



# Introduction to the Toxics Release Inventory and the 2014 TRI National Analysis Report

EPA United States Environmental Protection Agency

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## Toxics Release Inventory (TRI) National Analysis

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### 2014 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 2014 TRI National Analysis Executive Summary](#)

1 2 3

### What is the TRI National Analysis?

Toxics Release Inventory National Analysis

U.S. facilities report detailed information to EPA on their management of toxic chemicals including their release 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.

### 2014 TRI National Analysis

### Mapping TRI

### 2014 TRI Quick Facts

- [Browse the TRI National Analysis](#)
- Skip to a chapter:
  - [Pollution Prevention \(P2\) and Waste Management](#)
  - [Releases](#)
  - [Industry profiles](#)
- [View TRI data where you live](#)
  - View by state, city, ZIP code
  - See the TRI facilities in your area
  - View rankings in releases
- See a [story map](#) of who lives near TRI facilities

• 21,873 facilities reported to TRI  
• Waste managed increased by 2%  
• Releases decreased by 6%  
• Most releases were to land, primarily from metal mining operations

Production-Related Waste Managed, 2014  
25.45 billion pounds



## Overview

- Introduction to TRI
- Reporting Year 2014 TRI National Analysis
- Interactive web-based format
- 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

## Institute, West Virginia August 1985

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



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

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: <http://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](http://www.epa.gov/tri/p2))





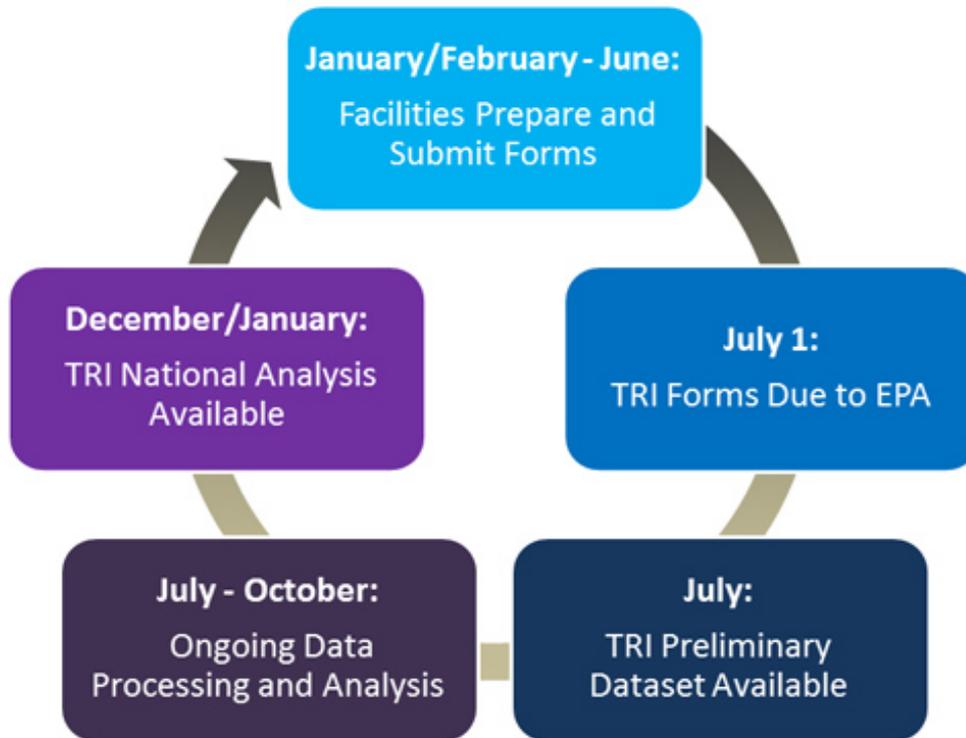
## Considerations When Using TRI

- 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

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



# Annual TRI Cycle and Data Quality Process



- Facilities submit their TRI forms for each calendar year to EPA by July 1<sup>st</sup> 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

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**Production-Related Waste Managed, 2014**  
25.46 billion pounds



