



Introduction to the Toxics Release Inventory and the 2015 TRI National Analysis Report

Toxics Release Inventory (TRI) National Analysis

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2015 TRI National Analysis is Available

The TRI National Analysis offers analyses and interactive maps showing data at a state, county, city, and zip code level.

[Read the 2015 TRI National Analysis Executive Summary](#)

1 2 3

Quick Links

- [TRI Program homepage](#)
- [Press release](#)
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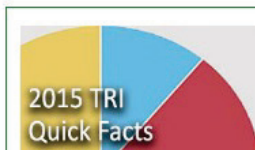
U.S. facilities report detailed information to EPA on their management of toxic chemicals, including releases to the environment. The **Toxics Release Inventory (TRI) National Analysis** interprets this information and examines trends in releases, waste management practices, and pollution prevention (P2) activities.



- [Browse the TRI National Analysis](#)
- Skip to a chapter:
 - [Pollution Prevention \(P2\) and Waste Management](#)



- [View TRI data where you live](#)
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In 2015:

- 21,849 facilities reported to TRI
- Most releases were to land, primarily from metal mining operations



Overview

- Introduction to TRI
- Reporting Year 2015 TRI National Analysis
- Updated web-based report
- Custom data visualization
- Using TRI Explorer to analyze TRI data
- Questions & Discussion



Why was the Toxics Release Inventory created?

Bhopal, India December 1984

- Methyl isocyanate gas released at a Union Carbide chemical plant
- Thousands died the first night
- Thousands more have died due to long-term health effects
- Survivors continue to suffer with permanent disabilities



Bhopal memorial for those killed and disabled by the 1984 toxic gas release

Institute, West Virginia August 1985

- Chemical release at a similar facility in the U.S.
- Over 100 people hospitalized

Increased concern in the U.S. about chemical accident preparedness and availability of information on toxic chemical releases from industrial facilities

What is the Toxics Release Inventory (TRI)?

- TRI tracks the waste management of certain toxic chemicals that pose a threat to human health and the environment.
- TRI includes information on:



Releases



Waste transfers



Recycling



Pollution prevention

And much more!

What is a “release”?

- A **"release"** refers to different ways that toxic chemicals from industrial facilities enter the:



Air



Water



Land

- The likelihood of residents coming into contact with toxic chemicals depends on the type of release and other factors

For more information, see *“Factors to Consider When Using TRI Data”* at:
<https://www.epa.gov/toxics-release-inventory-tri-program/factors-consider-when-using-toxics-release-inventory-data>



Which facilities must report to TRI?

1. Facility must be in a TRI-covered industry sector or category, including:



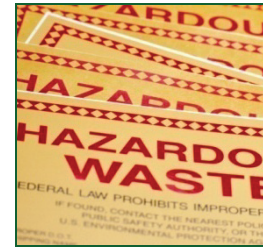
Manufacturing



**Coal/Oil
electricity
generation**



**Certain Mining
Facilities**



**Hazardous
Waste
Management**



Federal Facilities

2. Facility must have the equivalent of at least 10 full-time employees

3. Facility must manufacture, process or use more than a certain amount of a TRI toxic chemical per year



What information do facilities report to TRI?

- On-site releases of TRI chemicals to:
 - Air
 - Water
 - Land
- Transfers of chemical waste to off-site locations
- Other waste management:
 - Recycling
 - Treatment
 - Energy Recovery
- Pollution prevention activities (www.epa.gov/tri/p2)





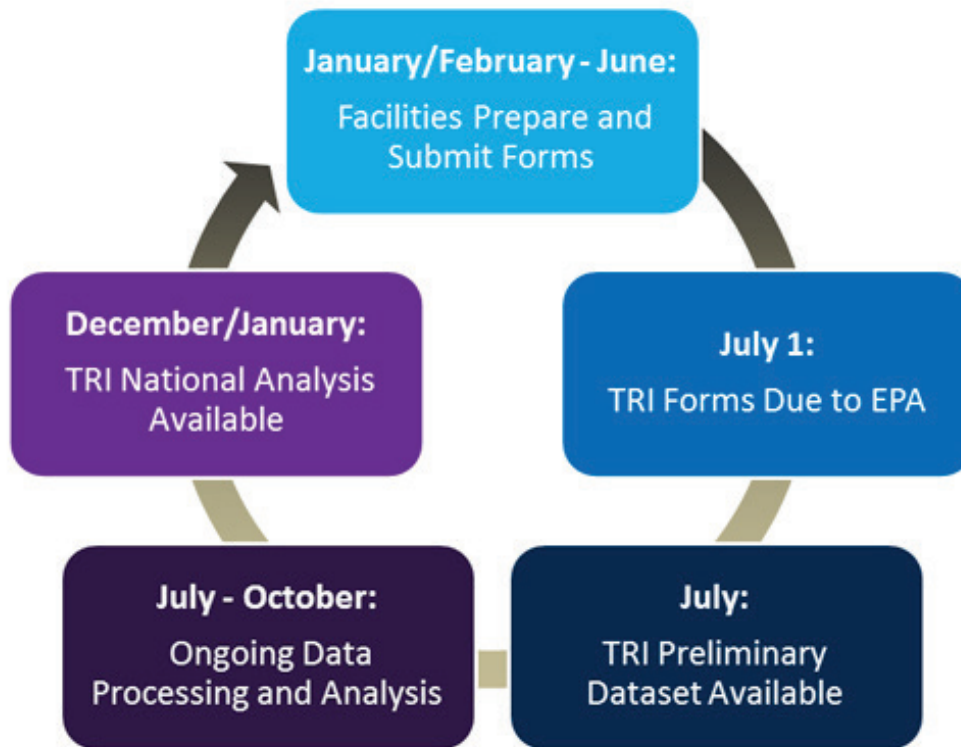
Considerations When Using TRI

- TRI covers an important subset of toxic chemicals managed at U.S. facilities, but doesn't cover all chemicals or facilities
- Data reflect annual totals and don't indicate the frequency or duration of a release
- Quantities reflect chemicals released into air and water and managed through recycling, energy recovery, treatment and disposal
- Toxicity level varies among the chemicals on the TRI list
- TRI doesn't include information about public exposure to chemicals
- TRI facility operations and releases are regulated under other EPA programs with requirements designed to limit human and environmental harm

