds (12%). The primary factors that resulted in these significant changes were the requirement to report on hydrogen sulfide for the first time and the Delaware City Refinery (DCR) returning to full operation for a complete year. In the first year of reporting, hydrogen sulfide accounted for 329,766,000 pounds or 82% of all on-site waste management activities. The DCR increased its on-site releases of nitrate compounds to water by 2.4 million pounds, returning to levels similar to the years prior to the refinery beginning the shutdown process. This increase more than offset the significant decreases in releases to air made by the Indian River Generating Station and other facilities.

The results from the 2012 TRI data are covered in greater detail throughout this report. Overall, a summary of the data show (amounts rounded to the nearest 1,000 pounds):

- The total amount released on-site to water increased by 2,547,000 pounds (207%); this was largely due to the nitrate compounds report from the Delaware City Refinery with an increase of 2,432,000 pounds (250%). Excluding nitrate compounds, releases to water have trended downward over the last 10 years, with releases being down by 95% compared to 2002. (See ***Releases to Water*** on page 9 for additional information.)
- The total amount of TRI chemicals reported as released on-site to air for 2012 decreased by 1,308,000 pounds (54%), compared to 2011. The largest change in this category was hydrochloric acid (HCl) aerosols released to air from the Indian River Generating Station. The generating station reported 170,000 pounds of HCl for 2012, which was 1,330,000 pounds less than the 2011 amount. Over the last 10 years, total releases to air have trended downward 82%. (See ***Releases to Air*** on page 8 for additional information.)
- The total amount released on-site to land increased by 28,000 pounds (10%). This was primarily the result of Mountaire Farms of Delaware reporting a release of ammonia to land of 28,000 pounds, which was below the reporting threshold for 2011. Releases to land have trended downward 62% since 2002. (See ***Releases to Land*** on page 10 for additional information.)
- The trend for on-site release of carcinogens increased by 11,000 pounds (6%) for 2012, but has declined 659,000 pounds, or 77%, since 1998. Increases in on-site releases for 2012 were reported for vinyl acetate, chromium compounds, and benzene. (See ***Carcinogenic TRI Chemicals*** on page 40 for additional information.)
- The trend for on-site release of persistent bioaccumulative toxins (PBTs) decreased by 1,100 pounds (8%) for 2012. This was primarily the result of reductions of Dover Air Force Base releases to air for lead compounds. (See ***Persistent Bioaccumulative Toxic (PBT) Chemicals*** on page 33 for additional information.)
- Total TRI waste, including releases on-site, transfers off-site for treatment and disposal, and waste management on-site, increased by 473%, or 347.5 million pounds. On-site release amounts, reported above, were up 32%. Transfers off-site increased 11%, led by recycle of lead compounds off site by the Johnson Controls Distribution Center (1,331,000 pounds). The Distribution Center reported on the off-site recycle of lead compounds for the first time in 2012, due to operation changes. Waste managed on-site increased by 619%, primarily due to onsite treatment of hydrogen sulfide by the Delaware City Refinery (over 329 million pounds were treated on-site).

TOXICS RELEASE INVENTORY

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. Each year, these facilities report releases and waste management information for covered chemicals. The reportable list of toxic chemicals for 2012 included 593 individual chemicals and 30 chemical categories. For 2012, the U.S. Environmental Protection Agency (EPA) added hydrogen sulfide to the list of reportable chemicals. See additional discussion about hydrogen sulfide on page 5. 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 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 DNREC EPCRA Reporting Program maintains a TRI database that is updated as new reports and revisions to old reports are received. The database currently contains 26 years of reported data. Most releases reported under TRI are also regulated through Federal and/or State permits.

This report contains detail from every 2012 TRI report or report revision from Delaware facilities received by DNREC as of October 1, 2013. 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,*** **under** ***For Further Information*****,** on page 61 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 33).

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 prior 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 2012, 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 2012 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.
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 L*** 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 M*** 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. In Delaware, 14% of the TRI reports were filed as Form A for 2012. 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 collaborating with the reporting facilities and emphasizing the importance of reporting on Form R.

TOXICS RELEASE INVENTORY

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 2-3. 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. For example, on-road motor vehicles released an estimated 7,633 tons to air in Delaware 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 2012 are 5,193,817 pounds, or 2,597 tons, about 34% 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 2012, 11% of the reports representing 20% 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 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.

- **FACILITIES MAY REVISE FORM R DATA AT ANY TIME.** These revisions sometimes involve significant changes for data previously reported by the 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.

- **New Chemicals - Hydrogen Sulfide and PACs.** Starting in the 2012 reporting year, hydrogen sulfide was added to the list of reportable chemicals. Four facilities in Delaware reported waste management activities involving hydrogen sulfide for 2012. Hydrogen Sulfide reports accounted for the largest individual chemical waste management activity, with over 329 million pounds being treated on-site by the Delaware City Refinery. In 2011, **16 new carcinogens**, four of which are in the polycyclic aromatic compounds (PAC) category, were added to the list of reportable chemicals. None of the 12 individually listed new chemicals were reported in Delaware for 2012. PACs are reported as a category, so it is not possible to determine if any of the 8 facilities reporting PACs reported any of the four new PAC chemicals.

- **Dioxin and Dioxin-Like Compounds.** Starting with the 2008 Reporting Year, additional detail was required. 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 and/or managed as waste for the entire category. The mass quantity data of the individual members can then be used to calculate Toxic Equivalent Quantity (TEQ) values that can be considered along with the mass data. The dioxin data for Delaware facilities is presented in this report starting on page 35.

- **Electronic Reporting.** Starting with reporting year 2009, 100% of all Delaware TRI reports are received electronically through the internet. Typically, 7 pages are included in each report and the cover letters, and this equates to about 1600 pieces of paper saved each year. This internet reporting method had been an option through the EPA since Reporting Year (RY) 2005, and Delaware began to participate in electronic reporting for that year. Prior to that, reports were submitted by both paper and diskette. 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 associated data in it is published the same year in which the data is reported.

2012 Data Summary

TABLE 2
2012 TRI DATA SUMMARY
(IN POUNDS)

	2012
No. of Facilities	60
No of Form As	33
No of Form Rs	202
No. of Chemicals	88
On-Site Releases	
Air	1,109,211
Water	3,777,904
Land	306,702
Total On-Site Releases	5,193,817
Off-Site Transfers	
POTWs	814,006
Recycle	9,383,706
Energy Recovery	2,556,954
Treatment	196,890
Disposal	2,419,683
Total Off-Site Transfers	15,371,238
On-Site Waste Mgmt.	
Recycle	8,183,213
Energy Recovery	16,227,012
Treatment	376,022,549
Total On-Site Mgmt.	400,432,774
Total Waste	420,997,829

Delaware 2012 TRI totals for on-site releases, off-site transfers, and wastes managed on-site are displayed in Table 2. Total on-site releases were higher by 32% (1,267,000 pounds). Increases were driven by the releases of nitrate compounds to water by the Delaware City Refinery, which offset decreases in releases to air made by the Indian River Generating Station. Off-site transfers increased by 11%, primarily due to the off-site recycling of lead compounds by the Johnson Control Distribution Center. On-site waste management activities increased by 344 million pounds compared to 2011. This increase was due to hydrogen sulfide being added to the list of reportable chemicals. On-site waste treatment, led by hydrogen sulfide, accounted for 89% of all waste management activities.

Types of Data

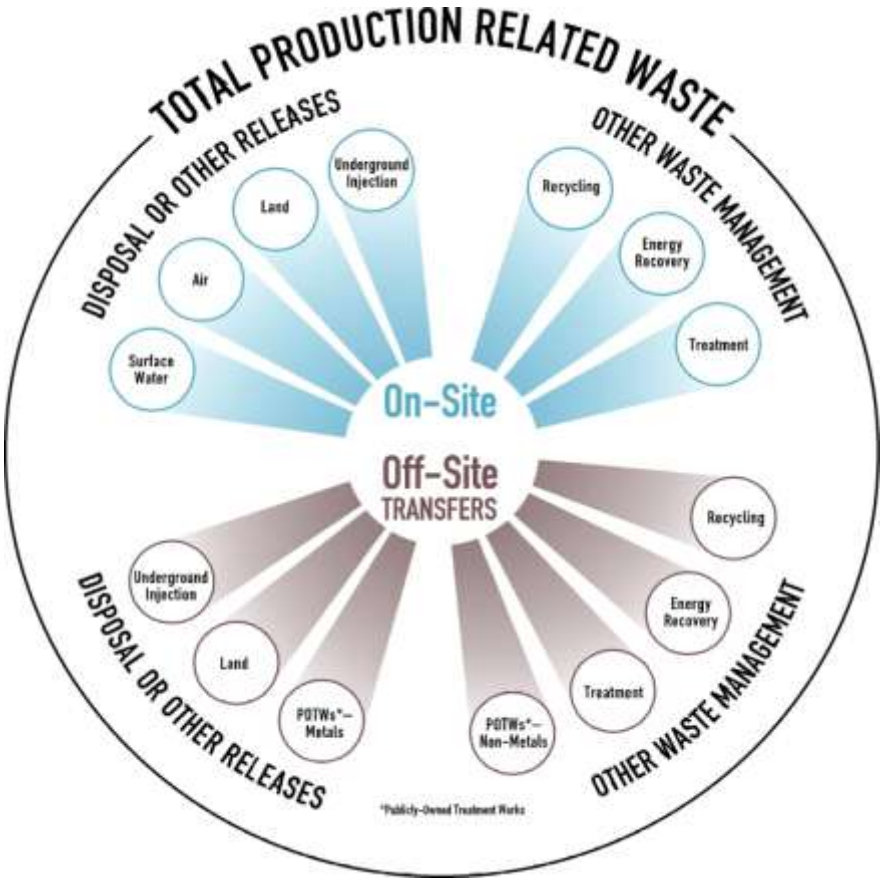
Table 2 lists the categories of data reported to Delaware and the EPA under the TRI program. Within the reports received from facilities, the data is broken down into additional sub-categories. For ease of presentation in this report, the data has been grouped into these categories as described below.

On-Site Releases: On-site releases in Delaware are to **air, water,** or **land**. There are four TRI categories, but one of these, **underground injection** of TRI chemical waste to wells, is not permitted in Delaware; therefore, DNREC does not write any permits for this kind of disposal. 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. **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 result from 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, typically waste water treatment plants), **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.

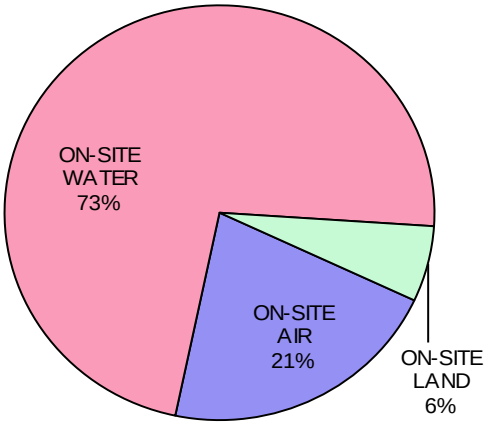
On-Site Waste Management: Waste management operations at the facility generating the waste are categorized to include **recycle**, **energy recovery**, and **treatment.**

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.



Amounts Reported: The amounts reported are in pounds per year, with a few exceptions, such as dioxins and dioxin like compounds, which are reported in grams. Certain chemical compounds have only the weight of the specific ion or elemental form reported instead of the entire compound, such as nitrate compounds or lead compounds. Also, specific chemicals are only required to be reported in certain states, such as hydrochloric and sulfuric acid, which are only required to be reported as aerosols or gases. For further information on the specific chemical reporting requirements, please refer to the TRI guidance documents at: http://www2.epa.gov/toxics-release-inventory-tri-program/guidance-documents-tri-reporting

FIGURE 1
2012 ON-SITE RELEASES



TOTAL REPORTED
5,193,817 POUNDS

On-Site Releases

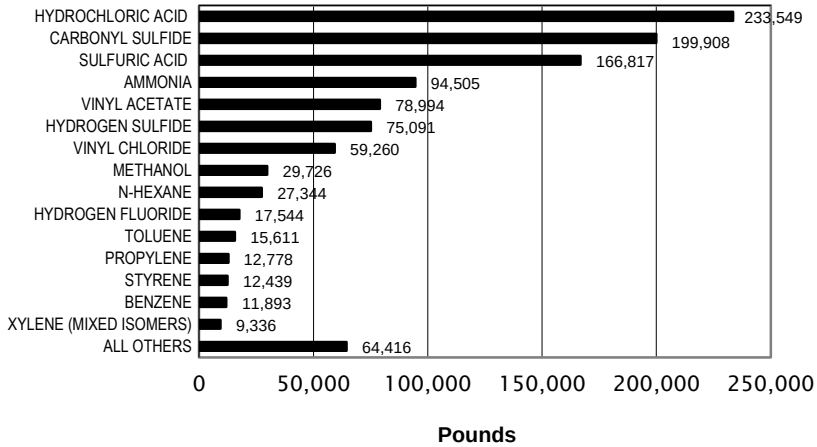
On-site TRI releases are emissions from a facility to the environment because of normal operations, including emissions to the air, discharges to surface water, and disposal onto or into the ground. These on-site releases to air, water, and land reported to TRI in 2012 made up 1.2% of all TRI-reported waste amounts. The remaining 98.8% of waste is managed on or off-site as shown in the diagram on the previous page.

Figure 1 shows the totals of on-site releases reported in Delaware. A large portion, 73% of the total on-site release, is to water. 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 2002-2012 for all reported on-site releases is on page 47, and a trend graph for the top five chemicals is on page 48. Additional detail about on-site releases can be found in Appendices C, E, F, and H.

Releases to Air

Figure 2 depicts the on-site releases to air of the top 15 chemicals compared to the other 60 chemicals that were reported as released to air in 2012. Hydrochloric acid aerosol (gas) releases, which make up 21% of all on-site releases to air, are primarily formed as a result of impurities being released within the coal and oil used during the combustion process. Hydrochloric acid releases were reduced by 1,373,534 pounds or 85% compared to 2011, mainly due to reductions made by the Indian River Generating Station. The second largest air-release, carbonyl sulfide (18%), is mostly released by the DuPont Edge Moor facility as a gas by-product of the titanium dioxide production process. Sulfuric acid aerosol releases, which rank third, are released largely in the crude oil refining process by the Delaware City Refinery. Ammonia, which ranks fourth in releases to air (8.5%), can be

FIGURE 2
TOP 15 CHEMICALS RELEASED TO AIR



used as a refrigerant for petrochemical, food processing, and chemical facilities and is also a by-product of air pollution control activities. Nine facilities reported releases of ammonia, with Delaware City Refinery and the Indian River Generating Station releasing the largest amounts to air at 29% and 27%, respectively. Formosa Plastics reported all of the releases to air of vinyl acetate and vinyl chloride, which made up 7.1% and 5.3%, respectively. Vinyl Acetate is a raw material used in certain products, while vinyl chloride is used in the manufacture of polyvinylchloride (PVC). Hydrogen sulfide, which accounted for 6.8% of all on-site releases to air, was predominantly released as a by-product of the anaerobic wastewater treatment process from the Perdue Georgetown Plant. Methanol releases, 2.7% of all releases to air, were reported by nine facilities with BASF Newport reporting the highest amount, 18,481 pounds, or 62%. N-hexane was reported by three facilities. The Delaware City Refinery, the top reporter, reported 73% of all on-site n-hexane releases to air. The remaining chemicals in Figure 2 were each less than 2.0% of total on-site releases to air.

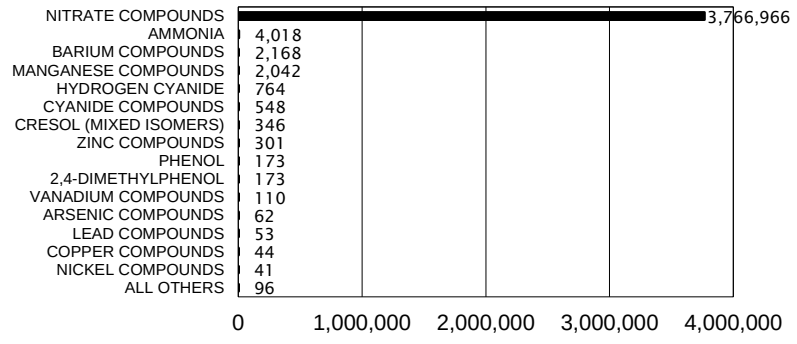
Releases to Water

As can be seen in Figure 1 on page 8, releases to water made up the largest portion of on-site releases at 73%. Table 3 shows the total amount of TRI chemicals released to each water body that received a TRI chemical. Not every report to a water body in Table 3 shows a release quantity. In Delaware, 24 of the 78 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. Eighteen of the 57 reports listing the Delaware River as their possible destination watershed did not report any release quantity to the Delaware River. These facilities reporting zero for the release amount for a specific chemical met the TRI reporting requirements and did not have an actual release to the river, but had the potential of a release to the water body.

TABLE 3
TRI CHEMICALS RELEASED TO WATER BY WATER BODY IN 2012

WATER BODY	NO. OF FACILITIES	NO. OF REPORTS	**RELEASE** (IN POUNDS)
ARMY CREEK	2	3	**172**
DELAWARE RIVER	7	57	**3,416,200**
DRAWYER CREEK TRIBUTARY	1	2	**9**
ISLAND CREEK	1	6	**761**
MUDDY RUN	1	1	**0**
MURDERKILL RIVER	1	2	**0**
NAAMANS CREEK	1	6	**184**
SAVANNAH DITCH	1	1	**360,578**
STATE TOTAL		78	**3,777,904**

FIGURE 3
TOP 15 CHEMICALS RELEASED TO WATER



The Delaware River received 90% of all releases to water, the Savannah Ditch 10%, and all the others combined were less than 0.1%. Figure 3 shows the relative relationship of the top 15 TRI chemicals to all other chemicals (30) reported as released to water. This clearly shows the influence that nitrate compounds have on the total. The nitrate compounds category was the top chemical released, (99.7% of the total release to water), followed by ammonia (0.11%), barium compounds (0.06%), and manganese compounds (0.05%). The remaining chemicals released to water were each less than 0.10% of the total releases to

water. The Delaware City Refinery reported a release of 3,406,388 pounds of nitrate compounds to water for 2012, and Perdue Georgetown reported 360,578 pounds. The biological treatment of nitrogen-containing substances such as ammonia and animal waste is responsible for the formation of nitrate compounds, which are released to water. Metallic compounds (barium, cobalt, chromium, copper, cyanide, lead, manganese, nickel, vanadium, and zinc) are generally products of fuel combustion, and petroleum, ore and metal refining. The Delaware City Refinery, DuPont Edge Moor, Indian River Generating Station, V&S Delaware Galvanizing, and the Evraz Claymont Steel facilities are the primary facilities releasing these compounds to water. DuPont Edge Moor reported 65% of the barium compounds and 99.5% of the manganese compounds released to water. More details of these releases can be found in the ***Facility Profiles*** starting on page 20 and in ***Appendices C and F***.

Table 4 shows the total amount of TRI chemicals for 2012 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 to the portion of the Delaware River above the City of New Castle. All the receiving streams, except the Island Creek, eventually feed into the Delaware Bay. Island Creek feeds into the Inland Bays and then into the Atlantic Ocean. The total amount released to water increased by 2,547,167 pounds in 2012, largely the result of a 2,432,065-pound increase in the reported release of nitrate compounds by the Delaware City Refinery. Additional discussion about these releases can be found in the ***Trend Analysis*** section starting on page 44 and in the ***Facility Profiles*** section starting on page 20.

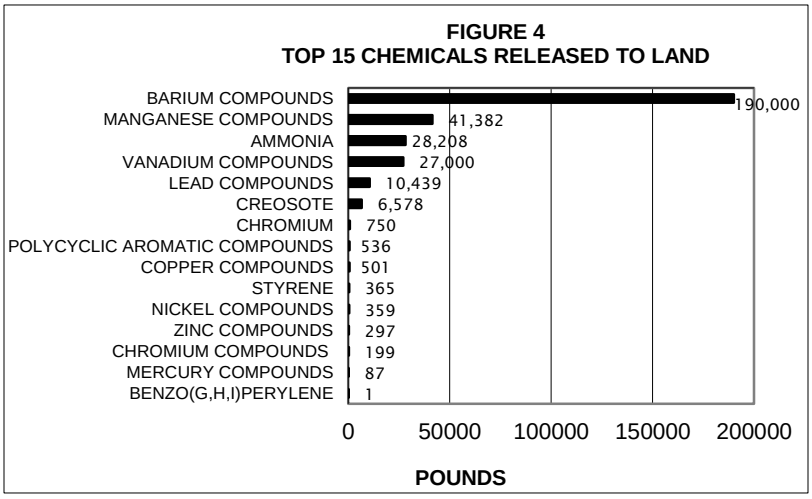
TABLE 4
TRI CHEMICALS
RELEASED TO WATER BY BASIN

BASIN	RELEASE (IN POUNDS)	PERCENT
CHESAPEAKE	0	0.0%
DELAWARE BAY	3,773,252	99.9%
INLAND BAYS	761	0.0%
PIEDMONT	3,891	0.1%
STATE TOTAL	3,777,904	100.0%

Releases to Land

Releases to land are shown in Figure 1 on page 8. These releases are relatively small, amounting to 6% of total on-site releases in 17 reports. Figure 4 shows the contribution for the 15 chemicals reported as being released to land. Nearly all the releases to land are metals and metal compounds except for ammonia, creosote, styrene, polycyclic aromatic compounds (PACs), and benzo(g,h,i)perylene. Most of the metals and metal compounds reported are formed during combustion from metal impurities that exist in coal or oil, or in the

FIGURE 4
TOP 15 CHEMICALS RELEASED TO LAND



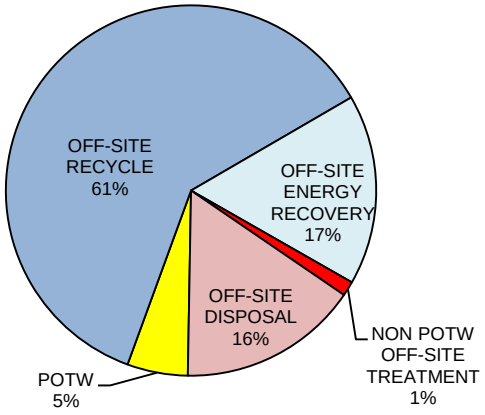
base metal from metal working processes. Barium compounds, manganese compounds, vanadium compounds, and lead compounds, the top 4 metals and metal compounds reported, accounted for 88% of all on-site releases to land and were primarily released by the Indian River Generating Station. Ammonia, which makes up 9% of all releases to land, was released only by Mountaire Farms of Delaware, with ammonia effluent released through spray irrigation onto crops. Creosote accounts for 2% of all on-site releases to land and was released by DuPont Edge Moor. All other chemicals accounted for 1% of the on-site releases to land. Additional discussion about releases to land and their trends can be found in the ***Facilities Profiles*** section starting on page 20 and ***Trend Analysis*** section starting on page 44.

Descriptions of some of the hazards that these chemicals, which were released to air, water, or land, may cause to humans, can be found in the ***Chemical Data Fact Sheets*** section under ***For Further Information*** on page 61.

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 total amounts of chemical wastes transferred off-site increased by 12% (1,601,540 pounds) since 2011. Off-site transfers account for 4% of total TRI waste and are 3 times larger than the amount released on-site. The primary reason for the 12% increase was Johnson Controls Distribution Center reporting 1,331,294-pounds of lead being transferred off-site for recycle and the 584,837-pound increase in toluene transferred off-site for energy recovery by the Noramco facility. These amounts offset the reductions that were made in the POTW treatment for methanol by BASF Newport and the reduction in disposal of asbestos by the Delaware City Refinery.

FIGURE 5
2012 OFF-SITE TRANSFERS



TOTAL REPORTED: 15,371,238 POUNDS

Figure 5 shows the relative portions of 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 about transfers from each facility. Overall, significant increases occurred in recycle and energy recovery, and reductions occurred in treatment and POTWs.

TRI chemicals in wastes are transported by various means from Delaware to their final destinations, many of which are out-of-state. For 2012, TRI chemicals were sent to 20 states, some as far away as Missouri and Texas, in addition to locations in Delaware.

Over 91% of TRI chemicals in all wastes transferred off-site were sent to out-of-state locations for further processing and/or disposal. However, over 99% of transfers to POTWs generated by Delaware facilities are treated in Delaware.

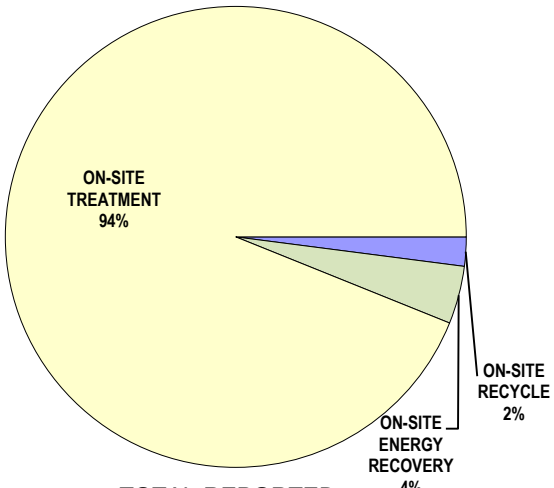
Off-site transfer to recycle operations accounted for 61% of the amounts within the five categories in off-site transfers, while energy recovery accounted for 16.6%, disposals accounted for 15.7% of the transfers, transfers to POTWs accounted for 5.3%, and non-POTW treatment was 1.3%. Ninety-four percent of the transfers to POTWs were to the City of Wilmington POTW, and all but 7,017 pounds of the 814,006 pounds treated at all POTWs were treated at Delaware POTW facilities. BASF Newport and the Rohm & Haas B2 B3 B8 facility combined for 77% of the total TRI chemical transfers to the Wilmington POTW.

See page 53 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 and is managed by the facility on-site. These activities represent a lower risk to the environment, as the materials are generally destroyed on site, although a small fraction may escape treatment and these amounts are reported as on-site releases. 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 95.1% of the total TRI chemical waste. 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
2012 ON-SITE WASTE MANAGEMENT



TOTAL REPORTED:
400,432,774 POUNDS

Recycled waste (8,183,213 pounds) is the quantity of toxic material recovered at the facility and made available for further use. Rohm & Haas B2 B3 B8 recycled n,n-dimethylformamide and Medal recycled methanol and n-hexane, with the facilities combing to report 92% of the total amount recycled on-site.

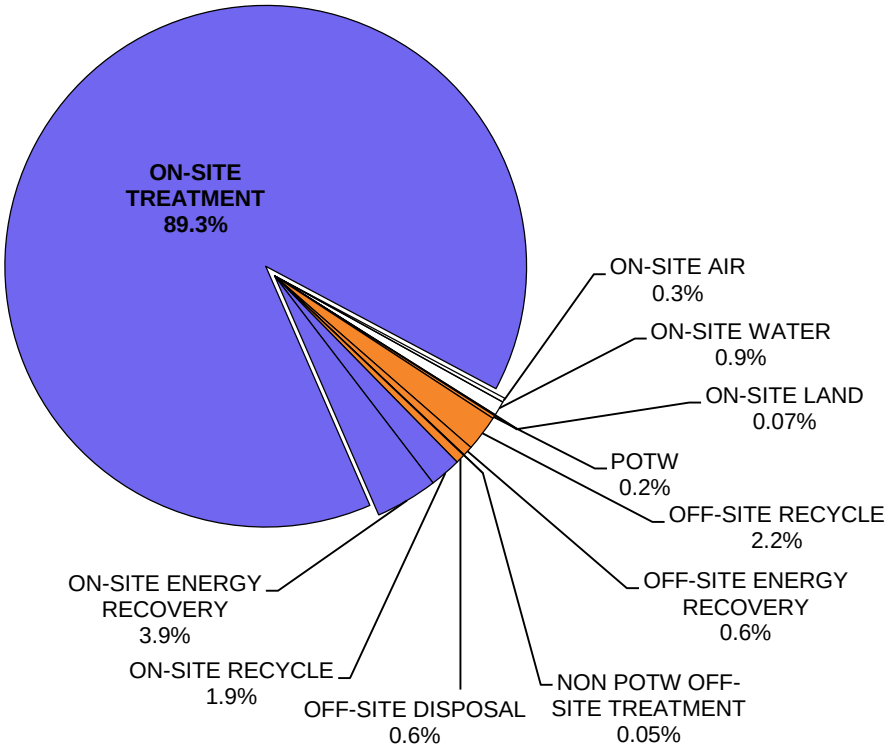
Energy Recovery includes the quantity of toxic material that had heat value and was combusted in some form of energy recovery device such as a heat boiler. The Delaware City Refinery was the only facility in the State to report on-site energy recovery for 2012. The refinery utilizes several energy recovery processes to address the 16,227,012 pounds of gases as part of their pollution control requirements.

Waste Treatment (376,022,549 pounds) includes the amount of toxic material that was destroyed in on-site waste treatment operations. The Delaware City Refinery had the highest total amount of on-site waste treatment, combining for 365,971,305 pounds (97%) of the TRI waste treated on-site. Treatment of hydrogen sulfide at the Delaware City Refinery in the amount of 329,299,965 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 amounts in the TRI chemical reports. Figure 7 is a perspective of the total TRI chemical waste picture in Delaware. About 1.23% of the total reported TRI waste is released on-site, 3.65% is transferred off-site for treatment or disposal, and 95.12% 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 2012 TRI CHEMICAL MANAGEMENT
TOTAL REPORTED: 420,997,829 POUNDS



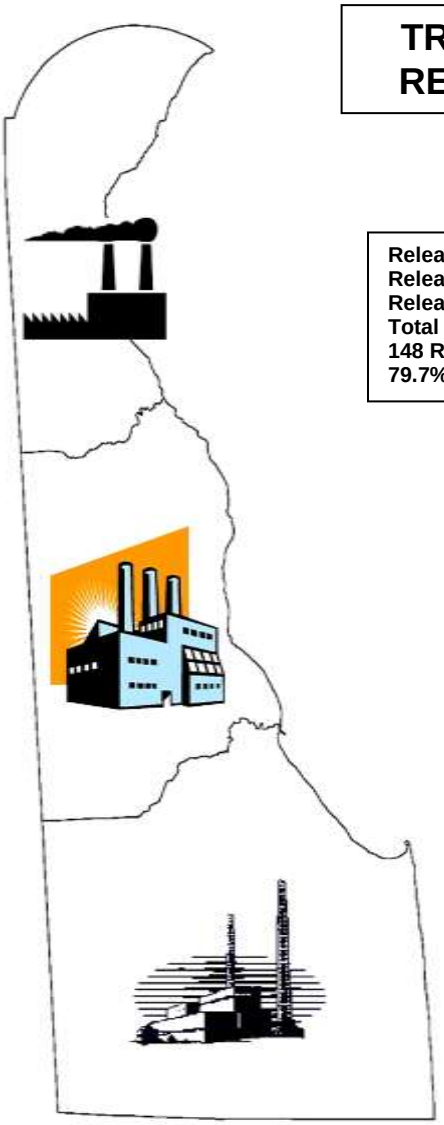
2012 Data Detail

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 = 701,670 Pounds
Releases to Water = 3,416,565 Pounds
Releases to Land = 21,925 Pounds
Total On-Site Releases = 4,140,159 Pounds
148 Reports, 30 Facilities
79.7% of Statewide Releases

KENT

Releases to Air = 85,021 Pounds
Releases to Water = 0 Pounds
Releases to Land = 0 Pounds
Total On-Site Releases = 85,021 Pounds
34 Reports, 13 Facilities
1.6% of Statewide Releases

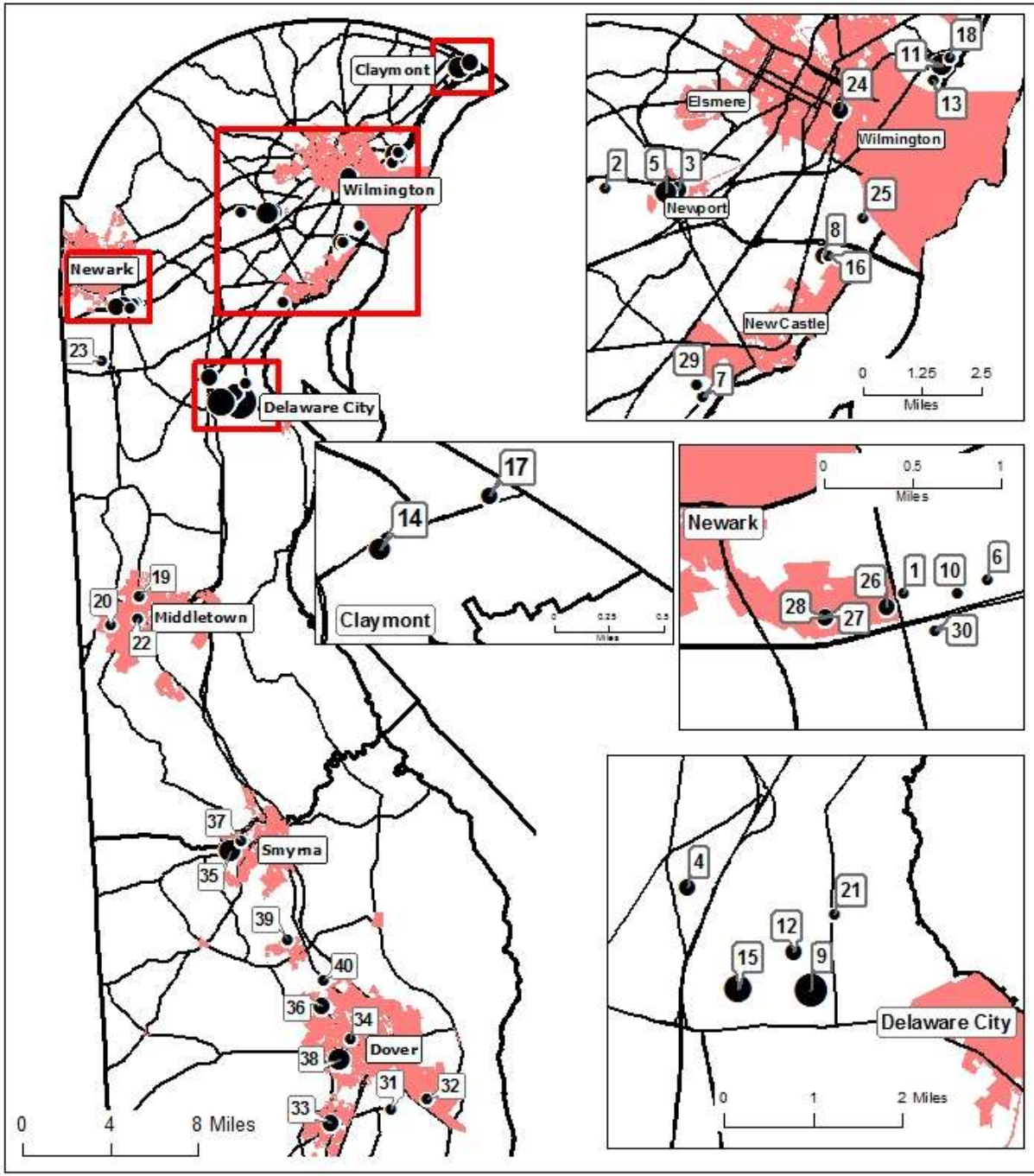
SUSSEX

Releases to Air = 322,519 Pounds
Releases to Water = 361,339 Pounds
Releases to Land = 285,152 Pounds
Total On-Site Releases = 969,009 Pounds
53 Reports, 17 Facilities
18.7% of Statewide Releases

Source: DNREC 2012 TRI Database 10-1-13

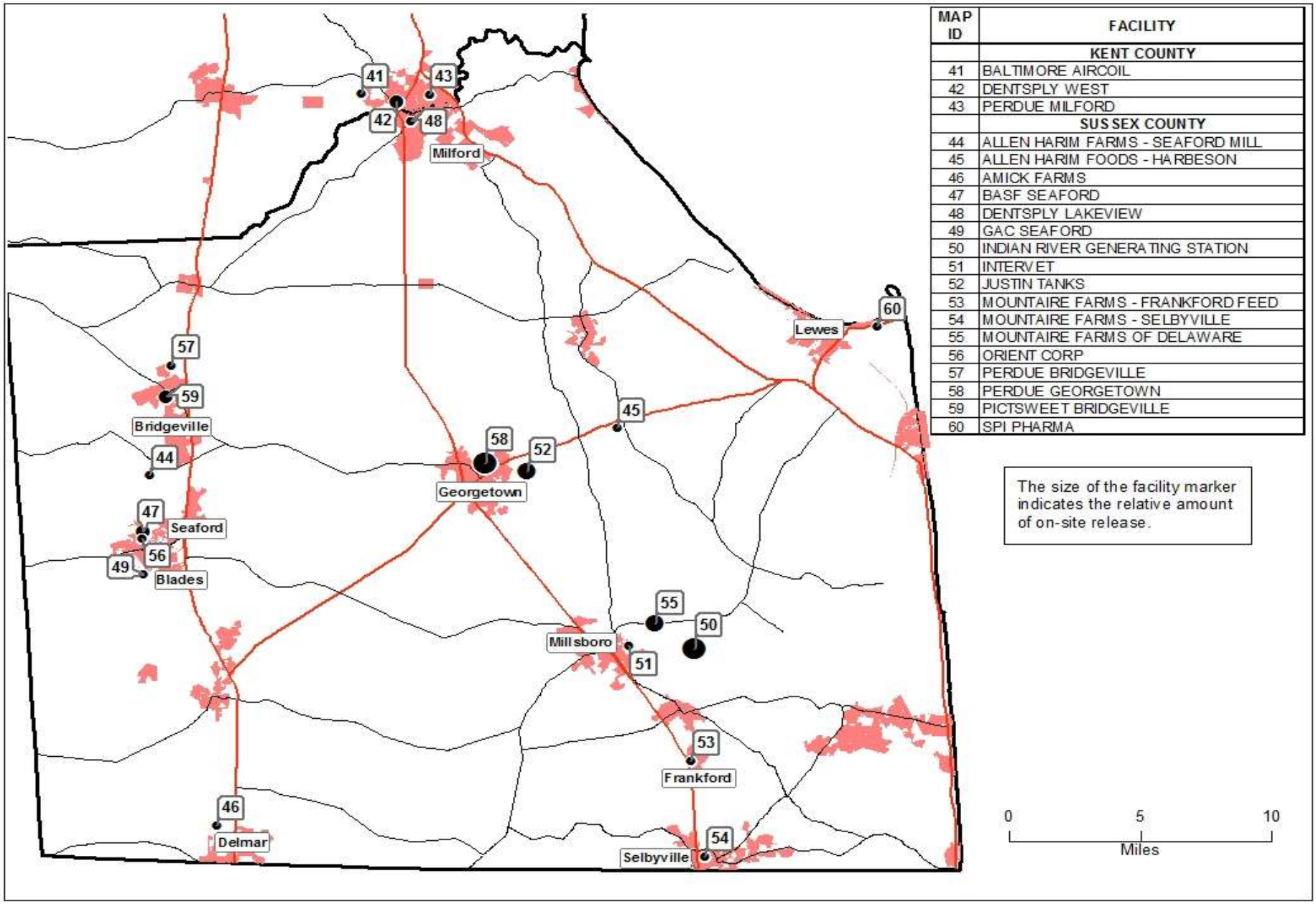
Facility Locations

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.