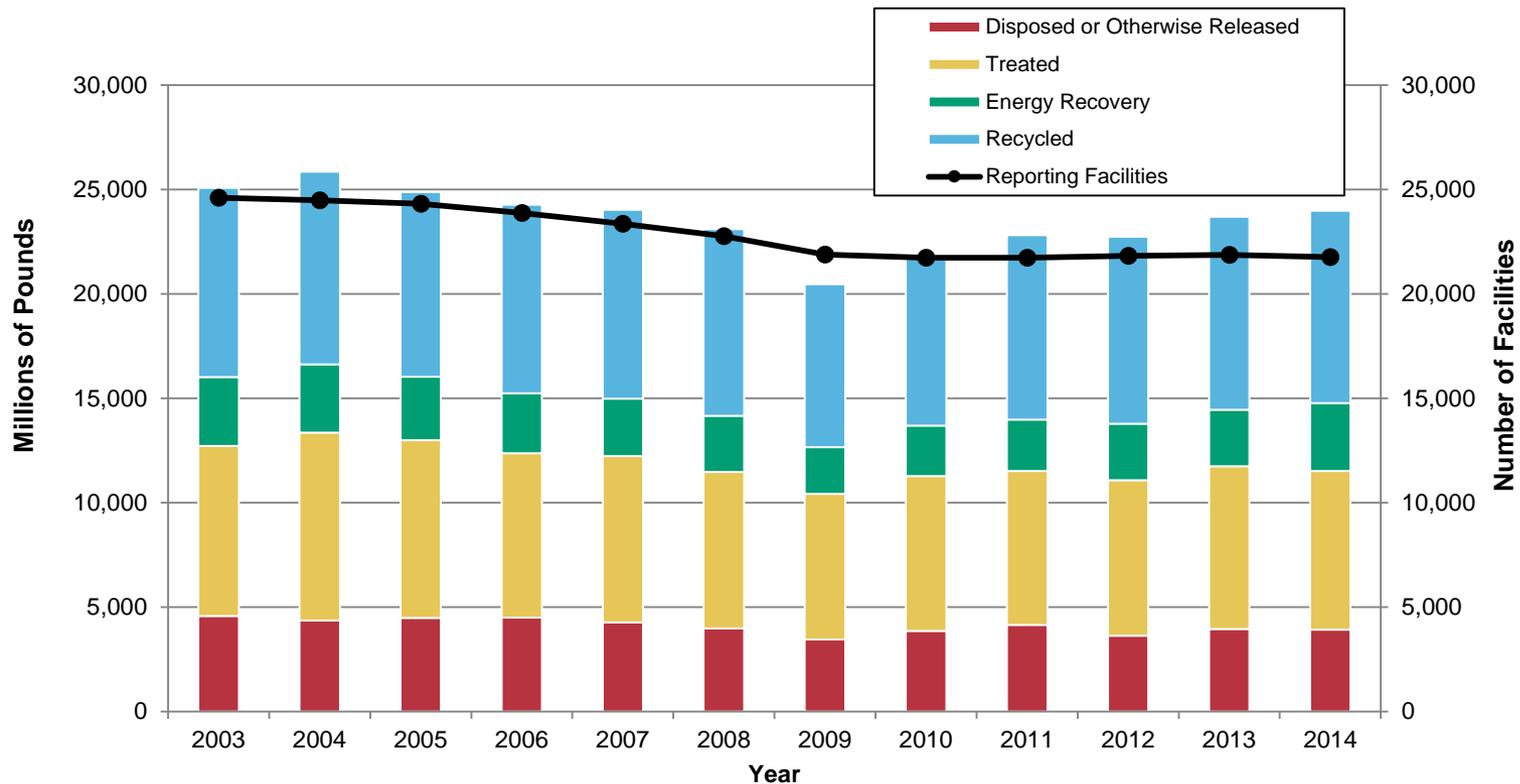
## Key Messages for 2014 TRI National Analysis

- Total production-related waste increased 2% from 2013 to 2014
  - 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 Energy Recovery decreased; Energy Recovery increased 21%
    - Good news: Of 25 billion pounds of waste managed in 2014, 22 billion pounds (84%) were not released due to preferred waste management practices like recycling.
- Total disposal or other releases decreased 6% from 2013 to 2014
  - Land disposal decreased – Metal mines
  - Air releases decreased – Electric utilities and chemical manufacturing
  - Some industries, including petroleum and stone/clay/glass manufacturing, increased
  - 2014: Of the 3.9 billion lbs released, 2.5 billion lbs (65%) were released to land, 738 million lbs (19%) were released to air, and 216 million lbs (6%) were released to water
- New this year:
  - National Analysis hosted on its own website
  - Integrated TRI facility location information and demographic information from the Census
  - Highlight federal facilities and “zero releasers”
  - Highlight automotive manufacturing sector