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Annual TRI Cycle and Data Quality Process



- Facilities submit their TRI forms for each calendar year to EPA by July 1st of the following year
- The preliminary TRI dataset is released in July
- EPA conducts data quality checks and compliance assistance activities from July - October
- The TRI National Analysis (EPA's official annual TRI report) is published in January



TRI Preliminary Dataset

- Most recent TRI data available in July in Envirofacts and downloadable data files
- Dataset ~ 95% complete in July
- Opportunity to see most recent data prior to National Analysis publication
- Can be used to begin looking at facility-level data
- Dataset updated several times during summer and fall as EPA processes late TRI submissions and revisions, and performs data quality checks



TRI National Analysis

Toxics Release Inventory (TRI) National Analysis

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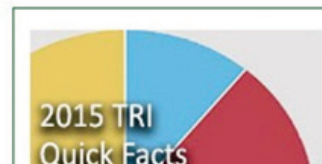
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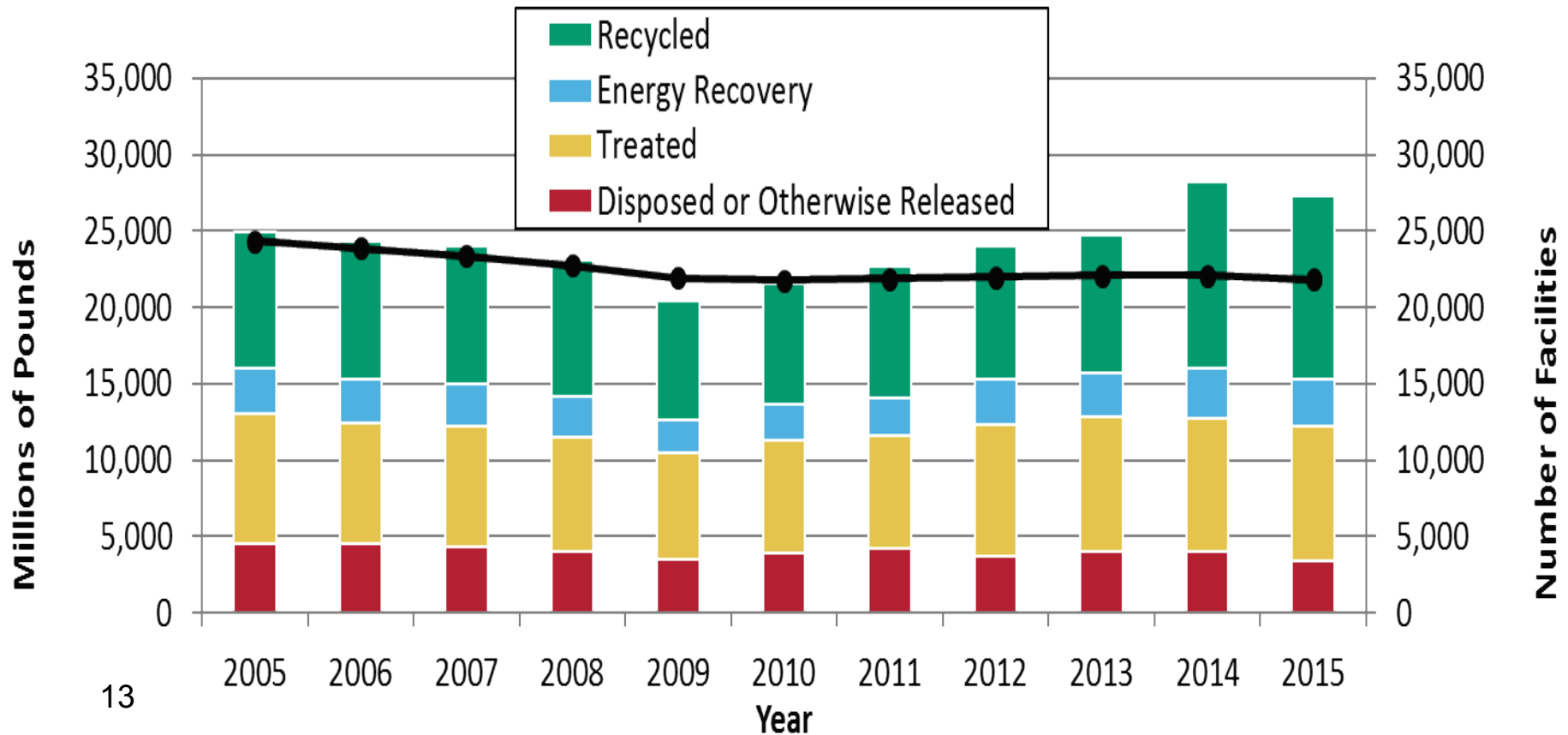
Key Messages for 2015 TRI National Analysis