MAP ID	FACILITY
	NEW CASTLE COUNTY
1	AEARO TECHNOLOGIES
2	AGILENT TECHNOLOGIES NEWPORT
3	AIR LIQUIDE - MEDAL
4	ARLON
5	BASF NEWPORT
6	CHROME DEPOSIT
7	COLOR WORKS
8	CRODA
9	DELAWARE CITY REFINERY
10	DUHADAWY TOOL AND DIE
11	DUPONT EDGE MOOR
12	DUPONT RED LION PLANT
13	EDGE MOOR/HAY ROAD ENERGY CENTERS
14	EVRAZ CLAYMONT STEEL
15	FORMOSA PLASTICS
16	FUJIFILM
17	HONEYWELL
18	IKO
19	JOHNSON CONTROLS BATTERY PLANT
20	JOHNSON CONTROLS DIST. CENTER
21	KUEHNE
22	MACDERMID
23	MOTECH AMERICAS
24	NORAMCO
25	PRINCE MINERALS
26	ROHM & HAAS B2,B3,B8
27	ROHM & HAAS B5, B6
28	ROHM & HAAS B7,B15
29	V&S DELAWARE GALVANIZING
30	VP RACING FUELS
	KENT COUNTY
31	CARL KING
32	DOVER AFB
33	HANDY TUBE
34	HANESBRANDS
35	HANOVER FOODS
36	HIRSH INDUSTRIES
37	METAL MASTERS
38	NRG DOVER
39	PPG DOVER
40	SERVICE ENERGY DOVER

FIGURE 9 TRI FACILITY LOCATOR MAP



MAP ID	FACILITY
	KENT COUNTY
41	BALTIMORE AIRCOIL
42	DENTSPLY WEST
43	PERDUE MILFORD
	SUSSEX COUNTY
44	ALLEN HARIM FARMS - SEAFORD MILL
45	ALLEN HARIM FOODS - HARBESON
46	AMICK FARMS
47	BASF SEAFORD
48	DENTSPLY LAKEVIEW
49	GAC SEAFORD
50	INDIAN RIVER GENERATING STATION
51	INTERVET
52	JUSTIN TANKS
53	MOUNTAIRE FARMS - FRANKFORD FEED
54	MOUNTAIRE FARMS - SELBYVILLE
55	MOUNTAIRE FARMS OF DELAWARE
56	ORIENT CORP
57	PERDUE BRIDGEVILLE
58	PERDUE GEORGETOWN
59	PICTSWEET BRIDGEVILLE
60	SPI PHARMA

FIGURE 9 TRI FACILITY LOCATOR MAP

NAICS Industry Groups

Table 5 provides a description of each NAICS (North American Industrial Classification System) 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

2012 TRI DATA BY PRIMARY NAICS GROUP

(in pounds)

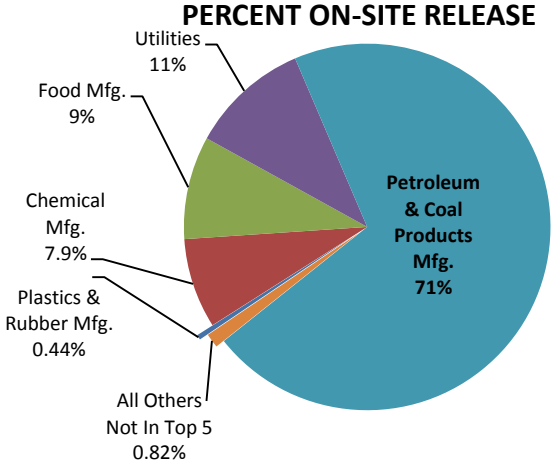
NAICS CODE	INDUSTRY GROUP	FACILITIES	REPORTS	FORM A	FORM R	ON-SITE RELEASE	OFF-SITE TRANSFERS	ON-SITE WASTE MGMT.
212	Mining	1	4	2	2	159	140	0
221	Utilities	3	20	1	19	549,522	96	2,820,000
311	Food Mfg.	11	26	15	11	474,309	0	470,283
313	Textile Products Mfg.	4	11	2	9	9,867	2,612,207	5,392,167
324	Petroleum & Coal Products Mfg.	4	41	4	37	3,690,001	233,099	365,971,877
325	Chemical Mfg.	16	79	4	75	414,447	4,832,321	23,353,578
326	Plastics & Rubber Mfg.	4	11	0	11	22,862	195,991	2,328,666
331	Primary Metal Mfg.	2	12	0	12	22,642	2,404,866	0
332	Fabricated Metal Product Mfg.	5	8	0	8	435	497,061	96,203
333	Equipment Mfg.	1	3	0	3	13	610,330	0
334	Computer and Electronic Product Mfg.	1	1	0	1	0	22	0
335	Electrical Equipment Mfg.	2	3	0	3	132	3,947,876	0
337	Furniture Manufacturing	1	1	0	1	3,925	0	0
339	Misc. Manufacturing	2	4	0	4	4,930	32,104	0
424	Wholesalers, Non-Durable Goods	1	2	2	0	0	0	0
454	Non-Store Retailers	1	3	3	0	0	0	0
928	National Security	1	6	0	6	573	5,125	0
	TOTAL	**60**	**235**	**33**	**202**	**5,193,817**	**15,371,238**	**400,432,774**

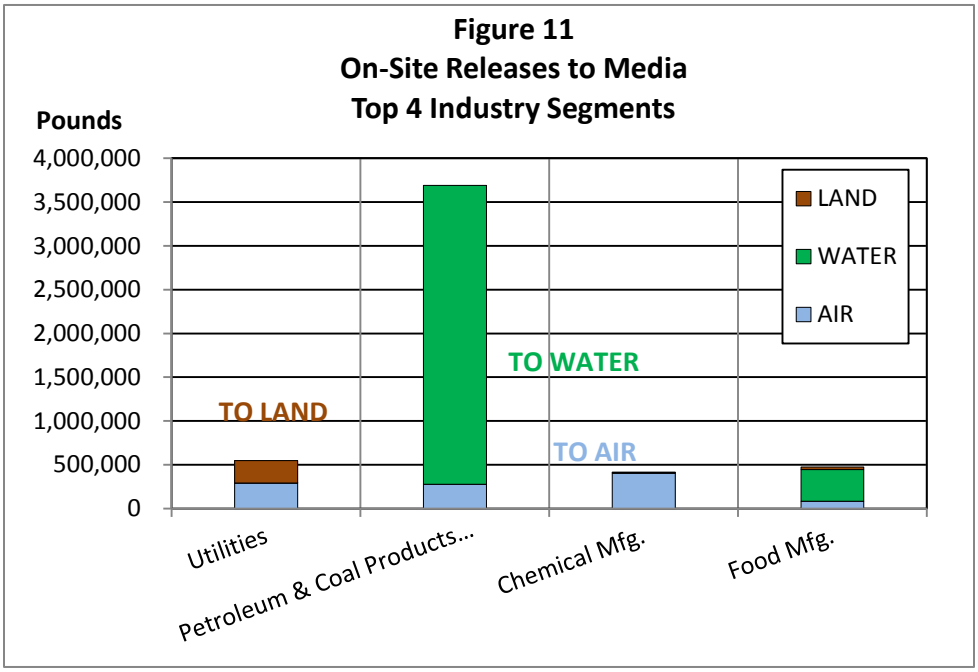
Figure 10 shows the percent contribution of each of the top five NAICS groups and all others not in the top five, compared to the reported total on-site releases. Four of these top five, NAICS groups 221 (Utilities), 324 (Petroleum and Coal Products Mfg.), 325 (Chemical Mfg.) and 311 (Food Mfg.), account for 99% of the total on-site releases within the State. Facilities not in the top five NAICS industry groups contributed only 42,676 pounds of on-site releases, or 0.82% of the 2012 on-site release total.

FIGURE 10

TOP 5 NAICS INDUSTRIES FOR 2012

PERCENT ON-SITE RELEASE





Depending on the NAICS group, releases to air, water, and land can be very different. Figure 11 shows the top 4 NAICS groups in Delaware and to what media the releases occurred. For example, utilities reported having their releases split between air and land, with 53% of the releases to air and 47% of the releases to land.

Chemical manufacturing reported most of their releases were to air at 97%. For petroleum & coal products, and for food manufacturing, most of their releases were to water – 93% and 76%. Keep in mind this is based on a small sample size based on the overall low number of facilities reporting in Delaware. Other states will have greatly different results, particularly those states whose industries have little presence in Delaware, such as mining or forestry/paper products manufacturing.

RELEASES FROM THE TOP 15 FACILITIES

Figure 12 shows the relative contribution of each of the top 15 reporting facilities to on-site releases. The top three facilities accounted for 4,589,467 pounds, or 88% of all on-site releases. Of the 5,193,817 pounds that were reported as released on-site by all 60 facilities Statewide, the top 15 facilities accounted for total releases of 5,158,506 pounds, or 99% of the total on-site releases.

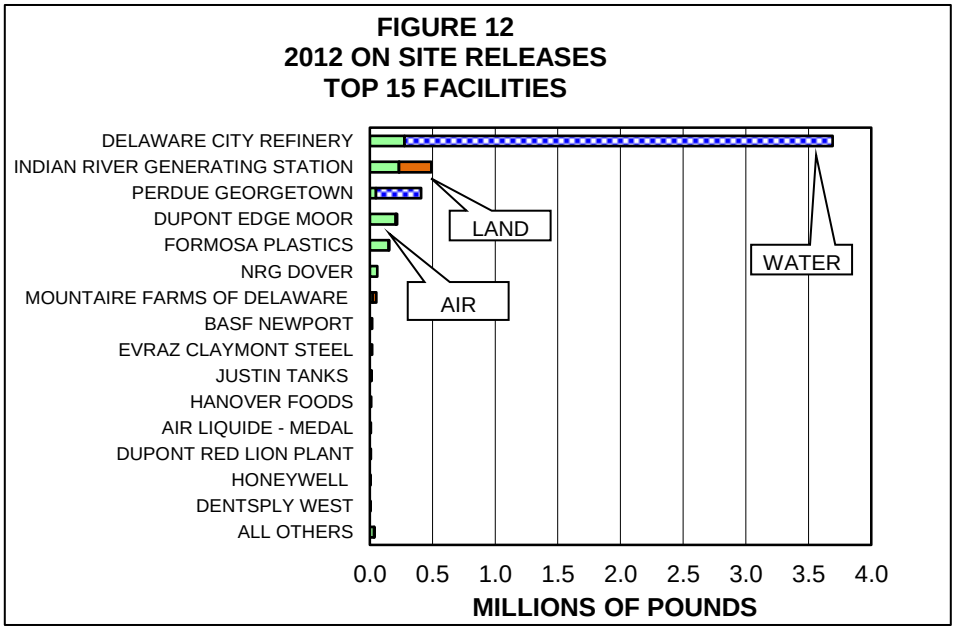


TABLE 6

TOP 15 FACILITIES 2011 AND 2012 RANKING BY ON-SITE RELEASE

(in pounds)

2011 RANK	2012 RANK	FACILITY	2012 TOTAL AIR	2012 TOTAL WATER	2012 TOTAL LAND	2012 ON-SITE RELEASE	2011 ON-SITE RELEASE	2011 TO 2012 CHANGE IN RELEASES	
2	1	DELAWARE CITY REFINERY	277,511	3,412,489	-	3,690,000	1,145,902	2,544,098	222%
1	2	INDIAN RIVER GENERATING STATION	232,711	761	256,204	489,676	1,912,479	(1,422,803)	-74%
3	3	PERDUE GEORGETOWN	49,214	360,578	-	409,792	246,503	163,289	66%
4	4	DUPONT EDGE MOOR	206,335	3,707	7,115	217,157	216,900	256	0%
5	5	FORMOSA PLASTICS	150,864	4	-	150,868	137,025	13,843	10%
6	6	NRG DOVER	59,010	0	-	59,010	111,550	(52,540)	-47%
NR	7	MOUNTAIRE FARMS OF DELAWARE	22,821	-	28,208	51,029	Form A	-	-
7	8	BASF NEWPORT	19,645	-	-	19,645	25,642	(5,997)	-23%
8	9	EVRAZ CLAYMONT STEEL	3,038	184	14,810	18,032	18,490	(458)	-2%
11	10	JUSTIN TANKS	12,190	-	365	12,555	11,494	1,061	9%
NR	11	HANOVER FOODS	11,926	-	-	11,926	DNR	-	-
NR	12	AIR LIQUIDE - MEDAL	8,668	-	-	8,668	1,934	6,734	348%
NR	13	DUPONT RED LION PLANT	8,499	-	-	8,499	2,963	5,536	187%
13	14	HONEYWELL	6,721	-	-	6,721	6,017	704	12%
15	15	DENTSPLY WEST	4,929	-	-	4,928.93	5,423	(494)	-9%
		ALL OTHERS	**35,130**	**181**	**0**	**35,311**	**84,683**	**13,583**	**-58%**
		TOP 15	**1,074,081**	**3,777,723**	**306,702**	**5,158,506**	**3,842,322**	**1,253,229**	**34%**
		STATE TOTALS, ALL FACILITIES	**1,109,211**	**3,777,904**	**306,702**	**5,193,817**	**3,927,005**	**1,266,812**	**32%**

NR - Not ranked in the top 15 for 2011

DNR - Did not report for 2011

Form A - Reports were submitted on Form A for 2011, and no releases were reported

Source: 2011 and 2012 DNREC TRI Databases, October 2013

Table 6 shows the 2012 ranking of the top 15 facilities along with their 2011 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 2011 to 2012 is also shown, and some of these changes are significant. Eight facilities reported an increase in on-site releases, while five reported a decrease and two facilities did not report release data for 2011. Changes at the facility, such as the way 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 may also affect releases from a facility; nine of the top 15 facilities reported increased production for 2012, and all but one of the nine showed an increase in releases. Details about 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.

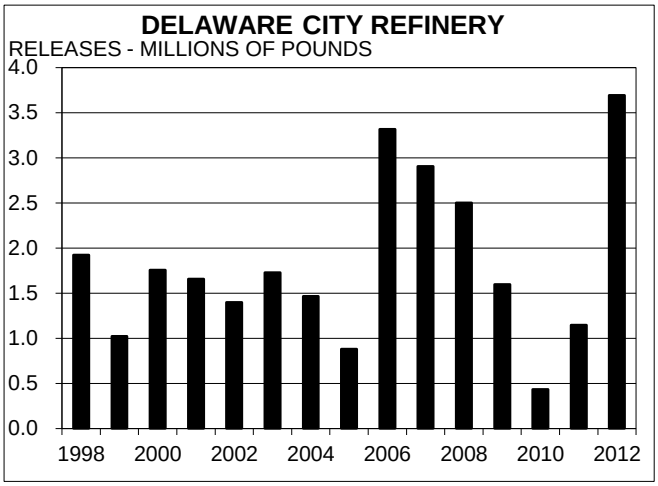
The DNREC TRI program visits select facilities statewide during the year to get a better understanding of operations at the facilities, to discuss TRI issues such as data quality that may have developed in the course of reporting, and to introduce new facilities and\or facility coordinators to the TRI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

Although the TRI program itself does not regulate or limit emissions, other DNREC and federal programs do issue permits and limit emissions from operating facilities. TRI data is also shared with other programs within DNREC to verify data accuracy and to provide data and information to those programs.

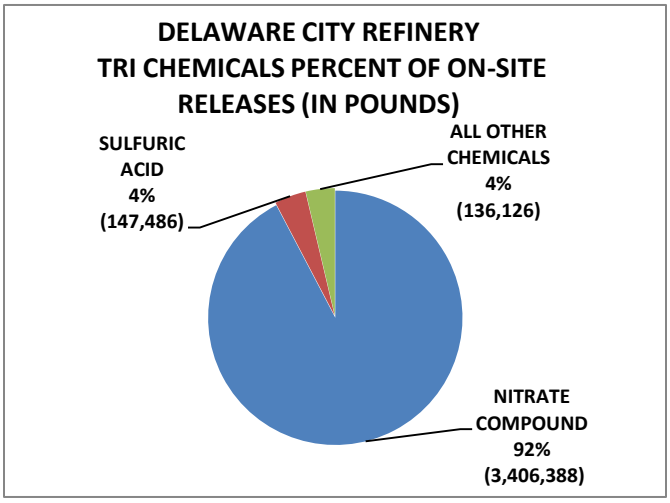
The next several pages present a brief description of each of the top 15 facilities to provide an understanding of the use and importance of some of the TRI chemicals and basic operations at these facilities. As in Table 6, this rank for the 2012 reporting year is based on total reported on-site releases. 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 graphs included with the facility description show the trend of the facility's 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. Pie Charts have also been included, depicting the percentage of on-site releases for the top chemical releases at 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 2012 on-site release data grouped by facility and chemical.

Rank #1 – Delaware City Refinery - The Delaware City Refinery (DCR), formerly owned and operated by Valero, refines crude oil into automotive gasoline, diesel fuel, home heating oil, and a variety of other petroleum and energy products. The previous owner, Valero had begun activities to idle (shutdown) the refinery in November 2009. In June 2010, the Delaware City Refining Company LLC purchased the facility and began extensive maintenance activities to prepare the refinery for restart. The refinery began the restart process in mid-2011 and completed the restart by the end of 2011. At the time of this report, the DCR is fully operational.



The refinery reported on 35 chemicals for 2011 and 2012, down from 39 reported for 2009. The total facility-reported on-site releases increased by 2.5 million pounds in 2012 (220%) versus 2011 and reflects that 2012 was the first year of full operation for DCR after restart. Total on-site releases from 2009 through 2011, were significantly lower due to the refinery being idled.



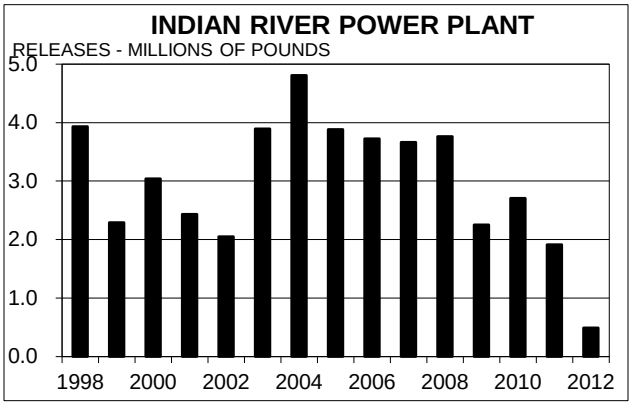
The largest contributors to on-site releases were 3.4 million pounds of nitrate compounds released to water, 147,486 pounds of sulfuric acid released to air, and 25,061 pounds of ammonia released to air. Nitrogen is a naturally occurring compound in all crude oil. This nitrogen is removed during the refining process creating ammonia (NH_3), which is treated at the refinery's wastewater treatment plant by nitrification which creates the nitrate compounds that are released to water. The discharge from the wastewater treatment

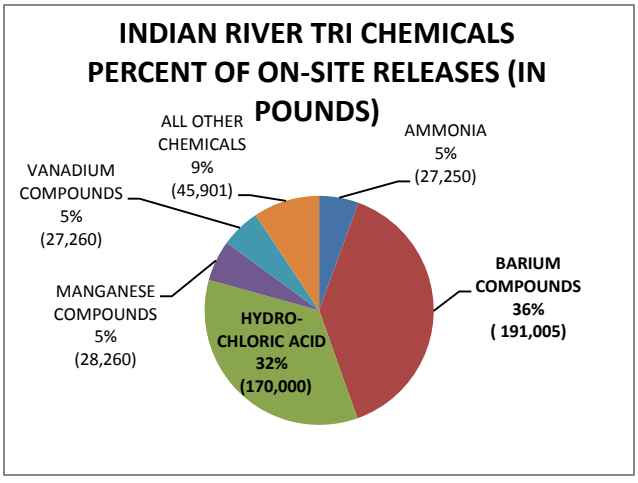
plant is regulated by the refinery's NPDES permit which governs water discharge from the facility.

A significant off-site transfer of asbestos for disposal (232,180 pounds) was recorded in 2012 related to asbestos remediation and abatement activities performed by the refinery. The disposal of asbestos off-site was down by 363,440 pounds compared to 2011 as higher amounts were generated related to repair and maintenance activities in preparation of the restart of the refinery .

In 2012, USEPA added hydrogen sulfide to the list of reportable TRI chemicals. This addition increased overall reported waste management activities significantly. For example, in the first year of reporting hydrogen sulfide, the on-site treatment being reported increased by over 337 million pounds for 2012, with over 329 million pounds of hydrogen sulfide being treated on-site by the refinery. Hydrogen sulfide is an acid gas that is treated and converted to elemental sulfur by refinery processes, a material that is sold for agricultural and chemical manufacturing uses.

Rank #2 – Indian River Generating Station This 610 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. The facility continues to install significant emissions reductions equipment and implement operating strategies to reduce on-site releases. Production for 2012 increased by 1% compared to 2011. However on-site releases at this facility decreased by 74%, or 1,422,000 pounds, for 2012 compared to 2011.





The Indian River Generating Station previously consisted of four coal burning units and one combustion turbine. As of 2011, Units #1 and #2 have been retired and Unit #3 will retire by the end of 2013. For these units, these retirements took place even after additional emission controls and operational strategies were applied. These applications include reduced sulfur content of the coal burned for SO2 reduction, Activated Carbon Injection (ACI) for Mercury reductions, and Selective Non-Catalytic Reduction (SNCR) for NOx reductions. On Unit 4, in addition to SNCR and ACI technology, in 2011 the facility installed a Circulating Dry Scrubber (CDS) with a Baghouse for removal of acid gases including SO2 and HCl, metals, and particulate matter and Selective Catalytic Reduction (SCR) for NOx reductions. The shutdowns, along with the additional controls, have reduced the overall on-site releases by 94% compared to 2004.

The Indian River Generating Station reported on thirteen TRI chemicals for 2012. Six of these were metal compounds, two were non-metallic PBT's, three were acid gases, 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 and naphthalene is in the oil consumed at the facility.

Coal analysis data, emissions data, and emissions factors are used as a basis for calculating releases. This gives 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.

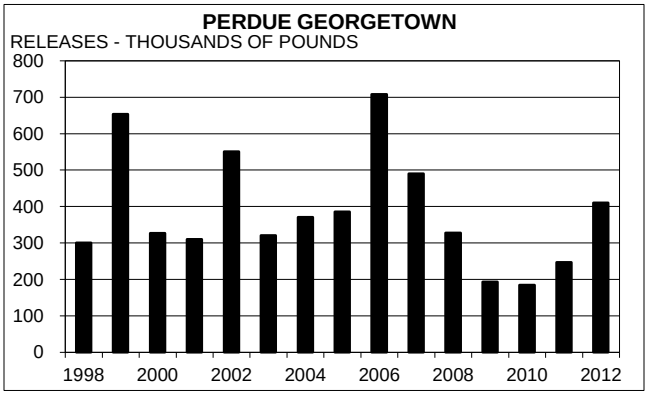
Acid gasses including hydrochloric acid, sulfuric acid, and hydrofluoric acid accounted for 40% of the onsite releases for 2012 compared to 98% in 2011. Onsite releases for acid gases in 2012 decreased by 88% compared to 2011. This decrease was due to the acid gases primarily being treated onsite by the new CDS control technology.

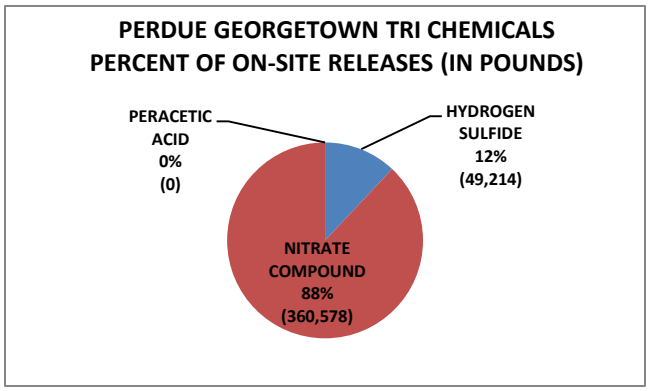
Metal compounds, formed as a result of impurities in the coal, are largely captured (97%) in the fly ash and bottom ash. The majority of coal ash is disposed of in the on-site landfill which includes a liner system and leachate collection. In 2011, chromium, copper, and zinc were below the reporting threshold. For 2012, chromium was reportable.

Mercury releases to air decreased by 90% in 2011 due to Activated Carbon Injection process installed on the units, which 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, however contained within the landfill liner system. For 2012, there were no increases in mercury releases to air.

Rank #3 - 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 three TRI chemicals for 2012: nitrate compounds, hydrogen sulfide and peracetic acid. Perdue's 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. Hydrogen sulfide is a byproduct from anaerobic treatment of the organic wastes in the wastewater. This is the first year for hydrogen sulfide reporting, and calculation methods may change as more is understood. It is released to air. Peracetic

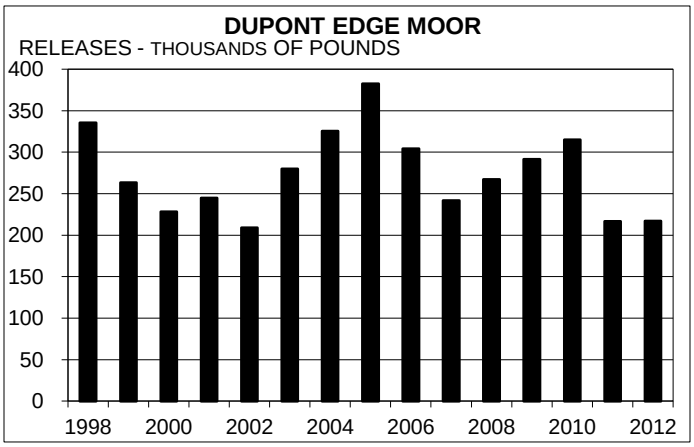


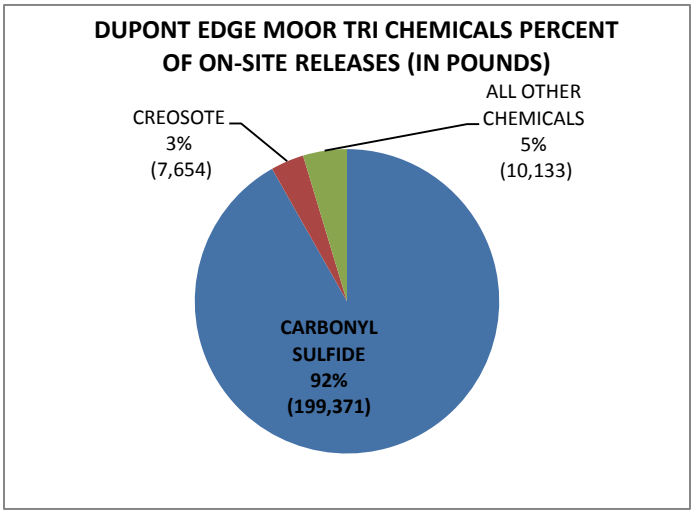


acid is a biocide used to improve product quality and safety, and is treated onsite.

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 treatment system operations continued to improve through revisions to the original operational concepts and engineered design. For 2012, Perdue's production increased by four percent, and further processing methods for easy-to-use products also increased. Any additional processing procedures beyond straight ice-packed shipping add additional organics to be treated. Due to these changes, water usage increased by 1.5%. Therefore, product mix, processing and wastewater treatment plant operations, temperatures and other fluctuating factors affect the final release results.

Rank #4 - 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 ferric chloride. The plant is located along the Delaware River a few miles north of the Port of Wilmington.





DuPont Edge Moor reported on 25 TRI chemicals for 2012. Carbonyl Sulfide (91.8%), creosote (3.5%) and hydrochloric acid aerosol (1.9%) account for 97% of the total onsite releases for 2012. 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. Creosote is emitted/discharged via normal use of the railroad ties. Railroad ties come treated with creosote to stand up to weathering and the pressure under rail lines. Hydrochloric acid is formed as a gas by-product of the titanium dioxide production process.

Since 2001, DuPont Edge Moor has reduced dioxin generation by 99% by implementing a capital project and by making process modifications.

Over 99.89% (1030.51 grams out of

1031.68 grams generated) of the dioxins generated are contained within the solid material sent offsite. The remaining 0.11% of dioxins were released onsite to water and air.

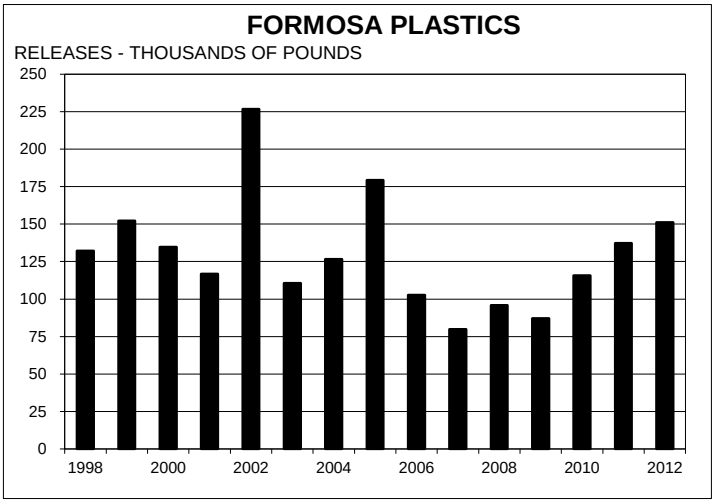
The term "dioxins" is used in this report to indicate a group of 17 dioxins and dioxin-like compounds (including furans) reportable to TRI, out of a family of several hundred dioxins and dioxin-like compounds. Among the "dioxins" included in TRI reports is the very toxic 2,3,7,8-TCDD dioxin, which is 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 (91%) 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).

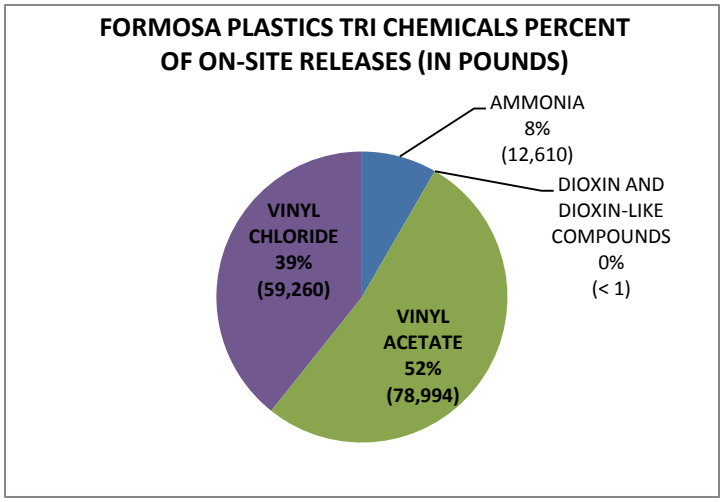
The onsite release of Dioxin and Dioxin Like compounds (DLCs 1.17 grams) decreased by 0.30 grams in 2012 compared to 2011. This was due to improved stormwater management practices. The dioxins released to water were calculated based on sampling analysis completed as required by the NPDES permit. The majority (94%) of the DLCs released to water reported by DuPont Edge Moor is either a dioxin or furan of the lowest toxicity level.

The 2012 site production was down by 28%, but total onsite TRI releases increased by less than 1% compared to 2011. This was due to the variability in the process operation. Releases of manganese compounds to water increased by 1,074 lbs (112%), but are down 93% or 25,637 lbs compared to 2010. Hydrochloric acid released to air decreased by 920 pounds (18%) because of better HCl emission control strategy. Total onsite releases for 2012 are down 35% compared to 1998 onsite releases.

Rank #5 - Formosa Plastics - Formosa Plastics, located in the River Road Industrial 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 2012; vinyl acetate monomer, vinyl chloride monomer, ammonia, and dioxins and dioxin-like compounds. Vinyl acetate monomer (VAM) is a raw material used in certain products and is released through the drying process. Vinyl chloride monomer (VCM) is the primary ingredient for producing PVC and is released as residual unreacted monomer during the drying process of the PVC resin. Permits regulate the concentration of the residual monomer

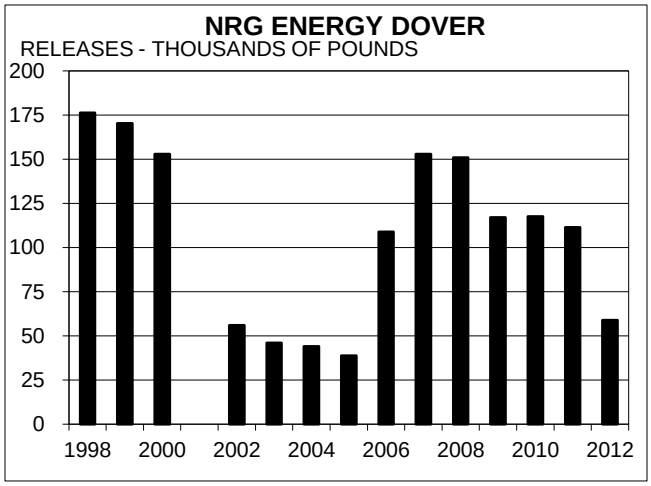




in the PVC before drying. Ammonia is also used in several of Formosa's products and is released during the PVC drying process. Trace amounts of dioxins and dioxin-like compounds were detected in the plant emissions (0.000012 pounds) and waste and recycled solids (0.000171 pounds), possibly the result of on-site incineration of waste gases. Scrubber water from the scrubber and incinerator control device is processed by the wastewater treatment system.

For 2012, total on-site releases were up by 10%, and production increased approximately 7% above the 2011 level. Decreases in ammonia and dioxin and dioxin-like compounds releases and the increases in VAM and VCM releases were related to production mix.

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



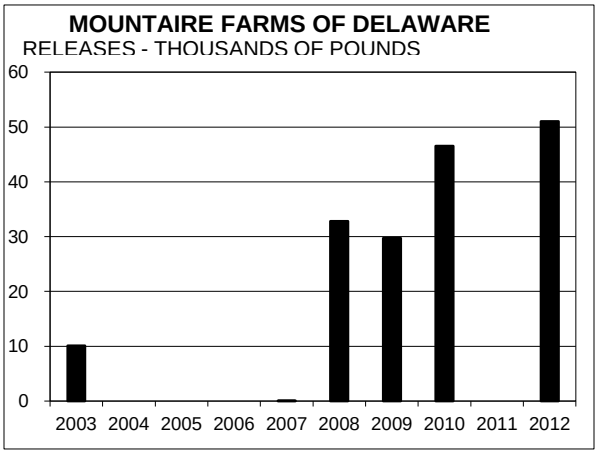
The NRG Dover Plant reported on three TRI chemicals for 2012. Hydrochloric acid aresol, which is formed during the combustion process, accounted for over 99.9% of the facility on-site releases. Small amounts of two metal compounds – mercury and lead compounds - formed during combustion because of impurities in the coal, were also reported. Of the lead compounds, 76% was captured in the fly ash and bottom ash and sent to an off-site landfill. The remaining 6 pounds of lead compounds and 4 pounds of mercury compounds were released on-site to air.

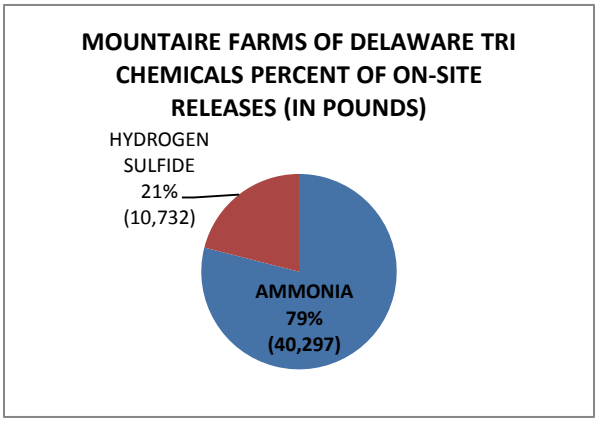
Although electricity production decreased 24% in 2006, estimated release of hydrochloric acid increased to 100,000 pounds, a 213% increase over 2005. This increase was because of a change in coal suppliers in 2006 and analyses showed the new coal to have higher chlorine content than previously fired 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 coal usage was 101% of the 2009 usage and gas usage

was 190% of 2009. For 2011, electricity production was 89% of 2010 production, while coal usage was 93% of the 2010 amount and gas usage was 88%.

For 2012, production decreased by 69% and on-site releases decreased by 47% compared to 2011. The reason for this was that the reduction in production from burning coal was limited by the need to keep the coal unit on-line in order to produce steam for the plant's thermal customers, Kraft Foods and Procter & Gamble. The 2012 usage of coal for electric production was 57% of the 2011 amount and gas usage was 125%. The trend for the future is to burn more gas and less coal, with the eventual ceasing of coal use.

Rank #7 – Mountaire Farms of Delaware – This facility is located in Millsboro, and hatches chickens for growers, produces feed for poultry growers, produces poultry byproducts, and produces retail, wholesale and export chicken products.

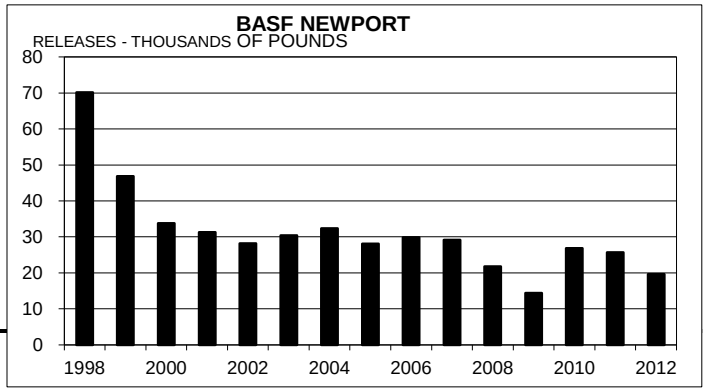


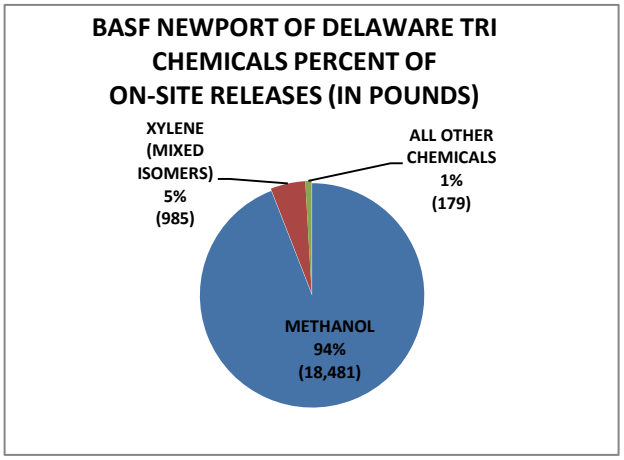


For 2012, Mountaire Farms of Delaware reported five TRI chemicals, ammonia, hydrogen sulfide, and metallic compounds (copper, manganese, and zinc). Ammonia is a byproduct of poultry processing and is treated in the on-site wastewater treatment plant. This effluent is spray irrigated onto cropland, and the ammonia is utilized by the crops. This is the first year hydrogen sulfide is required to be reported and it is a byproduct of anaerobic wastewater treatment. The metallic compounds are used in poultry feed and are reported on form A (see Reporting Requirements on page 3 for form A information).

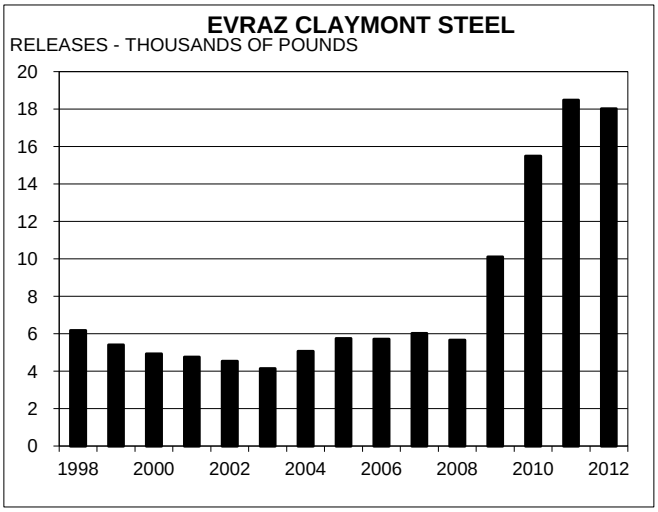
For 2008, 2009, and 2010 ammonia became reportable at this facility due to changes in operations at the wastewater treatment facility in 2008, which resulted in an increase in ammonia in the treated wastewater effluent. The biological treatment of the wastewater fluctuates. Due to these variations, ammonia was below the reporting threshold in 2011 but was reportable for 2012.

Rank #8 – BASF/Ciba – 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 nine TRI chemicals for 2011 and eight in 2012. All on-site releases were to air.

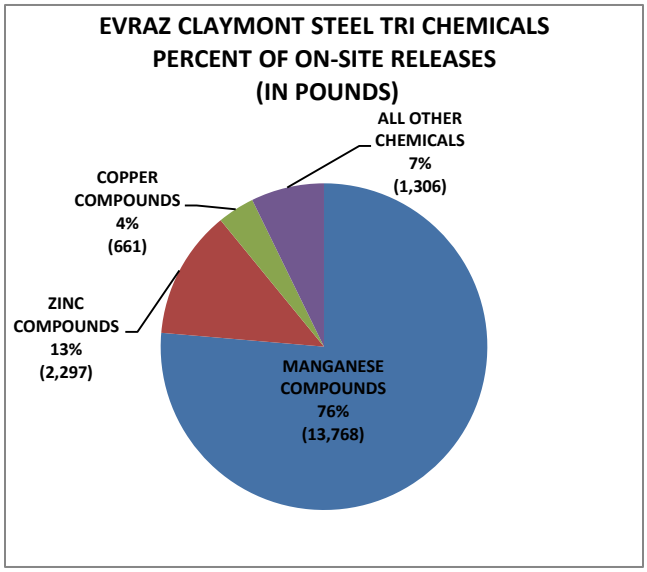




Methanol was the predominant chemical released on-site in 2012 (94% of total on-site releases). Methanol is used as a reactant and a solvent in the pigment manufacturing process. About 22% of the 1.57 million pounds of methanol reported is recycled, over 76% is treated rather than released, and 1.2% is released to the on-site environment. Total production was down about 22%, which resulted in a decrease of on-site releases by 23%. BASF has expanded and modernized the Newport facility since 1998. Although current facility production has almost doubled the 1998 production, the facility has achieved a 72% reduction in on-site releases during this time.



Rank #9 – 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 that are rolled into plates of thicknesses from 1/4" to 5-1/2". The plates are sold throughout North America.



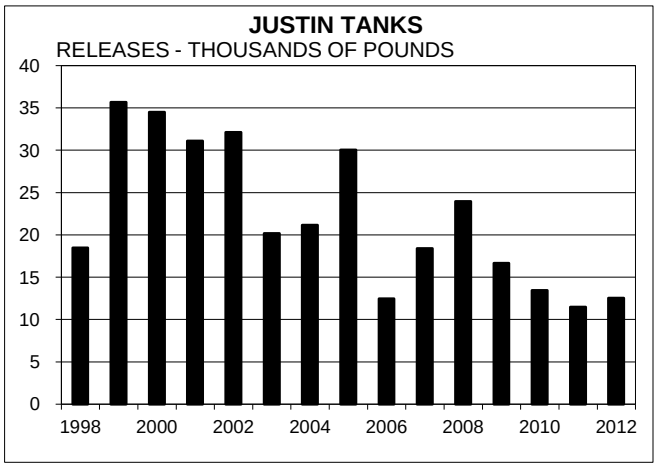
Evraz Claymont Steel (ECS) reported on-site releases of eight TRI chemicals; seven metallic compounds and dioxin compounds, for 2012. Most of the on-site releases were to land. For 2012, production decreased by 6% and on-site releases decreased by 3%. However, releases for mercury increased by 71% due to the 4th quarter spike in the emission testing results. This testing spike increased their annual average emission coefficient by 54%.