# Key Messages for 2014 TRI National Analysis

## Production-Related Waste Managed, 2003-2014

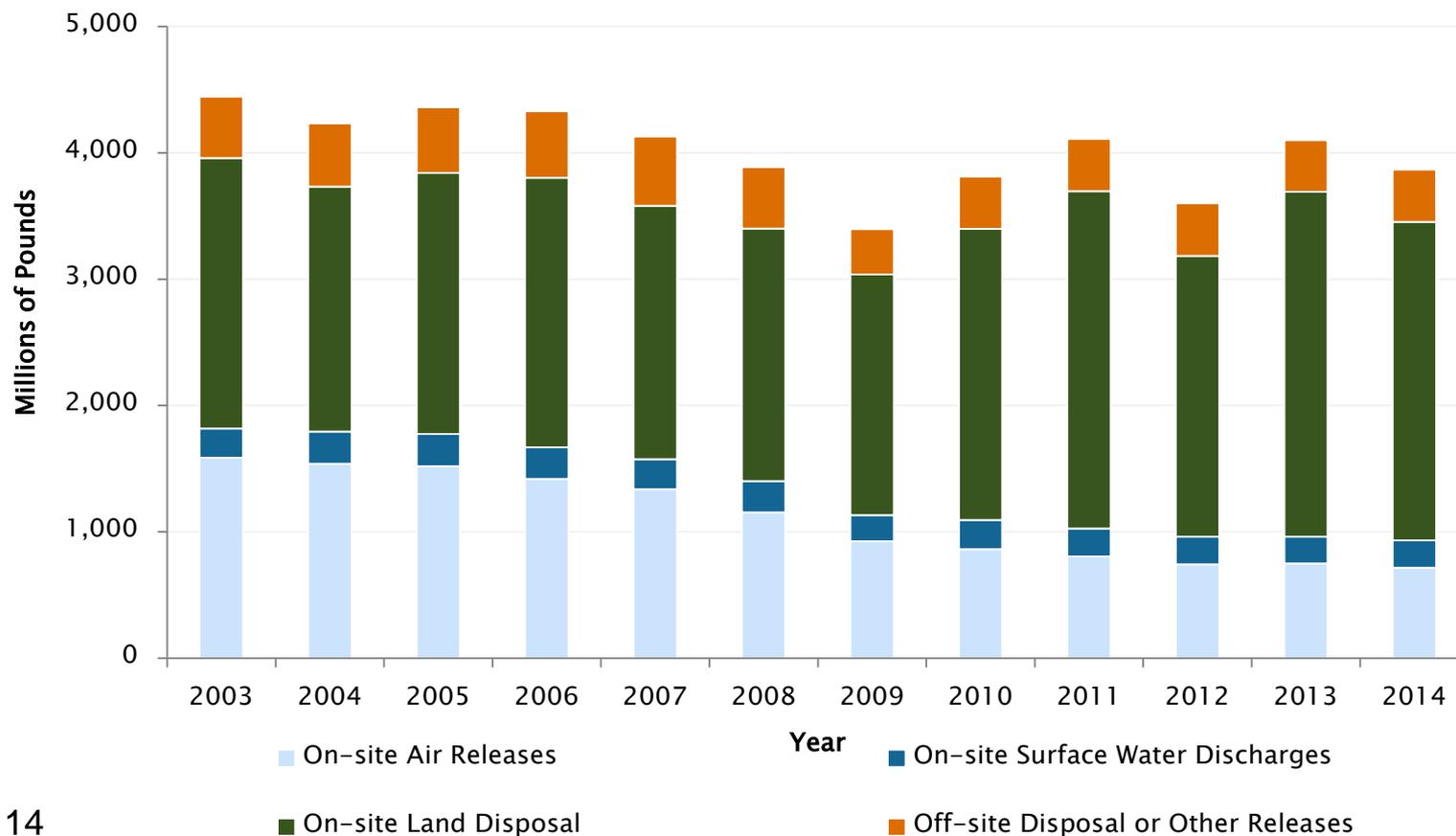


Note that trend graphs were generated using the 2001 Core Chemicals list and do not include Hydrogen Sulfide



# Key Messages for 2014 TRI National Analysis

## Disposal or Other Releases, 2003–2014





# New Analyses: Demographics

- Story Map feature from ArcGIS Online
- Provides demographic information from Census in context of proximity to TRI facilities (i.e., “Who Lives near a TRI Facility?”)