- Total production-related waste decreased 3% from 2014 to 2015
 - Includes amount of chemicals recycled, treated and burned for energy recovery, as well as the amount disposed of or otherwise released into the environment.
 - All waste management activities except treatment decreased
 - Good news: Of 27 billion pounds of waste managed in 2015, 24 billion pounds (87%) were not released due to preferred waste management practices like recycling.
 - Total disposal or other releases decreased 14.6% from 2014 to 2015
 - Land disposal decreased – Metal mines
 - Air releases decreased – Electric utilities and chemical manufacturing
 - Continues long-term decrease in air releases: down 851 million lbs (56%) since 2005
 - 2015: Of the 2.9 billion lbs released, 2 billion lbs (69%) were released to land, 690 million lbs (24%) were released to air, and 191 million lbs (7%) were released to water
 - New this year:
 - 30th anniversary of TRI
 - Embedded Qlik dashboard for custom data visualization
 - TSCA workplan chemicals in TRI
- 12 – Highlight food manufacturing sector



Key Messages for 2015 TRI National Analysis

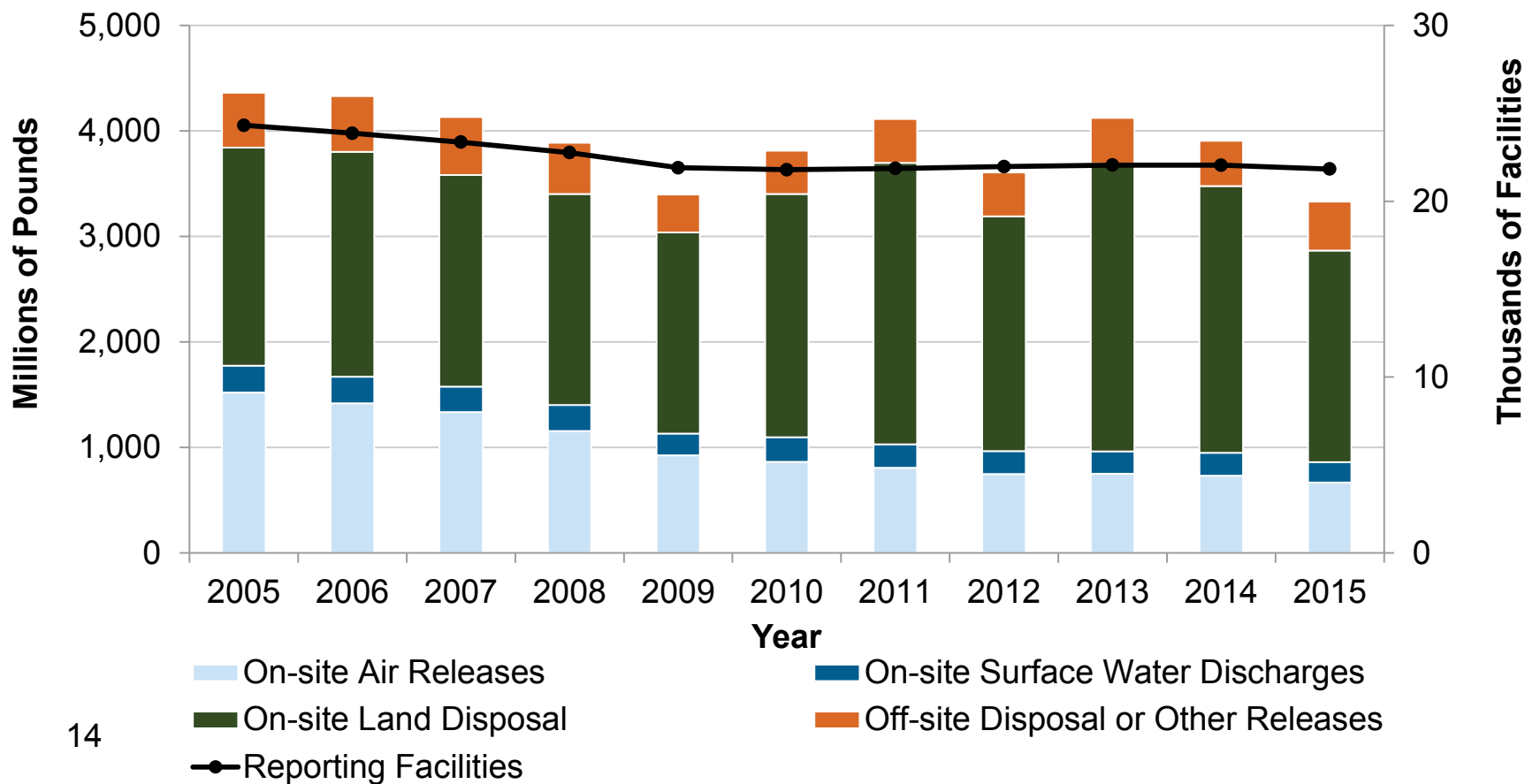
Production-Related Waste Managed, 2005-2015