The increase in the 2008-11 total on-site release amounts 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.

In 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.

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 was recently completed in 2013.

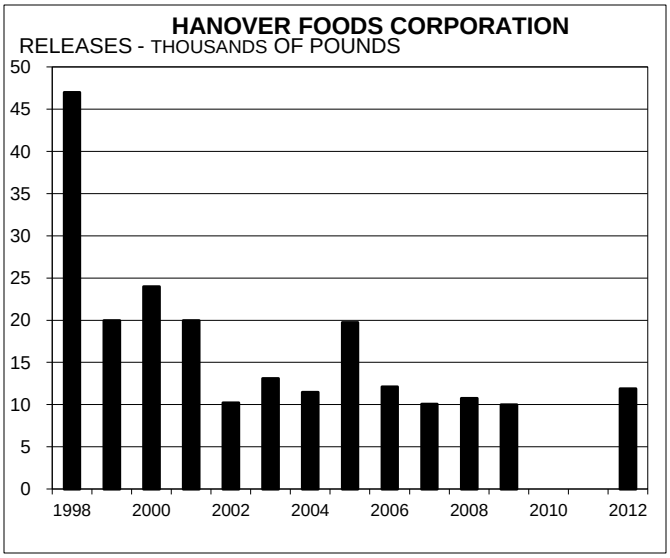


Rank #10 - Justin Tanks – Justin tanks, located in Georgetown, manufactures a wide variety of Fiberglass Reinforced Plastic (FRP) tanks for use in the chemical, agricultural, and food industries.

Justin reported on one TRI chemical, styrene, for 2012. 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 increases in on-site releases of 47% in 2007 and 30% in 2008, partially related to increases in production, on-site releases have decreased each following year, generally the result of decreases in production. On-site release of styrene was up 9% for 2012, compared to 2011, while production was up by 8%. Total onsite releases for 2012 are down by 34% compared to 1998.

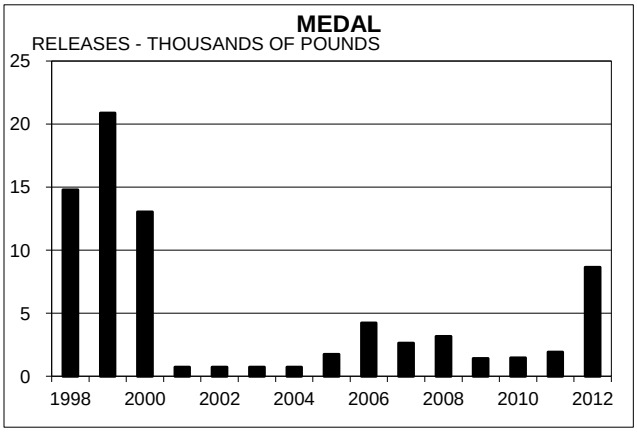
Rank #11 - Hanover Foods Corporation - The Hanover Foods facility located in Clayton bulk freezes fresh vegetables including corn, peas, and lima beans; grills and freezes poultry products; and also prepares, freezes, and packages waffles. Customers for these products include the retail, foodservice, military, club store, and industrial markets.



Hanover reported one TRI Chemical for 2012; ammonia. Ammonia is utilized in the plants refrigeration equipment and releases are primarily the result of normal service maintenance, leaks and other losses in the system. In 2010 and 2011, Hanover was below the reporting thresholds and was not required to report. For 2012, production increased by 44% from 2011 and total on-site releases were up approximately 19% from the levels reported in 2009. Hanover's on-site releases have decreased by 75% since 1998.

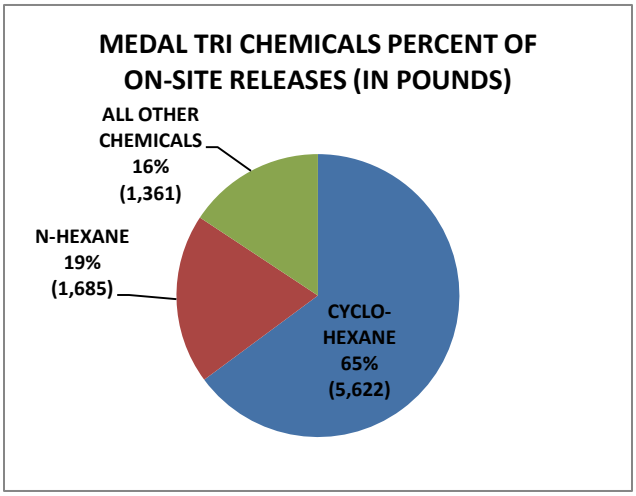
Rank #12 – Air Liquide- Medal-

The Air Liquide-Medal facility, located in Newport, provides methods to purify and produce gases for a wide range of applications and manufactures hollow fiber membrane systems for air separation/nitrogen generation, carbon dioxide removal and hydrogen purification. The facility reported five TRI chemicals for 2012, cyclohexane, methanol, n,n-dimethylformamide, n-hexane, and n-methyl-2-pyrrolidone. These chemicals are used as solvents in the fiber production process.



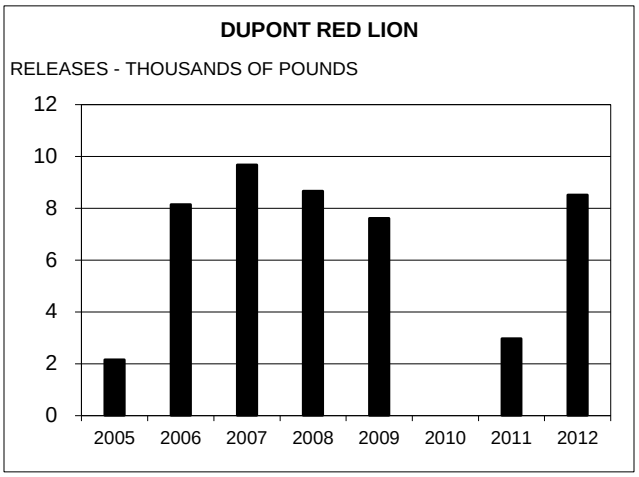
In 2001, releases decreased by 94% compared to the previous year primarily due to the installation of an enhanced emission control system.

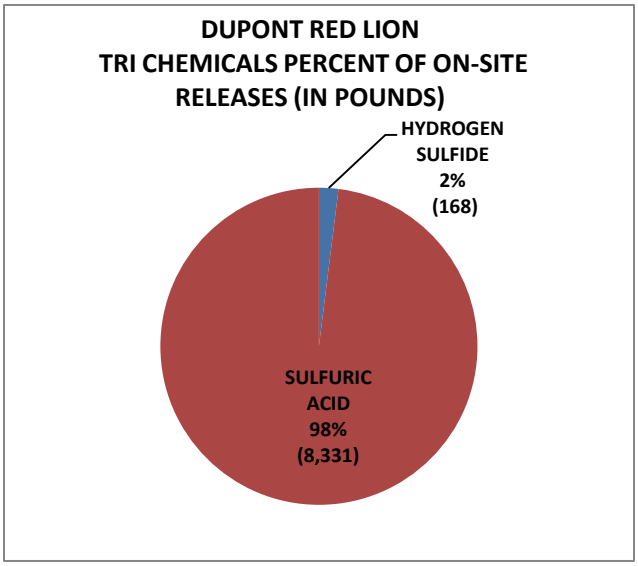
For 2012, on-site releases increased due to increase in cyclohexane usage above the reporting threshold and overall increase in fiber production. The increase in cyclohexane usage is solely due to the nearly doubling of production of fiber used in membranes sold to the aerospace industry used to make inert aircraft fuel tanks for safety purposes. The total onsite releases for Medal have decreased by 41% since 1998.



Rank #13 – DuPont Red Lion Plant

The DuPont Red Lion facility, located north of the Delaware City Refinery, manufactures sulfuric acid derived from spent sulfuric acid and refinery gas received from the refinery. The spent sulfuric acid and refinery gas are received by pipeline, and the fresh acid is shipped from the DuPont facility via pipeline, tank trucks and tank cars.

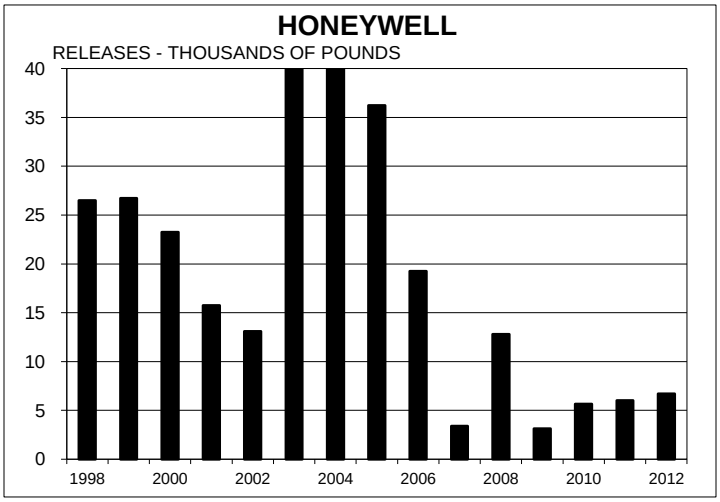


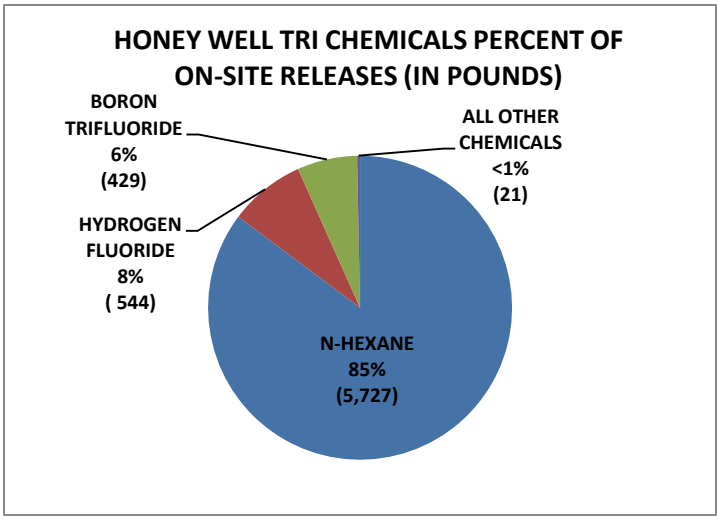


The DuPont Red Lion facility had submissions for two TRI chemicals for Reporting Year 2012, sulfuric acid aerosol and hydrogen sulfide. This is the first year hydrogen sulfide was required to be reported due to EPA adding it to the list of reportable chemicals. Hydrogen sulfide is used in the manufacturing process as a raw material. All on-site releases were to air. For 2010, while the Delaware City Refinery was idle, the DuPont Red Lion facility was also idled and was below the TRI reporting threshold for sulfuric acid and was not required to report. The DuPont Red Lion facility re-started its operations in May of 2011 after an 18 month shutdown.

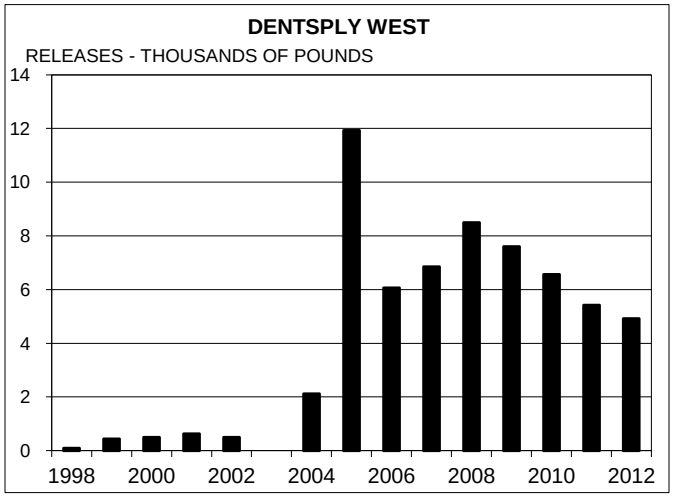
For 2012, on-site releases to air increased by a total of 187% compared to 2011, while production increased by 47%. The increases in production and releases to air were due to the Delaware City Refinery coming back online, which resulted in the DuPont Red Lion facility restarting its operations. In 2012, the DuPont facility was operational at more typical production rates for the entire year as compared to 7 months in 2011. In addition, reporting for hydrogen sulfide was required for the first time, which was reflected in higher emissions being reported under TRI. The total on-site releases for the DuPont Red Lion facility have increased by 295% since the plant opened in 2005, which was another partial year of production, but are similar to the releases for years 2006 through 2009, when the plant was in full operation.

Rank #14 – Honeywell International - Honeywell, located in Claymont, manufactures specialty chemicals that are used in agricultural, pharmaceutical, and household products. This facility also produces boron trifluoride, used in the production of hydrocarbon resins, lubricants, and adhesives.
The Honeywell facility reported on five TRI chemicals for 2012. All on-site releases were to air. Releases of boron trifluoride, n-hexane, and hydrogen fluoride accounted for over 99% of the on-site releases, while releases of ammonia and methanol accounted for less than 1%.

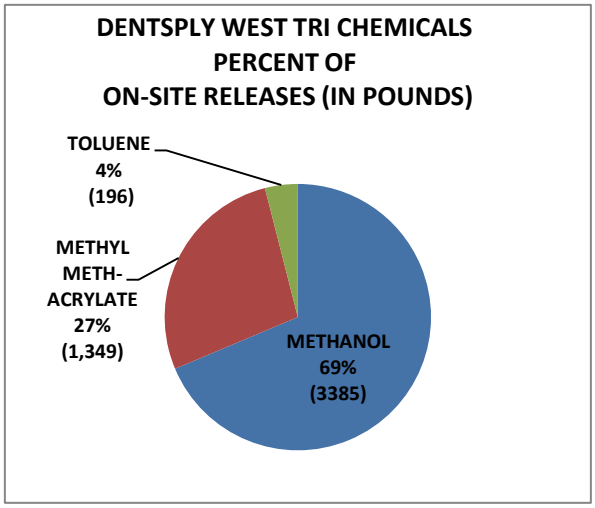




For 2012, on-site releases increased by a total of 12% compared to 2011, while production was down by 5%. The increase in n-hexane emissions were due to activities related to the closure of the oximino-silanes process that uses hexane. This process was shut down at the end of 2012. In 2013, Honeywell has discontinued the use of hexane at the Claymont Plant and thus significantly reducing future emissions. The total onsite releases for Honeywell are down 75% from 1998.



Rank #15 – DENTSPLY West – The DENTSPLY International LLC, 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) is located in Milford.



DENTSPLY West reported three TRI chemicals for 2012, methanol, methyl methacrylate (MMA), and toluene. Methanol is used as a processing aid in the manufacture of polymethacrylates. Methyl methacrylate (MMA) is also used in the manufacture of polymethacrylates. Toluene is used for cleaning.

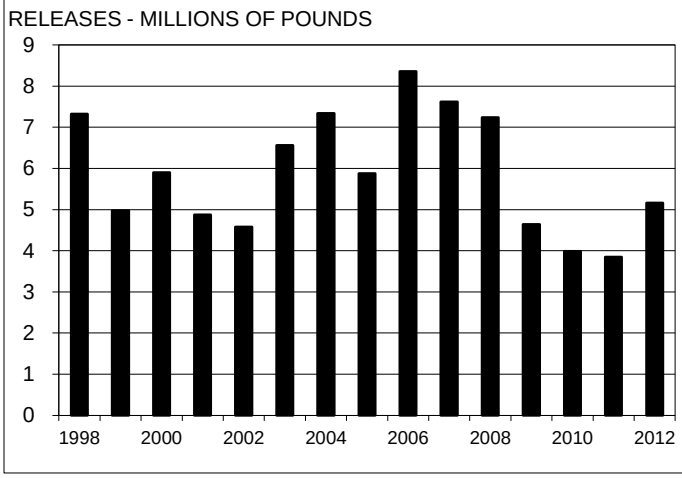
Reported on-site releases have increased significantly since 2002 because of increased production, addition of new equipment, and more accurate reporting methods. In 2005, the facility reported significant increases in on-site releases for toluene and MMA, and the facility reported on-site release of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

For 2012, DENTSPLY West reported no change for production from 2011, while releases for methanol and MMA decreased. Toluene was reported for the first time since 2010. The decrease in MMA was primarily due to a discontinuation of one of the line items. Methanol decrease was due to production variation.

DENTSPLY also has main plant, also located in Milford. For more information on this facility, please refer to Appendices C and D.

Combined Top 15 Facilities Trend - Figure 13 shows the totals for reported on-site releases for the top 15 facilities during 1998-2012. The total on-site release trend for these 15 facilities is up 1,253,229 pounds (34%) since 2011 and down 2,161,797 pounds (30%) since 1998 after reaching a peak of 8.4 million pounds in 2006. These facilities reported 99% of the total on-site releases in the State for 2012, while the remaining 45 facilities reported 1%.

FIGURE 13
TOP 15 FACILITIES
ON-SITE RELEASE



Eight of the top 15 facilities reported increases in on-site releases for 2012 and five reported decreases. The largest change was the 2.5 million pound increase in nitrate compounds released to water reported by the Delaware City Refinery. The largest decrease was the 1.3 million-pound decrease of hydrochloric acid aerosols released to air reported by the Indian River Generating Station.

Facilities No Longer Reporting to TRI

In the normal annual cycle of TRI reporting, some facilities may fall below the reporting thresholds and some facilities may close. In recent years, this involved the annual loss of 3-4 facilities, offset by 1-2 new facilities that started to report each year. For 2012, the Sunoco plant located in Marcus Hook, PA, part of which is located in Delaware, closed at the end of 2011. Both Occidental Chemical in New Castle and Air Liquide America in Delaware City fell below the reporting thresholds. Pinnacle Foods in Millsboro converted to using only natural gas and as result also fell below reporting thresholds.

For 2011, INVISTA, formerly known as the DuPont Seaford nylon facility, fell below the reporting thresholds as a result of lower production and its power plant conversion from coal to natural gas. Also in 2011, Buck Algonquin, a specialty manufacturer of marine hardware with headquarters in Stevensville, Maryland, closed its Smyrna facility.

Persistent Bioaccumulative Toxic (PBT) Chemicals, 2002-2012

TABLE 7
2012 DELAWARE PBT CHEMICALS AND REPORTING THRESHOLDS
(pounds/year)

Chemical or Chemical Category	Threshold (LBS/YEAR)	2012 REPORTS
Aldrin	100	0
Benzo[g,h,i]perylene	10	3
Chlordane	10	0
Dioxin and dioxin-like compounds category	0.1 grams	6
Heptachlor	10	0
Hexachlorobenzene	10	1
Isodrin	10	0
Lead *	100	2
Lead and lead compounds *	100	11
Mercury	10	2
Mercury compounds	10	6
Methoxychlor	100	0
Octachlorostyrene	10	1
Pendimethalin	100	0
Pentachlorobenzene	10	1
Polychlorinated biphenyls (PCBs)	10	1
Polycyclic aromatic compounds category (PACs)	100	8
Tetrabromobisphenol A	100	0
Toxaphene	10	0
Trifluralin	100	0

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. For 2011, four of the 16 new chemicals added (see page 5) are also PACs and they are now included in the PACs category.

Table 7 provides a current list of the PBT chemicals and their thresholds, and the number of reports received for each chemical for 2012.

PBTs are receiving increased scrutiny as we learn more about them, and reporting of PBTs is being progressively emphasized. These chemicals are of particular concern because they are not only toxic, but also because they remain in the environment for

TABLE 8
2012 TRI PBT DATA SUMMARY
(IN POUNDS)

	PBTs only 2010	PBTs only 2011	PBTs only 2012
No. of Facilities	26	26	21
No. of Form A's	NA	NA	NA
No. of Form R's	49	48	42
No. of Chemicals	11	11	11
On-Site Releases			
Air	1,768	2,253	1,333
Water	1,143	132	70
Land	6,039	11,212	11,062
On-Site Releases	8,949	13,596	12,466
Off-Site Transfers			
POTW's	5	8	1
Recycle	2,659,278	2,968,631	4,102,492
Energy Recovery	0	0	0
Treatment	0	0	0
Disposal	45,758	19,558	29,517
Total Transfers	2,705,041	2,988,197	4,132,010
On-Site Waste Mgmt.			
Recycle	3	280	1,385
Energy Recovery	0	0	0
Treatment	202	570	864
Total On-Site Mgmt.	205	850	2,249
Total PBT Waste	2,714,195	3,002,643	4,146,725

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, new data elements 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). Facilities reporting on dioxins are also now required to report the amounts released or managed as waste for each of the 17 DLCs. See ***Appendix N*** for a copy of the DLC reporting form, Schedule 1. These amounts are provided along with the original amount reported in pounds. See pages 35-38 for additional detail on dioxins.

Table 8 shows the results of PBT reporting for 2010-2012 compared to total 2012 TRI data. The total count of PBT reports, 42, is lower than the counts of 48-49 for recent years. PBT on-site releases for 2012 comprise 0.24% of the total TRI on-site releases. Total PBT wastes are 0.98% of total TRI wastes. No PBT reports can be filed on Form A.

PBT on-site releases were lower for 2012 by 1,130 pounds (8%); with the greatest reduction coming from the Dover Air Force Base with lower lead compounds released to air by 1004 pounds. Lead compounds make up about 93% of all on-site PBT releases. Since 2001, the trend of PBT on-site releases is down 56%.

The total PBT waste amount increased by 1,144,082 pounds (38%) for 2012. The primary reason for this increase was the increased transfers of lead compounds to off-site recycle by the Johnson Controls Distribution facility.

Table 9 on page 35 shows the amounts of each PBT chemical reported as released by the TRI reporting facilities in 2012. Lead compounds, largely released from coal-fired power plants, made up 89% of the total on-site PBT releases for 2012.

TABLE 9
2012 PBT RELEASE SUMMARY
(REPORTED AMOUNTS IN POUNDS)

2012 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	3	0.62	5.00	0.71	6.33	0.00	474.00
DIOXIN AND DIOXIN-LIKE COMPOUNDS	6	0.0250	0.0025	0.0000	0.0275	2.27	0.00
HEXACHLOROBENZENE	1	0.0831	0.1701	0.0000	0.2531	471.21	0.00
LEAD	2	5.50	5.30	0.00	10.80	3,714.95	813.00
LEAD COMPOUNDS	11	747.80	52.53	10,439.00	11,239.33	4,124,552.75	0.00
MERCURY	2	21.21	0.00	0.00	21.21	2,665.99	0.00
MERCURY COMPOUNDS	6	212.85	1.66	87.00	301.51	13.69	0.00
OCTACHLOROSTYRENE	1	0.00	0.38	0.00	0.38	19.08	0.00
PENTACHLOROBENZENE	1	0.09	0.27	0.00	0.3604	5.57	0.00
POLYCHLORINATED BIPHENYLS (PCB's)	1	0.00	0.00	0.00	0.0070	19.60	0.00
POLYCYCLIC AROMATIC COMPOUNDS	8	345.05	4.80	535.74	885.59	545.31	961.60
TOTALS	**42**	**1,333**	**70**	**11,062**	**12,466**	**4,132,010**	**2,249**

Source: 2012 DNREC TRI Database, October 2013
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, 351 pounds, and the largest releases to water, 40 pounds. The Indian River Generating Station reported the largest release to land, 10,367 pounds. These three reports were all for lead compounds. Over 95% of the PBT amounts transferred off-site for recycle was lead compounds from Johnson Controls Battery Plant and Distribution Center, and Evraz Claymont Steel recycled another 3.7%. Additional detail for mercury and mercury compounds, another important PBT, is in a separate section on page 38.

Three companies (The Delaware City Refinery, IKO, and V&S Galvanizing) reported the entire amount of on-site PBT chemical waste management. The refinery treated 474 pounds of benzo(g,h,i)perylene and 390 pounds of polycyclic aromatic compounds (PACs) on-site. IKO recycled 280 pounds of PACs on-site and V&S Galvanizing recycled 813 pounds of lead 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 Facilities*** section starting on page 20 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. These dioxins are also part of the PBT category, and you can see the totals for releases and other waste management in Table 9 above. In recent years, on-site release of DLCs has been in the range of 5.2-15.8 grams. For 2012, the amount was 12.5 grams.

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 amount released for the entire category, facilities must report the amount 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.

Among the "dioxins" included in TRI reports is the very toxic 2,3,7,8-TCDD dioxin (#1 in Table 10), which is the congener generally of most concern. 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.

TABLE 10

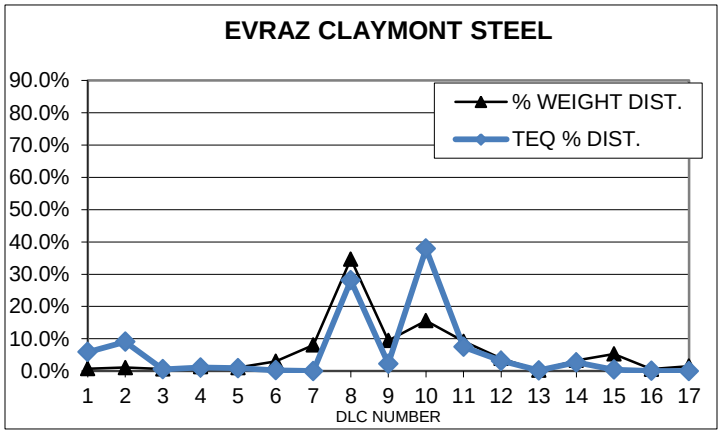
DIOXIN TOXIC EQUIVALENT FACTORS (TEF)

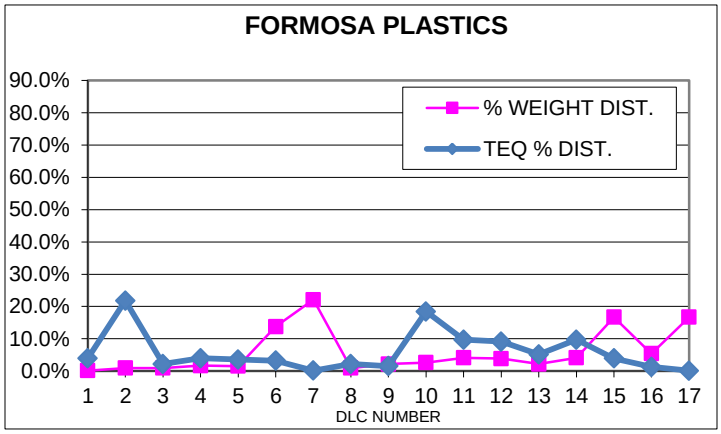
TRI No.	Dioxin Chemical (DLC) Name	Abbreviated Name	CAS	TEF
1	2,3,7,8-tetrachlorodibenzo-p-dioxin	2,3,7,8-TCDD	1746-01-6	1.0000
2	1,2,3,7,8-pentachlorodibenzo-p-dioxin	1,2,3,7,8-PeCDD	40321-76-4	1.0000
3	1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	1,2,3,4,7,8-HxCDD	39227-28-6	0.1000
4	1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	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

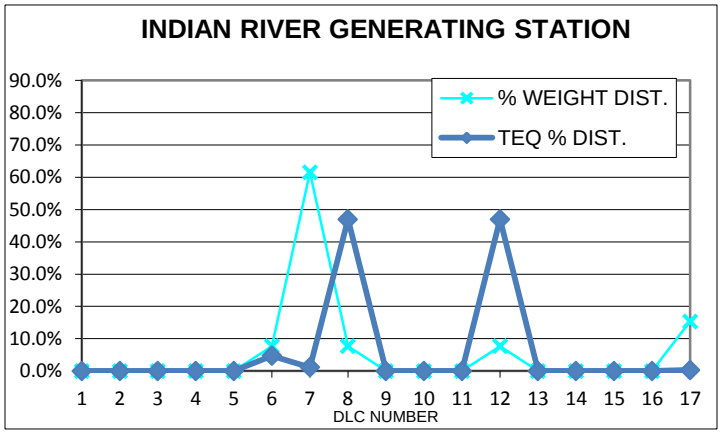
Figure 14 on the next page shows the distribution of the weight and TEQ fractions of the 17 DLCs reported as on-site releases by each of the six facilities in Delaware that reported on dioxin distribution. You can see in these figures, because of the different processes at the facilities, how the weight fractions of the 17 compounds reported vary between facilities.

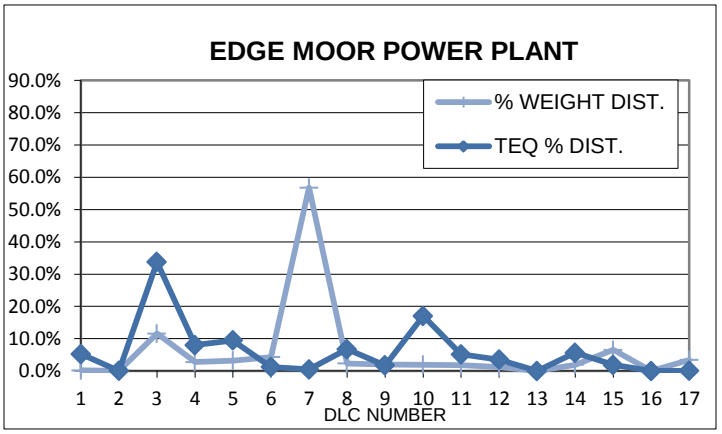
Also, you can see how, for a dioxin like numbers 1 and 2, where the TEF is highest at 1.000, the TEQ amounts are greater than the weight percentages. Conversely, for dioxin numbers 7 and 17, where the TEF values are a low 0.003, the TEQ amounts are smaller than their weight percentages. For example, the Indian River Generating Station reported dioxin number 7 (TEF = 0.003) as 61.5% of the total weight, but this was only 1.13% of the TEQ.

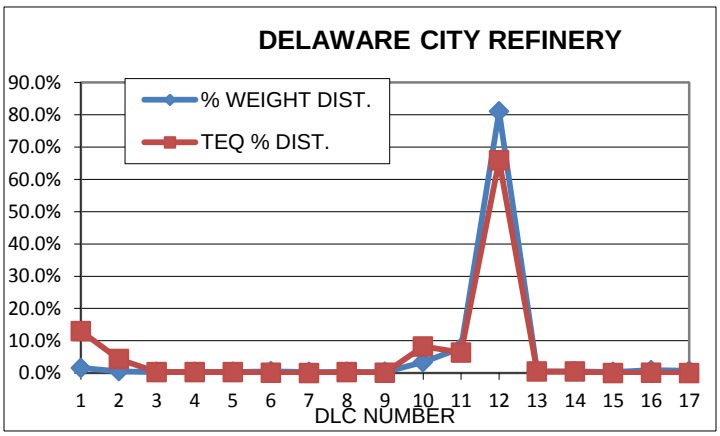
FIGURE 14
2012 TRI DIOXIN % WEIGHT AND TEQ % WEIGHT DISTRIBUTION AT EACH REPORTING FACILITY

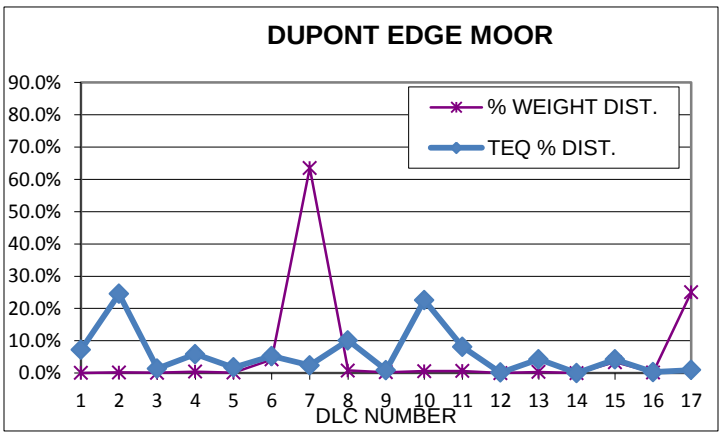












The total on-site release amounts in pounds and their corresponding TEQ amounts reported by the six facilities that reported on dioxins in Delaware for 2012 were calculated and are presented in the Table 11. The 2012 total of 0.02754 pounds, or 12.4925 grams, was released on-site, which is up from the 2011 total of 0.025528 pounds, or 11.5793 grams. Because of the differences in distribution of individual dioxins and dioxin-like compounds, the rankings changed when comparing by pounds or by TEQ. In addition, the pounds released or managed as waste are shown in Appendix I.

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

SORTED BY TOTAL ON-SITE TEQ FACILITY	TOTAL ON-SITE TEQ, LBS.	ON-SITE TEQ RANK	TOTAL ON-SITE LBS. RELEASE	ON-SITE LBS. RANK
EVRAZ CLAYMONT STEEL	0.0019260	1	0.015591	1
EDGE MOOR/HAY ROAD POWER PLANTS	0.0002692	2	0.007824	2
DELAWARE CITY REFINERY	0.0001530	3	0.001243	4
DUPONT EDGE MOOR	0.0000207	4	0.002585	3
INDIAN RIVER POWER PLANT	0.0000047	5	0.000287	5
FORMOSA PLASTICS	0.0000005	6	0.000012	6
TOTALS	0.0023741		0.027541	

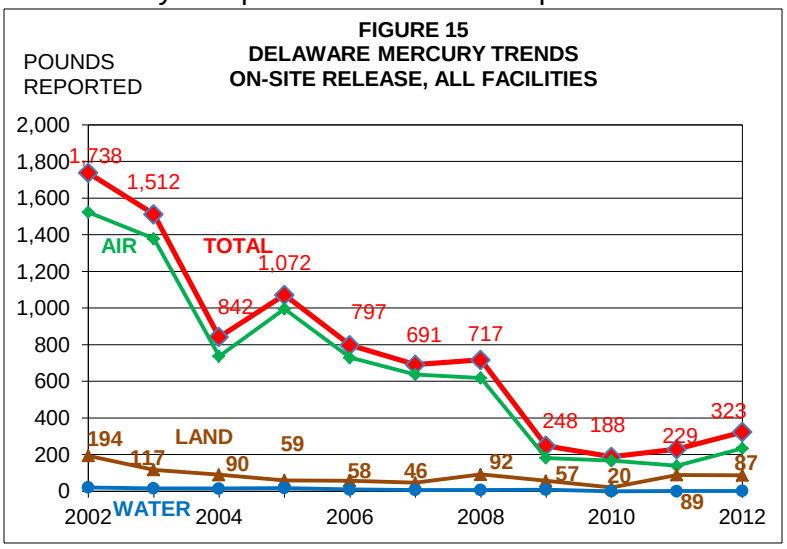
Mercury and Mercury Compounds

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, where runoff may also migrate to the water. Many lakes and streams are impaired as a result of mercury releases 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.

For 2012, total on-site releases of mercury and mercury compounds increased 94 pounds (22%) to a total of 323 pounds. This was largely the result of increases in releases to air by Evraz Claymont Steel and the Delaware City Refinery, with increases of 60 pounds and 36 pounds, respectively. On-site releases of mercury and mercury compounds on a whole however are down 81% since 2000.

Figure 15 shows the combined trend for mercury and mercury compounds, and how the trend is greatly influenced by on-site releases to air. The reduction from 2002-2004 was from reduced amounts reported by Occidental Chemical as it began closing its Delaware facility.

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



Occidental reported a peak release of 1,097 pounds in 2000. Occidental Chemical reported no mercury sent off-site for recycle in 2010 or 2011, 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. For 2012, Occidental fell below the reporting threshold.

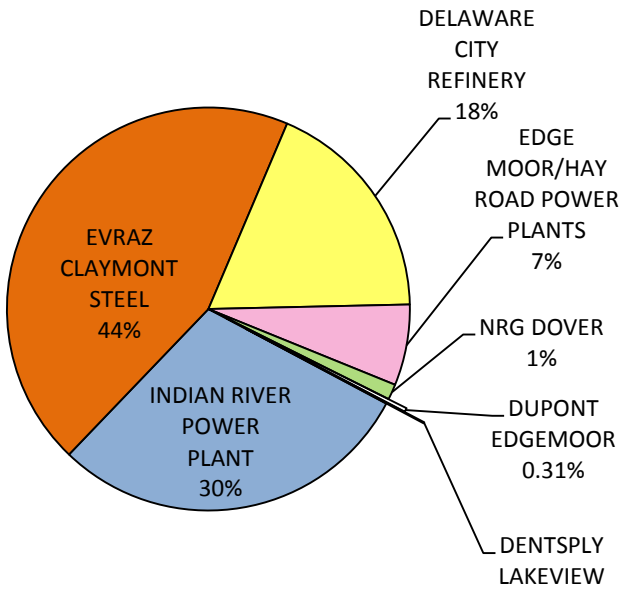
Evraz Claymont Steel was the largest contributor for on-site mercury releases in 2012. Production for the facility was down by 6% in 2012, but mercury releases increased by 71%. This was mainly due to a spike in the 4th quarter emission testing results, which increased their annual average emission coefficient by 54%.

Pollution prevention that has impacted releases to mercury is further discussed in the Indian River Generating Station and Evraz Claymont Steel facility profiles on pages 21 and 27, as well as the pollution prevention section on page 54.

Figure 16 shows the percentage contributed by each of the facilities that reported a mercury or mercury compound release in 2012. 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-1.

Nationwide, the top three states releasing mercury and mercury compounds on-site for 2012 were: Nevada, 4,720,242 pounds mostly to on-site land from several mining facilities; Alaska, 206,031 pounds mostly to on-site land from several mining facilities; and Texas, 58,163 pounds mostly to on-site land from several electric generating facilities. Delaware is #42 in the national rankings for its 323 pounds of on-site release and #47 for its 13 pounds of off-site disposal of mercury and mercury compounds.

FIGURE 16
2012 ON-SITE MERCURY RELEASES FROM DELAWARE FACILITIES



323 POUNDS REPORTED RELEASED ON-SITE

Carcinogenic TRI Chemicals

Some chemicals are reportable under TRI because they are carcinogens, and are known or suspected to cause cancer in humans. Table 12 shows those carcinogens that were reported by Delaware facilities for 2012. Next to each chemical is its International Agency for Research on Cancer (IARC) rating as a: Known (1), Probable (2A), or Possible (2B) carcinogen. Of the 5.2 million pounds of TRI chemicals reported by facilities in Delaware as released on-site to the environment in 2012, 3.8% (198,092 pounds) were known or suspected carcinogens. For additional information on cancer rates and causes, please go to the Division of Public Health cancer web site listed in the "***For Further Information"*** section on page 62.

TABLE 12
CARCINOGENS REPORTED BY
DELAWARE FACILITIES FOR 2012

CHEMICAL NAME	IARC	NO. OF REPORTS
4,4'-METHYLENEBIS(2-CHLOROANILINE)	1	2
ARSENIC COMPOUNDS	1	1
ASBESTOS (FRIABLE)	1	1
BENZENE	1	1
CHROMIUM COMPOUNDS	1	4
ETHYLENE OXIDE	1	1
NICKEL COMPOUNDS	1	4
VINYL CHLORIDE	1	1
1,3-BUTADIENE	2A	1
CREOSOTE	2A	1
LEAD	2A	2
LEAD COMPOUNDS	2A	11
POLYCHLORINATED BIPHENYLS	2A	1
TRICHLOROETHYLENE	2A	1
COBALT COMPOUNDS	2B	1
DICHLOROMETHANE	2B	1
ETHYL ACRYLATE	2B	1
ETHYLBENZENE	2B	3
HEXACHLOROBENZENE	2B	1
NAPHTHALENE	2B	5
NICKEL	2B	3
NITROBENZENE	2B	1
P-CHLOROANILINE	2B	1
POLYCYCLIC AROMATIC COMPOUNDS	2B	8
PROPYLENE OXIDE	2B	1
STYRENE	2B	3
TETRACHLOROETHYLENE	2B	1
TOLUENE DIISOCYANATE (MIXED ISOMERS)	2B	3
VINYL ACETATE	2B	1
CHEMICALS = **29**	REPORTS = **66**	

Source: 2012 DNREC TRI Database, October 2013

Carcinogen Trends, 2002-2012

Thirty-five facilities reported on carcinogens for 2012, three less than in 2011. The number of carcinogen reports decreased by nine to 66 in 2012, and the total number of reported carcinogenic chemicals was the same at 29. However, releases on-site of all carcinogens increased 6% (11,005 pounds) compared to 2011, but have decreased 77% (658,819 pounds) since the peak in 1998. The reason for the increase for 2012 is the vinyl acetate release to air reported by Formosa Plastics increased by 17,231 pounds (28%) for a total release of 78,994 pounds, and the benzene released to air by the Delaware City Refinery increased by 4,975 pounds for a total release of 11,898 pounds. These increases offset the significant decrease of 8,194 pounds in releases of trichloroethylene to air reported by Handy Tube. Other carcinogens saw smaller increases in releases, with some facilities reporting decreases.

Table 13 shows amounts released on-site for carcinogens from 2002-2012, and Figure 17 shows the trend, which has been generally down during this time period, although many amounts were up for 2012.