**TRI Facilities and You**  
Exploring demographic information within the 2014 TRI National Analysis

1 2014 TRI National Analysis

2 Who Lives near a TRI Facility?

3 Who Lives near a TRI Facility in Your County?

4 TRI Facilities in Your Neighborhood

You may live near one or more TRI facilities. Use the map at the right to view your neighborhood and see where nearby facilities are located. You can use the search bar or locator tool in the upper left to help you find your neighborhood.

The map also shows what percentage of the population lives near these facilities. A comparison of the demographic information as compared to the nation as a whole is included in the top right.

Visit the [Where You Live section](#) of the TRI National Analysis to learn more about the chemical releases in your neighborhood.

5 Next Steps

Demographics: Census Tract 26	
COUNTYFP10	001
State	DC
Total Population	2,276.00
% Minority	52.94
% Below Poverty Line	6.02

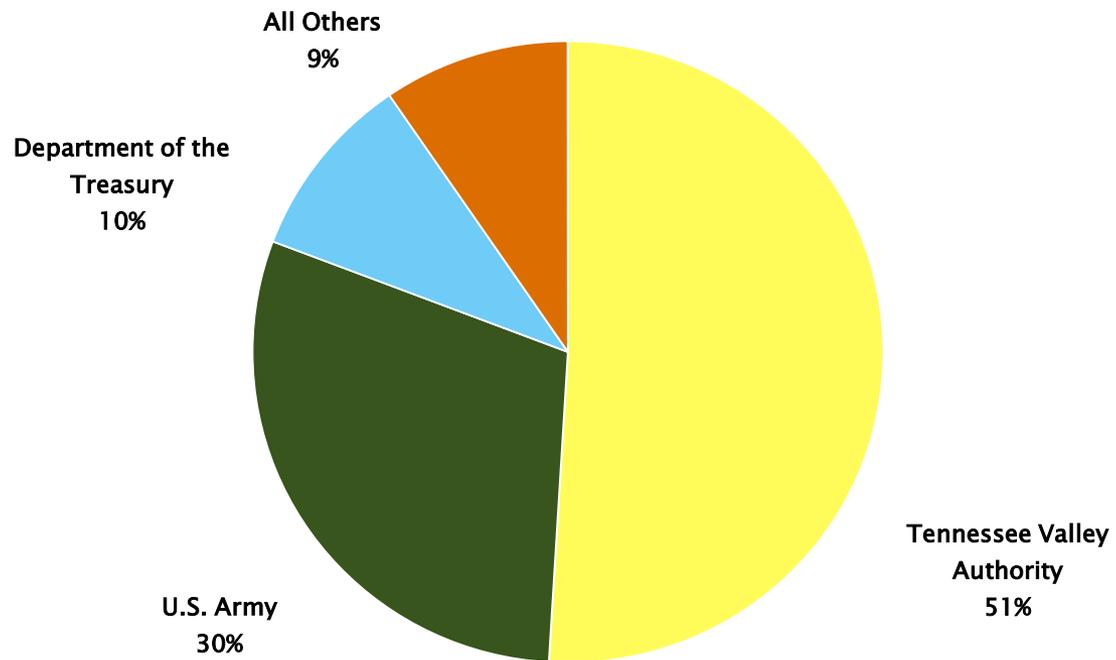
State of Virginia, Esri, HERE, DeLorme, Intermap, USGS, NG...



