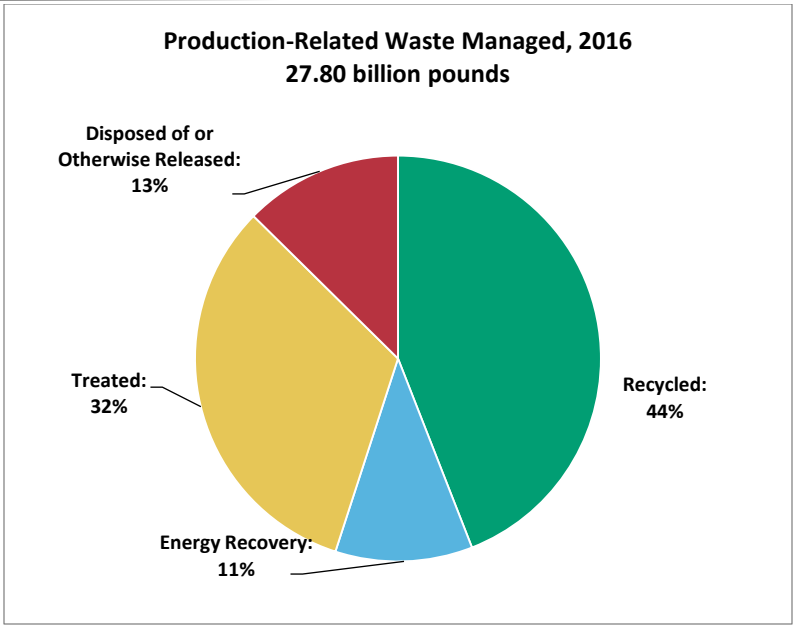
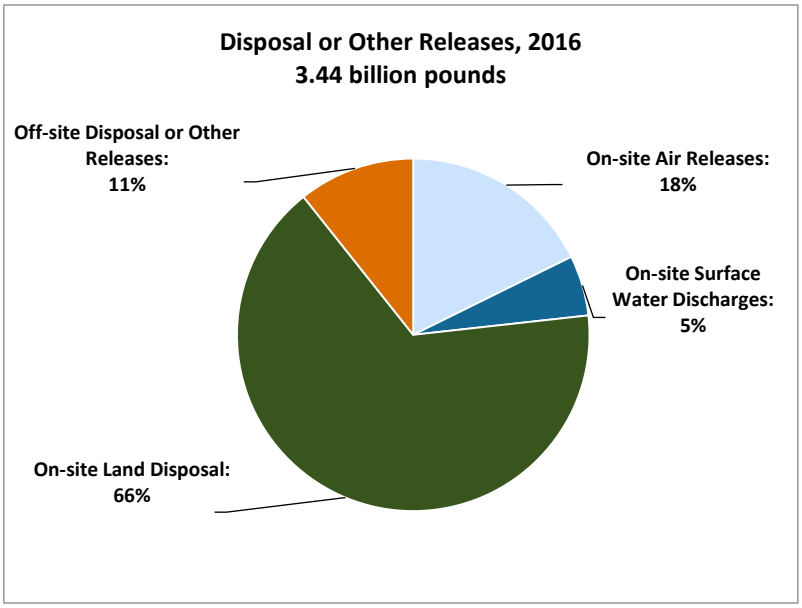
Introduction to the 2016 TRI National Analysis

Industries and businesses in the United States use chemicals to make the products we depend on, such as pharmaceuticals, computers, paints, clothing, and automobiles. While the majority of chemicals included on the Toxics Release Inventory (TRI) chemical list are managed by industrial facilities to minimize releases into the environment, releases do still occur as part of their business operations. It is your right to know what TRI chemicals are being used in your community, how they are managed, how much is released into the environment, and whether such quantities are increasing or decreasing over time.

The TRI is a publicly available database maintained by EPA that tracks the management of certain chemicals. The information contained in the TRI is submitted by U.S. facilities in industry sectors such as manufacturing, metal mining, electric utilities, and commercial hazardous waste management. Under the Emergency Planning and Community Right-to-Know Act (EPCRA), facilities must report to EPA details about their releases of TRI-listed chemicals for the prior calendar year by July 1. The Pollution Prevention Act (PPA) requires facilities to submit additional information on pollution prevention and other waste management activities of TRI chemicals. For calendar year 2016, more than 21,000 facilities submitted data to TRI.

Each year, EPA prepares and publishes the TRI National Analysis, which summarizes recently submitted TRI data, trends, special topics, and interprets the findings from the perspective of EPA's mission to protect human health and the environment. The two charts below show: 1) how chemical wastes were managed in 2016; and 2) how the portion of wastes that were disposed of or otherwise released were handled.





In 2016:

- Facilities reported managing 27.80 billion pounds of TRI-listed chemicals as production-related waste. This is the quantity of TRI chemicals in waste that is recycled, burned for energy recovery, treated, disposed of, or otherwise released into the environment. In other words, it encompasses the TRI chemicals in waste generated from the production processes and operations of the facilities that reported to TRI.
    - Of this total, 87% was recycled, burned for energy recovery, or treated. Only 13% was disposed of or otherwise released to the environment.

- For chemical wastes that were disposed of or otherwise released, facilities also reported where the wastes were released – to air, water, or land, on-site or off-site. Most waste was disposed of on-site to land (including landfills, other land disposal, and underground injection).
- As highlighted in the Releases of Chemicals section, releases to air continued to decline in 2016. Since 2006, air releases reported to TRI decreased by 58% (829 million pounds).