TABLE 13
2002-2012 TRI CARCINOGENS
REPORTED ON-SITE RELEASES, NOT ADJUSTED

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
KNOWN											
AIR	177,473	123,191	96,562	98,107	66,475	56,287	69,781	60,664	63,975	70,033	73,545
WATER	9,682	9,339	9,817	4,643	5,222	6,435	4,452	2,059	576	1,318	121
LAND	170,074	312,576	173,414	134,194	143,115	46,021	104,112	26,843	8,843	552	558
KNOWN TOTAL	357,229	445,106	279,793	236,944	214,812	108,743	178,345	89,567	73,394	71,903	74,224
PROBABLE											
AIR	35,581	24,216	27,417	23,600	18,946	18,628	14,604	11,112	15,175	16,040	7,008
WATER	0	4	4	4	4	4	5	5	1,146	124	58
LAND	0	0	0	0	0	8,212	8,661	7,115	5,404	17,458	17,017
PROBABLE TOTAL	35,581	24,220	27,421	23,604	18,950	26,845	23,270	18,232	21,725	33,623	24,083
POSSIBLE											
AIR	189,296	98,699	99,543	104,480	102,414	70,722	77,436	56,817	63,059	80,974	98,864
WATER	2,109	1,431	2,308	3,416	1,544	1,655	1,170	522	38	25	20
LAND	17,475	21,714	49,266	44,500	44,251	24,005	28,203	17,459	615	562	901
POSSIBLE TOTAL	208,880	121,844	151,117	152,396	148,210	96,382	106,809	74,798	63,713	81,561	99,785
TOTAL AIR	402,350	246,106	223,522	226,188	187,836	145,637	161,821	128,593	142,210	167,047	179,417
TOAL WATER	11,791	10,773	12,129	8,062	6,770	8,094	5,627	2,586	1,761	1,468	199
TOTAL LAND	187,549	334,290	222,680	178,694	187,366	78,238	140,976	51,417	14,862	18,572	18,476
GRAND TOTAL	601,690	591,169	458,331	412,943	381,972	231,970	308,424	182,596	158,832	187,087	198,092

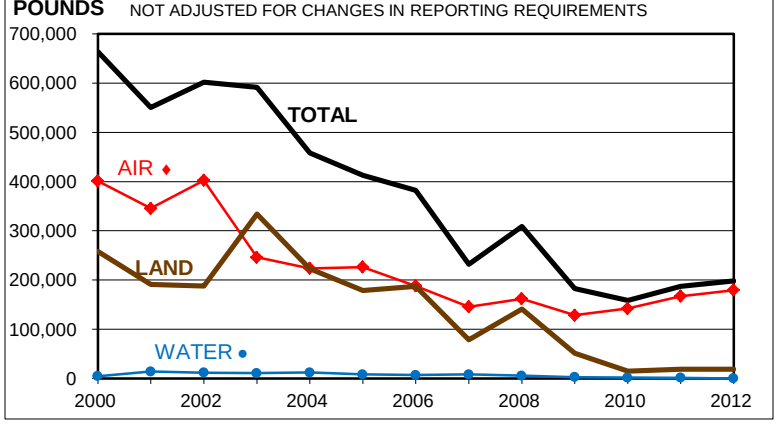
Source: DNREC TRI 2012 Database, October 2013

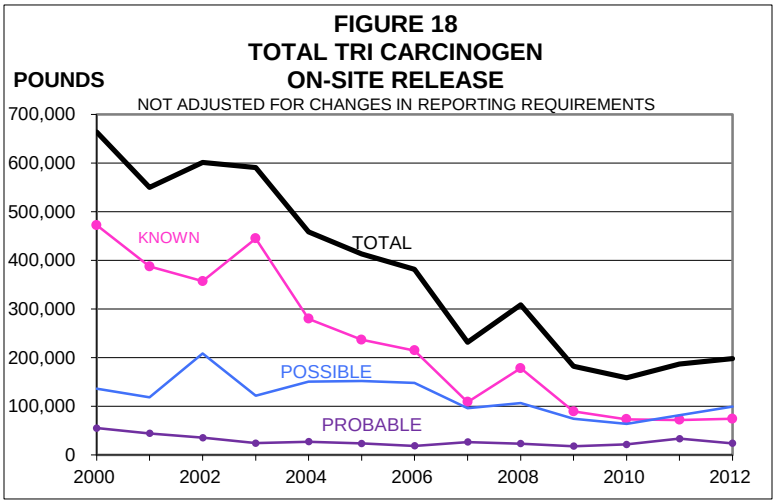
For 2012, on-site releases of all carcinogens are up 6%, or 11,005 pounds. Figure 17 shows a trend for each of the category releases by media and the total reported carcinogen release. As in Figure 17, the general trend has been down. Releases to air and land largely influenced the total, depending on the year, while releases to water play a much smaller part.

Known Carcinogens

Known Carcinogens, although having the least number of reports, is significant because of its high toxicity classification. Known carcinogens reported 37% of the total on-site carcinogen releases for 2012. Figure 18, on the next page, 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 up 2,320 pounds (3%) since 2011, largely a result of the increase in release of benzene to air at the Delaware City Refinery and the increase in release to air for vinyl chloride at Formosa Plastics. On-site releases of known carcinogens are down 511,230 pounds (87.7%) since 1998.

FIGURE 17
AIR, WATER, AND LAND
ALL CARCINOGENS





About 99% of the total known carcinogen amount was reported released on-site to air, 0.82% to land, and 0.2% to water for 2012. Releases to air of known carcinogens are 37% of all carcinogen on-site releases to air. Reported releases to air of known carcinogens increased by 5% (3,512 pounds) in 2012, but are 35% of the amount reported in 1998.

Vinyl chloride, with a total release to air of 59,260 pounds and only reported by Formosa Plastics, is highest (80%) of the total releases in the known carcinogen category and second highest of all 29 carcinogens (only vinyl acetate, also only reported by Formosa Plastics, was higher). Vinyl chloride contributed 81% of the known carcinogen category releases to air in 2012, 33% of all carcinogen releases to air, and 29.9% of carcinogen total on-site releases in 2012. The second highest known carcinogen in 2012 was benzene. Benzene, largely released to air, and all from the Delaware City Refinery, has declined 83% from 57,959 pounds released in 1995 (from the Delaware City Refinery and the now closed Metachem facility) to 11,898 pounds in 2012. Benzene made up 16% of the known carcinogen releases to air for 2012, down from 23% for 1995.

Ethylene oxide, all of which was released to air (2,245 pounds), ranks third in total on-site releases in the known carcinogen category. Croda reported all of the ethylene oxide releases on-site for 2012, up from 2,026 pounds reported for 2011.

Nickel compounds rank fourth in total on-site releases in the known carcinogen category at 430 pounds. The Evraz Claymont Steel facilities and DuPont Edge Moor reported most of the nickel compounds released for 2012. Total releases of nickel compounds include 7% released to air, 9% released to water, and 84% released to land. Nickel compounds contributed 33.6% (1,221 pounds) of all the known carcinogen releases to water (40 pounds), with arsenic compounds releases contributing 51% (60 pounds).

Probable Carcinogens

This category has the least number of chemicals (6) and amounts released on-site (12%), but has some important chemicals in it, such as lead, trichloroethylene (TCE), and polychlorinated biphenyls (PCBs). The majority (70.7%) of the six probable carcinogens reported was released on-site to land, while 29.1% was released to air, and 0.2% was released to water during 2012.

Lead compounds had the highest reported amount of on-site release of a probable carcinogen, with 11,239 pounds for 2012, a decrease of 1,367 pounds since 2011. The Indian River Generating Station reported the highest release, 10,367 pounds to land and 82 pounds released to air, or 93% of the 11 facilities reporting lead compounds. Evraz Claymont Steel facility was second, reporting 351 pounds released to air, 73 pounds released to land, and 40 pounds released to water. The remaining 9 facilities had smaller amounts reported as released to air, water, or land.

Creosote was the second highest probable carcinogen release reported with 7,654 pounds reported. The creosote was released to air and land by the DuPont Edge Moor facility, and made up 32% of the total releases for this category.

TCE reported by Handy Tube was the third highest release of a probable carcinogen with 4,610 pounds reported as released to air. On-site releases decreased 8,194 pounds (64%) from 2011. TCE releases have trended downward, declining by 84% from 1995-2012, down from 29,332 pounds reported for 1995 to 4,610 pounds for 2012.

The probable carcinogen on-site release total decreased by 9,540 pounds (28%) for 2011-2012 and is now at 24,083 pounds, 45% of the 1998 amount.

Possible Carcinogens

This category has the most chemicals, reports, and amounts, reporting 50% of all on-site release amounts. About 99.1% of the total possible carcinogen amount is reported as released on-site to air, 0.9% to land, and 0.02% to water. The trend for 2012 is up by 22%, or 18,225 pounds, but down 55%, or 120,435 pounds, since 1998. The highest chemical release in this category is vinyl acetate at 78,994 pounds, all of which was reported released to air by Formosa Plastics. Vinyl acetate makes up 79% of all possible carcinogen on-site releases. Reported on-site releases of vinyl acetate increased by 17,231 pounds (28%) for 2012.

Styrene is the second highest release in the possible carcinogen category for 2012, with reports totaling 12,809 pounds, all but 370 pounds to air. Justin Tanks reported 12,190 pounds of styrene released to air and 365 pounds released to land, up from 11,494 pounds reported for 2011 and 98% of the total styrene release for 2012. The other facilities reporting styrene were BASF Seaford with 233 pounds and the Delaware City Refinery with 21 pounds. Reported styrene releases for 2012 increased by a total of 991 pounds (8.4%).

Ethylbenzene, with 2,597 pounds released on-site, is the third highest reported amount of possible carcinogens. All but 5 pounds were released to air. The Delaware City Refinery reported 2,179 pounds, or 84% of all the ethylbenzene releases. Arlon and the Dover Air Force Base contributed 12% and 4%, respectively.

Naphthalene is the fourth highest amount of possible carcinogens released, with 2,110 pounds reported released to on-site air and 5 pounds reported as released to on-site water. This is an increase of 576 pounds, up from the 1539 pounds reported for 2011, with the Delaware City Refinery accounting for 95% of all reported on-site releases of naphthalene.

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 20-32 in the ***Top 15 Facilities*** section.

Trend Analysis

Effect of Chemical and Facility Group Additions, 1990-2012

Although the TRI program began with reporting for 1987, the next two years were marked with a change each year in the manufacturing, processing, and otherwise use threshold amounts. For 1987, the thresholds were 75,000 pounds for manufacturing and processing, and 10,000 pounds for otherwise use. For 1988, the thresholds were 50,000/10,000 pounds, and for 1989 and beyond, the thresholds were 25,000/10,000 pounds. It is not possible to make a meaningful comparison of trends during this time, as the number of facilities and the number of reports varied because of the changing reporting criteria.

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

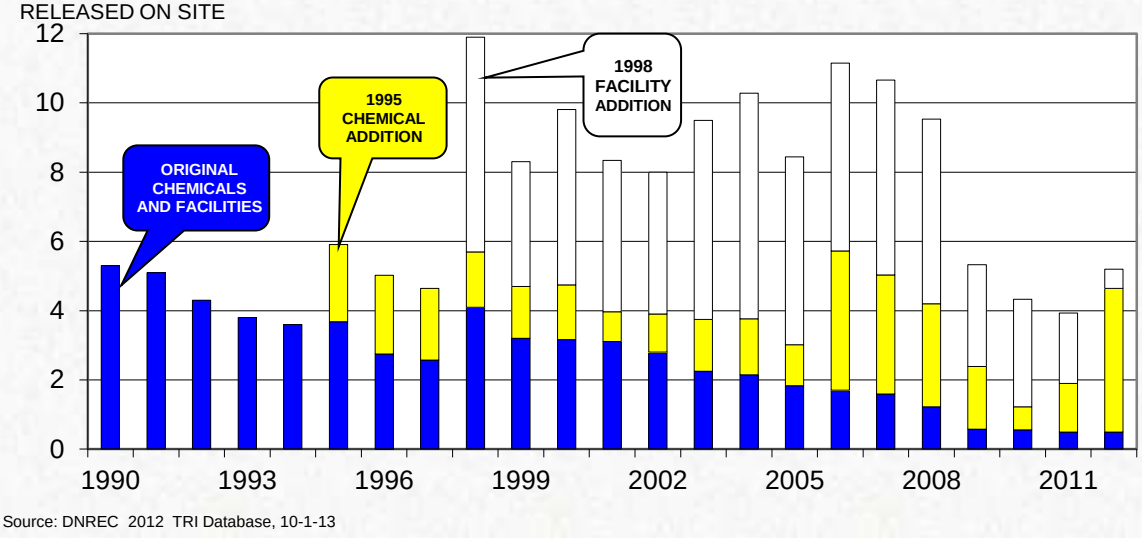
- **Chemical List Changes -1995**
  For reporting year 1995 and beyond, the EPA significantly expanded the list of chemicals. The list increased by 282 chemicals and chemical categories, added to the original list of 238 chemicals. Also during 1989-1995, other chemicals and categories were added or deleted, including chemical categories which are highly persistent and bioaccumulative in the environment (PBTs), bringing the total chemical count for 1995 to 581 and the chemical category count to 30. See details on the PBT chemical reports starting on page 33, and in Appendix I.

  Other additions to the chemical list have occurred over time, including recently. In the 2011 reporting year, 16 new carcinogens, four of which are in the polycyclic aromatic compounds (PAC) category, were added to the list of reportable chemicals. For 2012, Hydrogen Sulfide was added to the list of reportable chemicals. Hydrogen Sulfide reports increased on-site treatment by 329 million pounds and is discussed in greater detail in ***On-site Waste Management Trends*** on page 51. These additions bring the total chemical count to 593 listed chemicals and 30 chemical categories.

- **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 as noted above, or even individual chemicals, are also added or deleted over time.

Figure 19 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 that data with later data is not feasible.

FIGURE 19
EFFECT OF CHEMICAL AND FACILITY GROUP ADDITIONS
1990-2012



Source: DNREC 2012 TRI Database, 10-1-13

The trend of each group and the reports affecting the trends will be discussed in this Trend Analysis section. All groups have changed 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 2012 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 2012 would be 13.73 million pounds instead of the 5.19 million pounds actually reported for 2012. The 1995 chemical addition group increased in 2012, primarily due to the Delaware City Refinery being in operation for a full year and the releasing of nitrate compounds to water. Due to several factors, including facility efforts to reduce pollution, increased regulation, partial or complete shutdown of facilities, and declining business conditions, the reporting facilities in Delaware have effected a reduction of 8.54 million pounds, or 62%.

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

GROUP	STARTING YEAR AMOUNT Millions of Pounds	2011 AMOUNT Millions of Pounds	CHANGE SINCE STARTING Millions of Pounds	PERCENT CHANGE
Original Facilities and Chemicals	5.30	0.49	- 4.81	-91%
1995 Chemical Addition	2.23	4.15	1.92	86%
1998 Facility Addition	6.20	0.55	- 5.65	-91%
TOTAL	13.73	5.19	- 8.54	-62%

TABLE 15
2002-2012 TRI DELAWARE DATA SUMMARY
(IN POUNDS)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
No. of Facilities	83	85	74	73	70	69	69	63	61	63	60
No. of Form As	55	55	52	53	45	44	31	29	31	34	33
No. of Form Rs	317	327	310	294	287	295	288	227	197	209	202
No. of Chemicals	106	103	103	103	101	102	100	90	79	89	88
On-Site Releases											
Air	6,281,850	7,308,283	7,935,921	6,478,578	6,341,764	6,920,245	5,845,072	3,194,221	3,519,986	2,417,599	1,109,209
Water	928,813	918,650	1,231,061	1,211,798	4,022,175	3,327,675	2,796,686	1,590,679	600,479	1,230,737	3,777,904
Land	814,385	1,268,396	1,111,392	752,894	781,701	406,188	885,976	537,489	210,747	278,669	306,702
Unadjusted On-Site Release	8,025,048	9,495,329	10,278,374	8,443,270	11,145,640	10,654,109	9,527,735	5,322,389	4,331,212	3,927,005	5,193,815
Off-site Transfers											
POTWs	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	1,048,588	814,006
Recycle	9,248,730	8,376,865	9,910,935	11,345,835	8,534,537	8,181,423	7,535,371	5,367,592	5,662,694	8,028,698	9,383,706
Energy Recovery	2,538,090	2,834,075	2,755,903	2,724,080	4,180,596	4,910,600	3,695,215	2,330,189	1,857,131	2,110,293	2,556,954
Treatment	398,572	370,950	174,893	194,679	237,073	171,044	150,297	140,248	336,190	274,727	963,123
Disposal	4,196,691	4,084,899	3,919,638	4,400,538	4,739,232	7,145,314	3,129,281	2,785,524	4,563,328	2,307,392	2,419,683
Total Transfers	17,583,245	17,119,029	18,227,837	20,179,707	19,113,085	21,651,506	15,627,498	11,260,156	13,416,312	13,769,699	16,137,471
On-Site Waste Mgmt.											
Recycle	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	7,974,584	8,183,213
Energy Recovery	15,740,469	16,323,700	23,440,027	19,624,524	17,937,031	20,387,061	20,932,200	14,670,034	-	9,172,883	16,227,012
Treatment	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	38,585,960	376,022,549
Total On-Site Mgmt.	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	55,733,427	400,432,774
Total Waste	99,775,229	95,786,309	92,525,828	96,657,520	98,306,417	103,517,874	99,239,652	75,061,836	58,321,655	73,430,130	421,764,059

NOT ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS

SOURCE: DNREC 2012 DATABASE, OCTOBER 2013

Release and Waste Management Trends, 2002-2012

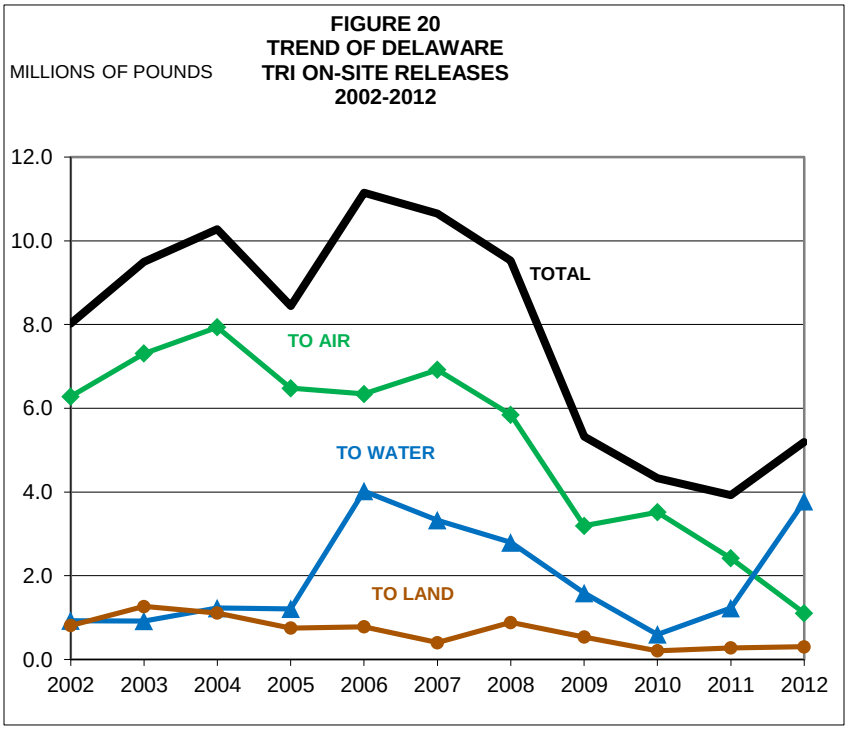
Table 15 on page 46 shows amounts reported for each of the last 10 years. Earlier data is available back to 1987, the first year of the TRI program. Changes in reporting requirements over time have caused an increase both in the total number of chemicals and in the total number industries that are subject to reporting. 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. The 2012 reporting year marked the addition of hydrogen sulfide to the list of reportable chemicals. 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 2002 as a base year for presenting trends for all reportable chemicals and facilities. Sections covering on-site releases and off-site transfers are **not adjusted** for any changes in reporting requirements. However, in on-site releases section, further analysis is presented on on-site releases, with-out the impact of the Delaware City Refinery becoming fully operational in 2012. The on-site management section discusses the impact of the addition of hydrogen sulfide to the list of reportable chemicals in 2012.

On-Site Releases, 2002-2012

Figure 20 shows the on-site release trends during 2002-2012. On-site releases include emissions to the air, and also discharges to bodies of water and releases at the facility to land, including on-site landfills. On-site release amounts increased by 32.3% for 2012 (1,266,812 pounds) following a 9.3% decrease (404,366 pounds) for 2011.

FIGURE 20
TREND OF DELAWARE
TRI ON-SITE RELEASES
2002-2012



Significant changes in the amounts reported for 2011-2012 include the facilities and chemicals shown in Table 16 on the next page. To put the changes in perspective for 2012, there were 75 reports with a higher amount and 74 reports with a lower amount. There were 10 reports with an increase greater than 10,000 pounds and 4 reports with a decrease greater than 10,000 pounds.

TABLE 16
REPORTS OF MAJOR CHANGES IN ON-SITE RELEASES FOR 2012 FROM 2011

FACILITY	CHEMICAL	MEDIA	CHANGE IN ON-SITE RELEASES (pounds)
Indian River Generating Station	Hydrochloric acid	Air	-1,330,000
Indian River Generating Station	Hydrogen Fluoride	Air	-73,000
NRG Energy Center-Dover	Hydrochloric acid	Air	-43,000
Delaware City Refinery	Sulfuric acid	Air	+79,000
Perdue Georgetown	Nitrate Compounds	Water	+114,000
Delaware City Refinery	Nitrate compounds	Water	+2,432,000

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. These changes are the primary reasons for the reductions and increases in the totals for 2011-2012. Changes are also discussed in the ***Top 15 Facility Profiles*** and ***Facilities No Longer Reporting*** sections on pages 20-33. In addition, you may contact a facility (Appendix B) for a more in-depth discussion of the reasons for specific changes, and consult Table 15 on page 46 and the appendices in this report for the exact amounts that were reported.

Figure 21
On-Site Release Trend
Top 5 TRI Chemicals
2002-2012

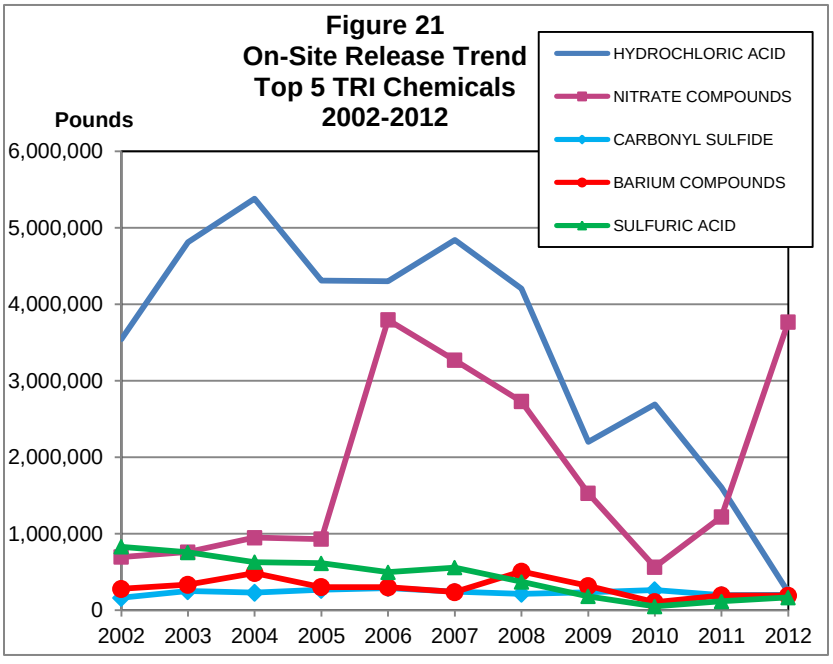
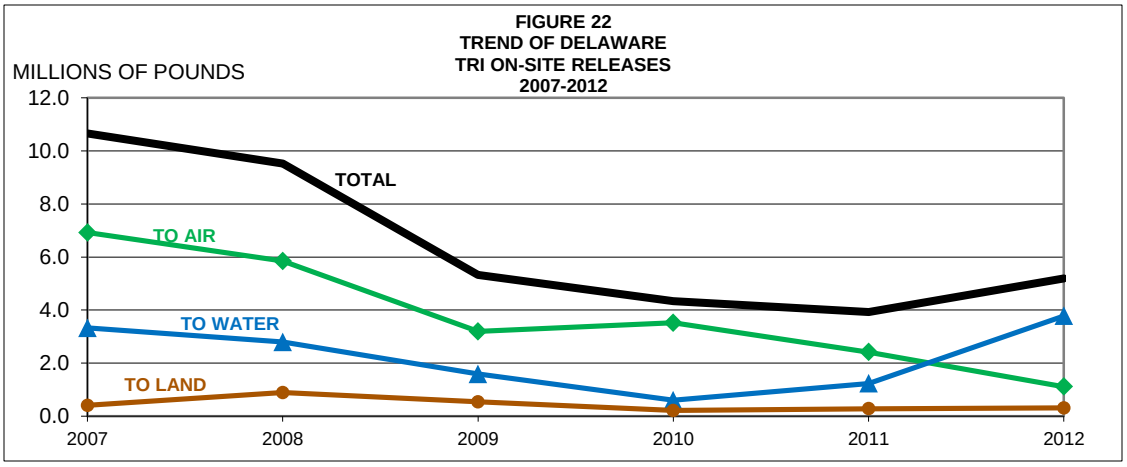
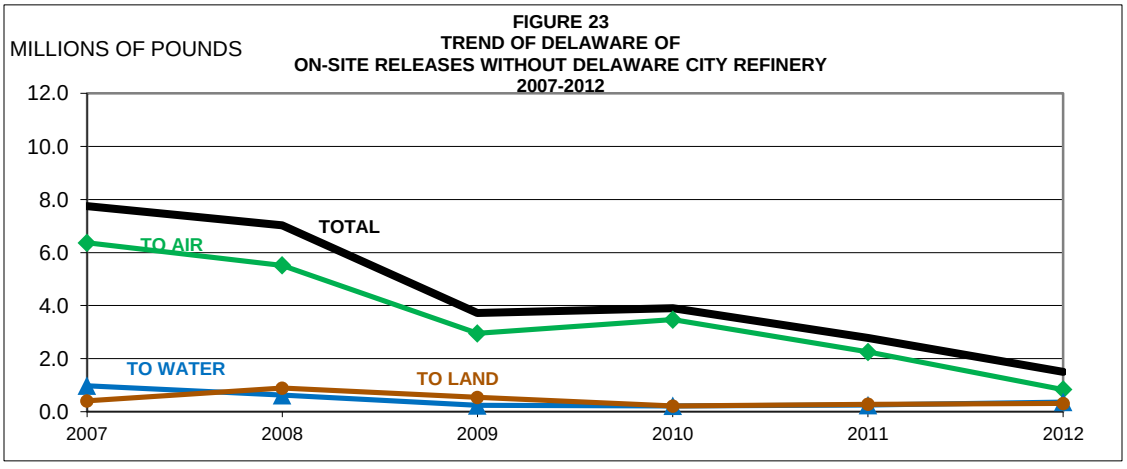


Figure 21 shows the trend since 2002 for the top five chemicals based on on-site release amounts reported for 2012 in Delaware. These five chemicals represent 88% of all on-site releases from the 88 chemicals reported in 2012. Nitrate compound releases trended downward from 2006 through 2010, when the Delaware City Refinery was in the process of shutting down and preparing to be sold. In the past two reporting years, nitrate compound releases have trended upward with the refinery coming back online and being in full operation for all of 2012. Nitrate compound releases accounted for 73% (3.7 millions pounds) of all on-site releases in 2012. Releases of hydrochloric acid have trended down significantly since 2007. Part of the reason for this downward trend is Delaware Regulation 1146, which began to be implemented in 2009 at the electric generating facilities (see page 54 and page K-7 in ***Appendix K*** for details). The significant effects of the regulation can be seen at Indian River Generating Station, which reported a reduction of 1.3 million pounds in releases of hydrochloric acid in 2012. Hydrochloric acid,

carbonyl sulfide and barium compounds each accounted for 4% of the total on-site releases and sulfuric acid accounted for 3%. Releases of barium compounds reported have trended downward since 2008. Sulfuric Acid releases have trended down from 2008 through 2010, but have trended upward since 2010 with the Delaware City Refinery coming back online.

Figure 22 shows the on-site releases to air, water and land from 2007 through 2012. As the figure depicts, on-site releases were trending downward until 2012, when releases increased by 32% compared to 2011, with the Delaware City Refinery being in full operation for all of 2012. The refinery alone accounted for 71% of all onsite releases in 2012. Figures 22 and 23 provide a side by side comparison showing the impact the refinery has on the overall on-site releases. Figure 23 shows all other on-site releases from 2007 through 2012, with the releases of the Delaware City Refinery removed. Onsite releases reported from all other facilities have dropped by 81% (6.2 million pounds) since 2007, while total on-site releases, including the refinery releases, are down by 52% (5.4 million pounds) compared to 2007. However, on-site releases for the refinery itself have increased by 27% (788,000 pounds) compared to 2007. As discussed on the previous page, Delaware Regulation 1146 was a major factor in onsite release reductions. Another reason for the decrease in on-site releases is the economy, which effects production at the facilities and ultimately many of their on-site releases have declined in recent years and indirectly caused part of the reduction.





Off-Site Transfers, 2002-2012

An off-site transfer is a transfer of toxic chemicals as 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, typically a waste water treatment plant), 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 facilities still represent toxic chemicals as wastes that must be ultimately accounted for.

As noted on page 11 and seen in Table 15 on page 46, 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 2002. 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 15. Off-site transfers increased 12% (1,601,000 pounds) in 2012, driven by increases in amounts sent off-site for recycle and energy recovery, but partially offset by a decrease in POTW amounts.

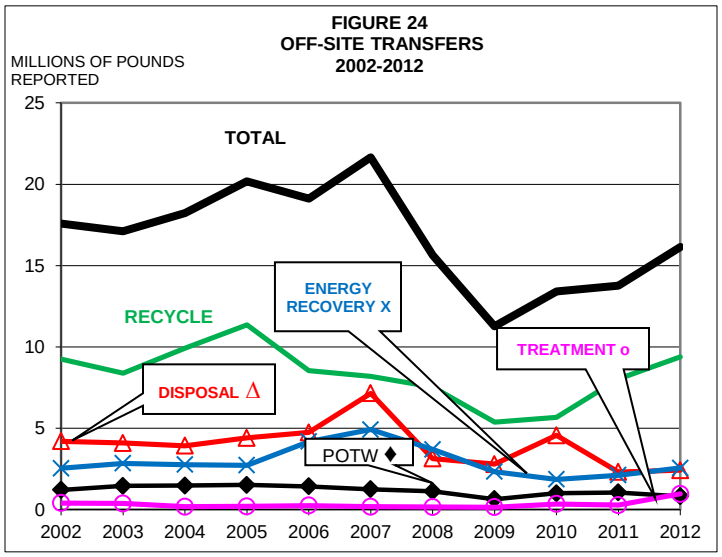


Table 17, on the following page, shows that the largest off-site transfer decrease was for methanol sent to POTW by BASF Newport, followed by the disposal of asbestos by the Delaware City Refinery. Johnson Controls Distribution Center sent more lead compounds off site for recycle, Noramco sent more toluene off site for energy recovery, and ROHM & HAAS - B2 B3 B8 sent more n,n-dimethylformamide for recycle in 2012, compared to 2011. Fifty-eight reports showed decreases, while 61 reported increases for 2012.

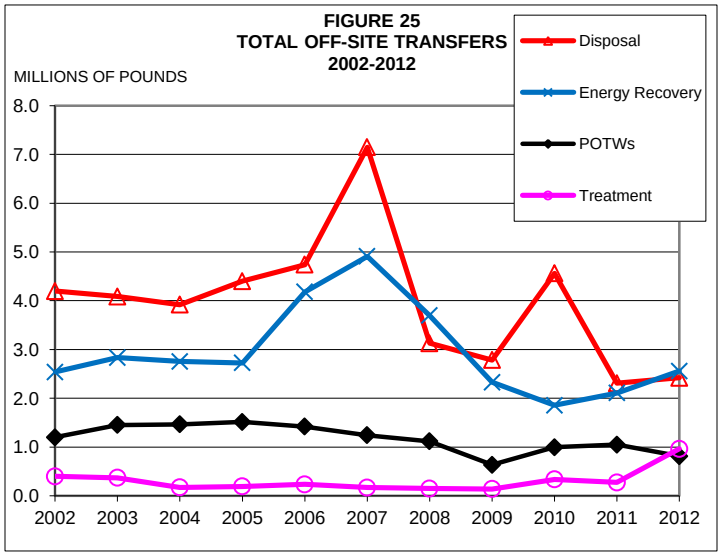


TABLE 17
MAJOR CHANGES IN OFF-SITE TRANSFERS FOR 2012 FROM 2011

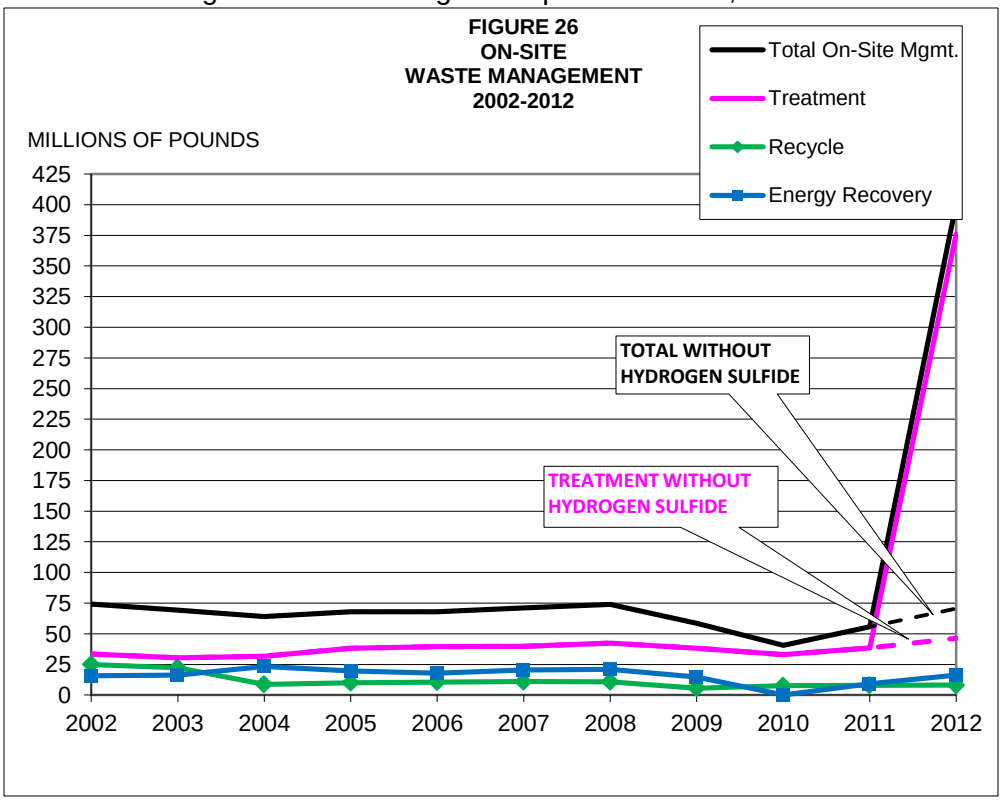
FACILITY	CHEMICAL	OFF-SITE METHOD	CHANGE (pounds)
BASF Newport	Methanol	POTW	-392,000
Delaware City Refinery	Asbestos	Disposal	-363,000
Evraz Claymont Steel	Zinc Compounds	Recycle	-265,000
DuPont Edge Moor	Manganese Compounds	Disposal	+344,000
Rohm&Haas - B2 B3 B8	N,N-dimethylformamide	Recycle	+537,000
Noramco	Toluene	Energy Recovery	+585,000
Johnson Controls Dist. Ctr.	Lead Compounds	Recycle	+1,331,000

On-Site Waste Management, 2002-2012

At 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. These activities represent a lower risk to the environment, as the materials are generally destroyed, although a small fraction escapes treatment and these amounts are reported under on-site releases.

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 on-site release categories since these amounts are treated or recycled and not disposed of or released to the on-site environment. There is, of course, the risk that these chemicals may be accidentally released 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 facility.

Figure 26 shows the trends for the three on-site waste management activities since 2002. Overall, on-site waste management amounts increased 619% (344,699,000 pounds) in 2012 compared to 2011. This significant increase was due the new requirement to



report hydrogen sulfide, which was added to the list of reportable chemicals in 2012. The on-site treatment of hydrogen sulfide accounted for 82% (329,718,000 pounds) of all on-site waste management activities, with the Delaware City Refinery treating the largest amount at 329,300,000 pounds.

The Delaware City Refinery is the only facility in the state that reports on-site energy recovery as part of its air pollution control requirements. Comparing energy recovery reports for 2012 at the refinery to the reports for 2008, the last year of full operation, we saw that energy recovery for ammonia decreased 628,422 pounds (4%) and carbon disulfide decreased by 4,366,868 pounds (97%). Although the refinery is now back to full operation, some units may have been modified and some products may now be produced in different quantities than during 2008 and prior years.

Changes greater than one million pounds reported in on-site waste management for 2012 are:

TABLE 18

MAJOR CHANGES IN ON-SITE WASTE MANAGEMENT FOR 2012 FROM 2011

FACILITY	CHEMICAL	ON-SITE WASTE MANAGEMENT METHOD	AMOUNT OF CHANGE (pounds)
DuPont Edge Moor	Hydrochloric Acid	Treatment	-2,225,000
DuPont Edge Moor	Chlorine	Treatment	-1,148,000
Indian River Generating Station	Sulfuric Acid	Treatment	+1,020,000
Indian River Generating Station	Hydrochloric Acid	Treatment	+1,900,000
Delaware City Refinery	Carbonyl Sulfide	Treatment	+5,580,000
Delaware City Refinery	Ammonia	Energy Recovery	+8,220,000
Delaware City Refinery	Hydrogen Sulfide*	Treatment	+329,348,000

*2012 is the first year for reporting Hydrogen Sulfide

These changes were balanced by smaller increases and decreases from other reports. Thirty-nine reports showed an increase in a waste management amount, while 30 reports showed a decrease for 2012. Total pounds for on-site waste management, excluding the addition of hydrogen sulfide, have decreased by 3.5 million pounds, or 5%, over the last 10 years or since 2002. It is important to note that impact of hydrogen sulfide represents new data that is being made available to the public and not necessarily new activity. The on-site waste management amount totals are in Table 15 on page 46, 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 17 Delaware facilities from both in-state and out-of-state TRI facilities for 2012. The Indian River Generating Station Landfill in Delaware was the only TRI chemical receiving facility required to report under TRI program based on the reporting requirements shown on pages 2-3. 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 TRI FACILITIES IN 2012

(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
ALLIED WASTE OF DE, WILMINGTON	609		609
ALLIED WASTE SERVICES, FELTON	20		20
CLEAN EARTH OF DELAWARE, NEW CASTLE	233	187	420
DELAWARE RECYCABLE PRODUCTS, NEW CASTLE	15,121		15,121
DIAMOND STATE RECYCLING CORP., WILMINGTON	144,931		144,931
DSWA CHERRY ISLAND LANDFILL	143		143
DSWA GEORGETOWN LANDFILL	67		67
DSWA SANDTOWN LANDFILL	313		313
DUPONT EXPERIMENTAL STATION, WILMINGTON		20,936	20,936
FCC ENVIRONMENTAL, WILMINGTON		21,569	21,569
INDIAN RIVER LANDFILL *	12		12
INDUSTRIAL RESOURCE NETWORK, WILMINGTON		250	250
KENT COUNTY WASTEWATER TREATMENT PLANT	42,029		42,029
KENT SCRAP METAL	83,218		83,218
MIDDLETOWN-TOWNSEND-ODESSA TREATMENT PLANT	1		1
SEAFORD WASTEWATER TREATMENT PLANT	586		586
WILMINGTON WASTEWATER TREATMENT PLANT	764,373		764,373
TOTAL TRI TRANSFERS REPORTED	**1,051,655**	**42,942**	**1,094,597**

Source: U.S. EPA 2012 Data Run, August 28, 2013

* TRI FACILITY

The top receiving facility is the Wilmington Wastewater Treatment Plant, receiving TRI chemicals in wastewater from regional customers. Diamond State Recycling Corp. received the second largest amount, for recycle, from two Delaware customers. Kent Scrap Metal received the third highest amount, from one facility. The fourth largest amount transferred to a Delaware facility was to the Kent County 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, all out of state. The sixth largest transfer amount was to DuPont Experimental Station, from one out of state facility. 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 Amendments 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.

DNREC's Division of Air Quality has monitored ambient air quality at locations around the State. For more information, please refer to the Delaware Air Quality Report paragraph in the ***For Further Information*** section on page 62 of this report.

In 2006, Delaware promulgated 7 DE Admin Code 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. Within 7 DE Admin Code two phases of emissions limitations were established, with the first phase that became effective in 2009, and a more restrictive second phase of emissions limitations that became effective in January of 2013. Significant reductions in NOx, SO_2 and Hg emissions have been achieved by the Delaware EGUs subject to Delaware 7 DE Admin Code 1146, and full compliance with the regulation's more restrictive second phase emissions limitations for 2013 and related consent decrees have been achieved.