# New Analyses: Federal Facilities

- Highlight reports from federal facilities, similar to existing Industry Profiles
- Include distribution among government organizations and sectors
- Case study showing source reduction efforts at a federal facility

Production-Related Waste by Government Organization, 2014  
200.5 million lb

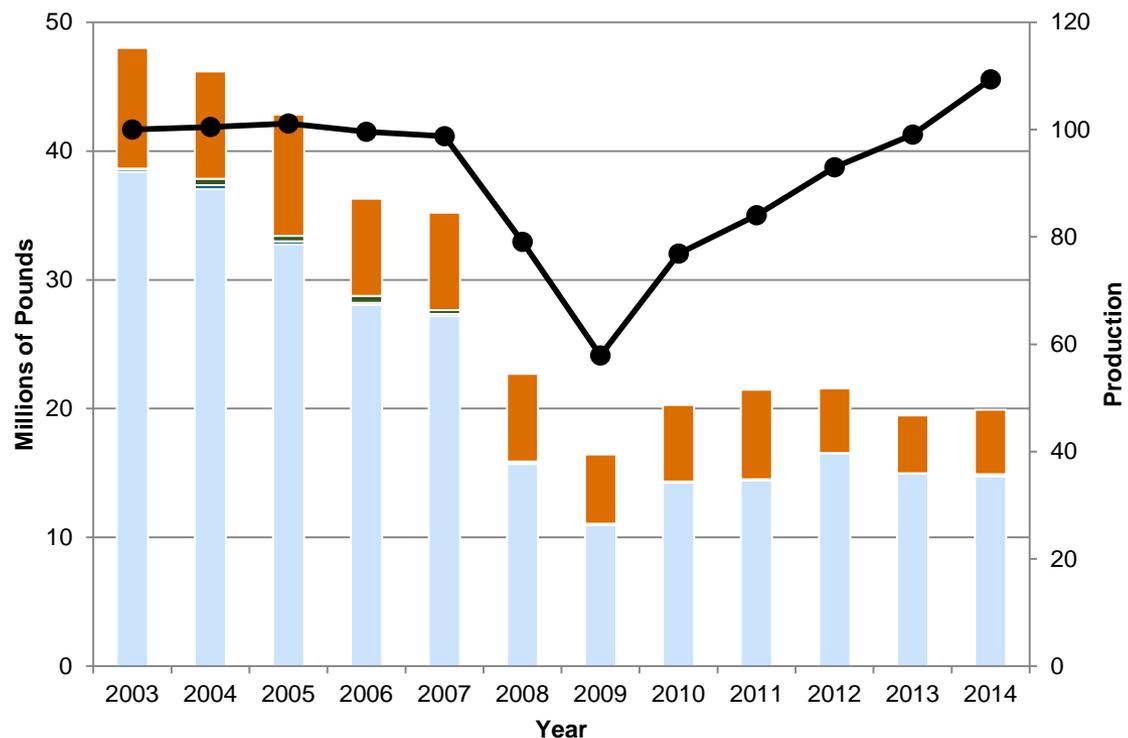




# New Analyses: Automotive Manufacturing Sector

- Highlight Automotive Manufacturing in Industry Sectors (in addition to three main industries)
- Releases have remained relatively constant since 2009 while production has increased