Key Messages for 2015 TRI National Analysis

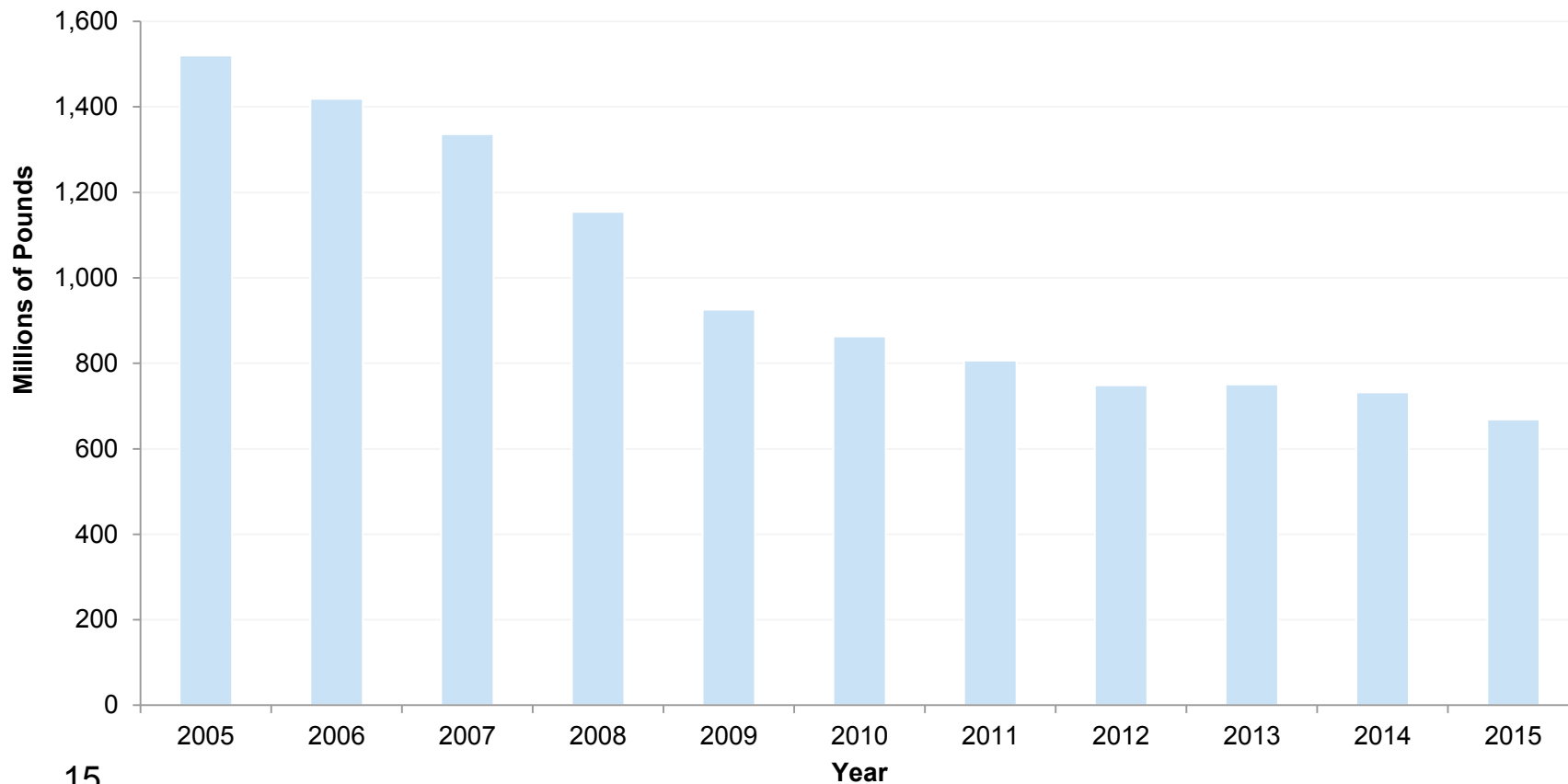
Disposal or Other Releases, 2005-2015





Trend: Air Release Declines in the 2015 National Analysis

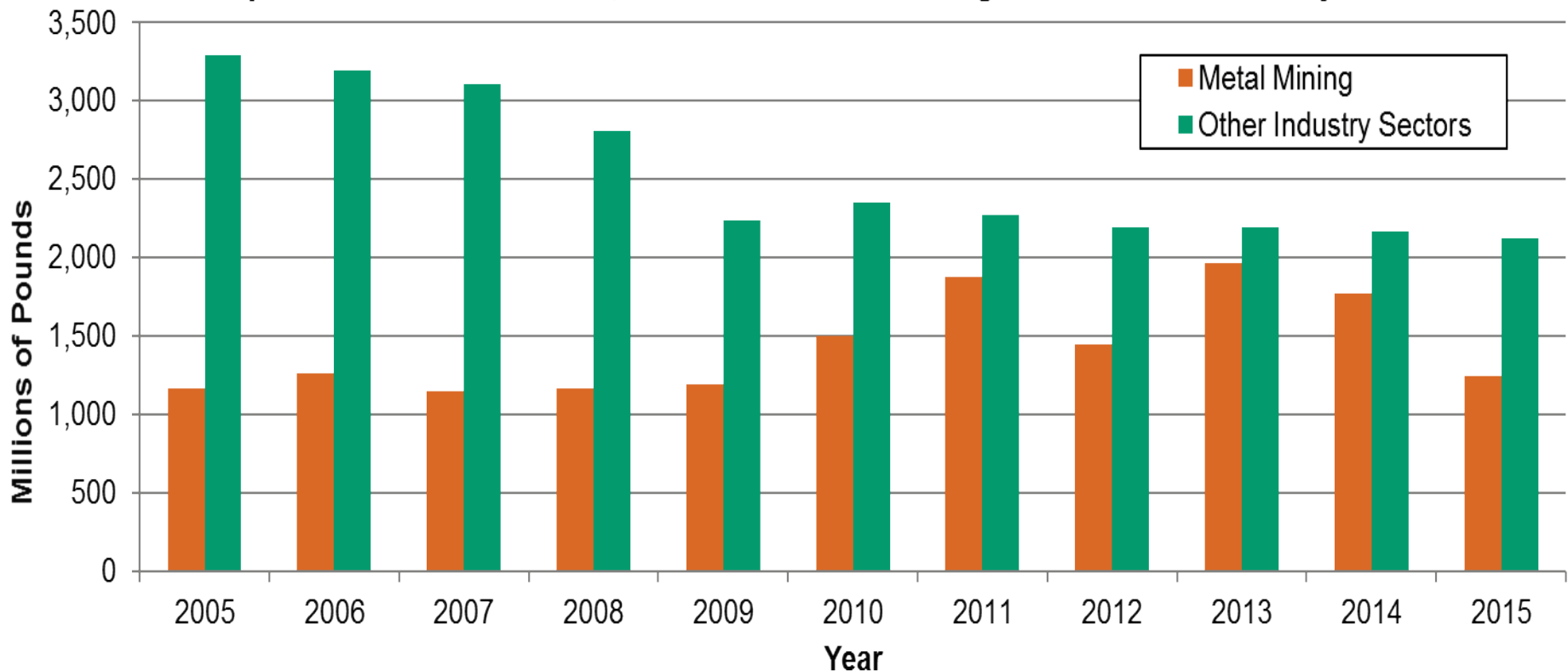
On-site Air Releases, 2005-2015





Trend: Metal Mining & Other Industry Sectors