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 (http://www.epa.gov/ttn/atw/utility/fr16fe12.pdf update for 2011) for Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units". The EPA finalized these standards effective April 16, 2012 for new or reconstructed units and effective April 15, 2015 for existing units. The rule establishes emissions standards intended to:

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 gases including hydrogen chloride (HCl) and hydrogen fluoride (HF).
3. Reduce the emissions of particulate matter.

Subsequent to publishing the final rule "National Emissions Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units", EPA received petitions for reconsideration of the rule that may affect the new source standards. The latest updates of the air toxics standards for utilities can be found at: http://www.epa.gov/ttnatw01/utility/utilitypg.html.

National Perspective

The national 2012 TRI preliminary data was recently released by the EPA. Placing the 2012 Delaware reports alongside the 2012 EPA data yields some rankings that provide a perspective for Delaware in the national TRI picture. Changes in the 2012 final national values because of report additions or revisions may change these rankings.

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	876,049,983	1	10
New Mexico	2	478,328,501	2	1
Nevada	3	281,755,296	3	3
Texas	4	200,925,028	22	24
Delaware	45	5,193,817	30	6

The reported totals for six states were each over 100 million pounds for 2012.

This data shows that Delaware ranks 45th in the nation in total on-site releases by state for all TRI chemicals. This is 0.14% 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. Although Alaska reports, by far, had the highest amount of on-site releases, this state only received 193 reports from 31 facilities, less than Delaware's 235 reports from 60 facilities. Alaska reports are largely from mining operations, with over 853 million pounds (98% of the state total) reported released on-site for just two chemicals; lead compounds and zinc compounds.

Figure 27 shows the amounts of TRI on-site releases reported by four nearby states for 2008-2012. Pennsylvania reported 50,708,454 pounds of TRI chemicals released on-site for 2012. These states generally showed decreases in their reported on-site release amounts every year since 2008 (7%-39% for 2012), except New Jersey had a small increase for 2010 and Maryland was flat for 2011 and 2012. Maryland, however, did report the largest recent decline (60.4%), in the region for 2010.

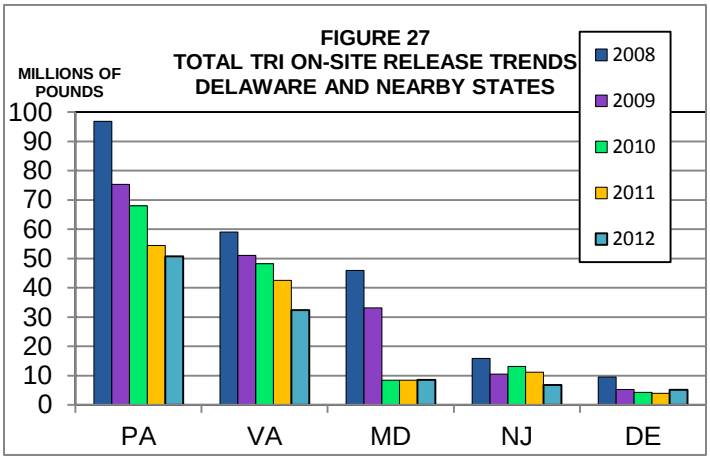


Table 21 shows that 42 facilities had more **total on-site releases** than all the facilities in Delaware combined.

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

Facility, State	Rank	Total On-Site Release (Pounds)
Red Dog Operations, Alaska	1	810,846,762
Jal 3 Gas Plant, New Mexico	2	458,692,387
Kennecott Copper Mine, Utah	3	148,904,173
All Facilities Combined, Delaware	Lower than #42	5,193,817

Forty-four facilities each reported over 5 million pounds released on-site for 2012.

Nationwide, 41 facilities each released more **dioxins* on-site** than all the facilities in Delaware combined. Table 22 shows the top three facilities in the nation compared to the Delaware total on-site release of dioxins.

TABLE 22
COMPARISON OF DIOXIN TOTALS FOR TOP 3 FACILITIES TO DELAWARE TOTAL

Facility, State	Rank	Total On-Site Dioxin Release (Grams)
Carolina Pole Leland, North Carolina	1	17,354.34
US Magnesium, Utah	2	13,663.41
Dow Chemical, Texas	3	6,692.11
All Facilities Combined, Delaware	32	12.48

Seventeen facilities each reported over 50 grams of dioxins* released on site for 2012 and five of these released over 1,000 grams. These amounts reported do not differentiate between the highly toxic and the less toxic dioxins and dioxin-like compounds in this group.

* See pages 3, 5, 23-24, 35-37 for notes on “Dioxins.”

Some facilities in Delaware do rank near the top of the national rankings for specific categories. The following are some notable rankings:

- **Formosa Plastics** ranks #2 for on-site release of vinyl chloride and #4 for on-site release of vinyl acetate.
- **Delaware City Refinery** ranks #11 for on-site release of nitrate compounds. The refinery also ranks #2 in the on-site treatment of hydrogen sulfide, #1 in the on-site treatment of carbonyl sulfide and #3 in the on-site energy recover of ammonia.
- **DuPont Edge Moor** ranks #14 for on-site release of carbonyl sulfide and ranks #8 in the on-site treatment of hydrochloric acid.
- **Rohm & Hass B2,B3,B8** ranks #1 in the on-site recycle of n-ndimethylformamide.
- **Johnson Controls Battery Plant** ranks #23 in the off-site recycle of lead 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. Table 23 on the next page 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 2012 reporting year.

TABLE 23

2012 On-Site Releases From Nearby Facilities in Adjacent States

Facility	State	Chemical	Media	Amount (Pounds)
DuPont Chambers Works, Deepwater 1 ★	New Jersey	Nitrate compounds	Water	2,460,000*
DuPont Chambers Works, Deepwater	New Jersey	Sodium nitrite	Water	415,262***
National Refrigerants, Rosenhayn 2 ★	New Jersey	HCFC-22	Air	63,347***
Paulsboro Refining, Paulsboro 3 ★	New Jersey	Hydrogen Cyanide	Air	233,640**
Paulsboro Refining, Paulsboro	New Jersey	Nitrate Compounds	Water	797,847*
QG, LLC, Altglen 4 ★	Pennsylvania	Toluene	Air	333,401**
PES Refinery, Philadelphia 5 ★	Pennsylvania	Benzene	Air	69,285**
PES Refinery, Philadelphia	Pennsylvania	Hydrogen Cyanide	Air	154,520**
PES Refinery, Philadelphia	Pennsylvania	N-hexane	Air	48,897**
PES Refinery, Philadelphia	Pennsylvania	Sulfuric Acid	Air	365,600**
Arkema, Bristol 6 ★	Pennsylvania	Methyl methacrylate	Air	41,300**
RR Donnelley, Lancaster 7 ★	Pennsylvania	Toluene	Air	326,213**
Montgomery Chem., Conshohocken 8 ★	Pennsylvania	Methanol	Air	97,077**
Plymouth Tube, Salisbury 9 ★	Maryland	Trichlorethylene	Air	97,859**
Grace Davison Curtis Bay Works, Baltimore 10 ★	Maryland	Ammonia	Air	195,500**
Crown Food Packaging, Baltimore 11 ★	Maryland	N- Butyl Alcohol	Air	120,744**
Salisbury Feed & Grain 12 ★	Maryland	N-Hexane	Air	255,000**
Brandon Shores Power Plant, Baltimore 13 ★	Maryland	Hydrochloric acid	Air	930,000**
Brandon Shores Power Plant, Baltimore	Maryland	Hydrogen Fluoride	Air	88,000**
Brandon Shores Power Plant, Baltimore	Maryland	Sulfuric Acid	Air	86,000*
Erachem, Baltimore 14 ★	Maryland	Nitrate Compounds	Water	1,036,434*
Perdue Farms, Accomac 15 ★	Virginia	Nitrate Compounds	Water	2,412,005*

* Delaware State total releases for this chemical are higher

** Exceeds the Delaware State total for this chemical

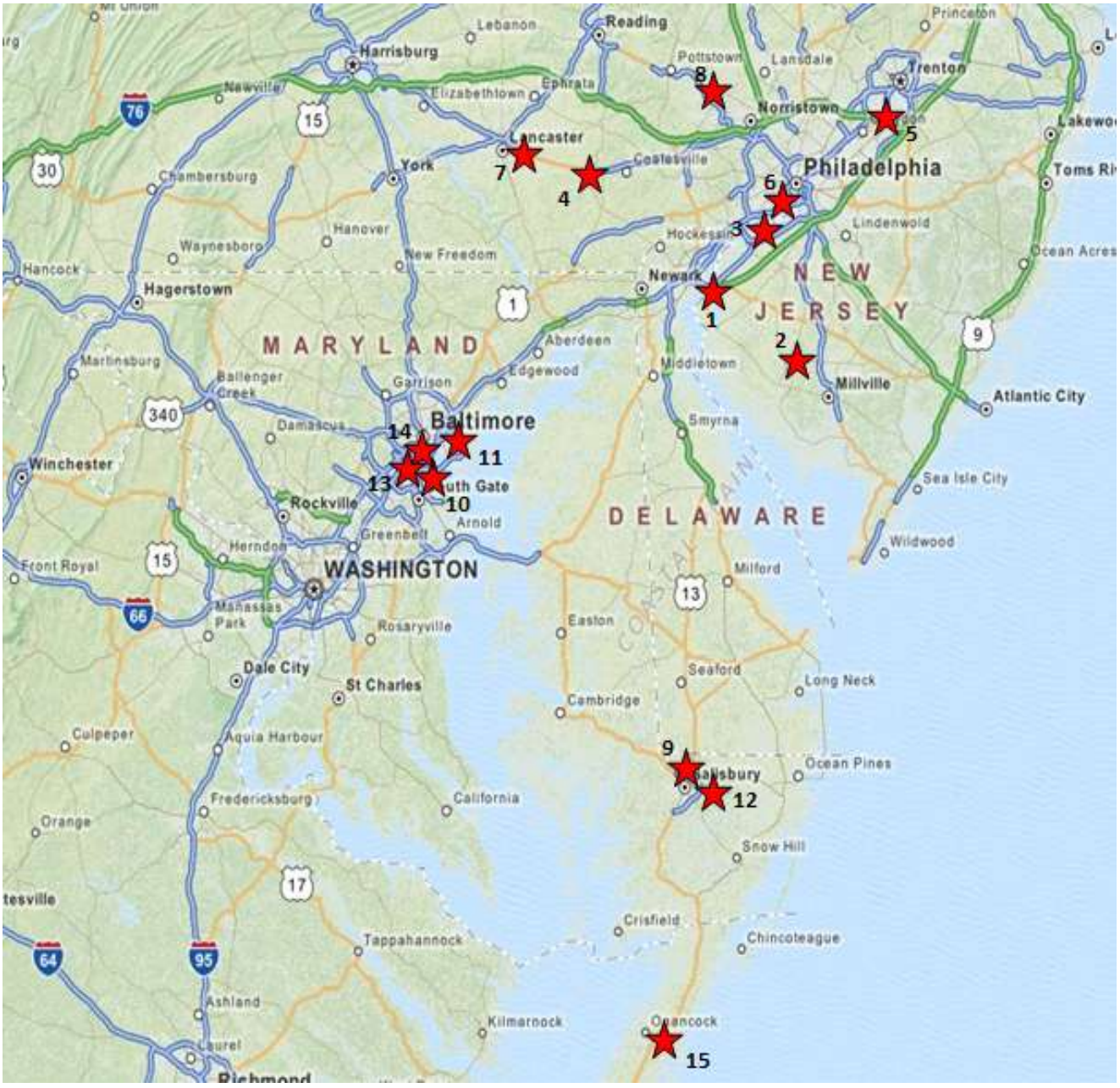
*** Chemical not reported in Delaware for 2011

★ See location number on the Figure 28 map on next page

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 nearby facilities in neighboring states.

Figure 28 shows the above nearby facilities and their proximity to Delaware. Each star represents a facility location that reported an on-site release for a TRI chemical.

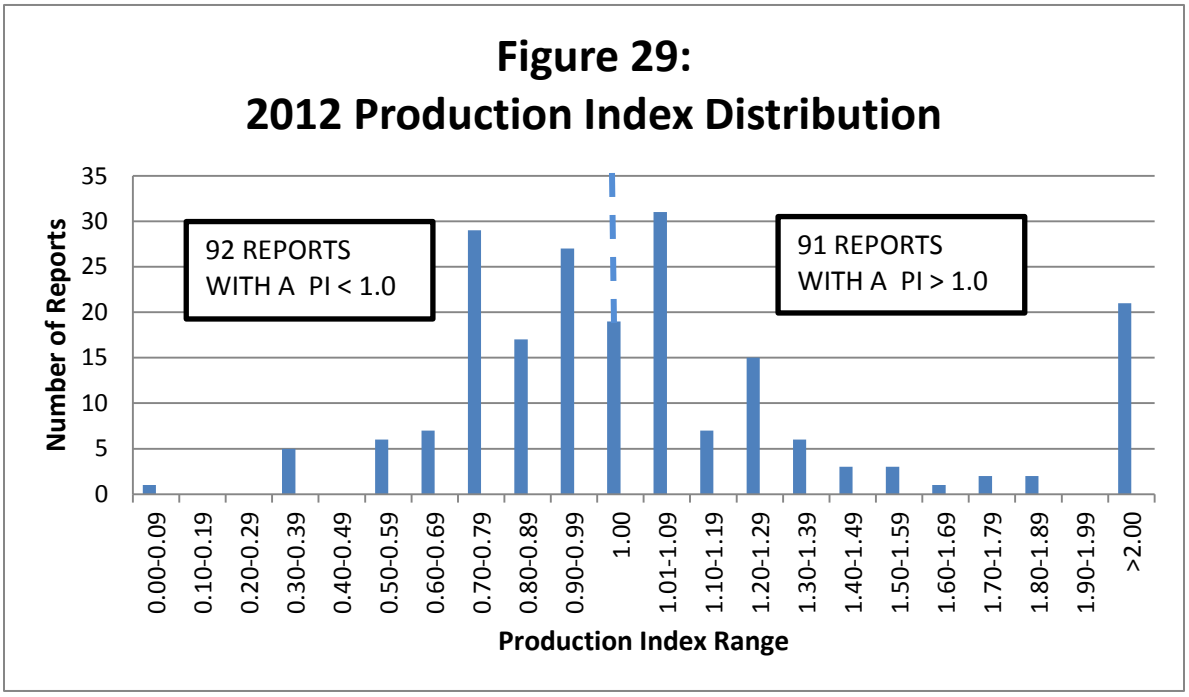
FIGURE 28
FACILITIES IN NEARBY STATES



TRI and the Economy

Facilities report a Production Index (PI) for each chemical. Along with TRI release and waste management data, this provides one way to estimate the impact of the economy, because the PI is the amount of production or activity directly associated with the demand for 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, process, or otherwise use of a specific chemical or line of 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.

PI is reported as a number, representing the ratio of how production increased or decreased compared to the previous year. For example, a facility reporting an increase of 10% would report the PI as 1.10, while a facility reporting a decrease of 10%, would report the production as 90% of the previous year or a PI of 0.90. A facility having the same production level as the previous year would report the PI as 1.0. Figure 29 below, shows the distribution range of PIs reported. For 2012, of the 202 reports with PIs, 91 reported increases in production and 92 reported decreases. The remaining 19 reports had a 2012 production level equal to the previous year. The average PI reported was 1.37 or a 37% increase compared to 2011's production level.



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 2012 TRI report may be viewed at: http://www.dnrec.delaware.gov/SERC/Pages/Reports.aspx. A second, summary report is available at the same location. A searchable database for TRI and other EPCRA programs is located at: http://www.dnrec.delaware.gov/SERC/Information/Pages/DataSearch.aspx.

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.delaware.gov/Info/Pages/FOIA.aspx

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 2012 national TRI data and later this year to the complete 2012 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 http://www2.epa.gov/toxics-release-inventory-tri-program/tri-reporting-forms-and-instructions.

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://www2.epa.gov/toxics-release-inventory-tri-program/2011-tri-national-analysis The 2012 edition of this report will be available in late 2013. 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 at http://www2.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools for 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/oppt/cdr/index.html

Delaware Division 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.

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). . The web site for these PRTR programs is http://www.prtr.net/. EPA also has a web site for PRTR, and it is http://www2.epa.gov/toxics-release-inventory-tri-program/tri-around-world. There are now over 50 countries participating in PRTR programs, and links to several international environmental agencies and programs, with more being developed each year.

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. Environmental Databases are available at: http://www.dnrec.delaware.gov/Info/Pages/GISData.aspx. Notifications of releases in Delaware can be found at: Delaware Environmental Release Notification System (DERNS).

Other Delaware EPCRA Information - 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:

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APPENDICES

2012

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 that enhanced the Federal requirements.

EMERGENCY PLANNING

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

EMERGENCY RELEASE NOTIFICATION

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

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

HAZARDOUS CHEMICAL REPORTING

Under U.S. Occupational 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 contain 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) http://www.awm.delaware.gov/EPR/Pages/AccidentalReleasePrevention.aspx or by contacting the EPA Region 3 reading room 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 above.

APPENDIX B

FACILITY CONTACT INFORMATION

TOXICS RELEASE INVENTORY

AEARO TECHNOLOGIES
650 DAWSON DRIVE
NEWARK, DE 19713
TOM FLAHERTY
302-286-2415

AGILENT TECHNOLOGIES NEWPORT
538 FIRST STATE BOULEVARD
NEWPORT, DE 19804
RENEE LEWANDOWSKI
302-636-3668

ALLEN HARIM FARMS SEAFORD
20799 ALLEN ROAD
SEAFORD, DE 19973
HENRY QUATHAMER
410-820-2100

ALLEN HARIM FOODS HARBESON
ROUTE 5
HARBESON, DE 19951
HENRY QUATHAMER
410-820-2100

AMICK FARMS
10281 AMICK DR.
DELMAR, DE 19940
SCOTT LEE
302-629-9511

ARLON
1100 GOVERNOR LEA ROAD
BEAR, DE 19701
ROBERT CARINI
302-834-2100

BALTIMORE AIR COIL
1162 HOLLY HILL RD.
MILFORD, DE 19963
DALE WAGNER
910-391-7933

BASF - NEWPORT
205 SOUTH JAMES STREET
NEWPORT, DE 19804
MAUREEN PAUKERT
973-245-6077

BASF - SEAFORD
100 INDUSTRIAL BOULEVARD
SEAFORD, DE 19973
MAUREEN PAUKERT
973-245-6077

CARL KING
1400 E. LEBANON ROAD
DOVER, DE 19901
JOHN HALL
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 LANE
NEW CASTLE, DE 19720
ROBERT J. TOUHEY
302-429-5269

DELAWARE CITY REFINERY
4550 WRANGLE HILL ROAD
DELAWARE CITY, DE 19706
LISA LINDSEY
856-224-4354

DENTSPLY CAULK LAKEVIEW
38 WEST CLARKE AVENUE
MILFORD, DE 19963-0359
ANDY JOHNSON
302-422-4511

DENTSPLYCAULK WEST MILFORD
779 EAST MASTEN CIRCLE
MILFORD, DE 19963-0359
ANDY JOHNSON
302-422-4511

DOVER AFB
436 CES/CC 600 CHEVERON AVE.
DOVER, DE 19902
JENNIFER VALLEE
302-677-3370

DUHADAWAY TOOL AND DIE
801 DAWSON DRIVE
NEWARK, DE 19713
JOHN O'DONNELL
302-366-0113

DUPONT EDGE MOOR
104 HAY ROAD
EDGE MOOR, DE 19809
MEREDITH Z. AVAKIAN-HARDAWAY
856-540-3552

DUPONT RED LION
766 GOVERNOR LEA ROAD
DELAWARE CITY, DE 19706
KRISTIN CECIL
302-999-6403

EDGE MOOR/HAY ROAD POWER PLT.
200 HAY ROAD
WILMINGTON, DE 19809
NORMA DUNN
713-830-8833

EVRAZ CLAYMONT STEEL
4001 PHILADELPHIA PIKE
CLAYMONT, DE 19703-2794
TOMASZ WESOLOWSKI
302-792-5400

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

FUJIFILM INAGING COLORANTS
233 CHERRY LANE
NEW CASTLE, DE 19720
HAROLD WILLIAMS
917-789-8497

GAC SEAFORD
25938 NANTICOKE STREET
SEAFORD, DE 19973
MICHAEL THRASHER
813-248-2101

HANDY TUBE
124 VEPCO BLVD.
CAMDEN, DE 19934
JOHN COATES
302-697-9521

HANESBRANDS
631 RIDGLEY STREET, SUITE #1
DOVER, DE 19904-2772
TOMMY THOMPSON
336-519-2715

HANOVER FOODS
ROUTE 6 & DUCK CREEK ROAD
CLAYTON, DE 19938
WILLIAM SIMPSON
302-653-9281

APPENDIX B

FACILITY CONTACT INFORMATION

HIRSH INDUSTRIES
1525 MCKEE ROAD
DOVER, DE 19904
KEN MURR
302-678-3454

HONEYWELL
6100 PHILADELPHIA PIKE
CLAYMONT, DE 19703
Russell W. Davis
302-791-6748

IKO WILMINGTON
120 HAY ROAD
WILMINGTON, DE 19809
MICHAEL R. PETERSON
302-764-3100

INDIAN RIVER POWER PLANT
29416 POWER PLANT ROAD
MILLSBORO, DE 19966-0408
DAVID GAIER
609-524-4529

INTERVET
29160 INTERVET LANE
MILLSBORO, DE 19966
RONALD VEROSKO
302-934-4265

JOHNSON CONTROLS
50 PATRIOT DR.
MIDDLETOWN, DE 19709
RICK THOMPSON
302-696-3209

JOHNSON CONTROLS
700 NORTH BROAD STREET
MIDDLETOWN, DE 19709
CORY HUSLING
302-376-4052

JUSTIN TANKS
21413 CEDAR CREEK AVENUE
GEORGETOWN, DE 19947-6306
EDWARD M. SHORT
302-856-3521

KUEHNE CHEMICAL
1645 RIVER ROAD
DELAWARE CITY, DE 19706
ALAN ROGERS
302-834-4557

MACDERMID AUTOTYPE
701 INDUSTRIAL DRIVE
MIDDLETOWN, DE 19709-1085
Ken McCullough
302-378-3100

MEDAL
305 WATER STREET
NEWPORT, DE 19804
STEVE POORMAN
302-225-2137

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

MOTECH AMERICAS
231 LAKE DRIVE
NEWARK, DE 19702
JAMES TOMPKINS
302-451-2692

MOUNTAIRE FARMS FRANKFORD
11 DAISEY STREET
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 SELBYVILLE
HOOSIER STREET & RAILROAD AVENUE
SELBYVILLE, DE 19975-0710
ROGER MARINO
302-934-3123

NORAMCO
500 SWEDES LANDING ROAD
WILMINGTON, DE 19801
JOHN DALY
302-888-4477

NRG DOVER
1280 W. NORTH STREET
DOVER, DE 19904-7756
DAVID GAIER
609-524-4529

ORIENT
111 PARK AVENUE
SEAFORD, DE 19973
DAVE CURRY
302-628-1300

PERDUE BRIDGEVILLE
16447 ADAMS ROAD
BRIDGEVILLE, DE 19933
JULIE DEYOUNG
410-543-3166

PERDUE GEORGETOWN
20621 SAVANNAH ROAD
GEORGETOWN, DE 19947
JULIE DEYOUNG
410-543-3166

PERDUE MILFORD
255 NORTH REHOBOTH BOULEVARD
MILFORD, DE 19963
JULIE DEYOUNG
410-543-3166

PICTSWEET
18215 WESLEY CHURCH ROAD
BRIDGEVILLE, DE 19933
ALLEN WATTS
731-663-7600

PPG DOVER
1886 LYNNBURY WOODS ROAD
DOVER, DE 19904
MITCH MAGEE
302-678-9800

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

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

ROHM & HAAS BLDG. 7 B7 B15
50 BELLEVUE ROAD
NEWARK, DE 19713
PETER PALENA
302-366-0500

ROHM & HAAS TECH. CENTER B5 B6
351 BELLEVUE ROAD
NEWARK, DE 19713
PETER PALENA
302-366-0500

APPENDIX B

FACILITY CONTACT INFORMATION

SERVICE ENERGY DOVER
3799 N. DUPONT HIGHWAY
DOVER, DE 19901
DONALD L. STEINER
302-734-7433

SPI PHARMA
40 CAPE HENLOPEN DRIVE
LEWES, DE 19958-1196
SEAN COSTELLO
302-360-7218

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

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

APPENDIX C

2012 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
AEARO TECHNOLOGIES							
DIISOCYANATES	0	2	0	0	2	1,250	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0	4	0	0	4	750	0
AEARO TECHNOLOGIES Total	**0**	**6**	**0**	**0**	**6**	**2,000**	**0**
AGILENT TECHNOLOGIES NEWPORT							
ACETONITRILE	0	35	0	0	35	13,294	0
METHANOL	0	721	0	0	721	37,219	0
TOLUENE	0	19	0	0	19	135,999	0
AGILENT TECHNOLOGIES NEWPORT Total	**0**	**775**	**0**	**0**	**775**	**186,512**	**0**
AIR LIQUIDE - MEDAL							
CYCLOHEXANE	0	5,622	0	0	5,622	5,618	0
METHANOL	0	445	0	0	445	58,590	1,178,753
N,N-DIMETHYLFORMAMIDE	0	21	0	0	21	13,565	0
N-HEXANE	0	1,685	0	0	1,685	0	981,074
N-METHYL-2-PYRROLIDONE	0	895	0	0	895	106,263	0
AIR LIQUIDE - MEDAL Total	**0**	**8,668**	**0**	**0**	**8,668**	**184,036**	**2,159,827**
ALLEN HARIM FARMS - SEAFORD MILL							
MANGANESE COMPOUNDS	1	0	0	0	0	0	0
ZINC COMPOUNDS	1	0	0	0	0	0	0
ALLEN HARIM FARMS - SEAFORD MILL Total	**2**	**0**	**0**	**0**	**0**	**0**	**0**
ALLEN HARIM FOODS - HARBESON							
NITRATE COMPOUNDS	1	0	0	0	0	0	0
ALLEN HARIM FOODS - HARBESON Total	**1**	**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**

Source: DNREC 2012 TRI Database, October, 2013
A "1" in the Form A column indicates a Form A report

All Amounts Are in Pounds

APPENDIX C

2012 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
ARLON							
COPPER	0	5	0	0	5	4,300	0
ETHYLBENZENE	0	318	0	0	318	790	28,000
XYLENE (MIXED ISOMERS)	0	1,310	0	0	1,310	4,500	112,000
ARLON Total	**0**	**1,633**	**0**	**0**	**1,633**	**9,590**	**140,000**
BALTIMORE AIRCOIL							
CHROMIUM COMPOUNDS	0	4	0	0	4	224,761	0
MANGANESE COMPOUNDS	0	8	0	0	8	129,467	0
NICKEL COMPOUNDS	0	1	0	0	1	256,102	0
BALTIMORE AIRCOIL Total	**0**	**13**	**0**	**0**	**13**	**610,330**	**0**
BASF NEWPORT							
ANILINE	0	32	0	0	32	51,364	1,188
BIPHENYL	0	97	0	0	97	217,711	2,321
CYCLOHEXANE	0	44	0	0	44	3,388	3,416
METHANOL	0	18,481	0	0	18,481	443,359	1,132,200
NITRATE COMPOUNDS	0	0	0	0	0	48,718	0
NITRIC ACID	0	0	0	0	0	0	24,752
P-CHLOROANILINE	0	6	0	0	6	2,911	157
XYLENE (MIXED ISOMERS)	0	985	0	0	985	694	4,586
BASF NEWPORT Total	**0**	**19,645**	**0**	**0**	**19,645**	**768,146**	**1,168,620**
BASF SEAFORD							
AMMONIA	0	3,187	0	0	3,187	376	3,117
BUTYL ACRYLATE	0	152	0	0	152	111	54
CERTAIN GLYCOL ETHERS	0	5	0	0	5	345	0
ETHYL ACRYLATE	0	168	0	0	168	109	11
METHYL METHACRYLATE	0	199	0	0	199	109	177
STYRENE	0	233	0	0	233	130	670
BASF SEAFORD Total	**0**	**3,944**	**0**	**0**	**3,944**	**1,180**	**4,029**

Source: DNREC 2012 TRI Database, October, 2013
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All Amounts Are in Pounds

APPENDIX C

2012 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	0	0	0
CHROME DEPOSIT Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**
COLOR WORKS							
MANGANESE	0	0	0	0	0	716	0
COLOR WORKS Total	**0**	**0**	**0**	**0**	**0**	**716**	**0**
CRODA							
CERTAIN GLYCOL ETHERS	0	2	0	0	2	3,190	0
DIETHANOLAMINE	0	4	0	0	4	40	0
ETHYLENE OXIDE	0	2,246	0	0	2,246	0	42
METHANOL	0	681	0	0	681	14,677	0
NAPHTHALENE	0	3	0	0	3	420	0
N-BUTYL ALCOHOL	0	100	0	0	100	304	0
PROPYLENE OXIDE	0	618	0	0	618	0	44
CRODA Total	**0**	**3,654**	**0**	**0**	**3,654**	**18,631**	**85**

Source: DNREC 2012 TRI Database, October, 2013
A "1" in the Form A column indicates a Form A report

All Amounts Are in Pounds

APPENDIX C

2012 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
DELAWARE CITY REFINERY							
1,2,4-TRIMETHYLBENZENE	0	1,170	5	0	1,175	0	59,178
1,3-BUTADIENE	0	569	0	0	569	0	0
2,4-DIMETHYLPHENOL	0	0	173	0	173	0	242,713
AMMONIA	0	25,066	4,018	0	29,084	0	15,051,153
ANTHRACENE	0	10	5	0	15	0	0
ASBESTOS (FRIABLE)	0	0	0	0	0	232,180	0
BENZENE	0	11,893	5	0	11,898	99	654,943
BENZO(G,H,I)PERYLENE	0	0	5	0	5	0	474
CARBON DISULFIDE	0	1,246	0	0	1,246	0	1,851,501
CARBONYL SULFIDE	0	537	0	0	537	0	14,531,920
CRESOL (MIXED ISOMERS)	0	0	346	0	346	12	331,221
CUMENE	0	356	5	0	361	0	3,097
CYANIDE COMPOUNDS	0	0	548	0	548	0	129,957
CYCLOHEXANE	0	1,817	5	0	1,822	0	6,799
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0.001243	0.000000	0.000000	0.001243	0.000000	0.001243
ETHYLBENZENE	0	2,174	5	0	2,179	45	48,361
ETHYLENE	0	4,782	0	0	4,782	0	913,339
HYDROCHLORIC ACID	0	364	0	0	364	0	220,466
HYDROGEN CYANIDE	0	2,221	764	0	2,985	0	388,741
HYDROGEN SULFIDE	0	14,977	0	0	14,977	0	329,348,194
LEAD COMPOUNDS	0	116	3	0	119	7	0
MERCURY COMPOUNDS	0	57	2	0	59	6	0
METHANOL	0	5,891	5	0	5,896	0	23,337
NAPHTHALENE	0	2,002	5	0	2,007	0	9,795
N-HEXANE	0	19,932	5	0	19,937	0	93,827
NITRATE COMPOUNDS	0	0	3,406,388	0	3,406,388	0	0
PHENANTHRENE	0	2	5	0	7	0	0
PHENOL	0	140	173	0	313	0	301,441
POLYCYCLIC AROMATIC COMPOUNDS	0	239	4	0	243	0	390
PROPYLENE	0	12,778	0	0	12,778	0	1,351,957
STYRENE	0	16	5	0	21	0	1,194
SULFURIC ACID	0	147,486	0	0	147,486	0	0
TETRACHLOROETHYLENE	0	8	0	0	8	0	0
TOLUENE	0	14,724	5	0	14,729	19	203,654
XYLENE (MIXED ISOMERS)	0	6,938	5	0	6,943	185	203,653
DELAWARE CITY REFINERY Total	**0**	**277,511**	**3,412,489**	**0**	**3,690,000**	**232,553**	**365,971,305**

Source: DNREC 2012 TRI Database, October, 2013
A "1" in the Form A column indicates a Form A report

All Amounts Are in Pounds

APPENDIX C

2012 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
DENTSPLY LAKEVIEW							
MERCURY	0	0	0	0	0	2,666	0
DENTSPLY LAKEVIEW Total	**0**	**0**	**0**	**0**	**0**	**2,666**	**0**
DENTSPLY WEST							
METHANOL	0	3,385	0	0	3,385	7,812	0
METHYL METHACRYLATE	0	1,349	0	0	1,349	5,106	0
TOLUENE	0	196	0	0	196	16,520	0
DENTSPLY WEST Total	**0**	**4,930**	**0**	**0**	**4,930**	**29,439**	**0**
DOVER AFB							
1,2,4-TRIMETHYLBENZENE	0	98	0	0	98	0	0
CUMENE	0	98	0	0	98	0	0
ETHYLBENZENE	0	100	0	0	100	0	0
LEAD COMPOUNDS	0	69	0	0	69	5,125	0
NAPHTHALENE	0	105	0	0	105	0	0
XYLENE (MIXED ISOMERS)	0	103	0	0	103	0	0
DOVER AFB Total	**0**	**573**	**0**	**0**	**573**	**5,125**	**0**
DUHADAWY TOOL AND DIE							
CHROMIUM	0	0	0	0	0	9,702	0
NICKEL	0	0	0	0	0	11,312	0
DUHADAWY TOOL AND DIE Total	**0**	**0**	**0**	**0**	**0**	**21,014**	**0**

Source: DNREC 2012 TRI Database, October, 2013
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APPENDIX C

2012 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
DUPONT EDGE MOOR							
ARSENIC COMPOUNDS	0	0	62	0	62	19	0
BARIUM COMPOUNDS	0	1	1,418	0	1,419	11,898	0
BENZO(G,H,I)PERYLENE	0	0	0	1	1	0	0
CARBONYL SULFIDE	0	199,371	0	0	199,371	0	0
CHLORINE	0	1,046	0	0	1,046	0	2,238,334
CHROMIUM COMPOUNDS	0	0	8	0	8	247,048	0
COBALT COMPOUNDS	0	0	0	0	0	5,611	0
COPPER COMPOUNDS	0	0	18	0	18	2,256	0
CREOSOTE	0	1,076	0	6,578	7,654	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0.000083	0.002502	0.000000	0.002585	2.270000	0.000000
HEXACHLOROBENZENE	0	0	0	0	0	471	0
HYDROCHLORIC ACID	0	4,185	0	0	4,185	0	16,402,538
LEAD COMPOUNDS	0	0	1	0	1	28,212	0
MANGANESE COMPOUNDS	0	1	2,032	0	2,033	1,576,277	0
MERCURY COMPOUNDS	0	1	0	0	1	2	0
NICKEL COMPOUNDS	0	1	40	0	41	14,227	0
OCTACHLOROSTYRENE	0	0	0	0	0	19	0
PENTACHLOROBENZENE	0	0	0	0	0	6	0
PHOSGENE	0	429	0	0	429	0	165,815
POLYCHLORINATED BIPHENYLS	0	0	0	0	0	20	0
POLYCYCLIC AROMATIC COMPOUNDS	0	88	0	536	624	0	0
TITANIUM TETRACHLORIDE	0	50	0	0	50	0	1,058,033
TOLUENE	0	77	0	0	77	143	0
VANADIUM COMPOUNDS	0	1	105	0	106	164,368	0
ZINC COMPOUNDS	0	9	23	0	32	19,652	0
DUPONT EDGE MOOR Total	**0**	**206,336**	**3,707**	**7,115**	**217,158**	**2,070,230**	**19,864,720**
DUPONT RED LION PLANT							
HYDROGEN SULFIDE	0	168	0	0	168	0	0
SULFURIC ACID	0	8,331	0	0	8,331	0	0
DUPONT RED LION PLANT Total	**0**	**8,499**	**0**	**0**	**8,499**	**0**	**0**

Source: DNREC 2012 TRI Database, October, 2013
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APPENDIX C

2012 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
EDGE MOOR/HAY ROAD ENERGY CENTERS							
AMMONIA	0	815	0	0	815	63	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0.007824	0.000000	0.000000	0.007824	0.000000	0.000000
MERCURY	0	21	0	0	21	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS Total	**0**	**836**	**0**	**0**	**836**	**63**	**0**
EVRAZ CLAYMONT STEEL							
CHROMIUM COMPOUNDS	0	112	1	199	312	32,147	0
COPPER COMPOUNDS	0	134	26	501	661	33,168	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0.015591	0.000000	0.000000	0.015591	0.000000	0.000000
LEAD COMPOUNDS	0	351	40	72	463	154,660	0
MANGANESE COMPOUNDS	0	381	5	13,382	13,768	247,399	0
MERCURY COMPOUNDS	0	143	0	0	143	3	0
NICKEL COMPOUNDS	0	28	1	359	388	4,161	0
ZINC COMPOUNDS	0	1,889	111	297	2,297	1,839,784	0
EVRAZ CLAYMONT STEEL Total	**0**	**3,038**	**184**	**14,810**	**18,032**	**2,311,322**	**0**
FORMOSA PLASTICS							
AMMONIA	0	12,610	0	0	12,610	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0.000012	0.000000	0.000000	0.000012	0.000220	0.000000
VINYL ACETATE	0	78,994	0	0	78,994	0	0
VINYL CHLORIDE	0	59,260	4	0	59,264	168	207,312
FORMOSA PLASTICS Total	**0**	**150,864**	**4**	**0**	**150,868**	**168**	**207,312**
FUJIFILM							
NITRATE COMPOUNDS	0	0	0	0	0	661	0
FUJIFILM Total	**0**	**0**	**0**	**0**	**0**	**661**	**0**
GAC SEAFORD							
1,2,4-TRIMETHYLBENZENE	1	0	0	0	0	0	0
GAC SEAFORD Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**

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APPENDIX C

2012 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
HANDY TUBE							
CHROMIUM	0	0	0	0	0	40,884	0
MANGANESE	0	0	0	0	0	4,183	0
NICKEL	0	0	0	0	0	38,273	0
TRICHLOROETHYLENE	0	4,610	0	0	4,610	10,204	0
HANDY TUBE Total	**0**	**4,610**	**0**	**0**	**4,610**	**93,544**	**0**
HANESBRANDS							
NITRATE COMPOUNDS	0	0	0	0	0	41,849	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0
HANESBRANDS Total	**0**	**0**	**0**	**0**	**0**	**41,849**	**0**
HANOVER FOODS							
AMMONIA	0	11,926	0	0	11,926	0	0
HANOVER FOODS Total	**0**	**11,926**	**0**	**0**	**11,926**	**0**	**0**
HIRSH INDUSTRIES							
CERTAIN GLYCOL ETHERS	0	3,925	0	0	3,925	0	0
HIRSH INDUSTRIES Total	**0**	**3,925**	**0**	**0**	**3,925**	**0**	**0**
HONEYWELL							
AMMONIA	0	17	0	0	17	668	0
BORON TRIFLUORIDE	0	429	0	0	429	8	131,903
HYDROGEN FLUORIDE	0	544	0	0	544	12	102
METHANOL	0	4	0	0	4	700	60
N-HEXANE	0	5,727	0	0	5,727	17,710	161,665
HONEYWELL Total	**0**	**6,721**	**0**	**0**	**6,721**	**19,098**	**293,730**
IKO							
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	545	572
IKO Total	**0**	**0**	**0**	**0**	**0**	**545**	**572**

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APPENDIX C

2012 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
INDIAN RIVER GENERATING STATION							
AMMONIA	0	27,250	0	0	27,250	0	140,000
BARIUM COMPOUNDS	0	255	750	190,000	191,005	1	0
CHROMIUM	0	6,605	0	750	7,355	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0	0.000287	0.000000	0.000000	0.000287	0.000000	0.000000
HYDROCHLORIC ACID	0	170,000	0	0	170,000	0	1,400,000
HYDROGEN FLUORIDE	0	17,000	0	0	17,000	0	80,000
LEAD COMPOUNDS	0	82	0	10,367	10,449	0	0
MANGANESE COMPOUNDS	0	255	5	28,000	28,260	0	0
MERCURY COMPOUNDS	0	8	0	87	95	0	0
NAPHTHALENE	1	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	1	1	0	2	0	0
SULFURIC ACID	0	11,000	0	0	11,000	0	1,200,000
VANADIUM COMPOUNDS	0	255	5	27,000	27,260	0	0
INDIAN RIVER GENERATING STATION Total	**1**	**232,711**	**761**	**256,204**	**489,676**	**1**	**2,820,000**
INTERVET							
MERCURY COMPOUNDS	0	0	0	0	0	2	0
INTERVET Total	**0**	**0**	**0**	**0**	**0**	**2**	**0**
JOHNSON CONTROLS BATTERY PLANT							
ANTIMONY COMPOUNDS	0	0	0	0	0	11,361	0
LEAD COMPOUNDS	0	123	9	0	132	2,605,219	0
JOHNSON CONTROLS BATTERY PLANT Total	**0**	**123**	**9**	**0**	**132**	**2,616,580**	**0**
JOHNSON CONTROLS DIST. CENTER							
LEAD COMPOUNDS	0	0	0	0	0	1,331,295	0
JOHNSON CONTROLS DIST. CENTER Total	**0**	**0**	**0**	**0**	**0**	**1,331,295**	**0**