Total Disposal or Other Releases, 2003-2014  
Automotive Manufacturing



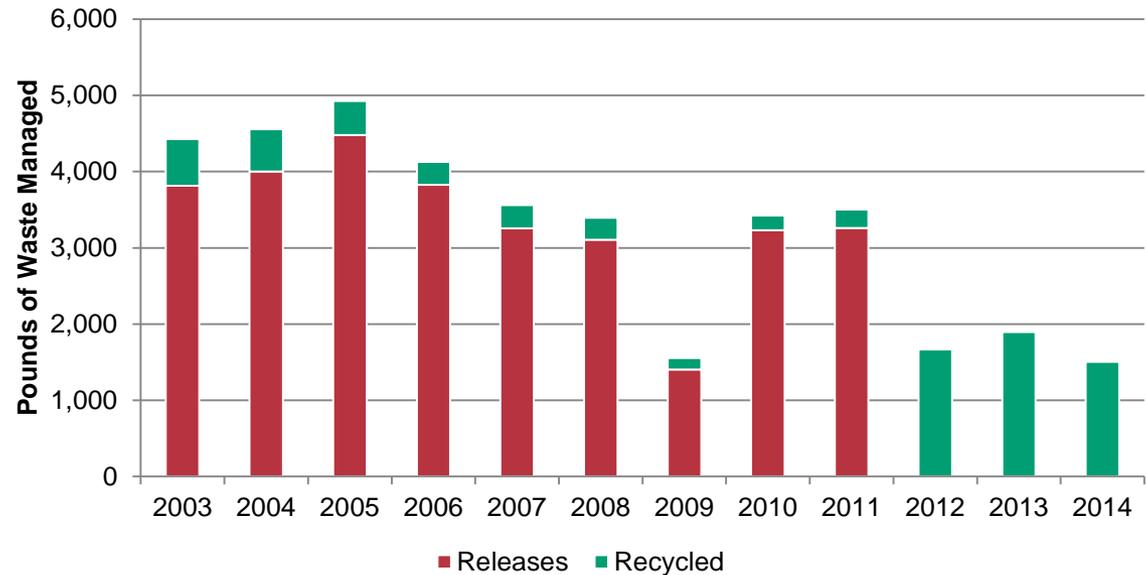


## New Analyses: Zero-Releasers

- 3,065 facilities managed waste but reported zero releases of TRI chemicals in RY2014

American NTN Bearing Manufacturing Corp. (owned by NTN USA Corp.) manufactures ball and roller bearings in Cook County, IL. In 2012, they implemented a recycling process for the chips and debris generated as part of the metal grinding process. By 2013, releases of chromium had been reduced to zero and all other chromium waste was recycled.

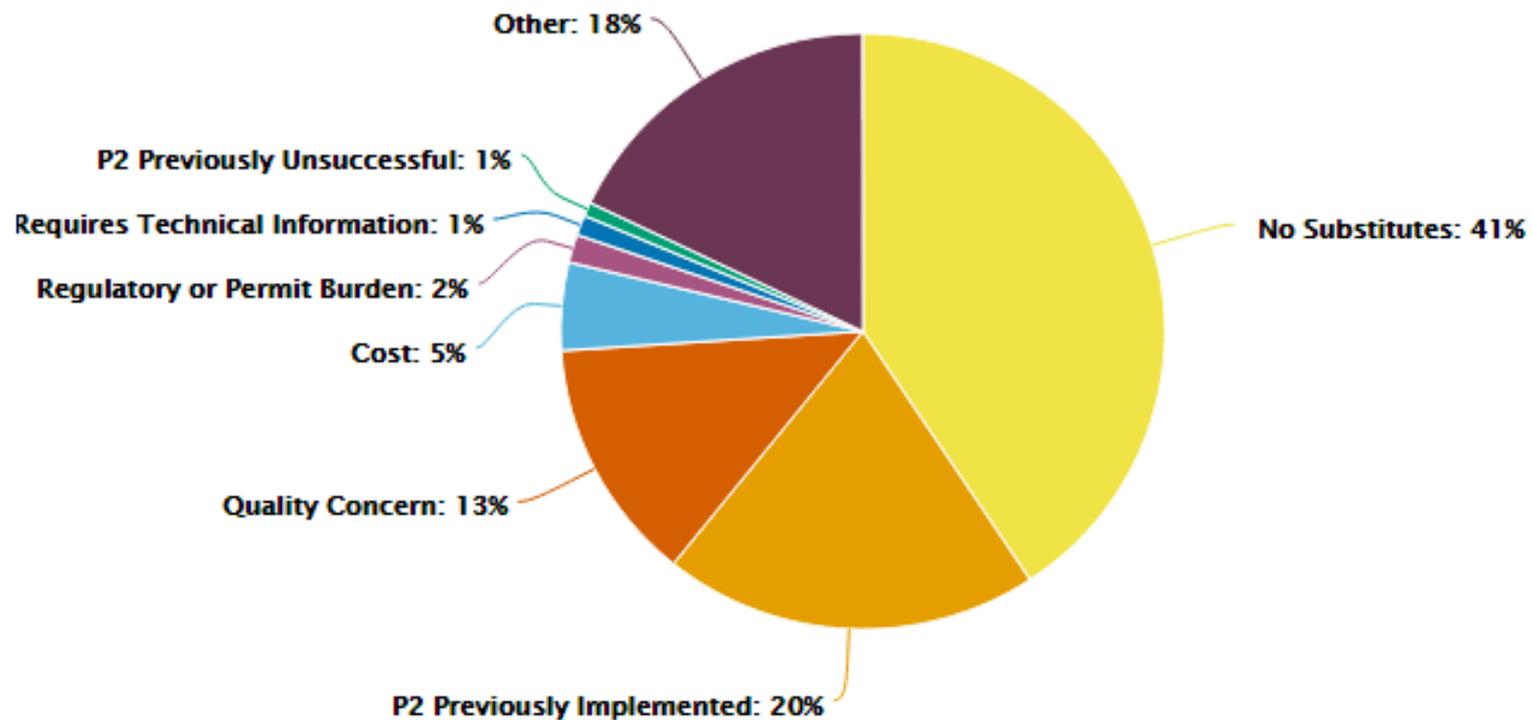
Management of Chromium at American NTN Bearing Manufacturing Corp