Disposal or Other Releases, 2005-2015: Metal Mining and All Other Industry Sectors

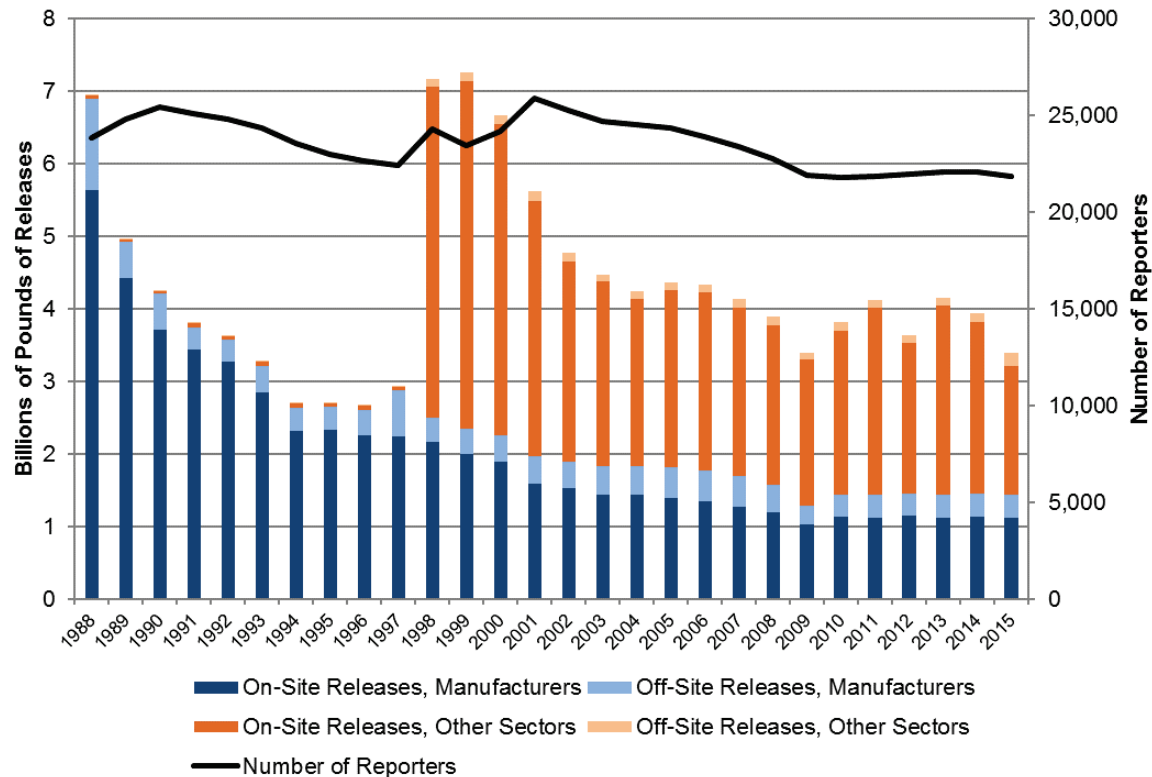




30th Anniversary of TRI

- Highlights the change in TRI reporting and data access since its inception
- Shows how TRI data is used by other EPA programs
- Shows how TRI served as a model for PRTRs worldwide
- Automated “flipchart” for web version