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APPENDIX C

2012 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	0	12,190	0	365	12,555	365	28,840
JUSTIN TANKS Total	**0**	**12,190**	**0**	**365**	**12,555**	**365**	**28,840**
KUEHNE							
CHLORINE	0	750	0	0	750	0	0
KUEHNE Total	**0**	**750**	**0**	**0**	**750**	**0**	**0**
MACDERMID							
DIISOCYANATES	1	0	0	0	0	0	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)	1	0	0	0	0	0	0
MACDERMID Total	**2**	**0**	**0**	**0**	**0**	**0**	**0**
METAL MASTERS							
CHROMIUM	0	1	0	0	1	185,999	0
NICKEL	0	1	0	0	1	51,624	0
METAL MASTERS Total	**0**	**2**	**0**	**0**	**2**	**237,623**	**0**
MOTECH AMERICAS							
LEAD	0	0	0	0	0	22	0
MOTECH AMERICAS Total	**0**	**0**	**0**	**0**	**0**	**22**	**0**
MOUNTAIRE FARMS - FRANKFORD FEED MILL							
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	0
ZINC COMPOUNDS	1	0	0	0	0	0	0
MOUNTAIRE FARMS - FRANKFORD FEED MILL Total	**3**	**0**	**0**	**0**	**0**	**0**	**0**

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APPENDIX C

2012 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 - SELBYVILLE							
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	17	0	0	17	0	0
MOUNTAIRE FARMS - SELBYVILLE Total	**0**	**17**	**0**	**0**	**17**	**0**	**0**
MOUNTAIRE FARMS OF DELAWARE							
AMMONIA	0	12,089	0	28,208	40,297	0	0
COPPER COMPOUNDS	1	0	0	0	0	0	0
HYDROGEN SULFIDE	0	10,732	0	0	10,732	0	85,453
MANGANESE COMPOUNDS	1	0	0	0	0	0	0
ZINC COMPOUNDS	1	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE Total	**3**	**22,821**	**0**	**28,208**	**51,029**	**0**	**85,453**
NORAMCO							
DICHLOROMETHANE	0	1,575	0	0	1,575	53,677	53,677
FORMIC ACID	0	24	0	0	24	0	0
METHANOL	0	119	0	0	119	134,623	134,623
N-BUTYL ALCOHOL	0	10	0	0	10	658,795	658,795
TOLUENE	0	595	0	0	595	909,086	909,086
NORAMCO Total	**0**	**2,323**	**0**	**0**	**2,323**	**1,756,181**	**1,756,181**
NRG DOVER							
HYDROCHLORIC ACID	0	59,000	0	0	59,000	0	0
LEAD COMPOUNDS	0	6	0	0	6	32	0
MERCURY COMPOUNDS	0	4	0	0	4	0	0
NRG DOVER Total	**0**	**59,010**	**0**	**0**	**59,010**	**32**	**0**
ORIENT CORP							
ANILINE	0	74	0	0	74	304	58,900
CHROMIUM COMPOUNDS	0	0	0	0	0	0	0
NITROBENZENE	0	2	0	0	2	1	0
ZINC COMPOUNDS	0	0	0	0	0	0	0
ORIENT CORP Total	**0**	**76**	**0**	**0**	**76**	**305**	**58,900**

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APPENDIX C

2012 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 BRIDGEVILLE							
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
PERDUE BRIDGEVILLE Total	**3**	**0**	**0**	**0**	**0**	**0**	**0**
PERDUE GEORGETOWN							
HYDROGEN SULFIDE	0	49,214	0	0	49,214	0	332,538
NITRATE COMPOUNDS	0	0	360,578	0	360,578	0	0
PERACETIC ACID	0	0	0	0	0	0	24,892
PERDUE GEORGETOWN Total	**0**	**49,214**	**360,578**	**0**	**409,792**	**0**	**357,430**
PERDUE MILFORD							
PERACETIC ACID	0	0	0	0	0	0	27,400
PERDUE MILFORD Total	**0**	**0**	**0**	**0**	**0**	**0**	**27,400**
PICTSWEET BRIDGEVILLE							
AMMONIA	0	1,545	0	0	1,545	0	0
PICTSWEET BRIDGEVILLE Total	**0**	**1,545**	**0**	**0**	**1,545**	**0**	**0**
PPG DOVER							
CERTAIN GLYCOL ETHERS	0	5	0	0	5	2,311	0
ETHYLENE GLYCOL	0	5	0	0	5	3,031	0
ZINC COMPOUNDS	0	24	0	0	24	5,865	0
PPG DOVER Total	**0**	**34**	**0**	**0**	**34**	**11,207**	**0**
PRINCE MINERALS							
BARIUM COMPOUNDS	1	0	0	0	0	0	0
LEAD COMPOUNDS	0	0	0	0	0	1	0
MANGANESE COMPOUNDS	0	159	0	0	159	139	0
NICKEL COMPOUNDS	1	0	0	0	0	0	0
PRINCE MINERALS Total	**2**	**159**	**0**	**0**	**159**	**140**	**0**
ROHM & HAAS B2,B3,B8							
DIISOCYANATES	0	0	0	0	0	0	0
N,N-DIMETHYLFORMAMIDE	0	4,160	0	0	4,160	2,452,046	5,387,568
PHTHALIC ANHYDRIDE	0	1	0	0	1	3,081	0
ROHM & HAAS B2,B3,B8 Total	**0**	**4,161**	**0**	**0**	**4,161**	**2,455,127**	**5,387,568**

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APPENDIX C

2012 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 B5, B6							
4,4'-METHYLENEBIS(2-CHLOROANILINE)	1	0	0	0	0	0	0
DIISOCYANATES	0	2	0	0	2	3,824	0
N-METHYL-2-PYRROLIDONE	0	2,904	0	0	2,904	91,823	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0	2	0	0	2	860	4,599
ROHM & HAAS B5, B6 Total	**1**	**2,908**	**0**	**0**	**2,908**	**96,507**	**4,599**
ROHM & HAAS B7,B15							
4,4'-METHYLENEBIS(2-CHLOROANILINE)	1	0	0	0	0	0	0
N-METHYL-2-PYRROLIDONE	0	2,798	0	0	2,798	18,724	0
ROHM & HAAS B7,B15 Total	**1**	**2,798**	**0**	**0**	**2,798**	**18,724**	**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**
V&S DELAWARE GALVANIZING							
LEAD	0	6	5	0	11	3,693	813
ZINC COMPOUNDS	0	255	167	0	422	234,015	95,390
V&S DELAWARE GALVANIZING Total	**0**	**261**	**172**	**0**	**433**	**237,708**	**96,203**
VP RACING FUELS							
LEAD COMPOUNDS	0	1	0	0	1	1	0
METHANOL	1	0	0	0	0	0	0
TOLUENE	1	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	1	0	0	0	0	0	0
VP RACING FUELS Total	**3**	**1**	**0**	**0**	**1**	**1**	**0**
STATE TOTALS	**33**	**1,109,211**	**3,777,904**	**306,702**	**5,193,817**	**15,371,238**	**400,432,774**

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APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
AEARO TECHNOLOGIES										
DIISOCYANATES	0	0	0	1,250	0	1,250	0	0	0	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0	0	0	750	0	750	0	0	0	0
AEARO TECHNOLOGIES Total	0	0	0	2,000	0	2,000	0	0	0	0
AGILENT TECHNOLOGIES NEWPORT										
ACETONITRILE	0	0	13,294	0	0	13,294	0	0	0	0
METHANOL	0	0	37,135	84	0	37,219	0	0	0	0
TOLUENE	0	0	135,708	291	0	135,999	0	0	0	0
AGILENT TECHNOLOGIES NEWPORT Total	0	0	186,137	375	0	186,512	0	0	0	0
AIR LIQUIDE - MEDAL										
CYCLOHEXANE	0	0	0	5,618	0	5,618	0	0	0	0
METHANOL	0	0	0	58,590	0	58,590	1,178,753	0	0	1,178,753
N,N-DIMETHYLFORMAMIDE	11,400	0	0	2,165	0	13,565	0	0	0	0
N-HEXANE	0	0	0	0	0	0	981,074	0	0	981,074
N-METHYL-2-PYRROLIDONE	102,873	0	0	3,390	0	106,263	0	0	0	0
AIR LIQUIDE - MEDAL Total	114,273	0	0	69,763	0	184,036	2,159,827	0	0	2,159,827
ALLEN HARIM FARMS - SEAFORD MILL										
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 HARIM FARMS - SEAFORD MILL Total	0	0	0	0	0	0	0	0	0	0
ALLEN HARIM FOODS - HARBESON										
NITRATE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ALLEN HARIM FOODS - HARBESON 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	4,100	0	0	200	4,300	0	0	0	0
ETHYLBENZENE	0	0	0	790	0	790	0	0	28,000	28,000
XYLENE (MIXED ISOMERS)	0	0	0	4,500	0	4,500	0	0	112,000	112,000
ARLON Total	0	4,100	0	5,290	200	9,590	0	0	140,000	140,000
BALTIMORE AIRCOIL										
CHROMIUM COMPOUNDS	0	224,761	0	0	0	224,761	0	0	0	0
MANGANESE COMPOUNDS	0	129,467	0	0	0	129,467	0	0	0	0
NICKEL COMPOUNDS	0	256,102	0	0	0	256,102	0	0	0	0
BALTIMORE AIRCOIL Total	0	610,330	0	0	0	610,330	0	0	0	0

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APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
BASF NEWPORT										
ANILINE	19,926	0	18,150	12,292	996	51,364	0	0	1,188	1,188
BIPHENYL	11,629	0	123,496	82,005	581	217,711	0	0	2,321	2,321
CYCLOHEXANE	0	2,519	869	0	0	3,388	0	0	3,416	3,416
METHANOL	383,036	26,939	12,301	1,931	19,152	443,359	317,250	0	814,950	1,132,200
NITRATE COMPOUNDS	24,359	0	0	0	24,359	48,718	0	0	0	0
NITRIC ACID	0	0	0	0	0	0	0	0	24,752	24,752
P-CHLOROANILINE	2,226	0	299	275	111	2,911	0	0	157	157
XYLENE (MIXED ISOMERS)	226	0	20	437	11	694	0	0	4,586	4,586
BASF NEWPORT Total	441,402	29,458	155,135	96,940	45,211	768,146	317,250	0	851,370	1,168,620
BASF SEAFORD										
AMMONIA	346	0	0	0	30	376	0	0	3,117	3,117
BUTYL ACRYLATE	0	0	111	0	0	111	0	0	54	54
CERTAIN GLYCOL ETHERS	0	0	0	0	345	345	0	0	0	0
ETHYL ACRYLATE	0	0	109	0	0	109	0	0	11	11
METHYL METHACRYLATE	0	0	109	0	0	109	0	0	177	177
STYRENE	0	0	130	0	0	130	0	0	670	670
BASF SEAFORD Total	346	0	459	0	375	1,180	0	0	4,029	4,029
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	0	0	0	0	0	0	0	0	0
CHROME DEPOSIT Total	0	0	0	0	0	0	0	0	0	0
COLOR WORKS										
MANGANESE	0	716	0	0	0	716	0	0	0	0
COLOR WORKS Total	0	716	0	0	0	716	0	0	0	0
CRODA										
CERTAIN GLYCOL ETHERS	3,190	0	0	0	0	3,190	0	0	0	0
DIETHANOLAMINE	40	0	0	0	0	40	0	0	0	0
ETHYLENE OXIDE	0	0	0	0	0	0	0	0	42	42
METHANOL	6,277	0	8,400	0	0	14,677	0	0	0	0
NAPHTHALENE	0	0	0	420	0	420	0	0	0	0
N-BUTYL ALCOHOL	304	0	0	0	0	304	0	0	0	0
PROPYLENE OXIDE	0	0	0	0	0	0	0	0	44	44
CRODA Total	9,811	0	8,400	420	0	18,631	0	0	85	85

Source: DNREC 2012 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
DELAWARE CITY REFINERY										
1,2,4-TRIMETHYLBENZENE	0	0	0	0	0	0	0	0	59,178	59,178
1,3-BUTADIENE	0	0	0	0	0	0	0	0	0	0
2,4-DIMETHYLPHENOL	0	0	0	0	0	0	0	0	242,713	242,713
AMMONIA	0	0	0	0	0	0	0	14,987,723	63,430	15,051,153
ANTHRACENE	0	0	0	0	0	0	0	0	0	0
ASBESTOS (FRIABLE)	0	0	0	0	232,180	232,180	0	0	0	0
BENZENE	0	0	90	9	0	99	0	612,514	42,429	654,943
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	0	0	474	474
CARBON DISULFIDE	0	0	0	0	0	0	0	123,255	1,728,246	1,851,501
CARBONYL SULFIDE	0	0	0	0	0	0	0	83,726	14,448,194	14,531,920
CRESOL (MIXED ISOMERS)	0	0	7	5	0	12	0	18,162	313,059	331,221
CUMENE	0	0	0	0	0	0	0	0	3,097	3,097
CYANIDE COMPOUNDS	0	0	0	0	0	0	0	0	129,957	129,957
CYCLOHEXANE	0	0	0	0	0	0	0	0	6,799	6,799
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.001243	0.001243
ETHYLBENZENE	0	0	0	45	0	45	0	0	48,361	48,361
ETHYLENE	0	0	0	0	0	0	0	0	913,339	913,339
HYDROCHLORIC ACID	0	0	0	0	0	0	0	0	220,466	220,466
HYDROGEN CYANIDE	0	0	0	0	0	0	0	313,072	75,669	388,741
HYDROGEN SULFIDE	0	0	0	0	0	0	0	48,229	329,299,965	329,348,194
LEAD COMPOUNDS	0	2	0	0	5	7	0	0	0	0
MERCURY COMPOUNDS	0	1	0	0	5	6	0	0	0	0
METHANOL	0	0	0	0	0	0	0	0	23,337	23,337
NAPHTHALENE	0	0	0	0	0	0	0	0	9,795	9,795
N-HEXANE	0	0	0	0	0	0	0	0	93,827	93,827
NITRATE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
PHENANTHRENE	0	0	0	0	0	0	0	0	0	0
PHENOL	0	0	0	0	0	0	0	40,331	261,110	301,441
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	390	390
PROPYLENE	0	0	0	0	0	0	0	0	1,351,957	1,351,957
STYRENE	0	0	0	0	0	0	0	0	1,194	1,194
SULFURIC ACID	0	0	0	0	0	0	0	0	0	0
TETRACHLOROETHYLENE	0	0	0	0	0	0	0	0	0	0
TOLUENE	0	0	2	17	0	19	0	0	203,654	203,654
XYLENE (MIXED ISOMERS)	0	5	0	180	0	185	0	0	203,653	203,653
DELAWARE CITY REFINERY Total	0	8	99	256	232,190	232,553	0	16,227,012	349,744,293	365,971,305
DENTSPLY LAKEVIEW										
MERCURY	0	2,666	0	0	0	2,666	0	0	0	0
DENTSPLY LAKEVIEW Total	0	2,666	0	0	0	2,666	0	0	0	0
DENTSPLY WEST										
METHANOL	91	0	7,721	0	0	7,812	0	0	0	0
METHYL METHACRYLATE	88	0	5,018	0	0	5,106	0	0	0	0
TOLUENE	0	0	16,520	0	0	16,520	0	0	0	0
DENTSPLY WEST Total	180	0	29,259	0	0	29,439	0	0	0	0

Source: DNREC 2012 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
DOVER AFB										
1,2,4-TRIMETHYLBENZENE	0	0	0	0	0	0	0	0	0	0
CUMENE	0	0	0	0	0	0	0	0	0	0
ETHYLBENZENE	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	0	4,988	0	0	137	5,125	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
DOVER AFB Total	0	4,988	0	0	137	5,125	0	0	0	0
DUHADAWY TOOL AND DIE										
CHROMIUM	0	9,400	0	0	302	9,702	0	0	0	0
NICKEL	0	11,005	0	0	307	11,312	0	0	0	0
DUHADAWY TOOL AND DIE Total	0	20,405	0	0	609	21,014	0	0	0	0
DUPONT EDGE MOOR										
ARSENIC COMPOUNDS	0	0	0	0	19	19	0	0	0	0
BARIUM COMPOUNDS	0	0	0	0	11,898	11,898	0	0	0	0
BENZO(G,H,I)PERYLENE	0	0	0	0	0	0	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	2,238,334	2,238,334
CHROMIUM COMPOUNDS	0	0	0	0	247,048	247,048	0	0	0	0
COBALT COMPOUNDS	0	0	0	0	5,611	5,611	0	0	0	0
COPPER COMPOUNDS	0	0	0	0	2,256	2,256	0	0	0	0
CREOSOTE	0	0	0	0	0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.000000	0.000000	0.000000	0.000000	2.270000	2.270000	0.000000	0.000000	0.000000	0.000000
HEXACHLOROBENZENE	0	0	0	0	471	471	0	0	0	0
HYDROCHLORIC ACID	0	0	0	0	0	0	0	0	16,402,538	16,402,538
LEAD COMPOUNDS	0	0	0	0	28,212	28,212	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	1,576,277	1,576,277	0	0	0	0
MERCURY COMPOUNDS	0	0	0	0	2	2	0	0	0	0
NICKEL COMPOUNDS	0	0	0	0	14,227	14,227	0	0	0	0
OCTACHLOROSTYRENE	0	0	0	0	19	19	0	0	0	0
PENTACHLOROBENZENE	0	0	0	0	6	6	0	0	0	0
PHOSGENE	0	0	0	0	0	0	0	0	165,815	165,815
POLYCHLORINATED BIPHENYLS	0	0	0	0	20	20	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	1,058,033	1,058,033
TOLUENE	0	0	0	0	143	143	0	0	0	0
VANADIUM COMPOUNDS	0	0	0	0	164,368	164,368	0	0	0	0
ZINC COMPOUNDS	0	8	0	0	19,644	19,652	0	0	0	0
DUPONT EDGE MOOR Total	0	8	0	0	2,070,222	2,070,230	0	0	19,864,720	19,864,720
DUPONT RED LION PLANT										
HYDROGEN SULFIDE	0	0	0	0	0	0	0	0	0	0
SULFURIC ACID	0	0	0	0	0	0	0	0	0	0
DUPONT RED LION PLANT Total	0	0	0	0	0	0	0	0	0	0

Source: DNREC 2012 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
EDGE MOOR/HAY ROAD ENERGY CENTERS										
AMMONIA	63	0	0	0	0	63	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
MERCURY	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS Total	63	0	0	0	0	63	0	0	0	0
EVRAZ CLAYMONT STEEL										
CHROMIUM COMPOUNDS	0	30,404	0	0	1,743	32,147	0	0	0	0
COPPER COMPOUNDS	0	30,788	0	0	2,380	33,168	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
LEAD COMPOUNDS	0	154,577	0	0	83	154,660	0	0	0	0
MANGANESE COMPOUNDS	0	237,614	0	0	9,785	247,399	0	0	0	0
MERCURY COMPOUNDS	0	0	0	0	3	3	0	0	0	0
NICKEL COMPOUNDS	0	3,219	0	0	942	4,161	0	0	0	0
ZINC COMPOUNDS	0	1,839,596	0	0	188	1,839,784	0	0	0	0
EVRAZ CLAYMONT STEEL Total	0	2,296,198	0	0	15,124	2,311,322	0	0	0	0
FORMOSA PLASTICS										
AMMONIA	0	0	0	0	0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.000000	0.000049	0.000000	0.000000	0.000171	0.000220	0.000000	0.000000	0.000000	0.000000
VINYL ACETATE	0	0	0	0	0	0	0	0	0	0
VINYL CHLORIDE	0	152	0	0	16	168	0	0	207,312	207,312
FORMOSA PLASTICS Total	0	152	0	0	16	168	0	0	207,312	207,312
FUJIFILM										
NITRATE COMPOUNDS	441	0	220	0	0	661	0	0	0	0
FUJIFILM Total	441	0	220	0	0	661	0	0	0	0
GAC SEAFORD										
1,2,4-TRIMETHYLBENZENE	0	0	0	0	0	0	0	0	0	0
GAC SEAFORD Total	0	0	0	0	0	0	0	0	0	0
HANDY TUBE										
CHROMIUM	0	40,838	0	0	46	40,884	0	0	0	0
MANGANESE	0	4,179	0	0	4	4,183	0	0	0	0
NICKEL	0	38,201	0	0	72	38,273	0	0	0	0
TRICHLOROETHYLENE	0	0	0	10,171	33	10,204	0	0	0	0
HANDY TUBE Total	0	83,218	0	10,171	155	93,544	0	0	0	0
HANESBRANDS										
NITRATE COMPOUNDS	41,849	0	0	0	0	41,849	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
HANESBRANDS Total	41,849	0	0	0	0	41,849	0	0	0	0
HANOVER FOODS										
AMMONIA	0	0	0	0	0	0	0	0	0	0
HANOVER FOODS Total	0	0	0	0	0	0	0	0	0	0

APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
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	668	0	0	0	0	668	0	0	0	0
BORON TRIFLUORIDE	0	0	0	0	8	8	0	0	131,903	131,903
HYDROGEN FLUORIDE	0	0	0	0	12	12	0	0	102	102
METHANOL	60	0	640	0	0	700	0	0	60	60
N-HEXANE	5	0	16,463	1,242	0	17,710	136,665	0	25,000	161,665
HONEYWELL Total	733	0	17,103	1,242	20	19,098	136,665	0	157,065	293,730
IKO										
POLYCYCLIC AROMATIC COMPOUNDS	0	545	0	0	0	545	572	0	0	572
IKO Total	0	545	0	0	0	545	572	0	0	572
INDIAN RIVER GENERATING STATION										
AMMONIA	0	0	0	0	0	0	0	0	140,000	140,000
BARIUM COMPOUNDS	0	0	0	0	1	1	0	0	0	0
CHROMIUM	0	0	0	0	0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
HYDROCHLORIC ACID	0	0	0	0	0	0	0	0	1,400,000	1,400,000
HYDROGEN FLUORIDE	0	0	0	0	0	0	0	0	80,000	80,000
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	1,200,000	1,200,000
VANADIUM COMPOUNDS	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER GENERATING STATION Total	0	0	0	0	1	1	0	0	2,820,000	2,820,000
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
JOHNSON CONTROLS BATTERY PLANT										
ANTIMONY COMPOUNDS	0	11,361	0	0	0	11,361	0	0	0	0
LEAD COMPOUNDS	0	2,605,024	0	0	195	2,605,219	0	0	0	0
JOHNSON CONTROLS BATTERY PLANT Total	0	2,616,385	0	0	195	2,616,580	0	0	0	0
JOHNSON CONTROLS DIST. CENTER										
LEAD COMPOUNDS	1	1,331,294	0	0	1	1,331,295	0	0	0	0
JOHNSON CONTROLS DIST. CENTER Total	1	1,331,294	0	0	1	1,331,295	0	0	0	0
JUSTIN TANKS										
STYRENE	0	0	0	365	0	365	28,840	0	0	28,840
JUSTIN TANKS Total	0	0	0	365	0	365	28,840	0	0	28,840

Source: DNREC 2012 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
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										
DIISOCYANATES	0	0	0	0	0	0	0	0	0	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0	0	0	0	0	0	0	0	0	0
MACDERMID Total	0	0	0	0	0	0	0	0	0	0
METAL MASTERS										
CHROMIUM	0	185,760	0	0	239	185,999	0	0	0	0
NICKEL	0	51,552	0	0	72	51,624	0	0	0	0
METAL MASTERS Total	0	237,312	0	0	311	237,623	0	0	0	0
MOTECH AMERICAS										
LEAD	0	15	0	0	7	22	0	0	0	0
MOTECH AMERICAS Total	0	15	0	0	7	22	0	0	0	0
MOUNTAIRE FARMS - FRANKFORD FEED 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
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 - SELBYVILLE										
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 - SELBYVILLE Total	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE										
AMMONIA	0	0	0	0	0	0	0	0	0	0
COPPER COMPOUNDS	0	0	0	0	0	0	0	0	0	0
HYDROGEN SULFIDE	0	0	0	0	0	0	0	0	85,453	85,453
MANGANESE 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	85,453	85,453
NORAMCO										
DICHLOROMETHANE	537	0	53,140	0	0	53,677	0	0	53,677	53,677
FORMIC ACID	0	0	0	0	0	0	0	0	0	0
METHANOL	6,731	0	127,892	0	0	134,623	0	0	134,623	134,623
N-BUTYL ALCOHOL	32,940	0	625,855	0	0	658,795	0	0	658,795	658,795
TOLUENE	9,091	0	899,995	0	0	909,086	0	0	909,086	909,086
NORAMCO Total	49,299	0	1,706,882	0	0	1,756,181	0	0	1,756,181	1,756,181

Source: DNREC 2012 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
NRG DOVER										
HYDROCHLORIC ACID	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	0	0	0	0	32	32	0	0	0	0
MERCURY COMPOUNDS	0	0	0	0	0	0	0	0	0	0
NRG DOVER Total	0	0	0	0	32	32	0	0	0	0
ORIENT CORP										
ANILINE	240	0	0	0	64	304	57,000	0	1,900	58,900
CHROMIUM COMPOUNDS	0	0	0	0	0	0	0	0	0	0
NITROBENZENE	0	0	0	0	1	1	0	0	0	0
ZINC COMPOUNDS	0	0	0	0	0	0	0	0	0	0
ORIENT CORP Total	240	0	0	0	65	305	57,000	0	1,900	58,900
PERDUE BRIDGEVILLE										
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
PERDUE BRIDGEVILLE Total	0	0	0	0	0	0	0	0	0	0
PERDUE GEORGETOWN										
HYDROGEN SULFIDE	0	0	0	0	0	0	0	0	332,538	332,538
NITRATE COMPOUNDS	0	0	0	0	0	0	0	0	0	0
PERACETIC ACID	0	0	0	0	0	0	0	0	24,892	24,892
PERDUE GEORGETOWN Total	0	0	0	0	0	0	0	0	357,430	357,430
PERDUE MILFORD										
PERACETIC ACID	0	0	0	0	0	0	0	0	27,400	27,400
PERDUE MILFORD Total	0	0	0	0	0	0	0	0	27,400	27,400
PICTSWEET BRIDGEVILLE										
AMMONIA	0	0	0	0	0	0	0	0	0	0
PICTSWEET BRIDGEVILLE Total	0	0	0	0	0	0	0	0	0	0
PPG DOVER										
CERTAIN GLYCOL ETHERS	1,540	0	9	762	0	2,311	0	0	0	0
ETHYLENE GLYCOL	2,883	0	17	128	3	3,031	0	0	0	0
ZINC COMPOUNDS	2,594	0	0	0	3,271	5,865	0	0	0	0
PPG DOVER Total	7,017	0	26	890	3,274	11,207	0	0	0	0
PRINCE MINERALS										
BARIUM COMPOUNDS	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	0	0	0	0	1	1	0	0	0	0
MANGANESE COMPOUNDS	0	0	0	0	139	139	0	0	0	0
NICKEL COMPOUNDS	0	0	0	0	0	0	0	0	0	0
PRINCE MINERALS Total	0	0	0	0	140	140	0	0	0	0

Source: DNREC 2012 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX D

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY FACILITY

	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
ROHM & HAAS B2,B3,B8										
DIISOCYANATES	0	0	0	0	0	0	0	0	0	0
N,N-DIMETHYLFORMAMIDE	147,051	1,851,632	453,234	129	0	2,452,046	5,386,856	0	712	5,387,568
PHTHALIC ANHYDRIDE	1,300	0	0	1,781	0	3,081	0	0	0	0
ROHM & HAAS B2,B3,B8 Total	148,351	1,851,632	453,234	1,910	0	2,455,127	5,386,856	0	712	5,387,568
ROHM & HAAS B5, B6										
4,4'-METHYLENEBIS(2-CHLOROANILINE)	0	0	0	0	0	0	0	0	0	0
DIISOCYANATES	0	0	0	3,816	8	3,824	0	0	0	0
N-METHYL-2-PYRROLIDONE	0	89,233	0	2,590	0	91,823	0	0	0	0
TOLUENE DIISOCYANATE (MIXED ISOMERS)	0	0	0	853	7	860	0	0	4,599	4,599
ROHM & HAAS B5, B6 Total	0	89,233	0	7,259	15	96,507	0	0	4,599	4,599
ROHM & HAAS B7,B15										
4,4'-METHYLENEBIS(2-CHLOROANILINE)	0	0	0	0	0	0	0	0	0	0
N-METHYL-2-PYRROLIDONE	0	18,715	0	9	0	18,724	0	0	0	0
ROHM & HAAS B7,B15 Total	0	18,715	0	9	0	18,724	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
V&S DELAWARE GALVANIZING										
LEAD	0	3,380	0	0	313	3,693	813	0	0	813
ZINC COMPOUNDS	0	182,948	0	0	51,067	234,015	95,390	0	0	95,390
V&S DELAWARE GALVANIZING Total	0	186,328	0	0	51,380	237,708	96,203	0	0	96,203
VP RACING FUELS										
LEAD COMPOUNDS	0	0	0	0	1	1	0	0	0	0
METHANOL	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
VP RACING FUELS Total	0	0	0	0	1	1	0	0	0	0
STATE TOTALS	**814,006**	**9,383,706**	**2,556,954**	**196,890**	**2,419,683**	**15,371,238**	**8,183,213**	**16,227,012**	**376,022,549**	**400,432,774**

Source: DNREC 2012 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX E

2012 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.
DELAWARE CITY REFINERY	277,511	3,412,489	0	3,690,000	232,553	365,971,305
INDIAN RIVER GENERATING STATION	232,711	761	256,204	489,676	1	2,820,000
PERDUE GEORGETOWN	49,214	360,578	0	409,792	0	357,430
DUPONT EDGE MOOR	206,336	3,707	7,115	217,158	2,070,230	19,864,720
FORMOSA PLASTICS	150,864	4	0	150,868	168	207,312
NRG DOVER	59,010	0	0	59,010	32	0
MOUNTAIRE FARMS OF DELAWARE	22,821	0	28,208	51,029	0	85,453
BASF NEWPORT	19,645	0	0	19,645	768,146	1,168,620
EVRAZ CLAYMONT STEEL	3,038	184	14,810	18,032	2,311,322	0
JUSTIN TANKS	12,190	0	365	12,555	365	28,840
HANOVER FOODS	11,926	0	0	11,926	0	0
AIR LIQUIDE - MEDAL	8,668	0	0	8,668	184,036	2,159,827
DUPONT RED LION PLANT	8,499	0	0	8,499	0	0
HONEYWELL	6,721	0	0	6,721	19,098	293,730
DENTSPLY WEST	4,930	0	0	4,930	29,439	0
HANDY TUBE	4,610	0	0	4,610	93,544	0
ROHM & HAAS B2,B3,B8	4,161	0	0	4,161	2,455,127	5,387,568
BASF SEAFORD	3,944	0	0	3,944	1,180	4,029
HIRSH INDUSTRIES	3,925	0	0	3,925	0	0
CRODA	3,654	0	0	3,654	18,631	85
ROHM & HAAS B5, B6	2,908	0	0	2,908	96,507	4,599
ROHM & HAAS B7,B15	2,798	0	0	2,798	18,724	0
NORAMCO	2,323	0	0	2,323	1,756,181	1,756,181
ARLON	1,633	0	0	1,633	9,590	140,000
PICTSWEET BRIDGEVILLE	1,545	0	0	1,545	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS	836	0	0	836	63	0
AGILENT TECHNOLOGIES NEWPORT	775	0	0	775	186,512	0
KUEHNE	750	0	0	750	0	0
DOVER AFB	573	0	0	573	5,125	0
V&S DELAWARE GALVANIZING	261	172	0	433	237,708	96,203
PRINCE MINERALS	159	0	0	159	140	0
JOHNSON CONTROLS BATTERY PLANT	123	9	0	132	2,616,580	0
ORIENT CORP	76	0	0	76	305	58,900
PPG DOVER	34	0	0	34	11,207	0
MOUNTAIRE FARMS - SELBYVILLE	17	0	0	17	0	0

Source: DNREC 2012 TRI Database, October, 2013
All amounts are in pounds

APPENDIX E

2012 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.
BALTIMORE AIRCOIL	13	0	0	13	610,330	0
AEARO TECHNOLOGIES	6	0	0	6	2,000	0
METAL MASTERS	2	0	0	2	237,623	0
VP RACING FUELS	1	0	0	1	1	0
ALLEN HARIM FARMS - SEAFORD MILL	0	0	0	0	0	0
ALLEN HARIM FOODS - HARBESON	0	0	0	0	0	0
AMICK FARMS	0	0	0	0	0	0
CARL KING	0	0	0	0	0	0
CHROME DEPOSIT	0	0	0	0	0	0
COLOR WORKS	0	0	0	0	716	0
DENTSPLY LAKEVIEW	0	0	0	0	2,666	0
DUHADAWY TOOL AND DIE	0	0	0	0	21,014	0
FUJIFILM	0	0	0	0	661	0
GAC SEAFORD	0	0	0	0	0	0
HANESBRANDS	0	0	0	0	41,849	0
IKO	0	0	0	0	545	572
INTERVET	0	0	0	0	2	0
JOHNSON CONTROLS DIST. CENTER	0	0	0	0	1,331,295	0
MACDERMID	0	0	0	0	0	0
MOTECH AMERICAS	0	0	0	0	22	0
MOUNTAIRE FARMS - FRANKFORD FEED MILI	0	0	0	0	0	0
PERDUE BRIDGEVILLE	0	0	0	0	0	0
PERDUE MILFORD	0	0	0	0	0	27,400
SERVICE ENERGY DOVER	0	0	0	0	0	0
SPI PHARMA	0	0	0	0	0	0
FACILITY TOTALS	**1,109,211**	**3,777,904**	**306,702**	**5,193,817**	**15,371,238**	**400,432,774**

Source: DNREC 2012 TRI Database, October, 2013
All amounts are in pounds

APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
1,2,4-TRIMETHYLBENZENE							
CARL KING	1	0	0	0	0	0	0
DELAWARE CITY REFINERY	0	1,170	5	0	1,175	0	59,178
DOVER AFB	0	98	0	0	98	0	0
GAC SEAFORD	1	0	0	0	0	0	0
SERVICE ENERGY DOVER	1	0	0	0	0	0	0
1,2,4-TRIMETHYLBENZENE Total	**3**	**1,268**	**5**	**0**	**1,273**	**0**	**59,178**
1,3-BUTADIENE							
DELAWARE CITY REFINERY	0	569	0	0	569	0	0
1,3-BUTADIENE Total	0	569	0	0	569	0	0
2,4-DIMETHYLPHENOL							
DELAWARE CITY REFINERY	0	0	173	0	173	0	242,713
2,4-DIMETHYLPHENOL Total	0	0	173	0	173	0	242,713
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	0	35	0	0	35	13,294	0
ACETONITRILE Total	0	35	0	0	35	13,294	0

Source: DNREC 2012 TRI Database, October, 2013
A "1" in the Form A column indicates a Form A report

All Amounts Are in Pounds

APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
AMMONIA							
BASF SEAFORD	0	3,187	0	0	3,187	376	3,117
DELAWARE CITY REFINERY	0	25,066	4,018	0	29,084	0	15,051,153
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	815	0	0	815	63	0
FORMOSA PLASTICS	0	12,610	0	0	12,610	0	0
HANOVER FOODS	0	11,926	0	0	11,926	0	0
HONEYWELL	0	17	0	0	17	668	0
INDIAN RIVER GENERATING STATION	0	27,250	0	0	27,250	0	140,000
MOUNTAIRE FARMS OF DELAWARE	0	12,089	0	28,208	40,297	0	0
PICTSWEET BRIDGEVILLE	0	1,545	0	0	1,545	0	0
AMMONIA Total	0	94,505	4,018	28,208	126,731	1,107	15,194,270
ANILINE							
BASF NEWPORT	0	32	0	0	32	51,364	1,188
ORIENT CORP	0	74	0	0	74	304	58,900
ANILINE Total	0	106	0	0	106	51,668	60,088
ANTHRACENE							
DELAWARE CITY REFINERY	0	10	5	0	15	0	0
ANTHRACENE Total	0	10	5	0	15	0	0
ANTIMONY COMPOUNDS							
JOHNSON CONTROLS BATTERY PLANT	0	0	0	0	0	11,361	0
ANTIMONY COMPOUNDS Total	0	0	0	0	0	11,361	0
ARSENIC COMPOUNDS							
DUPONT EDGE MOOR	0	0	62	0	62	19	0
ARSENIC COMPOUNDS Total	0	0	62	0	62	19	0
ASBESTOS (FRIABLE)							
DELAWARE CITY REFINERY	0	0	0	0	0	232,180	0
ASBESTOS (FRIABLE) Total	0	0	0	0	0	232,180	0

Source: DNREC 2012 TRI Database, October, 2013
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All Amounts Are in Pounds

APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
BARIUM COMPOUNDS							
DUPONT EDGE MOOR	0	1	1,418	0	1,419	11,898	0
INDIAN RIVER GENERATING STATION	0	255	750	190,000	191,005	1	0
PRINCE MINERALS	1	0	0	0	0	0	0
BARIUM COMPOUNDS Total	1	256	2,168	190,000	192,424	11,899	0
BENZENE							
DELAWARE CITY REFINERY	0	11,893	5	0	11,898	99	654,943
BENZENE Total	0	11,893	5	0	11,898	99	654,943
BENZO(G,H,I)PERYLENE							
DELAWARE CITY REFINERY	0	0	5	0	5	0	474
DUPONT EDGE MOOR	0	0	0	1	1	0	0
MOUNTAIRE FARMS - SELBYVILLE	0	0	0	0	0	0	0
BENZO(G,H,I)PERYLENE Total	0	0	5	1	6	0	474
BIPHENYL							
BASF NEWPORT	0	97	0	0	97	217,711	2,321
BIPHENYL Total	0	97	0	0	97	217,711	2,321
BORON TRIFLUORIDE							
HONEYWELL	0	429	0	0	429	8	131,903
BORON TRIFLUORIDE Total	0	429	0	0	429	8	131,903
BUTYL ACRYLATE							
BASF SEAFORD	0	152	0	0	152	111	54
BUTYL ACRYLATE Total	0	152	0	0	152	111	54
CARBON DISULFIDE							
DELAWARE CITY REFINERY	0	1,246	0	0	1,246	0	1,851,501
CARBON DISULFIDE Total	0	1,246	0	0	1,246	0	1,851,501

Source: DNREC 2012 TRI Database, October, 2013
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All Amounts Are in Pounds

APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
CARBONYL SULFIDE							
DELAWARE CITY REFINERY	0	537	0	0	537	0	14,531,920
DUPONT EDGE MOOR	0	199,371	0	0	199,371	0	0
CARBONYL SULFIDE Total	0	199,908	0	0	199,908	0	14,531,920
CERTAIN GLYCOL ETHERS							
BASF SEAFORD	0	5	0	0	5	345	0
CRODA	0	2	0	0	2	3,190	0
HIRSH INDUSTRIES	0	3,925	0	0	3,925	0	0
PPG DOVER	0	5	0	0	5	2,311	0
CERTAIN GLYCOL ETHERS Total	0	3,937	0	0	3,937	5,846	0
CHLORINE							
DUPONT EDGE MOOR	0	1,046	0	0	1,046	0	2,238,334
KUEHNE	0	750	0	0	750	0	0
SPI PHARMA	1	0	0	0	0	0	0
CHLORINE Total	1	1,796	0	0	1,796	0	2,238,334
CHROMIUM							
DUHADAWY TOOL AND DIE	0	0	0	0	0	9,702	0
HANDY TUBE	0	0	0	0	0	40,884	0
INDIAN RIVER GENERATING STATION	0	6,605	0	750	7,355	0	0
METAL MASTERS	0	1	0	0	1	185,999	0
CHROMIUM Total	0	6,606	0	750	7,356	236,585	0
CHROMIUM COMPOUNDS							
BALTIMORE AIRCOIL	0	4	0	0	4	224,761	0
DUPONT EDGE MOOR	0	0	8	0	8	247,048	0
EVRAZ CLAYMONT STEEL	0	112	1	199	312	32,147	0
ORIENT CORP	0	0	0	0	0	0	0
CHROMIUM COMPOUNDS Total	0	116	9	199	324	503,956	0

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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

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
COBALT COMPOUNDS							
DUPONT EDGE MOOR	0	0	0	0	0	5,611	0
COBALT COMPOUNDS Total	0	0	0	0	0	5,611	0
COPPER							
ARLON	0	5	0	0	5	4,300	0
COPPER Total	0	5	0	0	5	4,300	0
COPPER COMPOUNDS							
AMICK FARMS	1	0	0	0	0	0	0
DUPONT EDGE MOOR	0	0	18	0	18	2,256	0
EVRAZ CLAYMONT STEEL	0	134	26	501	661	33,168	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	1	0	0	0	0	0	0
COPPER COMPOUNDS Total	4	134	44	501	679	35,424	0
CREOSOTE							
DUPONT EDGE MOOR	0	1,076	0	6,578	7,654	0	0
CREOSOTE Total	0	1,076	0	6,578	7,654	0	0
CRESOL (MIXED ISOMERS)							
DELAWARE CITY REFINERY	0	0	346	0	346	12	331,221
CRESOL (MIXED ISOMERS) Total	0	0	346	0	346	12	331,221
CUMENE							
DELAWARE CITY REFINERY	0	356	5	0	361	0	3,097
DOVER AFB	0	98	0	0	98	0	0
CUMENE Total	0	454	5	0	459	0	3,097
CYANIDE COMPOUNDS							
DELAWARE CITY REFINERY	0	0	548	0	548	0	129,957
CYANIDE COMPOUNDS Total	0	0	548	0	548	0	129,957