# New Analyses: Barriers to P2

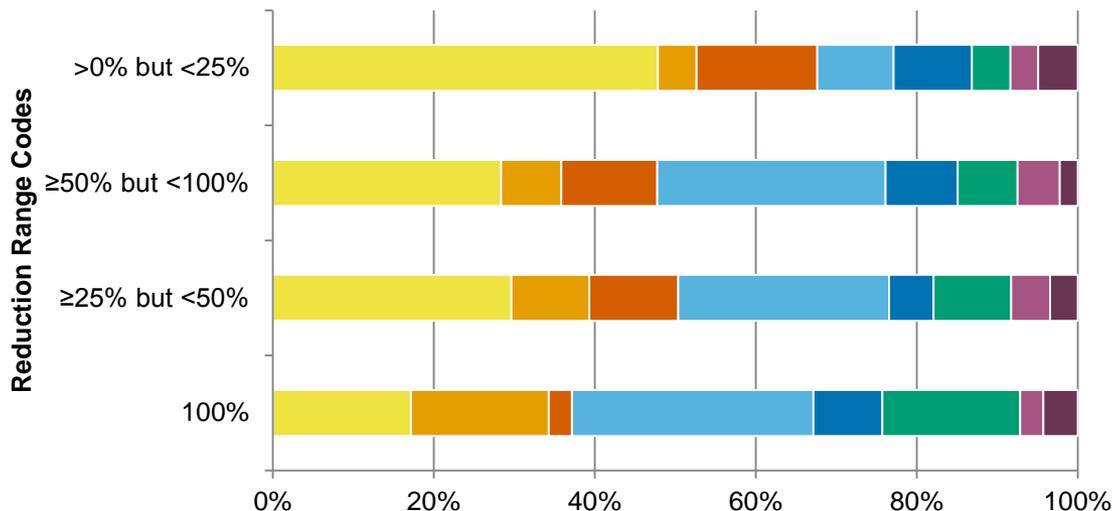
## Reported Barriers to Source Reduction, 2014



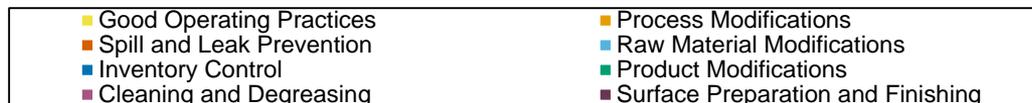


# New Analyses: Estimated Annual Reduction – Source Reduction

Source Activities and Reported Reduction Codes, RY2014



Frequency with Which Each P2 Category was Reported for Each Reduction Range Code



- New field illustrating estimated source reduction from facilities by measures implemented in RY2014
- Categorized by type of activity and expected % annual reduction



# National Analysis Website

[www.epa.gov/trinationalanalysis](http://www.epa.gov/trinationalanalysis)

- TRI Program Home
- TRI National Analysis Home
- Introduction**
- Pollution Prevention and Waste Management
- Releases of Chemicals
- Industry Sectors
- Where You Live
- TRI and Beyond
- National Analysis Discussion Forum
- Download the Report and Supporting Files
- TRI National Analysis Archive

**You are here:** EPA Home » TRI National Analysis » 2014 TRI National Analysis: Introduction

## 2014 TRI National Analysis: Introduction

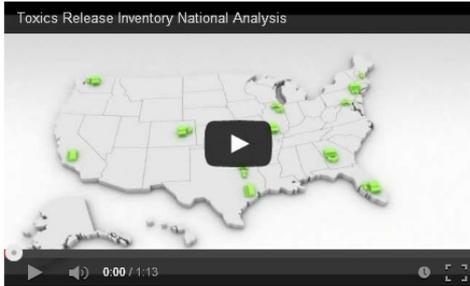
[español](#)

Industries and businesses in the United States use tens of thousands of chemicals to make the products we depend on, such as pharmaceuticals, computers, paints, clothing, and automobiles. Although the majority of toxic chemicals are managed by industrial facilities to minimize releases of chemicals into the environment, releases do still occur.