TRI Trends in Releases: 1988 - 2015

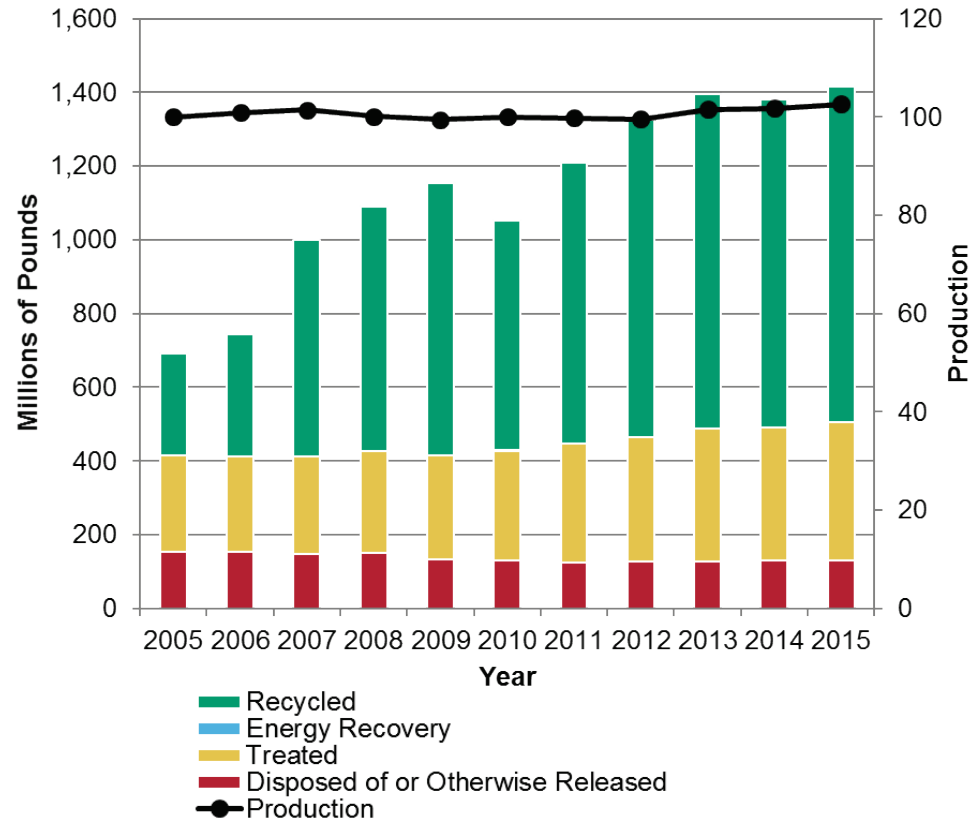




New Analysis: Food Manufacturing Sector

- Releases have remained relatively constant since 2005
- PRW has doubled since 2005 (driven by increased recycling) while the production index has remained relatively constant
- Highlights P2 information consistent with Food Manufacturing being a National Emphasis Area

Production-Related Waste Managed, 2005-2015: Food Manufacturing



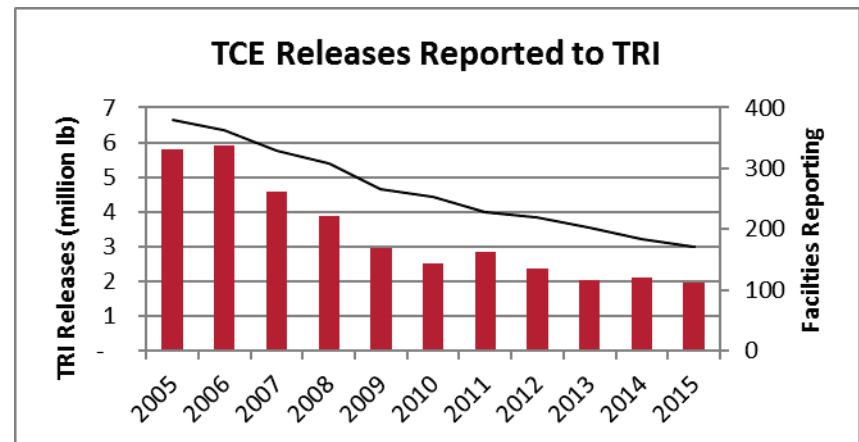


New Analysis: TRI and TSCA

- New section in “TRI & Beyond”
 - Highlights Frank R. Lautenberg Chemical Safety for the 21st Century Act
 - Information on TSCA workplan chemicals covered by TRI
 - Includes source reduction information on priority chemicals
 - Presents an example of a work plan chemical in TRI:

Trichloroethylene (TCE)

- TRI trend data on management of TCE
- TSCA activities for TCE from CDR information
- Facility example highlighting source reduction activities for TCE