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All Amounts Are in Pounds

APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
CYCLOHEXANE							
AIR LIQUIDE - MEDAL	0	5,622	0	0	5,622	5,618	0
BASF NEWPORT	0	44	0	0	44	3,388	3,416
DELAWARE CITY REFINERY	0	1,817	5	0	1,822	0	6,799
CYCLOHEXANE Total	0	7,483	5	0	7,488	9,006	10,215
DICHLOROMETHANE							
NORAMCO	0	1,575	0	0	1,575	53,677	53,677
DICHLOROMETHANE Total	0	1,575	0	0	1,575	53,677	53,677
DIETHANOLAMINE							
CRODA	0	4	0	0	4	40	0
DIETHANOLAMINE Total	0	4	0	0	4	40	0
DIISOCYANATES							
AEARO TECHNOLOGIES	0	2	0	0	2	1,250	0
MACDERMID	1	0	0	0	0	0	0
ROHM & HAAS B2,B3,B8	0	0	0	0	0	0	0
ROHM & HAAS B5, B6	0	2	0	0	2	3,824	0
DIISOCYANATES Total	1	4	0	0	4	5,074	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS							
DELAWARE CITY REFINERY	0.000000	0.001243	0.000000	0.000000	0.001243	0.000000	0.001243
DUPONT EDGE MOOR	0.000000	0.000083	0.002502	0.000000	0.002585	2.270000	0.000000
EDGE MOOR/HAY ROAD ENERGY CENTERS	0.000000	0.007824	0.000000	0.000000	0.007824	0.000000	0.000000
EVRAZ CLAYMONT STEEL	0.000000	0.015591	0.000000	0.000000	0.015591	0.000000	0.000000
FORMOSA PLASTICS	0.000000	0.000012	0.000000	0.000000	0.000012	0.000220	0.000000
INDIAN RIVER GENERATING STATION	0.000000	0.000287	0.000000	0.000000	0.000287	0.000000	0.000000
DIOXIN AND DIOXIN-LIKE COMPOUNDS Total	0.000000	0.025040	0.002502	0.000000	0.027542	2.270220	0.001243
ETHYL ACRYLATE							
BASF SEAFORD	0	168	0	0	168	109	11
ETHYL ACRYLATE Total	0	168	0	0	168	109	11

Source: DNREC 2012 TRI Database, October, 2013
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All Amounts Are in Pounds

APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

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
ETHYLBENZENE							
ARLON	0	318	0	0	318	790	28,000
DELAWARE CITY REFINERY	0	2,174	5	0	2,179	45	48,361
DOVER AFB	0	100	0	0	100	0	0
ETHYLBENZENE Total	0	2,592	5	0	2,597	835	76,361
ETHYLENE							
DELAWARE CITY REFINERY	0	4,782	0	0	4,782	0	913,339
ETHYLENE Total	0	4,782	0	0	4,782	0	913,339
ETHYLENE GLYCOL							
PPG DOVER	0	5	0	0	5	3,031	0
ETHYLENE GLYCOL Total	0	5	0	0	5	3,031	0
ETHYLENE OXIDE							
CRODA	0	2,246	0	0	2,246	0	42
ETHYLENE OXIDE Total	0	2,246	0	0	2,246	0	42
FORMIC ACID							
NORAMCO	0	24	0	0	24	0	0
FORMIC ACID Total	0	24	0	0	24	0	0
HEXACHLOROBENZENE							
DUPONT EDGE MOOR	0	0	0	0	0	471	0
HEXACHLOROBENZENE Total	0	0	0	0	0	471	0
HYDROCHLORIC ACID							
DELAWARE CITY REFINERY	0	364	0	0	364	0	220,466
DUPONT EDGE MOOR	0	4,185	0	0	4,185	0	16,402,538
INDIAN RIVER GENERATING STATION	0	170,000	0	0	170,000	0	1,400,000
NRG DOVER	0	59,000	0	0	59,000	0	0
HYDROCHLORIC ACID Total	0	233,549	0	0	233,549	0	18,023,004
HYDROGEN CYANIDE							
DELAWARE CITY REFINERY	0	2,221	764	0	2,985	0	388,741
HYDROGEN CYANIDE Total	0	2,221	764	0	2,985	0	388,741

Source: DNREC 2012 TRI Database, October, 2013
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All Amounts Are in Pounds

APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
HYDROGEN FLUORIDE							
HONEYWELL	0	544	0	0	544	12	102
INDIAN RIVER GENERATING STATION	0	17,000	0	0	17,000	0	80,000
HYDROGEN FLUORIDE Total	0	17,544	0	0	17,544	12	80,102
HYDROGEN SULFIDE							
DELAWARE CITY REFINERY	0	14,977	0	0	14,977	0	329,348,194
DUPONT RED LION PLANT	0	168	0	0	168	0	0
MOUNTAIRE FARMS OF DELAWARE	0	10,732	0	0	10,732	0	85,453
PERDUE GEORGETOWN	0	49,214	0	0	49,214	0	332,538
HYDROGEN SULFIDE Total	0	75,091	0	0	75,091	0	329,766,185
LEAD							
MOTECH AMERICAS	0	0	0	0	0	22	0
V&S DELAWARE GALVANIZING	0	6	5	0	11	3,693	813
LEAD Total	0	6	5	0	11	3,715	813
LEAD COMPOUNDS							
CHROME DEPOSIT	0	0	0	0	0	0	0
DELAWARE CITY REFINERY	0	116	3	0	119	7	0
DOVER AFB	0	69	0	0	69	5,125	0
DUPONT EDGE MOOR	0	0	1	0	1	28,212	0
EVRAZ CLAYMONT STEEL	0	351	40	72	463	154,660	0
INDIAN RIVER GENERATING STATION	0	82	0	10,367	10,449	0	0
JOHNSON CONTROLS BATTERY PLANT	0	123	9	0	132	2,605,219	0
JOHNSON CONTROLS DIST. CENTER	0	0	0	0	0	1,331,295	0
NRG DOVER	0	6	0	0	6	32	0
PRINCE MINERALS	0	0	0	0	0	1	0
VP RACING FUELS	0	1	0	0	1	1	0
LEAD COMPOUNDS Total	0	748	53	10,439	11,240	4,124,552	0

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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
MANGANESE							
COLOR WORKS	0	0	0	0	0	716	0
HANDY TUBE	0	0	0	0	0	4,183	0
MANGANESE Total	0	0	0	0	0	4,899	0
MANGANESE COMPOUNDS							
ALLEN HARIM FARMS - SEAFORD MILL	1	0	0	0	0	0	0
AMICK FARMS	1	0	0	0	0	0	0
BALTIMORE AIRCOIL	0	8	0	0	8	129,467	0
DUPONT EDGE MOOR	0	1	2,032	0	2,033	1,576,277	0
EVRAZ CLAYMONT STEEL	0	381	5	13,382	13,768	247,399	0
INDIAN RIVER GENERATING STATION	0	255	5	28,000	28,260	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	1	0	0	0	0	0	0
PRINCE MINERALS	0	159	0	0	159	139	0
MANGANESE COMPOUNDS Total	5	804	2,042	41,382	44,228	1,953,282	0
MERCURY							
DENTSPLY LAKEVIEW	0	0	0	0	0	2,666	0
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	21	0	0	21	0	0
MERCURY Total	0	21	0	0	21	2,666	0
MERCURY COMPOUNDS							
DELAWARE CITY REFINERY	0	57	2	0	59	6	0
DUPONT EDGE MOOR	0	1	0	0	1	2	0
EVRAZ CLAYMONT STEEL	0	143	0	0	143	3	0
INDIAN RIVER GENERATING STATION	0	8	0	87	95	0	0
INTERVET	0	0	0	0	0	2	0
NRG DOVER	0	4	0	0	4	0	0
MERCURY COMPOUNDS Total	0	213	2	87	302	14	0

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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
METHANOL							
AGILENT TECHNOLOGIES NEWPORT	0	721	0	0	721	37,219	0
AIR LIQUIDE - MEDAL	0	445	0	0	445	58,590	1,178,753
BASF NEWPORT	0	18,481	0	0	18,481	443,359	1,132,200
CRODA	0	681	0	0	681	14,677	0
DELAWARE CITY REFINERY	0	5,891	5	0	5,896	0	23,337
DENTSPLY WEST	0	3,385	0	0	3,385	7,812	0
HONEYWELL	0	4	0	0	4	700	60
NORAMCO	0	119	0	0	119	134,623	134,623
VP RACING FUELS	1	0	0	0	0	0	0
METHANOL Total	1	29,727	5	0	29,732	696,980	2,468,973
METHYL METHACRYLATE							
BASF SEAFORD	0	199	0	0	199	109	177
DENTSPLY WEST	0	1,349	0	0	1,349	5,106	0
METHYL METHACRYLATE Total	0	1,548	0	0	1,548	5,215	177
N,N-DIMETHYLFORMAMIDE							
AIR LIQUIDE - MEDAL	0	21	0	0	21	13,565	0
ROHM & HAAS B2,B3,B8	0	4,160	0	0	4,160	2,452,046	5,387,568
N,N-DIMETHYLFORMAMIDE Total	0	4,181	0	0	4,181	2,465,611	5,387,568
NAPHTHALENE							
CARL KING	1	0	0	0	0	0	0
CRODA	0	3	0	0	3	420	0
DELAWARE CITY REFINERY	0	2,002	5	0	2,007	0	9,795
DOVER AFB	0	105	0	0	105	0	0
INDIAN RIVER GENERATING STATION	1	0	0	0	0	0	0
NAPHTHALENE Total	2	2,110	5	0	2,115	420	9,795
N-BUTYL ALCOHOL							
CRODA	0	100	0	0	100	304	0
NORAMCO	0	10	0	0	10	658,795	658,795
N-BUTYL ALCOHOL Total	0	110	0	0	110	659,099	658,795

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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
N-HEXANE							
AIR LIQUIDE - MEDAL	0	1,685	0	0	1,685	0	981,074
DELAWARE CITY REFINERY	0	19,932	5	0	19,937	0	93,827
HONEYWELL	0	5,727	0	0	5,727	17,710	161,665
N-HEXANE Total	0	27,344	5	0	27,349	17,710	1,236,566
NICKEL							
DUHADAWY TOOL AND DIE	0	0	0	0	0	11,312	0
HANDY TUBE	0	0	0	0	0	38,273	0
METAL MASTERS	0	1	0	0	1	51,624	0
NICKEL Total	0	1	0	0	1	101,209	0
NICKEL COMPOUNDS							
BALTIMORE AIRCOIL	0	1	0	0	1	256,102	0
DUPONT EDGE MOOR	0	1	40	0	41	14,227	0
EVRAZ CLAYMONT STEEL	0	28	1	359	388	4,161	0
PRINCE MINERALS	1	0	0	0	0	0	0
NICKEL COMPOUNDS Total	1	30	41	359	430	274,490	0
NITRATE COMPOUNDS							
ALLEN HARIM FOODS - HARBESON	1	0	0	0	0	0	0
BASF NEWPORT	0	0	0	0	0	48,718	0
DELAWARE CITY REFINERY	0	0	3,406,388	0	3,406,388	0	0
FUJIFILM	0	0	0	0	0	661	0
HANESBRANDS	0	0	0	0	0	41,849	0
PERDUE GEORGETOWN	0	0	360,578	0	360,578	0	0
NITRATE COMPOUNDS Total	1	0	3,766,966	0	3,766,966	91,228	0
NITRIC ACID							
BASF NEWPORT	0	0	0	0	0	0	24,752
SPI PHARMA	1	0	0	0	0	0	0
NITRIC ACID Total	1	0	0	0	0	0	24,752

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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
NITROBENZENE							
ORIENT CORP	0	2	0	0	2	1	0
NITROBENZENE Total	0	2	0	0	2	1	0
N-METHYL-2-PYRROLIDONE							
AIR LIQUIDE - MEDAL	0	895	0	0	895	106,263	0
ROHM & HAAS B5, B6	0	2,904	0	0	2,904	91,823	0
ROHM & HAAS B7,B15	0	2,798	0	0	2,798	18,724	0
N-METHYL-2-PYRROLIDONE Total	0	6,597	0	0	6,597	216,810	0
OCTACHLOROSTYRENE							
DUPONT EDGE MOOR	0	0	0	0	0	19	0
OCTACHLOROSTYRENE Total	0	0	0	0	0	19	0
P-CHLOROANILINE							
BASF NEWPORT	0	6	0	0	6	2,911	157
P-CHLOROANILINE Total	0	6	0	0	6	2,911	157
PENTACHLOROBENZENE							
DUPONT EDGE MOOR	0	0	0	0	0	6	0
PENTACHLOROBENZENE Total	0	0	0	0	0	6	0
PERACETIC ACID							
PERDUE GEORGETOWN	0	0	0	0	0	0	24,892
PERDUE MILFORD	0	0	0	0	0	0	27,400
PERACETIC ACID Total	0	0	0	0	0	0	52,292
PHENANTHRENE							
DELAWARE CITY REFINERY	0	2	5	0	7	0	0
PHENANTHRENE Total	0	2	5	0	7	0	0
PHENOL							
DELAWARE CITY REFINERY	0	140	173	0	313	0	301,441
PHENOL Total	0	140	173	0	313	0	301,441

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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
PHOSGENE							
DUPONT EDGE MOOR	0	429	0	0	429	0	165,815
PHOSGENE Total	0	429	0	0	429	0	165,815
PHTHALIC ANHYDRIDE							
ROHM & HAAS B2,B3,B8	0	1	0	0	1	3,081	0
PHTHALIC ANHYDRIDE Total	0	1	0	0	1	3,081	0
POLYCHLORINATED BIPHENYLS							
DUPONT EDGE MOOR	0	0	0	0	0	20	0
POLYCHLORINATED BIPHENYLS Total	0	0	0	0	0	20	0
POLYCYCLIC AROMATIC COMPOUNDS							
DELAWARE CITY REFINERY	0	239	4	0	243	0	390
DUPONT EDGE MOOR	0	88	0	536	624	0	0
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	0	0	0
HANESBRANDS	0	0	0	0	0	0	0
IKO	0	0	0	0	0	545	572
INDIAN RIVER GENERATING STATION	0	1	1	0	2	0	0
MOUNTAIRE FARMS - FRANKFORD FEED MILL	0	0	0	0	0	0	0
MOUNTAIRE FARMS - SELBYVILLE	0	17	0	0	17	0	0
POLYCYCLIC AROMATIC COMPOUNDS Total	0	345	5	536	886	545	962
PROPYLENE							
DELAWARE CITY REFINERY	0	12,778	0	0	12,778	0	1,351,957
PROPYLENE Total	0	12,778	0	0	12,778	0	1,351,957
PROPYLENE OXIDE							
CRODA	0	618	0	0	618	0	44
PROPYLENE OXIDE Total	0	618	0	0	618	0	44

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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
STYRENE							
BASF SEAFORD	0	233	0	0	233	130	670
DELAWARE CITY REFINERY	0	16	5	0	21	0	1,194
JUSTIN TANKS	0	12,190	0	365	12,555	365	28,840
STYRENE Total	0	12,439	5	365	12,809	495	30,704
SULFURIC ACID							
DELAWARE CITY REFINERY	0	147,486	0	0	147,486	0	0
DUPONT RED LION PLANT	0	8,331	0	0	8,331	0	0
INDIAN RIVER GENERATING STATION	0	11,000	0	0	11,000	0	1,200,000
SULFURIC ACID Total	0	166,817	0	0	166,817	0	1,200,000
TETRACHLOROETHYLENE							
DELAWARE CITY REFINERY	0	8	0	0	8	0	0
TETRACHLOROETHYLENE Total	0	8	0	0	8	0	0
TITANIUM TETRACHLORIDE							
DUPONT EDGE MOOR	0	50	0	0	50	0	1,058,033
TITANIUM TETRACHLORIDE Total	0	50	0	0	50	0	1,058,033
TOLUENE							
AGILENT TECHNOLOGIES NEWPORT	0	19	0	0	19	135,999	0
DELAWARE CITY REFINERY	0	14,724	5	0	14,729	19	203,654
DENTSPLY WEST	0	196	0	0	196	16,520	0
DUPONT EDGE MOOR	0	77	0	0	77	143	0
NORAMCO	0	595	0	0	595	909,086	909,086
SERVICE ENERGY DOVER	1	0	0	0	0	0	0
VP RACING FUELS	1	0	0	0	0	0	0
TOLUENE Total	2	15,611	5	0	15,616	1,061,767	1,112,740

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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

FACILITY/CHEMICAL	FORM A	ON-SITE RELEASES TO AIR	TO WATER	TO LAND	TOTAL	OFF-SITE TRANSFERS	ON-SITE WASTE MANAGEMENT
TOLUENE DIISOCYANATE (MIXED ISOMERS)							
AEARO TECHNOLOGIES	0	4	0	0	4	750	0
MACDERMID	1	0	0	0	0	0	0
ROHM & HAAS B5, B6	0	2	0	0	2	860	4,599
TOLUENE DIISOCYANATE (MIXED ISOMERS) Tot	1	6	0	0	6	1,610	4,599
TRICHLOROETHYLENE							
HANDY TUBE	0	4,610	0	0	4,610	10,204	0
TRICHLOROETHYLENE Total	0	4,610	0	0	4,610	10,204	0
VANADIUM COMPOUNDS							
DUPONT EDGE MOOR	0	1	105	0	106	164,368	0
INDIAN RIVER GENERATING STATION	0	255	5	27,000	27,260	0	0
VANADIUM COMPOUNDS Total	0	256	110	27,000	27,366	164,368	0
VINYL ACETATE							
FORMOSA PLASTICS	0	78,994	0	0	78,994	0	0
VINYL ACETATE Total	0	78,994	0	0	78,994	0	0
VINYL CHLORIDE							
FORMOSA PLASTICS	0	59,260	4	0	59,264	168	207,312
VINYL CHLORIDE Total	0	59,260	4	0	59,264	168	207,312
XYLENE (MIXED ISOMERS)							
ARLON	0	1,310	0	0	1,310	4,500	112,000
BASF NEWPORT	0	985	0	0	985	694	4,586
CARL KING	1	0	0	0	0	0	0
DELAWARE CITY REFINERY	0	6,938	5	0	6,943	185	203,653
DOVER AFB	0	103	0	0	103	0	0
VP RACING FUELS	1	0	0	0	0	0	0
XYLENE (MIXED ISOMERS) Total	**2**	**9,336**	**5**	**0**	**9,341**	**5,379**	**320,239**

Source: DNREC 2012 TRI Database, October, 2013
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APPENDIX F

2012 ON-SITE RELEASES BY CHEMICAL AND FACILITY

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
ZINC COMPOUNDS							
ALLEN HARIM FARMS - SEAFORD MILL	1	0	0	0	0	0	0
AMICK FARMS	1	0	0	0	0	0	0
DUPONT EDGE MOOR	0	9	23	0	32	19,652	0
EVRAZ CLAYMONT STEEL	0	1,889	111	297	2,297	1,839,784	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 CORP	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE	1	0	0	0	0	0	0
PPG DOVER	0	24	0	0	24	5,865	0
V&S DELAWARE GALVANIZING	0	255	167	0	422	234,015	95,390
ZINC COMPOUNDS Total	**5**	**2,177**	**301**	**297**	**2,775**	**2,099,316**	**95,390**
STATE TOTALS	**33**	**1,109,211**	**3,777,904**	**306,702**	**5,193,817**	**15,371,238**	**400,432,774**

Source: DNREC 2012 TRI Database, October, 2013
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APPENDIX G

2012 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										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	59,178	59,178
DOVER AFB	0	0	0	0	0	0	0	0	0	0
CARL KING	0	0	0	0	0	0	0	0	0	0
GAC SEAFORD	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**	**59,178**	**59,178**
1,3-BUTADIENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	0	0
1,3-BUTADIENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2,4-DIMETHYLPHENOL										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	242,713	242,713
2,4-DIMETHYLPHENOL Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**242,713**	**242,713**
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	13,294	0	0	13,294	0	0	0	0
ACETONITRILE Total	**0**	**0**	**13,294**	**0**	**0**	**13,294**	**0**	**0**	**0**	**0**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 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**
AMMONIA										
BASF SEAFORD	346	0	0	0	30	376	0	0	3,117	3,117
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	14,987,723	63,430	15,051,153
EDGE MOOR/HAY ROAD ENERGY CENTERS	63	0	0	0	0	63	0	0	0	0
HONEYWELL	668	0	0	0	0	668	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
FORMOSA PLASTICS	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	140,000	140,000
PICTSWEET BRIDGEVILLE	0	0	0	0	0	0	0	0	0	0
HANOVER FOODS	0	0	0	0	0	0	0	0	0	0
AMMONIA Total	**1,077**	**0**	**0**	**0**	**30**	**1,107**	**0**	**14,987,723**	**206,547**	**15,194,270**
ANILINE										
BASF NEWPORT	19,926	0	18,150	12,292	996	51,364	0	0	1,188	1,188
ORIENT CORP	240	0	0	0	64	304	57,000	0	1,900	58,900
ANILINE Total	**20,166**	**0**	**18,150**	**12,292**	**1,060**	**51,668**	**57,000**	**0**	**3,088**	**60,088**
ANTHRACENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	0	0
ANTHRACENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ANTIMONY COMPOUNDS										
JOHNSON CONTROLS BATTERY PLANT	0	11,361	0	0	0	11,361	0	0	0	0
ANTIMONY COMPOUNDS Total	**0**	**11,361**	**0**	**0**	**0**	**11,361**	**0**	**0**	**0**	**0**
ARSENIC COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	19	19	0	0	0	0
ARSENIC COMPOUNDS Total	**0**	**0**	**0**	**0**	**19**	**19**	**0**	**0**	**0**	**0**
ASBESTOS (FRIABLE)										
DELAWARE CITY REFINERY	0	0	0	0	232,180	232,180	0	0	0	0
ASBESTOS (FRIABLE) Total	**0**	**0**	**0**	**0**	**232,180**	**232,180**	**0**	**0**	**0**	**0**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
BARIUM COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	11,898	11,898	0	0	0	0
INDIAN RIVER GENERATING STATION	0	0	0	0	1	1	0	0	0	0
PRINCE MINERALS	0	0	0	0	0	0	0	0	0	0
BARIUM COMPOUNDS Total	**0**	**0**	**0**	**0**	**11,899**	**11,899**	**0**	**0**	**0**	**0**
BENZENE										
DELAWARE CITY REFINERY	0	0	90	9	0	99	0	612,514	42,429	654,943
BENZENE Total	**0**	**0**	**90**	**9**	**0**	**99**	**0**	**612,514**	**42,429**	**654,943**
BENZO(G,H,I)PERYLENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	474	474
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	0	0
MOUNTAIRE FARMS - SELBYVILLE	0	0	0	0	0	0	0	0	0	0
BENZO(G,H,I)PERYLENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**474**	**474**
BIPHENYL										
BASF NEWPORT	11,629	0	123,496	82,005	581	217,711	0	0	2,321	2,321
BIPHENYL Total	**11,629**	**0**	**123,496**	**82,005**	**581**	**217,711**	**0**	**0**	**2,321**	**2,321**
BORON TRIFLUORIDE										
HONEYWELL	0	0	0	0	8	8	0	0	131,903	131,903
BORON TRIFLUORIDE Total	**0**	**0**	**0**	**0**	**8**	**8**	**0**	**0**	**131,903**	**131,903**
BUTYL ACRYLATE										
BASF SEAFORD	0	0	111	0	0	111	0	0	54	54
BUTYL ACRYLATE Total	**0**	**0**	**111**	**0**	**0**	**111**	**0**	**0**	**54**	**54**
CARBON DISULFIDE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	123,255	1,728,246	1,851,501
CARBON DISULFIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**123,255**	**1,728,246**	**1,851,501**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
CARBONYL SULFIDE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	83,726	14,448,194	14,531,920
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	0	0
CARBONYL SULFIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**83,726**	**14,448,194**	**14,531,920**
CERTAIN GLYCOL ETHERS										
BASF SEAFORD	0	0	0	0	345	345	0	0	0	0
PPG DOVER	1,540	0	9	762	0	2,311	0	0	0	0
CRODA	3,190	0	0	0	0	3,190	0	0	0	0
HIRSH INDUSTRIES	0	0	0	0	0	0	0	0	0	0
CERTAIN GLYCOL ETHERS Total	**4,730**	**0**	**9**	**762**	**345**	**5,846**	**0**	**0**	**0**	**0**
CHLORINE										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	2,238,334	2,238,334
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**	**2,238,334**	**2,238,334**
CHROMIUM										
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	0	0
METAL MASTERS	0	185,760	0	0	239	185,999	0	0	0	0
DUHADAWY TOOL AND DIE	0	9,400	0	0	302	9,702	0	0	0	0
HANDY TUBE	0	40,838	0	0	46	40,884	0	0	0	0
CHROMIUM Total	**0**	**235,998**	**0**	**0**	**587**	**236,585**	**0**	**0**	**0**	**0**
CHROMIUM COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	247,048	247,048	0	0	0	0
EVRAZ CLAYMONT STEEL	0	30,404	0	0	1,743	32,147	0	0	0	0
BALTIMORE AIRCOIL	0	224,761	0	0	0	224,761	0	0	0	0
ORIENT CORP	0	0	0	0	0	0	0	0	0	0
CHROMIUM COMPOUNDS Total	**0**	**255,165**	**0**	**0**	**248,791**	**503,956**	**0**	**0**	**0**	**0**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 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
COBALT COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	5,611	5,611	0	0	0	0
COBALT COMPOUNDS Total	**0**	**0**	**0**	**0**	**5,611**	**5,611**	**0**	**0**	**0**	**0**
COPPER										
ARLON	0	4,100	0	0	200	4,300	0	0	0	0
COPPER Total	**0**	**4,100**	**0**	**0**	**200**	**4,300**	**0**	**0**	**0**	**0**
COPPER COMPOUNDS										
AMICK FARMS	0	0	0	0	0	0	0	0	0	0
DUPONT EDGE MOOR	0	0	0	0	2,256	2,256	0	0	0	0
EVRAZ CLAYMONT STEEL	0	30,788	0	0	2,380	33,168	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE	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
COPPER COMPOUNDS Total	**0**	**30,788**	**0**	**0**	**4,636**	**35,424**	**0**	**0**	**0**	**0**
CREOSOTE										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	0	0
CREOSOTE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CRESOL (MIXED ISOMERS)										
DELAWARE CITY REFINERY	0	0	7	5	0	12	0	18,162	313,059	331,221
CRESOL (MIXED ISOMERS) Total	**0**	**0**	**7**	**5**	**0**	**12**	**0**	**18,162**	**313,059**	**331,221**
CUMENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	3,097	3,097
DOVER AFB	0	0	0	0	0	0	0	0	0	0
CUMENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,097**	**3,097**
CYANIDE COMPOUNDS										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	129,957	129,957
CYANIDE COMPOUNDS Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**129,957**	**129,957**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
CYCLOHEXANE										
BASF NEWPORT	0	2,519	869	0	0	3,388	0	0	3,416	3,416
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	6,799	6,799
AIR LIQUIDE - MEDAL	0	0	0	5,618	0	5,618	0	0	0	0
CYCLOHEXANE Total	**0**	**2,519**	**869**	**5,618**	**0**	**9,006**	**0**	**0**	**10,215**	**10,215**
DICHLOROMETHANE										
NORAMCO	537	0	53,140	0	0	53,677	0	0	53,677	53,677
DICHLOROMETHANE Total	**537**	**0**	**53,140**	**0**	**0**	**53,677**	**0**	**0**	**53,677**	**53,677**
DIETHANOLAMINE										
CRODA	40	0	0	0	0	40	0	0	0	0
DIETHANOLAMINE Total	**40**	**0**	**0**	**0**	**0**	**40**	**0**	**0**	**0**	**0**
DIISOCYANATES										
AEARO TECHNOLOGIES	0	0	0	1,250	0	1,250	0	0	0	0
MACDERMID	0	0	0	0	0	0	0	0	0	0
ROHM & HAAS B2,B3,B8	0	0	0	0	0	0	0	0	0	0
ROHM & HAAS B5, B6	0	0	0	3,816	8	3,824	0	0	0	0
DIISOCYANATES Total	**0**	**0**	**0**	**5,066**	**8**	**5,074**	**0**	**0**	**0**	**0**
DIOXIN AND DIOXIN-LIKE COMPOUNDS										
DELAWARE CITY REFINERY	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.001243	0.001243
DUPONT EDGE MOOR	0.000000	0.000000	0.000000	0.000000	2.270000	2.270000	0.000000	0.000000	0.000000	0.000000
EDGE MOOR/HAY ROAD ENERGY CENTERS	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
EVRAZ CLAYMONT STEEL	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
FORMOSA PLASTICS	0.000000	0.000049	0.000000	0.000000	0.000171	0.000220	0.000000	0.000000	0.000000	0.000000
INDIAN RIVER GENERATING STATION	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
DIOXIN AND DIOXIN-LIKE COMPOUNDS Total	**0.000000**	**0.000049**	**0.000000**	**0.000000**	**2.270171**	**2.270220**	**0.000000**	**0.000000**	**0.001243**	**0.001243**
ETHYL ACRYLATE										
BASF SEAFORD	0	0	109	0	0	109	0	0	11	11
ETHYL ACRYLATE Total	**0**	**0**	**109**	**0**	**0**	**109**	**0**	**0**	**11**	**11**

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
ETHYLBENZENE										
ARLON	0	0	0	790	0	790	0	0	28,000	28,000
DELAWARE CITY REFINERY	0	0	0	45	0	45	0	0	48,361	48,361
DOVER AFB	0	0	0	0	0	0	0	0	0	0
ETHYLBENZENE Total	**0**	**0**	**0**	**835**	**0**	**835**	**0**	**0**	**76,361**	**76,361**
ETHYLENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	913,339	913,339
ETHYLENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**913,339**	**913,339**
ETHYLENE GLYCOL										
PPG DOVER	2,883	0	17	128	3	3,031	0	0	0	0
ETHYLENE GLYCOL Total	**2,883**	**0**	**17**	**128**	**3**	**3,031**	**0**	**0**	**0**	**0**
ETHYLENE OXIDE										
CRODA	0	0	0	0	0	0	0	0	42	42
ETHYLENE OXIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**42**	**42**
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	471	471	0	0	0	0
HEXACHLOROBENZENE Total	**0**	**0**	**0**	**0**	**471**	**471**	**0**	**0**	**0**	**0**
HYDROCHLORIC ACID										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	220,466	220,466
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	16,402,538	16,402,538
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	1,400,000	1,400,000
NRG DOVER	0	0	0	0	0	0	0	0	0	0
HYDROCHLORIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18,023,004**	**18,023,004**
HYDROGEN CYANIDE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	313,072	75,669	388,741
HYDROGEN CYANIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**313,072**	**75,669**	**388,741**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 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	12	12	0	0	102	102
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	80,000	80,000
HYDROGEN FLUORIDE Total	**0**	**0**	**0**	**0**	**12**	**12**	**0**	**0**	**80,102**	**80,102**
HYDROGEN SULFIDE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	48,229	329,299,965	329,348,194
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	85,453	85,453
DUPONT RED LION PLANT	0	0	0	0	0	0	0	0	0	0
PERDUE GEORGETOWN	0	0	0	0	0	0	0	0	332,538	332,538
HYDROGEN SULFIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**48,229**	**329,717,956**	**329,766,185**
LEAD										
V&S DELAWARE GALVANIZING	0	3,380	0	0	313	3,693	813	0	0	813
MOTECH AMERICAS	0	15	0	0	7	22	0	0	0	0
LEAD Total	**0**	**3,395**	**0**	**0**	**320**	**3,715**	**813**	**0**	**0**	**813**
LEAD COMPOUNDS										
DELAWARE CITY REFINERY	0	2	0	0	5	7	0	0	0	0
DOVER AFB	0	4,988	0	0	137	5,125	0	0	0	0
DUPONT EDGE MOOR	0	0	0	0	28,212	28,212	0	0	0	0
EVRAZ CLAYMONT STEEL	0	154,577	0	0	83	154,660	0	0	0	0
VP RACING FUELS	0	0	0	0	1	1	0	0	0	0
CHROME DEPOSIT	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	0	0
JOHNSON CONTROLS BATTERY PLANT	0	2,605,024	0	0	195	2,605,219	0	0	0	0
PRINCE MINERALS	0	0	0	0	1	1	0	0	0	0
JOHNSON CONTROLS DIST. CENTER	1	1,331,294	0	0	1	1,331,295	0	0	0	0
NRG DOVER	0	0	0	0	32	32	0	0	0	0
LEAD COMPOUNDS Total	**1**	**4,095,885**	**0**	**0**	**28,667**	**4,124,552**	**0**	**0**	**0**	**0**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
MANGANESE										
COLOR WORKS	0	716	0	0	0	716	0	0	0	0
HANDY TUBE	0	4,179	0	0	4	4,183	0	0	0	0
MANGANESE Total	**0**	**4,895**	**0**	**0**	**4**	**4,899**	**0**	**0**	**0**	**0**
MANGANESE COMPOUNDS										
AMICK FARMS	0	0	0	0	0	0	0	0	0	0
DUPONT EDGE MOOR	0	0	0	0	1,576,277	1,576,277	0	0	0	0
EVRAZ CLAYMONT STEEL	0	237,614	0	0	9,785	247,399	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	0	0
PERDUE BRIDGEVILLE	0	0	0	0	0	0	0	0	0	0
PRINCE MINERALS	0	0	0	0	139	139	0	0	0	0
ALLEN HARIM FARMS - SEAFORD MILL	0	0	0	0	0	0	0	0	0	0
BALTIMORE AIRCOIL	0	129,467	0	0	0	129,467	0	0	0	0
MOUNTAIRE FARMS - FRANKFORD FEED MILL	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS Total	**0**	**367,081**	**0**	**0**	**1,586,201**	**1,953,282**	**0**	**0**	**0**	**0**
MERCURY										
EDGE MOOR/HAY ROAD ENERGY CENTERS	0	0	0	0	0	0	0	0	0	0
DENTSPLY LAKEVIEW	0	2,666	0	0	0	2,666	0	0	0	0
MERCURY Total	**0**	**2,666**	**0**	**0**	**0**	**2,666**	**0**	**0**	**0**	**0**
MERCURY COMPOUNDS										
DELAWARE CITY REFINERY	0	1	0	0	5	6	0	0	0	0
DUPONT EDGE MOOR	0	0	0	0	2	2	0	0	0	0
EVRAZ CLAYMONT STEEL	0	0	0	0	3	3	0	0	0	0
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	0	0
INTERVET	0	0	0	0	2	2	0	0	0	0
NRG DOVER	0	0	0	0	0	0	0	0	0	0
MERCURY COMPOUNDS Total	**0**	**1**	**0**	**0**	**13**	**14**	**0**	**0**	**0**	**0**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
METHANOL										
BASF NEWPORT	383,036	26,939	12,301	1,931	19,152	443,359	317,250	0	814,950	1,132,200
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	23,337	23,337
HONEYWELL	60	0	640	0	0	700	0	0	60	60
NORAMCO	6,731	0	127,892	0	0	134,623	0	0	134,623	134,623
VP RACING FUELS	0	0	0	0	0	0	0	0	0	0
AGILENT TECHNOLOGIES NEWPORT	0	0	37,135	84	0	37,219	0	0	0	0
AIR LIQUIDE - MEDAL	0	0	0	58,590	0	58,590	1,178,753	0	0	1,178,753
CRODA	6,277	0	8,400	0	0	14,677	0	0	0	0
DENTSPLY WEST	91	0	7,721	0	0	7,812	0	0	0	0
METHANOL Total	**396,195**	**26,939**	**194,089**	**60,605**	**19,152**	**696,980**	**1,496,003**	**0**	**972,970**	**2,468,973**
METHYL METHACRYLATE										
BASF SEAFORD	0	0	109	0	0	109	0	0	177	177
DENTSPLY WEST	88	0	5,018	0	0	5,106	0	0	0	0
METHYL METHACRYLATE Total	**88**	**0**	**5,127**	**0**	**0**	**5,215**	**0**	**0**	**177**	**177**
N,N-DIMETHYLFORMAMIDE										
AIR LIQUIDE - MEDAL	11,400	0	0	2,165	0	13,565	0	0	0	0
ROHM & HAAS B2,B3,B8	147,051	1,851,632	453,234	129	0	2,452,046	5,386,856	0	712	5,387,568
N,N-DIMETHYLFORMAMIDE Total	**158,451**	**1,851,632**	**453,234**	**2,294**	**0**	**2,465,611**	**5,386,856**	**0**	**712**	**5,387,568**
NAPHTHALENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	9,795	9,795
DOVER AFB	0	0	0	0	0	0	0	0	0	0
CARL KING	0	0	0	0	0	0	0	0	0	0
CRODA	0	0	0	420	0	420	0	0	0	0
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE Total	**0**	**0**	**0**	**420**	**0**	**420**	**0**	**0**	**9,795**	**9,795**
N-BUTYL ALCOHOL										
NORAMCO	32,940	0	625,855	0	0	658,795	0	0	658,795	658,795
CRODA	304	0	0	0	0	304	0	0	0	0
N-BUTYL ALCOHOL Total	**33,244**	**0**	**625,855**	**0**	**0**	**659,099**	**0**	**0**	**658,795**	**658,795**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
N-HEXANE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	93,827	93,827
HONEYWELL	5	0	16,463	1,242	0	17,710	136,665	0	25,000	161,665
AIR LIQUIDE - MEDAL	0	0	0	0	0	0	981,074	0	0	981,074
N-HEXANE Total	**5**	**0**	**16,463**	**1,242**	**0**	**17,710**	**1,117,739**	**0**	**118,827**	**1,236,566**
NICKEL										
METAL MASTERS	0	51,552	0	0	72	51,624	0	0	0	0
DUHADAWY TOOL AND DIE	0	11,005	0	0	307	11,312	0	0	0	0
HANDY TUBE	0	38,201	0	0	72	38,273	0	0	0	0
NICKEL Total	**0**	**100,758**	**0**	**0**	**451**	**101,209**	**0**	**0**	**0**	**0**
NICKEL COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	14,227	14,227	0	0	0	0
EVRAZ CLAYMONT STEEL	0	3,219	0	0	942	4,161	0	0	0	0
PRINCE MINERALS	0	0	0	0	0	0	0	0	0	0
BALTIMORE AIRCOIL	0	256,102	0	0	0	256,102	0	0	0	0
NICKEL COMPOUNDS Total	**0**	**259,321**	**0**	**0**	**15,169**	**274,490**	**0**	**0**	**0**	**0**
NITRATE COMPOUNDS										
BASF NEWPORT	24,359	0	0	0	24,359	48,718	0	0	0	0
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	0	0
HANESBRANDS	41,849	0	0	0	0	41,849	0	0	0	0
PERDUE GEORGETOWN	0	0	0	0	0	0	0	0	0	0
ALLEN HARIM FOODS - HARBESON	0	0	0	0	0	0	0	0	0	0
FUJIFILM	441	0	220	0	0	661	0	0	0	0
NITRATE COMPOUNDS Total	**66,649**	**0**	**220**	**0**	**24,359**	**91,228**	**0**	**0**	**0**	**0**
NITRIC ACID										
BASF NEWPORT	0	0	0	0	0	0	0	0	24,752	24,752
SPI PHARMA	0	0	0	0	0	0	0	0	0	0
NITRIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24,752**	**24,752**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
NITROBENZENE										
ORIENT CORP	0	0	0	0	1	1	0	0	0	0
NITROBENZENE Total	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**
N-METHYL-2-PYRROLIDONE										
AIR LIQUIDE - MEDAL	102,873	0	0	3,390	0	106,263	0	0	0	0
ROHM & HAAS B5, B6	0	89,233	0	2,590	0	91,823	0	0	0	0
ROHM & HAAS B7,B15	0	18,715	0	9	0	18,724	0	0	0	0
N-METHYL-2-PYRROLIDONE Total	**102,873**	**107,948**	**0**	**5,989**	**0**	**216,810**	**0**	**0**	**0**	**0**
OCTACHLOROSTYRENE										
DUPONT EDGE MOOR	0	0	0	0	19	19	0	0	0	0
OCTACHLOROSTYRENE Total	**0**	**0**	**0**	**0**	**19**	**19**	**0**	**0**	**0**	**0**
P-CHLOROANILINE										
BASF NEWPORT	2,226	0	299	275	111	2,911	0	0	157	157
P-CHLOROANILINE Total	**2,226**	**0**	**299**	**275**	**111**	**2,911**	**0**	**0**	**157**	**157**
PENTACHLOROBENZENE										
DUPONT EDGE MOOR	0	0	0	0	6	6	0	0	0	0
PENTACHLOROBENZENE Total	**0**	**0**	**0**	**0**	**6**	**6**	**0**	**0**	**0**	**0**
PERACETIC ACID										
PERDUE GEORGETOWN	0	0	0	0	0	0	0	0	24,892	24,892
PERDUE MILFORD	0	0	0	0	0	0	0	0	27,400	27,400
PERACETIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**52,292**	**52,292**
PHENANTHRENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	0	0
PHENANTHRENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHENOL										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	40,331	261,110	301,441
PHENOL Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**40,331**	**261,110**	**301,441**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
PHOSGENE										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	165,815	165,815
PHOSGENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**165,815**	**165,815**
PHTHALIC ANHYDRIDE										
ROHM & HAAS B2,B3,B8	1,300	0	0	1,781	0	3,081	0	0	0	0
PHTHALIC ANHYDRIDE Total	**1,300**	**0**	**0**	**1,781**	**0**	**3,081**	**0**	**0**	**0**	**0**
POLYCHLORINATED BIPHENYLS										
DUPONT EDGE MOOR	0	0	0	0	20	20	0	0	0	0
POLYCHLORINATED BIPHENYLS Total	**0**	**0**	**0**	**0**	**20**	**20**	**0**	**0**	**0**	**0**
POLYCYCLIC AROMATIC COMPOUNDS										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	390	390
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
HANESBRANDS	0	0	0	0	0	0	0	0	0	0
IKO	0	545	0	0	0	545	572	0	0	572
INDIAN RIVER GENERATING STATION	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 - SELBYVILLE	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOUNDS Total	**0**	**545**	**0**	**0**	**0**	**545**	**572**	**0**	**390**	**962**
PROPYLENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	1,351,957	1,351,957
PROPYLENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,351,957**	**1,351,957**
PROPYLENE OXIDE										
CRODA	0	0	0	0	0	0	0	0	44	44
PROPYLENE OXIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**44**	**44**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 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**
STYRENE										
BASF SEAFORD	0	0	130	0	0	130	0	0	670	670
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	1,194	1,194
JUSTIN TANKS	0	0	0	365	0	365	28,840	0	0	28,840
STYRENE Total	**0**	**0**	**130**	**365**	**0**	**495**	**28,840**	**0**	**1,864**	**30,704**
SULFURIC ACID										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	0	0
DUPONT RED LION PLANT	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	1,200,000	1,200,000
SULFURIC ACID Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,200,000**	**1,200,000**
TETRACHLOROETHYLENE										
DELAWARE CITY REFINERY	0	0	0	0	0	0	0	0	0	0
TETRACHLOROETHYLENE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TITANIUM TETRACHLORIDE										
DUPONT EDGE MOOR	0	0	0	0	0	0	0	0	1,058,033	1,058,033
TITANIUM TETRACHLORIDE Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,058,033**	**1,058,033**
TOLUENE										
DELAWARE CITY REFINERY	0	0	2	17	0	19	0	0	203,654	203,654
DUPONT EDGE MOOR	0	0	0	0	143	143	0	0	0	0
NORAMCO	9,091	0	899,995	0	0	909,086	0	0	909,086	909,086
VP RACING FUELS	0	0	0	0	0	0	0	0	0	0
AGILENT TECHNOLOGIES NEWPORT	0	0	135,708	291	0	135,999	0	0	0	0
SERVICE ENERGY DOVER	0	0	0	0	0	0	0	0	0	0
DENTSPLY WEST	0	0	16,520	0	0	16,520	0	0	0	0
TOLUENE Total	**9,091**	**0**	**1,052,225**	**308**	**143**	**1,061,767**	**0**	**0**	**1,112,740**	**1,112,740**