What's in the 2016 TRI National Analysis

The Toxics Release Inventory (TRI) National Analysis is prepared and published annually, and the 2016 TRI National Analysis is EPA's summary and interpretation of TRI data reported for activities that occurred at facilities during 2016. It offers valuable information for improving our understanding of how the environment and communities may be affected by TRI chemicals, and is a snapshot of the data at one point in time. To conduct your own analysis of TRI data, the most recent data available are accessible from the TRI Data and Tools webpage.

Additional information is presented in the following sections of the TRI National Analysis:

- Pollution Prevention and Waste Management presents the types of pollution prevention activities that facilities have implemented, and trends on recycling, energy recovery, treatment, and releases of TRI chemical waste generated and managed as part of industrial operations.
- Releases of Chemicals presents trends in releases of TRI chemicals to air, water, and land, including a focus on selected chemicals of special concern.
- Industry Sectors highlights TRI chemical waste management trends for five industry sectors: manufacturing, pharmaceutical manufacturing, chemical manufacturing, metal mining, and electric utilities.
- Where You Live presents analyses of the quantities of TRI chemicals specific to U.S. geographic areas: state, city, county, ZIP code, metropolitan area and micropolitan area, and by Large Aquatic Ecosystems (LAEs), such as the Chesapeake Bay, as well as information about facilities in Indian country.
- TRI and Beyond presents TRI data used in conjunction data from other environmental programs, such as chemical production reported to EPA under the Toxic Substances Control Act (TSCA). TRI as a model for other pollutant release and transfer inventories around the world is also discussed in this section.

TRI Data Considerations

As with any dataset, there are several factors to consider when reviewing results or using the Toxics Release Inventory (TRI) data. Key factors associated with data presented in the TRI National Analysis are summarized below; for more information see Factors to Consider When Using Toxics Release Inventory Data.

- **Covered sectors and chemicals.** TRI includes information reported by many industry sectors on the quantities of many chemicals that are released or otherwise managed as waste, but it does not contain such information on all chemicals manufactured, processed or otherwise used by facilities or from facilities in all industry sectors within the United States. A list of the sectors covered by TRI is available on the TRI webpage, as well as a current list of the chemicals reportable to the TRI Program.
- **TRI trends**. The list of TRI chemicals has changed over the years; as a result, trend graphs in the TRI National Analysis include only those chemicals that were reportable for the entire time period presented so that the year-to-year data are comparable. Results which focus only on the year 2016 include all chemicals reportable for 2016. Thus, the results for 2016 analyses may differ slightly from results presented in trend analyses, which include 2016 and previous years.
- **Data quality.** Facilities determine the quantities of chemicals they report to TRI using the best-available data. Each year, EPA conducts an extensive data quality review that includes contacting facilities to review potential errors in reported information. This data quality review ensures the National Analysis is based on accurate and useful information.
- **Risk.** The quantity of TRI chemicals released is not an indicator of potential health risks posed by the chemicals. Although TRI data generally cannot indicate the extent to which individuals may have been exposed to chemicals, TRI data can be used as a starting point to evaluate the potential for exposure and whether TRI chemical releases might pose risks to human health and the environment. For more information on the potential hazard and risk posed by disposal or other releases of TRI chemicals, see the Hazard and Potential Risk of TRI Chemicals section.
- **Late submissions.** TRI reporting forms submitted to EPA after the July 1 reporting deadline may not be processed in time to be included in the National Analysis. While revisions can be submitted after the July 1 reporting deadline, the data used to develop the National Analysis is frozen in mid-October. Therefore, revisions received after this

freeze date will not be reflected in the National Analysis. Those late revisions will be incorporated into the TRI dataset during the March refresh of the data.

- **Double-counting.** The National Analysis presents summaries of many quantitative data elements (see "Quick Facts" below) including releases to the environment, which occur on-site and off-site after wastes are transferred to another business for further waste management. When aggregating releases across facilities, such as national totals, EPA adjusts off-site releases to eliminate double counting of releases if the receiving facility also reports to TRI.

Quick Facts for 2016

Measure	*Value*
Number of TRI Facilities	**21,629**
Production-Related Waste Managed	**27.80 billion lb**
Recycled	12.25 billion lb
Energy Recovery	3.04 billion lb
Treated	9.01 billion lb
Disposed of or Otherwise Released	3.51 billion lb
Total Disposal or Other Releases	**3.44 billion lb**
On-site	**3.08 billion lb**
Air	0.61 billion lb
Water	0.19 billion lb
Land	2.28 billion lb
Off-site	**0.37 billion lb**

Note: Numbers do not sum exactly due to rounding.

Note that two metrics shown in the Quick Facts box related to disposal or other releases are similar (3.51 and 3.44 billion pounds), but total disposal or other releases is slightly lower. The reason total disposal or other releases is lower is that it removes "double counting" that occurs when a facility that reports to EPA's TRI Program transfers waste to another TRI-reporting facility. For example, when TRI Facility A transfers a chemical off-site for disposal to Facility B, Facility A reports the chemical as transferred off-site for disposal while Facility B reports the same chemical as disposed of on-site. In processing the data, the TRI Program recognizes that this is the same quantity of the chemical, and includes it only once in the total disposal or other releases value. The production-related waste value in TRI, however, considers all of the instances where the waste is managed (first as a quantity sent off-site for disposal and next as a quantity disposed of on-site), and reflects both the transfer off-site and the on-site disposal.