It is your right to know what toxic chemicals are being used in your community, how they are managed, whether they are being released into the environment, the quantities of these releases, and whether such quantities are increasing or decreasing over time. The Toxics Release Inventory (TRI) is an EPA program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. This information is submitted by thousands of U.S. facilities on over [650 chemicals and chemical categories](#) under the [Emergency Planning and Community Right-to-Know Act \(EPCRA\)](#) and the [Pollution Prevention Act \(PPA\)](#).

### What is the TRI National Analysis?

Toxics Release Inventory National Analysis



#### Introduction

1. Map of TRI Facilities
2. TRI Summary for 2014

#### Download the Report

- [Full 2014 TRI National Analysis](#)
- [Executive Summary](#)

#### Other Resources

- [Supporting data files](#)
- [Overview presentation](#)
- [Questions and answers](#)
- [National Analysis Archive](#)



# Using TRI Explorer

[http://iaspub.epa.gov/triexplorer/tri\\_release.chemical](http://iaspub.epa.gov/triexplorer/tri_release.chemical)

The screenshot shows the EPA TRI Explorer interface for generating a Release Chemical Report. The page includes the EPA logo and navigation links. The main content area is titled "Release Reports" and has tabs for "Fact Sheets", "Release Reports", "Waste Transfer Reports", and "Waste Quantity Reports". Under "Release Reports", there are sub-tabs for "Chemical", "Facility", "Federal Facility", "Trends", "Geography", and "Industry". The "Release Chemical Report" section is active, showing a "Generate Report" button and a "Go To Home Page" link. The "Year of Data" is set to 2013. The "Geographic Location" is "All of United States", "Chemical" is "All chemicals", and "Industry" is "All Industries". The "Data Set" is the 2013 National Analysis dataset. The "Report columns to include" section has several options checked: "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 "CAS Number" option is unchecked.

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Advanced Set

### TRI Explorer

You are here: EPA Home » TRI » TRI Explorer » Release Reports - Release Chemical Report

## Release Reports

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

Chemical | Facility | Federal Facility | Trends | Geography | Industry

### Release Chemical Report

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

**Year of Data**  
2013

**Geographic Location**  
All of United States

**Chemical**  
All chemicals

**Industry**  
All Industries

**Data Set**  
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**

- 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 two main sections: 'Year of Data' and 'Report columns to include'. The 'Year of Data' section has a dropdown menu set to '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'. There is also a 'Data Set' section with a dropdown menu set to 'All Industries'. A 'Generate Report' button is located at the bottom of the page. On the right side, there are two panels: 'TRI Explorer Links' and 'TRI Links'. The 'TRI Explorer Links' panel has three items: 'TRI Explorer Guide', 'Tutorial', and 'Explorer Update History'. The 'TRI Links' panel has several items, including 'Overview', 'TRI Tools', 'TRI Explorer', 'TRI Search', 'Form R Search', 'Form R & A Download', 'EZ Search', 'Customized Search', 'Pollution Prevention', 'Data Element Search Tool', 'TRI Guides', and 'TRI Explorer Guide'. Red ovals highlight the 'Release Chemical Report' title, the 'Tutorial' link, the 'Data Assumptions' link, the 'Data Set' dropdown menu, and the 'Generate Report' button. A red oval also highlights the text 'Red ovals identify available user aids or key references' at the bottom of the page.

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

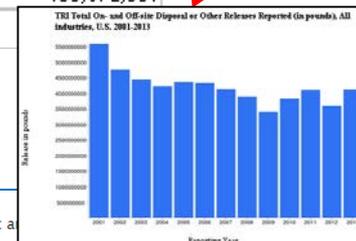
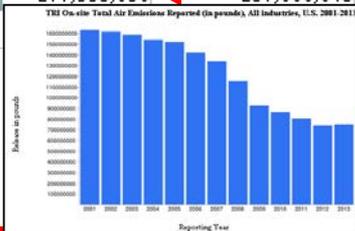
Data Source: 2018 National Analysis dataset (released October 2014) (Updated Nov 24, 2014)

See [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	Surface Water Discharges	Total Underground Injection	Total On-site Releases to Land	Total On-site Disposal or Other Releases	Total Off-site Disposal or Other Releases	Total On- and Off-site Disposal or Other Releases
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	220,290,861	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