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
TOLUENE DIISOCYANATE (MIXED ISOMERS)										
AEARO TECHNOLOGIES	0	0	0	750	0	750	0	0	0	0
MACDERMID	0	0	0	0	0	0	0	0	0	0
ROHM & HAAS B5, B6	0	0	0	853	7	860	0	0	4,599	4,599
TOLUENE DIISOCYANATE (MIXED ISOMERS) Total	**0**	**0**	**0**	**1,603**	**7**	**1,610**	**0**	**0**	**4,599**	**4,599**
TRICHLOROETHYLENE										
HANDY TUBE	0	0	0	10,171	33	10,204	0	0	0	0
TRICHLOROETHYLENE Total	**0**	**0**	**0**	**10,171**	**33**	**10,204**	**0**	**0**	**0**	**0**
VANADIUM COMPOUNDS										
DUPONT EDGE MOOR	0	0	0	0	164,368	164,368	0	0	0	0
INDIAN RIVER GENERATING STATION	0	0	0	0	0	0	0	0	0	0
VANADIUM COMPOUNDS Total	**0**	**0**	**0**	**0**	**164,368**	**164,368**	**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	152	0	0	16	168	0	0	207,312	207,312
VINYL CHLORIDE Total	**0**	**152**	**0**	**0**	**16**	**168**	**0**	**0**	**207,312**	**207,312**
XYLENE (MIXED ISOMERS)										
ARLON	0	0	0	4,500	0	4,500	0	0	112,000	112,000
BASF NEWPORT	226	0	20	437	11	694	0	0	4,586	4,586
DELAWARE CITY REFINERY	0	5	0	180	0	185	0	0	203,653	203,653
DOVER AFB	0	0	0	0	0	0	0	0	0	0
VP RACING FUELS	0	0	0	0	0	0	0	0	0	0
CARL KING	0	0	0	0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS) Total	**226**	**5**	**20**	**5,117**	**11**	**5,379**	**0**	**0**	**320,239**	**320,239**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX G

2012 OFF-SITE TRANSFERS AND WASTE MANAGED ON-SITE BY CHEMICAL

CHEMICAL/FACILITY	OFF SITE TRANSFERS						ON SITE WASTE MANAGEMENT			
	POTW	RECYCLE	ENERGY RECOVERY	TREATMENT	DISPOSAL	TOTAL	RECYCLE	ENERGY RECOVERY	TREATMENT	TOTAL
ZINC COMPOUNDS										
AMICK FARMS	0	0	0	0	0	0	0	0	0	0
DUPONT EDGE MOOR	0	8	0	0	19,644	19,652	0	0	0	0
EVRAZ CLAYMONT STEEL	0	1,839,596	0	0	188	1,839,784	0	0	0	0
MOUNTAIRE FARMS OF DELAWARE	0	0	0	0	0	0	0	0	0	0
PPG DOVER	2,594	0	0	0	3,271	5,865	0	0	0	0
V&S DELAWARE GALVANIZING	0	182,948	0	0	51,067	234,015	95,390	0	0	95,390
PERDUE BRIDGEVILLE	0	0	0	0	0	0	0	0	0	0
ALLEN HARIM FARMS - SEAFORD MILL	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
ORIENT CORP	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS Total	**2,594**	**2,022,552**	**0**	**0**	**74,170**	**2,099,316**	**95,390**	**0**	**0**	**95,390**
STATE TOTALS	**814,006**	**9,383,706**	**2,556,954**	**196,890**	**2,419,683**	**15,371,238**	**8,183,213**	**16,227,012**	**376,022,549**	**400,432,774**

Source: DNREC 20112 TRI Database, October, 2013

All Amounts Are in Pounds

APPENDIX H

2012 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		
NITRATE COMPOUNDS	0	3,766,966	0	3,766,966	91,228	0
HYDROCHLORIC ACID	233549	0	0	233,549	0	18,023,004
CARBONYL SULFIDE	199908	0	0	199,908	0	14,531,920
BARIUM COMPOUNDS	256	2,168	190,000	192,424	11,899	0
SULFURIC ACID	166817	0	0	166,817	0	1,200,000
AMMONIA	94505	4,018	28,208	126,731	1,107	15,194,270
VINYL ACETATE	78994	0	0	78,994	0	0
HYDROGEN SULFIDE	75091	0	0	75,091	0	329,766,185
VINYL CHLORIDE	59260	4	0	59,264	168	207,312
MANGANESE COMPOUNDS	804	2,042	41,382	44,228	1,953,282	0
METHANOL	29727	5	0	29,732	696,980	2,468,973
VANADIUM COMPOUNDS	256	110	27,000	27,366	164,368	0
N-HEXANE	27344	5	0	27,349	17,710	1,236,566
HYDROGEN FLUORIDE	17544	0	0	17,544	12	80,102
TOLUENE	15611	5	0	15,616	1,061,767	1,112,740
STYRENE	12439	5	365	12,809	495	30,704
PROPYLENE	12778	0	0	12,778	0	1,351,957
BENZENE	11893	5	0	11,898	99	654,943
LEAD COMPOUNDS	748	53	10,439	11,240	4,124,552	0
XYLENE (MIXED ISOMERS)	9336	5	0	9,341	5,379	320,239
CREOSOTE	1076	0	6,578	7,654	0	0
CYCLOHEXANE	7483	5	0	7,488	9,006	10,215
CHROMIUM	6606	0	750	7,356	236,585	0
N-METHYL-2-PYRROLIDONE	6597	0	0	6,597	216,810	0
ETHYLENE	4782	0	0	4,782	0	913,339
TRICHLOROETHYLENE	4610	0	0	4,610	10,204	0
N,N-DIMETHYLFORMAMIDE	4181	0	0	4,181	2,465,611	5,387,568
CERTAIN GLYCOL ETHERS	3937	0	0	3,937	5,846	0
HYDROGEN CYANIDE	2221	764	0	2,985	0	388,741
ZINC COMPOUNDS	2177	301	297	2,775	2,099,316	95,390
ETHYLBENZENE	2592	5	0	2,597	835	76,361
ETHYLENE OXIDE	2246	0	0	2,246	0	42
NAPHTHALENE	2110	5	0	2,115	420	9,795
CHLORINE	1796	0	0	1,796	0	2,238,334
DICHLOROMETHANE	1575	0	0	1,575	53,677	53,677
METHYL METHACRYLATE	1548	0	0	1,548	5,215	177
1,2,4-TRIMETHYLBENZENE	1268	5	0	1,273	0	59,178
CARBON DISULFIDE	1246	0	0	1,246	0	1,851,501
POLYCYCLIC AROMATIC COMPOUNDS	345	5	536	886	545	962
COPPER COMPOUNDS	134	44	501	679	35,424	0
PROPYLENE OXIDE	618	0	0	618	0	44
1,3-BUTADIENE	569	0	0	569	0	0
CYANIDE COMPOUNDS	0	548	0	548	0	129,957
CUMENE	454	5	0	459	0	3,097
NICKEL COMPOUNDS	30	41	359	430	274,490	0

APPENDIX H

2012 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		
PHOSGENE	429	0	0	429	0	165,815
BORON TRIFLUORIDE	429	0	0	429	8	131,903
CRESOL (MIXED ISOMERS)	0	346	0	346	12	331,221
CHROMIUM COMPOUNDS	116	9	199	324	503,956	0
PHENOL	140	173	0	313	0	301,441
MERCURY COMPOUNDS	213	2	87	302	14	0
2,4-DIMETHYLPHENOL	0	173	0	173	0	242,713
ETHYL ACRYLATE	168	0	0	168	109	11
BUTYL ACRYLATE	152	0	0	152	111	54
N-BUTYL ALCOHOL	110	0	0	110	659,099	658,795
ANILINE	106	0	0	106	51,668	60,088
BIPHENYL	97	0	0	97	217,711	2,321
ARSENIC COMPOUNDS	0	62	0	62	19	0
TITANIUM TETRACHLORIDE	50	0	0	50	0	1,058,033
ACETONITRILE	35	0	0	35	13,294	0
FORMIC ACID	24	0	0	24	0	0
MERCURY	21	0	0	21	2,666	0
ANTHRACENE	10	5	0	15	0	0
LEAD	6	5	0	11	3,715	813
TETRACHLOROETHYLENE	8	0	0	8	0	0
PHENANTHRENE	2	5	0	7	0	0
BENZO(G,H,I)PERYLENE	0	5	1	6	0	474
P-CHLOROANILINE	6	0	0	6	2,911	157
TOLUENE DIISOCYANATE (MIXED ISOMERS)	6	0	0	6	1,610	4,599
ETHYLENE GLYCOL	5	0	0	5	3,031	0
COPPER	5	0	0	5	4,300	0
DIETHANOLAMINE	4	0	0	4	40	0
DIISOCYANATES	4	0	0	4	5,074	0
NITROBENZENE	2	0	0	2	1	0
PHTHALIC ANHYDRIDE	1	0	0	1	3,081	0
NICKEL	1	0	0	1	101,209	0
DIOXIN AND DIOXIN-LIKE COMPOUNDS	0.025040	0.002502	0.000000	0.027542	2.270220	0.001243
4,4'-METHYLENEBIS(2-CHLOROANILINE)	0	0	0	0	0	0
ANTIMONY COMPOUNDS	0	0	0	0	11,361	0
ASBESTOS (FRIABLE)	0	0	0	0	232,180	0
COBALT COMPOUNDS	0	0	0	0	5,611	0
HEXACHLOROBENZENE	0	0	0	0	471	0
NITRIC ACID	0	0	0	0	0	24,752
OCTACHLOROSTYRENE	0	0	0	0	19.1	0
PENTACHLOROBENZENE	0	0	0	0	5.6	0
PERACETIC ACID	0	0	0	0	0	52,292
POLYCHLORINATED BIPHENYLS	0	0	0	0	19.6	0
MANGANESE	0	0	0	0	4,899	0
STATE TOTALS	**1,109,211**	**3,777,904**	**306,702**	**5,193,817**	**15,371,238**	**400,432,774**

All amounts are in pounds

Source: DNREC 2012 TRI Database, October, 2013

APPENDIX I

2012 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	0.00	5.00	0.00	5.00	0.00	474.00
DUPONT EDGE MOOR	0.00	0.00	1.00	1.00	0.00	0.00
MOUNTAIRE FARMS - SELBYVILLE	0.00	0.00	0.00	0.00	0.00	0.00
BENZO(G,H,I)PERYLENE Total	**0.00**	**5.00**	**1.00**	**6.00**	**0.00**	**474.00**
DIOXIN AND DIOXIN-LIKE COMPOUNDS						
DELAWARE CITY REFINERY	0.001243	0.000000	0.000000	0.001243	0.000000	0.001243
DUPONT EDGE MOOR	0.000083	0.002502	0.000000	0.002585	2.270000	0.000000
EDGE MOOR/HAY ROAD ENERGY CENTERS	0.007824	0.000000	0.000000	0.007824	0.000000	0.000000
EVRAZ CLAYMONT STEEL	0.015591	0.000000	0.000000	0.015591	0.000000	0.000000
FORMOSA PLASTICS	0.000012	0.000000	0.000000	0.000012	0.000220	0.000000
INDIAN RIVER GENERATING STATION	0.000287	0.000000	0.000000	0.000287	0.000000	0.000000
DIOXIN AND DIOXIN-LIKE COMPOUNDS Total	**0.025040**	**0.002502**	**0.000000**	**0.027542**	**2.270220**	**0.001243**
HEXACHLOROBENZENE						
DUPONT EDGE MOOR	0.00	0.00	0.00	0.00	471.21	0.00
HEXACHLOROBENZENE Total	**0.00**	**0.00**	**0.00**	**0.00**	**471.21**	**0.00**
LEAD						
MOTECH AMERICAS	0.00	0.00	0.00	0.00	22.20	0.00
V&S DELAWARE GALVANIZING	6.00	5.00	0.00	11.00	3,692.75	813.00
LEAD Total	**6.00**	**5.00**	**0.00**	**11.00**	**3,714.95**	**813.00**
LEAD COMPOUNDS						
CHROME DEPOSIT	0.00	0.00	0.00	0.00	0.10	0.00
DELAWARE CITY REFINERY	115.90	3.00	0.00	118.90	6.50	0.00
DOVER AFB	69.00	0.00	0.00	69.00	5,125.00	0.00
DUPONT EDGE MOOR	0.00	1.00	0.00	1.00	28,212.31	0.00
EVRAZ CLAYMONT STEEL	351.00	40.00	72.00	463.00	154,660.00	0.00
INDIAN RIVER GENERATING STATION	82.00	0.00	10,367.00	10,449.00	0.02	0.00
JOHNSON CONTROLS BATTERY PLANT	123.00	9.00	0.00	132.00	2,605,219.30	0.00
JOHNSON CONTROLS DIST. CENTER	0.00	0.00	0.00	0.00	1,331,295.06	0.00
NRG DOVER	6.00	0.00	0.00	6.00	32.00	0.00
PRINCE MINERALS	0.00	0.00	0.00	0.00	1.00	0.00
VP RACING FUELS	1.00	0.00	0.00	1.00	1.00	0.00
LEAD COMPOUNDS Total	**747.90**	**53.00**	**10,439.00**	**11,239.90**	**4,124,552.29**	**0.00**
MERCURY						
DENTSPLY LAKEVIEW	0.00	0.00	0.00	0.00	2,666.00	0.00
EDGE MOOR/HAY ROAD ENERGY CENTERS	20.90	0.00	0.00	20.90	0.20	0.00
MERCURY Total	**20.90**	**0.00**	**0.00**	**20.90**	**2,666.20**	**0.00**

Source: DNREC TRI 2012 Database, October 2013.
All Amounts are in Pounds.

APPENDIX I

2012 PBT RELEASE AND TRANSFER DETAIL

PBT CHEMICAL / FACILITY	ON-SITE RELEASES AIR	WATER	LAND	TOTAL	TRANSFERS OFF SITE	ON-SITE WASTE MGMT.
MERCURY COMPOUNDS						
DELAWARE CITY REFINERY	57.00	2.00	0.00	59.00	6.00	0.00
DUPONT EDGE MOOR	1.00	0.00	0.00	1.00	2.40	0.00
EVRAZ CLAYMONT STEEL	143.00	0.00	0.00	143.00	3.20	0.00
INDIAN RIVER GENERATING STATION	8.00	0.00	87.00	95.00	0.01	0.00
INTERVET	0.00	0.00	0.00	0.00	1.55	0.00
NRG DOVER	4.00	0.00	0.00	4.00	0.48	0.00
MERCURY COMPOUNDS Total	**213.00**	**2.00**	**87.00**	**302.00**	**13.64**	**0.00**
OCTACHLOROSTYRENE						
DUPONT EDGE MOOR	0.00	0.00	0.00	0.00	19.08	0.00
OCTACHLOROSTYRENE Total	**0.00**	**0.00**	**0.00**	**0.00**	**19.08**	**0.00**
PENTACHLOROBENZENE						
DUPONT EDGE MOOR	0.00	0.00	0.00	0.00	5.57	0.00
PENTACHLOROBENZENE Total	**0.00**	**0.00**	**0.00**	**0.00**	**5.57**	**0.00**
POLYCHLORINATED BIPHENYLS						
DUPONT EDGE MOOR	0.00	0.00	0.00	0.00	19.60	0.00
POLYCHLORINATED BIPHENYLS Total	**0.00**	**0.00**	**0.00**	**0.00**	**19.60**	**0.00**
POLYCYCLIC AROMATIC COMPOUNDS						
DELAWARE CITY REFINERY	239.00	4.00	0.00	243.00	0.00	390.00
DUPONT EDGE MOOR	88.00	0.00	536.00	624.00	0.00	0.00
EDGE MOOR/HAY ROAD ENERGY CENTERS	0.00	0.00	0.00	0.00	0.00	0.00
HANESBRANDS	0.00	0.00	0.00	0.00	0.00	0.00
IKO	0.00	0.00	0.00	0.00	545.40	571.60
INDIAN RIVER GENERATING STATION	1.00	1.00	0.00	2.00	0.01	0.00
MOUNTAIRE FARMS - FRANKFORD FEED MILL	0.00	0.00	0.00	0.00	0.00	0.00
MOUNTAIRE FARMS - SELBYVILLE	17.00	0.00	0.00	17.00	0.00	0.00
POLYCYCLIC AROMATIC COMPOUNDS Total	**345.00**	**5.00**	**536.00**	**886.00**	**545.41**	**961.60**
STATE PBT TOTALS	**1,332.83**	**70.01**	**11,063.00**	**12,465.83**	**4,132,010.22**	**2,248.60**

Source: DNREC TRI 2012 Database, October 2013.
All Amounts are in Pounds.

APPENDIX J

2012 CARCINOGEN RELEASE AND TRANSFER DETAIL

	TOTAL ON-SITE RELEASES				TRANSFERS	ON-SITE
CARCINOGEN / FACILITY	**AIR**	**WATER**	**LAND**	**TOTAL**	**OFF SITE**	**WASTE MGMT.**
1,3-BUTADIENE						
DELAWARE CITY REFINERY	569.00	0.00	0.00	569.00	0.00	0.00
1,3-BUTADIENE Total	**569.00**	**0.00**	**0.00**	**569.00**	**0.00**	**0.00**
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	62.00	0.00	62.00	18.53	0.00
ARSENIC COMPOUNDS Total	**0.00**	**62.00**	**0.00**	**62.00**	**18.53**	**0.00**
ASBESTOS (FRIABLE)						
DELAWARE CITY REFINERY	0.00	0.00	0.00	0.00	232,180.00	0.00
ASBESTOS (FRIABLE) Total	**0.00**	**0.00**	**0.00**	**0.00**	**232,180.00**	**0.00**
BENZENE						
DELAWARE CITY REFINERY	11,893.00	5.00	0.00	11,898.00	99.00	654,943.00
BENZENE Total	**11,893.00**	**5.00**	**0.00**	**11,898.00**	**99.00**	**654,943.00**
CHROMIUM COMPOUNDS						
BALTIMORE AIRCOIL	4.00	0.00	0.00	4.00	224,761.00	0.00
DUPONT EDGE MOOR	0.00	8.00	0.00	8.00	247,048.00	0.00
EVRAZ CLAYMONT STEEL	112.00	1.00	199.00	312.00	32,147.00	0.00
ORIENT CORP	0.00	0.00	0.00	0.00	0.00	0.00
CHROMIUM COMPOUNDS Total	**116.00**	**9.00**	**199.00**	**324.00**	**503,956.00**	**0.00**
COBALT COMPOUNDS						
DUPONT EDGE MOOR	0.00	0.00	0.00	0.00	5,610.63	0.00
COBALT COMPOUNDS Total	**0.00**	**0.00**	**0.00**	**0.00**	**5,610.63**	**0.00**
CREOSOTE						
DUPONT EDGE MOOR	1,076.00	0.00	6,578.00	7,654.00	0.00	0.00
CREOSOTE Total	**1,076.00**	**0.00**	**6,578.00**	**7,654.00**	**0.00**	**0.00**
DICHLOROMETHANE						
NORAMCO	1,575.00	0.00	0.00	1,575.00	53,676.80	53,677.00
DICHLOROMETHANE Total	**1,575.00**	**0.00**	**0.00**	**1,575.00**	**53,676.80**	**53,677.00**
ETHYL ACRYLATE						
BASF SEAFORD	168.00	0.00	0.00	168.00	109.00	11.00
ETHYL ACRYLATE Total	**168.00**	**0.00**	**0.00**	**168.00**	**109.00**	**11.00**
ETHYLBENZENE						
ARLON	318.00	0.00	0.00	318.00	790.00	28,000.00
DELAWARE CITY REFINERY	2,174.00	5.00	0.00	2,179.00	45.00	48,361.00
DOVER AFB	100.00	0.00	0.00	100.00	0.00	0.00
ETHYLBENZENE Total	**2,592.00**	**5.00**	**0.00**	**2,597.00**	**835.00**	**76,361.00**
ETHYLENE OXIDE						
CRODA	2,246.00	0.00	0.00	2,246.00	0.00	41.63
ETHYLENE OXIDE Total	**2,246.00**	**0.00**	**0.00**	**2,246.00**	**0.00**	**41.63**
HEXACHLOROBENZENE						
DUPONT EDGE MOOR	0.00	0.00	0.00	0.00	471.21	0.00
HEXACHLOROBENZENE Total	**0.00**	**0.00**	**0.00**	**0.00**	**471.21**	**0.00**

Source: DNREC 2012 TRI Database, October 2013
All amounts are in pounds

APPENDIX J

2012 CARCINOGEN RELEASE AND TRANSFER DETAIL

	TOTAL ON-SITE RELEASES				TRANSFERS	ON-SITE
CARCINOGEN / FACILITY	**AIR**	**WATER**	**LAND**	**TOTAL**	**OFF SITE**	**WASTE MGMT.**
LEAD						
MOTECH AMERICAS	0.00	0.00	0.00	0.00	22.20	0.00
V&S DELAWARE GALVANIZING	6.00	5.00	0.00	11.00	3,692.75	813.00
LEAD Total	**6.00**	**5.00**	**0.00**	**11.00**	**3,714.95**	**813.00**
LEAD COMPOUNDS						
CHROME DEPOSIT	0.00	0.00	0.00	0.00	0.10	0.00
DELAWARE CITY REFINERY	115.90	3.00	0.00	118.90	6.50	0.00
DOVER AFB	69.00	0.00	0.00	69.00	5,125.00	0.00
DUPONT EDGE MOOR	0.00	1.00	0.00	1.00	28,212.31	0.00
EVRAZ CLAYMONT STEEL	351.00	40.00	72.00	463.00	154,660.00	0.00
INDIAN RIVER GENERATING STATION	82.00	0.00	10,367.00	10,449.00	0.02	0.00
JOHNSON CONTROLS BATTERY PLANT	123.00	9.00	0.00	132.00	2,605,219.30	0.00
JOHNSON CONTROLS DIST. CENTER	0.00	0.00	0.00	0.00	1,331,295.06	0.00
NRG DOVER	6.00	0.00	0.00	6.00	32.00	0.00
PRINCE MINERALS	0.00	0.00	0.00	0.00	1.00	0.00
VP RACING FUELS	1.00	0.00	0.00	1.00	1.00	0.00
LEAD COMPOUNDS Total	**747.90**	**53.00**	**10,439.00**	**11,239.90**	**4,124,552.29**	**0.00**
NAPHTHALENE						
CARL KING	0.00	0.00	0.00	0.00	0.00	0.00
CRODA	3.00	0.00	0.00	3.00	420.00	0.00
DELAWARE CITY REFINERY	2,002.00	5.00	0.00	2,007.00	0.00	9,795.00
DOVER AFB	105.00	0.00	0.00	105.00	0.00	0.00
INDIAN RIVER GENERATING STATION	0.00	0.00	0.00	0.00	0.00	0.00
NAPHTHALENE Total	**2,110.00**	**5.00**	**0.00**	**2,115.00**	**420.00**	**9,795.00**
NICKEL						
DUHADAWY TOOL AND DIE	0.00	0.00	0.00	0.00	11,312.00	0.00
HANDY TUBE	0.00	0.00	0.00	0.00	38,273.00	0.00
METAL MASTERS	1.00	0.00	0.00	1.00	51,624.00	0.00
NICKEL Total	**1.00**	**0.00**	**0.00**	**1.00**	**101,209.00**	**0.00**
NICKEL COMPOUNDS						
BALTIMORE AIRCOIL	1.00	0.00	0.00	1.00	256,102.00	0.00
DUPONT EDGE MOOR	1.00	40.00	0.00	41.00	14,226.73	0.00
EVRAZ CLAYMONT STEEL	28.00	1.00	359.00	388.00	4,161.00	0.00
PRINCE MINERALS	0.00	0.00	0.00	0.00	0.00	0.00
NICKEL COMPOUNDS Total	**30.00**	**41.00**	**359.00**	**430.00**	**274,489.73**	**0.00**
NITROBENZENE						
ORIENT CORP	2.00	0.00	0.00	2.00	1.00	0.00
NITROBENZENE Total	**2.00**	**0.00**	**0.00**	**2.00**	**1.00**	**0.00**
P-CHLOROANILINE						
BASF NEWPORT	6.00	0.00	0.00	6.00	2,911.30	157.00
P-CHLOROANILINE Total	**6.00**	**0.00**	**0.00**	**6.00**	**2,911.30**	**157.00**
POLYCHLORINATED BIPHENYLS						
DUPONT EDGE MOOR	0.00	0.00	0.00	0.00	19.60	0.00
POLYCHLORINATED BIPHENYLS Total	**0.00**	**0.00**	**0.00**	**0.00**	**19.60**	**0.00**

Source: DNREC 2012 TRI Database, October 2013
All amounts are in pounds

APPENDIX J

2012 CARCINOGEN RELEASE AND TRANSFER DETAIL

	TOTAL ON-SITE RELEASES				TRANSFERS	ON-SITE
CARCINOGEN / FACILITY	**AIR**	**WATER**	**LAND**	**TOTAL**	**OFF SITE**	**WASTE MGMT.**
POLYCYCLIC AROMATIC COMPOUNDS						
DELAWARE CITY REFINERY	239.00	4.00	0.00	243.00	0.00	390.00
DUPONT EDGE MOOR	88.00	0.00	536.00	624.00	0.00	0.00
EDGE MOOR/HAY ROAD ENERGY CENTERS	0.00	0.00	0.00	0.00	0.00	0.00
HANESBRANDS	0.00	0.00	0.00	0.00	0.00	0.00
IKO	0.00	0.00	0.00	0.00	545.40	571.60
INDIAN RIVER GENERATING STATION	1.00	1.00	0.00	2.00	0.01	0.00
MOUNTAIRE FARMS - FRANKFORD FEED MILL	0.00	0.00	0.00	0.00	0.00	0.00
MOUNTAIRE FARMS - SELBYVILLE	17.00	0.00	0.00	17.00	0.00	0.00
POLYCYCLIC AROMATIC COMPOUNDS Total	**345.00**	**5.00**	**536.00**	**886.00**	**545.41**	**961.60**
PROPYLENE OXIDE						
CRODA	618.00	0.00	0.00	618.00	0.00	43.55
PROPYLENE OXIDE Total	**618.00**	**0.00**	**0.00**	**618.00**	**0.00**	**43.55**
STYRENE						
BASF SEAFORD	233.00	0.00	0.00	233.00	130.00	670.00
DELAWARE CITY REFINERY	16.00	5.00	0.00	21.00	0.00	1,194.00
JUSTIN TANKS	12,190.00	0.00	365.00	12,555.00	365.00	28,840.00
STYRENE Total	**12,439.00**	**5.00**	**365.00**	**12,809.00**	**495.00**	**30,704.00**
TETRACHLOROETHYLENE						
DELAWARE CITY REFINERY	8.00	0.00	0.00	8.00	0.00	0.00
TETRACHLOROETHYLENE Total	**8.00**	**0.00**	**0.00**	**8.00**	**0.00**	**0.00**
TOLUENE DIISOCYANATE (MIXED ISOMERS)						
AEARO TECHNOLOGIES	4.00	0.00	0.00	4.00	750.00	0.00
MACDERMID	0.00	0.00	0.00	0.00	0.00	0.00
ROHM & HAAS B5, B6	2.00	0.00	0.00	2.00	860.00	4,599.00
TOLUENE DIISOCYANATE (MIXED ISOMERS) Total	**6.00**	**0.00**	**0.00**	**6.00**	**1,610.00**	**4,599.00**
TRICHLOROETHYLENE						
HANDY TUBE	4,610.00	0.00	0.00	4,610.00	10,203.50	0.00
TRICHLOROETHYLENE Total	**4,610.00**	**0.00**	**0.00**	**4,610.00**	**10,203.50**	**0.00**
VINYL ACETATE						
FORMOSA PLASTICS	78,994.00	0.00	0.00	78,994.00	0.00	0.00
VINYL ACETATE Total	**78,994.00**	**0.00**	**0.00**	**78,994.00**	**0.00**	**0.00**
VINYL CHLORIDE						
FORMOSA PLASTICS	59,260.00	4.00	0.00	59,264.00	168.20	207,312.00
VINYL CHLORIDE Total	**59,260.00**	**4.00**	**0.00**	**59,264.00**	**168.20**	**207,312.00**
STATE TOTAL	**179,418**	**199**	**18,476**	**198,093**	**5,317,296**	**1,039,419**

Source: DNREC 2012 TRI Database, October 2013
All amounts are in pounds

GLOSSARY AND ACRONYMS

Accidental Release – The amount released to the environment as a result of catastrophic events, remedial actions, or one-time events not associated with production processes.

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.**

BTU – British Thermal Unit – A unit of heat; the amount of heat required to raise one pound of water one Fahrenheit degree (39^{o}F to 40^{o}F). TBTU = one trillion BTUs.

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.

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.

DeMinimis Concentration – The concentration below which a chemical does not need to be considered when it is present in mixtures. The deminimis concentration is 1.0%, or 0.1% if the chemical meets the OSHA carcinogen standard.

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, Watershed Stewardship, Parks and Recreation, Water, Fish and Wildlife, and the Office of the Secretary complete the Department.

Emission Factors – An Emission factor is 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 that are located on a single site or on contiguous or adjacent sites and are owned or operated by the same person (or by any person that 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 that 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 location and 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 and is based on the concentration of hydrogen ions in a water solution. 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 (7 DE Admin Code 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.

APPENDIX K

Glossary and Acronyms

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 that 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 2012

eting form; type or use fill-and-print form) Form Approved OMB Number: 2025-0009
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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 OR TRIBAL 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 (E nter up to two code(s))**

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

PART I. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR _____

SECTION 2. TRADE SECRET INFORMATION

2.1 Are you claiming the toxic chemical identified on page 2 as a 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	Facility or E stablishment Name	TRI Facility ID Number	
	Physical Street Address	Mailing Address (if different from physical street address)	
	City/County/Tribe/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 U.S. Parent Company (for TRI Reporting purposes)		No U.S. Parent Company (for TRI Reporting purposes) ☐
5.2	Parent Company's Dun & Bradstreet Number	NA ☐	

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FORM R

Part II. CHEMICAL-SPECIFIC INFORMATION

TRI Facility ID Number
Toxic Chemical, Category, or Generic Name

SECTION 1. TOXIC CHEMICAL IDENTITY

(Important: DO NOT complete this section if you are reporting a mixture component in 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 I, 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.)

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. Percent 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)	NA ☐			
	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.)

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*For Dioxin or Dioxin-like compounds, report in grams/year.
**Range Codes: A= 1-10 pounds; B= 11-499 pounds; C= 500-999 pounds.

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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 a range code** or estimate)	B. Basis of Estimate (Enter code)
5.4.1	Underground Injection on-site to Class I Wells	☐		
5.4.2	Underground Injection on-site to Class II-V Wells	☐		
5.5	Disposal to land on-site			
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. TRANSFER(S) OF THE TOXIC CHEMICAL IN WASTES TO OFF-SITE LOCATIONS

6.1 DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS (POTWs) NA ☐

6.1.___	POTW Name						
POTW Address							
City		County		State		ZIP	

A. Quantity Transferred to this POTW (pounds/year*) (Enter range code** or estimate)	B. Basis of Estimate (Enter code)

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 NA ☐

6.2.___ Off-Site EPA Identification Number (RCRA ID No.)									
Off-Site Location Name:									
Off-Site Address:									
City		County		State		ZIP		Country (non-US)	

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

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*For Dioxin or Dioxin-like compounds, report in grams/year.
**Range Codes: A= 1-10 pounds; B= 11-499 pounds; C= 500-999 pounds.

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FORM R

Part II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)

TRI Facility ID Number

Toxic Chemical, Category, or Generic Name

SECTION 6.2. TRANSFERS TO OTHER OFF-SITE LOCATION (CONTINUED)

A. Total Transfer (pounds/year*) (Enter a 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 | County | State | ZIP | Country (non-US)

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

A. Total Transfer (pounds/year*) (Enter a 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 method is applied to any waste stream containing the toxic chemical or chemical

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

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

EPA form 9350-1 (Rev. 10/2012) – 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 2012

ng form; type or use fill-and-print form) Form Approved OMB Number: 2025-0009 Approval Expires: 10/31/2014t **Page 5 of 6**

FORM R

Part II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)

TRI Fac ility ID Number

Toxic Chemical, Category, or Generic Name

SECTION 7B. ON-SITE ENERGY RECOVERY PROCESSES

☐ 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 RECYLING PROCESSES

☐ 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. DISPOSAL OR OTHER RELEASES, SOURCE REDUCTION, AND RECYCLING 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 on-site				
8.3	Quantity used for energy recovery off-site				
8.4	Quantity recycled on-site				
8.5	Quantity recycled off-site				
8.6	Quantity treated on-site				
8.7	Quantity treated off-site				
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 newly implemented source reduction activities for this chemical during the reporting year? If so, complete the following section; if not, check NA. NA ☐				

	Source Reduction Activities (Enter code(s))	Methods to Identify Activity (Enter code(s))		
8.10.1		a.	b.	c.
8.10.2		a.	b.	c.
8.10.3		a.	b.	c.
8.10.4		a.	b.	c.

EPA form 9350-1 (Rev. 10/2012) – Previous editions are obsolete. *For Dioxin or Dioxin-like compounds, report in grams/year.

Sample Form R
For Reporting year 2012

ing form; type or use fill-and-print form) Form Approved OMB Number: 2025-0009
Approval Expires: 10/31/2014t

FORM R

Part II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)

TRI Facility ID Number
Toxic Chemical, Category, or Generic Name

SECTION 8.11. DISPOSAL OR OTHER RELEASES, SOURCE REDUCTION, AND RECYCLING ACTIVITIES

8.11	If you wish to submit additional optional information on source reduction, recycling, or pollution control activities, provide it here.

SECTION 9. MISCELLANEOUS INFORMATION

9.1	If you wish to submit any miscellaneous, additional, or optional information regarding your Form R submission, provide it here.

EPA form 9350-1 (Rev. 10/2012) – Previous editions are obsolete.

Sample Form A Page 1
For Reporting year 2012

ng form; type or use fill-and-print form) Form Approved OMB Number: 2025-0009
Approval Expires: 10/31/2014t Page 1 of ___

EPA United States Environmental Protection Agency

TOXICS RELEASE INVENTORY FORM A

WHERE TO SEND COMPLETED FORMS: 1. TRI Data Processing Center P. O. Box 10163 Fairfax, VA 22038	2. APPROPRIATE STATE OR TRIBAL OFFICE (See instructions 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 I. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR _____

SECTION 2. TRADE SECRET INFORMATION

2.1	Are you claiming the toxic chemical identified on page 2 as a 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 this 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	Facility or Establishment Name		TRI Facility ID Number	
	Physical Street Address		Mailing Address (if different from physical street address)	
	City/County/Tribe/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.

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

SECTION 5. PARENT COMPANY INFORMATION

5.1	Name of U.S. Parent Company (for TRI Reporting purposes)		No U.S. Parent Company (for TRI Reporting purposes) ☐
5.2	Parent Company's Dun & Bradstreet Number	NA ☐	

EPA Form 9350-2 (Rev. 10/2012) - Previous editions are obsolete.

APPENDIX N

TRI REPORTING FORMS – FORM A

TOXICS RELEASE INVENTORY

Sample Form A Page 2
For Reporting year 2012

(IMPORTANT: Read instructions before completing form; type or use fill-and-print form) Form Ap Approva ___ of ___

EPA FORM A
PART II. CHEMICAL IDENTIFICATION
Do not use this form for reporting PBT chemicals, including Dioxin and Dioxin-like Compounds*

TRI Facility ID Number

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 β13 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. 10/2012) - Previous editions are obsolete.

(Make additional copies of this page, if needed)

(IMPORTANT: Read instructions before completing form; type or use fill-and-print form)

Form Approved OMB Number: 2025-0009
Approval Expires: 10/31/2014t

United States Environmental Protection Agency

FORM R Schedule 1

TRI Facility ID Number

PART II. CHEMICAL-SPECIFIC INFORMATION (continued)

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

		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) NA ☐		
		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.)**

EPA Form 9350-3

(IMPORTANT: Read instructions before completing form; type or use fill-and-print form)

Form Approved OMB Number: 2025-0009
Approval Expires: 10/31/2014t

FORM R Schedule 1

TRI Facility ID Number

PART II. CHEMICAL-SPECIFIC INFORMATION (continued)

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

		Underground Injection		**5.5** Disposal to land on-site					
		5.4.1 NA ☐	**5.4.2** NA ☐	**5.5.1.A** NA ☐	**5.5.1.B** NA ☐	**5.5.2** NA ☐	**5.5.3A** NA ☐	**5.5.3B** NA ☐	**5.5.4** NA ☐
		Underground Injection on-site to Class I Wells	Underground Injection on-site to Class II-V Wells	RCRA Subtitle C landfills	Other landfills	Land treatment/ application farming	RCRA Subtitle C surface impoundments	Other surface impoundments	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: Read instructions before completing form; type or use fill-and-print form)

Form Approved OMB Number: 2025-0009
Approval Expires: 10/31/2014t

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) NA ☐

6.1.__	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				

6.2 TRANSFERS TO OTHER OFF -SITE LOCATIONS NA ☐

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 6.1 or 6.2 are attached, indicate the total number of pages in this box ☐

and indicate the Section 6.1 or 6.2 page number in this box ☐ (Example: 1, 2, 3, etc.)

EPA Form 9350-3

(IMPORTANT: Read instructions before completing form; type or use fill-and-print form)

Form Approved OMB Number: 2025-0009
Approval Expires: 10/31/2014

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) NA ☐

6.1.__	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					

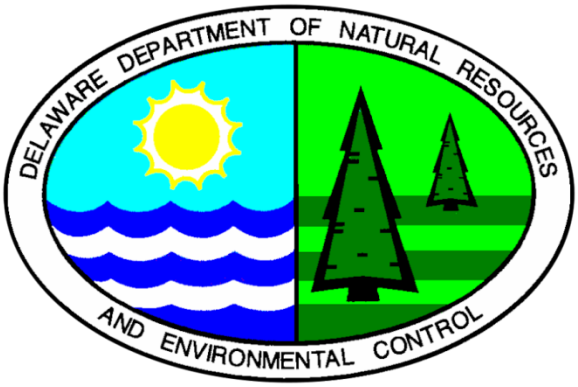
6.2 TRANSFERS TO OTHER OFF -SITE LOCATIONS NA ☐

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 6.1 or 6.2 are attached, indicate the total number of pages in this box ☐

and indicate the Section 6.1 or 6.2 page number in this box ☐ (Example: 1, 2, 3, etc.)



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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is committed to affirmative action, equal opportunity,
and the diversity of its workforce.

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