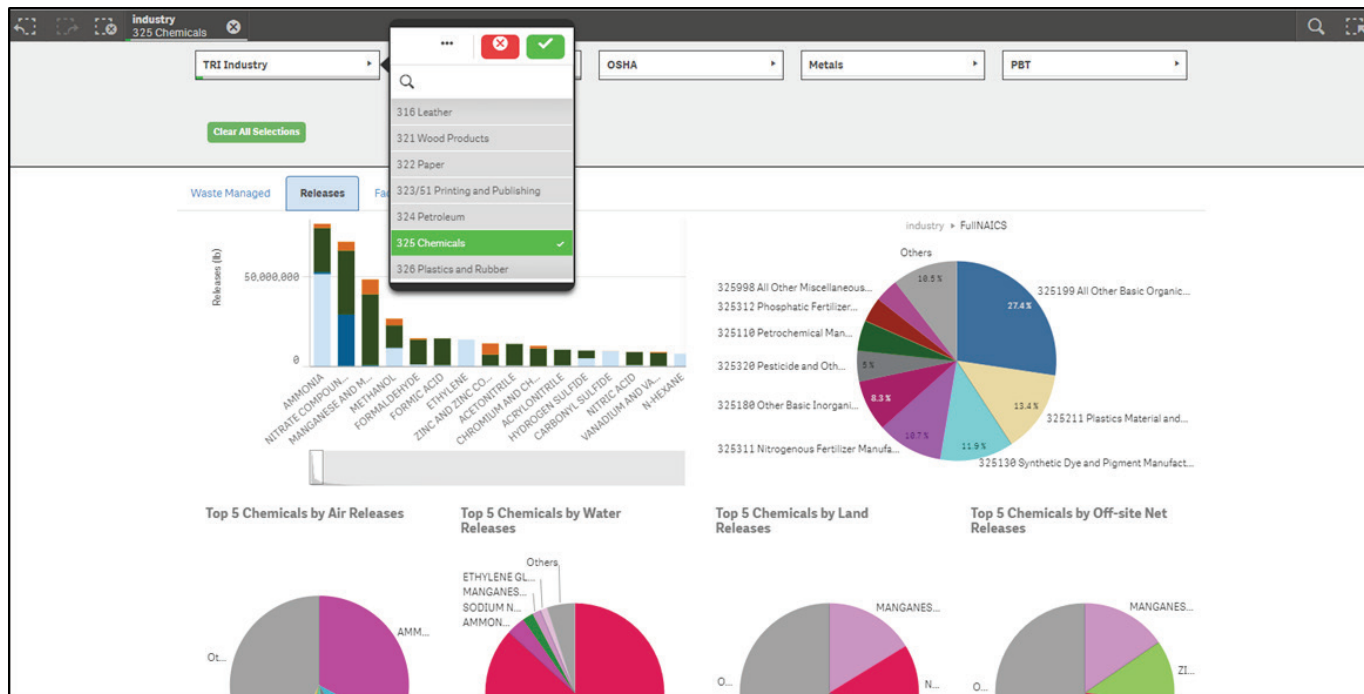
New Feature: Qlik Visualization Dashboard

New: Embedded Qlik dashboard

In the Releases section

Allows users to view the release graphs for any chemical or sector

Promotes user interactivity while exploring TRI data





National Analysis Website

www.epa.gov/trinationalanalysis

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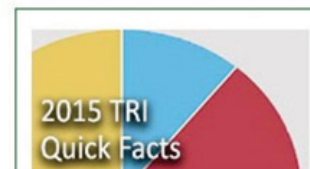
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Using TRI Explorer

https://iaspub.epa.gov/triexplorer/tri_factsheet_search.searchfactsheet

Fact Sheets | Release Reports | Waste Transfer Reports | Waste Quantity Reports

Fact Sheets

Year of Data ⁱ

2015 ▾

Topic of Interest: ⁱ

- Chemical
- Industry
- Region
- MSA
- LAE
- ZIP Code
- On Selected Tribal Land or ANVs

ZIP Code: ⁱ

Submit

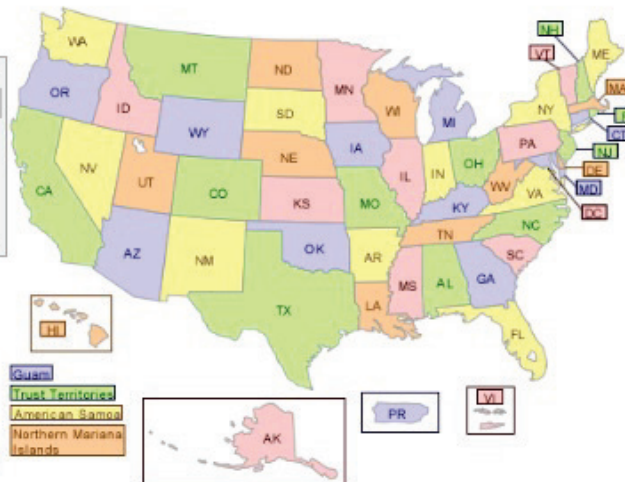
Data Set ⁱ

The default is 2015 Dataset (released September 2016)

(updated November 29, 2016)

Select 2014 Dataset (released March 2016)

Select 2014 National Analysis dataset (released October 2015)



[Click here for a description of State Fact Sheets](#)



Using TRI Explorer

http://iaspub.epa.gov/triexplorer/tri_release.chemical

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Release Reports

[Fact Sheets](#) | [Release Reports](#) | [Waste Transfer Reports](#) | [Waste Quantity Reports](#)

[Chemical](#) | [Facility](#) | [Federal Facility](#) | [Trends](#) | [Geography](#) | [Industry](#)

Release Chemical Report [i](#)

This site uses pop-up windows, click here for help on allowing pop-ups from this site [Go To New Report](#)

Year of Data [i](#)
2013 [v](#)

Geographic Location [i](#)
All of United States [v](#)

Chemical [i](#)
All chemicals [v](#)

Industry [i](#)
All Industries [v](#)

Data Set [i](#)
The default is 2013 National Analysis dataset (released October 2014) (Updated Nov 24, 2014)
 Select 2012 TRI Dataset (released March 2014)
 Select 2012 National Analysis dataset (released to the public in November 2013)

Report columns to include [i](#)

- Total On-site Disposal or Other Releases**
Details
 On-Site Disposal to Class I Wells, RCRA Subtitle C Landfills, and Other On-Site Landfills
 Other On-Site Disposal or Other Releases
- Total Off-site Disposal or Other Releases**
Details
 Off-Site Disposal to Underground Injection Wells, RCRA Subtitle C Landfills, and Other Landfills
 Other Off-Site Disposal or Other Releases
- Total On-and Off-site Disposal or Other Releases**
 CAS Number

[Generate Report](#)



TRI Explorer

Five Steps to generate a report

Step 1. Choose Report Type

Step 2. Select a Report Grouping (How data will be summarized)

Step 3. Choose Filters (Optional - All filters have a default)

Step 4. Choose Columns to be displayed (All options have a default)

Step 5. Click on the Generate Report button.

The screenshot shows the 'Release Chemical Report' page in the TRI Explorer application. The page title is 'Release Chemical Report' and the breadcrumb trail is 'You are here: EPA Home » TRI » TRI Explorer » Release Reports - Release Chemical Report'. The page has a navigation bar with tabs for 'Fact Sheets', 'Release Reports', 'Waste Transfer Reports', and 'Waste Quantity Reports'. Below the navigation bar, there are filters for 'Chemical', 'Facility', 'Federal Facility', 'Trends', 'Geography', 'Industry', and 'Dynamic Map'. The main content area is titled 'Release Chemical Report' and includes a 'Go To New Report' button. There are three main sections: 'Year of Data' (set to 2013), 'Geographic Location' (set to All of United States), and 'Chemical' (set to All chemicals). The 'Industry' is set to All Industries. The 'Data Set' section has a red oval around it, containing the text: 'The default is 2013 National Analysis dataset (released October 2014) (Updated Nov 24, 2014)', 'Select 2012 TRI Dataset (released March 2014)', and 'Select 2012 National Analysis dataset (released to the public in November 2013)'. The 'Report columns to include' section has three checked options: 'Total On-site Disposal or Other Releases', 'Total Off-site Disposal or Other Releases', and 'Total On- and Off-site Disposal or Other Releases'. The 'Generate Report' button is at the bottom left. On the right side, there are two panels: 'TRI Explorer Links' and 'TRI Links'. The 'TRI Explorer Links' panel has a red oval around the 'Data Assumptions' link. The 'TRI Links' panel has a red oval around the 'TRI Explorer Guide' link.

Red ovals identify available user aids or key references



TRI Explorer

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You are here: [EPA Home](#) » [TRI](#) » [TRI Explorer](#) » Releases: Trends Report

Releases: Trends Report

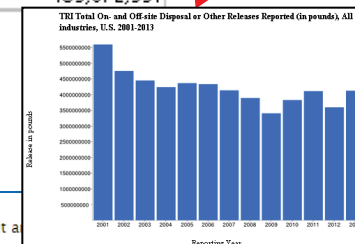
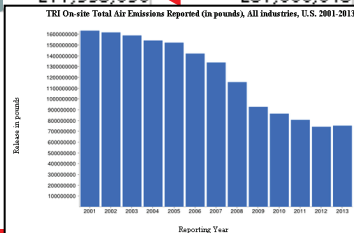
Data Source: 2013 National Analysis dataset (released October 2014) (Updated Nov 24, 2014)

[See Note](#) [Go To New Report](#) [Instructions for printing with reports](#)

TRI On-site and Off-site Reported Disposed of or Otherwise Released (in pounds). Trend Report for facilities in All industries, for 2001 Core Chemicals, U.S. 2001-2013

Are year to year changes comparable?

Row #	Year	Total Air Emissions LT	Surface Water Discharges LT	Total Underground Injection LT	Total On-site Releases to Land LT	Total On-site Disposal or Other Releases LT	Total Off-site Disposal or Other Releases LT	Total On- and Off-site Disposal or Other Releases LT
1	2001	1,630,764,160	219,229,574	215,649,594	2,999,488,336	5,089,130,665	496,923,060	5,586,053,725
2	2002	1,614,969,904	243,354,779	227,038,336	2,175,684,032	4,261,047,051	484,254,382	4,745,301,434
3	2003	1,586,697,967	230,831,052	229,183,906	1,912,950,084	3,959,663,010	482,433,101	4,442,096,111
4	2004	1,540,087,654	253,334,147	238,165,383	1,701,664,176	3,733,251,360	498,263,939	4,231,515,300
5	2005	1,519,961,421	254,656,818	235,775,608	1,829,895,117	3,840,288,964	518,574,435	4,358,863,399
6	2006	1,418,805,486	230,595,588	224,179,677	1,906,538,500	3,800,119,251	526,739,226	4,326,858,477
7	2007	1,336,066,196	235,063,508	193,642,417	1,811,468,042	3,580,240,163	548,898,993	4,129,139,156
8	2008	1,154,393,594	247,113,502	178,333,501	1,820,089,591	3,399,920,189	485,549,442	3,885,469,631
9	2009	925,175,904	206,111,098	157,497,262	1,751,390,178	3,040,176,443	358,234,218	3,398,410,661
10	2010	861,979,958	230,569,145	204,825,510	2,111,119,477	3,408,494,490	411,491,272	3,819,985,762
11	2011	804,256,424	220,290,867	196,689,695	2,468,813,101	3,690,050,085	413,420,591	4,103,470,676
12	2012	740,483,307	215,607,270	198,052,224	2,026,538,680	3,180,681,481	409,132,165	3,589,813,646
13	2013	750,534,270	211,590,696	201,686,840	2,548,184,968	3,711,996,775	405,372,591	4,117,369,366



Export this report to a text file

Create comma-separated values, compatible with spreadsheet applications

Save data in comma-separated-value, CSV, file Send data into Microsoft Excel
[Download](#) all records

View other report type:

[Transfers Off-site for Further Waste Management](#)
[Quantities of TRI Chemicals in Waste \(waste management\)](#)

View report in other formats:

PDF (Acrobat Reader); or
 RTF (Microsoft Word)

Note: The above trend report excludes quantities for hydrogen sulfide added in 2012 and additional PACs added in 2011. Total quantities reported to TRI may be viewed in any report aggregated for a single year



Questions and Discussion