

## **2008 TRI National Analysis Q's and A's**

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## **Overview of the 2008 Data**

### **Q: What are the highlights of this year's data analysis?**

**For the first time, the 2008 raw TRI data were shared before EPA analyzed the data.** To increase transparency and provide data to communities faster than ever before, EPA shared the raw data with the public in August 2009. This gave communities unprecedented access to the raw data, while EPA was still completing the analysis and data quality checks.

**The analysis of the 2008 data is available faster than ever before.** For the first time, the analysis of the data will be available in the same calendar year that facilities submitted it to TRI, faster than ever before.

**There was a 6% decrease in total disposal and other releases from 2007 to 2008.** This is a similar decrease to last year, and continues a downward trend over the past several years. Some of the decrease may be due to economic conditions; however, these data are from 2008, so much of the effect of the economic downturn may not be visible in the data until 2009 reports are submitted.

**There was a 5% decrease in facilities reporting to TRI.** The decrease is similar to last year. Some facilities that have previously reported to TRI may have closed or may have reduced their use of toxic chemicals so that they are no longer required to report to TRI. However, some facilities that meet the criteria to report to TRI may have missed the reporting deadline or failed to report at all. This deprives communities of their right-to-know about toxic releases. EPA will review the facilities that did not report to determine appropriate follow up action.

**Releases of persistent, bioaccumulative, and toxic (PBT) chemicals decreased by 2%.** Total releases of lead, mercury, and dioxins decreased. This reverses a trend of increasing releases of PBTs over the past several years. However, some facilities increased their releases of some chemicals, including air releases. It is important to look at releases chemical by chemical to understand these increases and decreases.

### **Q: How many facilities reported for 2008? Why is it different from the number last year?**

21,695 facilities have reported to TRI for 2008, a 5% decrease from 2007. This continues a slight downward trend from previous years in the number of facilities reporting. Since these data are from 2008, the economic downturn that began late in 2008 may not have had a large effect on these data. Also, some facilities reported after the deadline and EPA was not able to include them in this analysis. EPA will evaluate those facilities for appropriate follow up action.

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### Background:

There are many reasons that a facility may report to TRI one year and not report the next year; each of these reasons likely accounts for some portion of the reduction in facilities.

- Each year a facility must evaluate whether they fit the criteria to report to TRI. If they have at least 10 employees and manufacture, process or use the threshold amount of the chemical, they must report.
- Some facilities have a reduction in employees or in production that causes them to drop below the reporting threshold.
- Some facilities have stopped production, either temporarily or because the facility has closed.
- Some facilities have found ways to reduce releases, or have changed their processes so that they no longer use any toxic chemicals on the TRI list
- Some facilities may have failed to report to TRI even though they fit criteria. EPA will review these facilities for appropriate follow-up action.

### **Q: What's different in the way EPA is presenting the data this year?**

For the first time, TRI is presenting information on the toxic equivalency (TEQ) of different members of the dioxin category, providing better information on the relative hazard of these chemicals (see Q&A on Dioxin TEQ below). Also, to provide better context on how toxic releases may be affected by changes in the economy, EPA has included a comparison of TRI data with Industrial Production Index data, an economic indicator provided by the Federal Reserve Board. This analysis, as well as a description of the methods used, is included in the "Key Findings" document available on EPA's Web site. In addition, the analysis of TRI chemical hazard in the "Key Findings" document has been improved by separating cancer and non-cancer chemicals.

EPA welcomes comments on these new analyses, as well as the rest of the TRI National Analysis, so that we can continue to provide more useful information to the public.

### **Q: Is the change in disposal or other releases from 2007 to 2008 comparable to that of prior years? Why did the change occur?**

- **Disposal or other releases decreased 6% from 2007 to 2008.** This year's decrease is similar to the general trend over the last few years. The exception was 2004-2005 which saw a 3% increase.
- **Reporting facilities decreased 5% as of the reporting deadline.** This accounts for a portion of, but not the entire, decrease since the national totals are driven by decreases from large facilities that continue to report.
- **Changes in the largest industry sectors tend to drive changes in total releases.** This year, a 10% decrease in releases from electric utilities and a 12% decrease from primary metals facilities played a large role in the overall decrease.

**Q: What about PBT chemical releases?**

There was a 2% decrease in disposal or other releases of PBT (persistent, bioaccumulative and toxic) chemicals overall from 2007 to 2008. The data are more meaningful in the context of specific PBT chemicals.

**Lead and Lead Compounds**

Total disposal or other releases of lead and lead compounds decreased 2% in 2008. Lead accounts for 98% of the total disposal or other releases of PBTs.

Total disposal or other releases of lead and lead compounds are affected greatly by the mining sector:

- Lead is sometimes mined for its own value and sometimes is a byproduct resulting from mining other metals.
- Metal mines accounted for 86% of total disposal or other releases of lead and lead compounds in 2008. The metal mining sector had a decrease of 2% from 2007-2008, driving the overall decrease.
- Without the metal mining sector, total disposal or other releases of lead and lead compounds decreased by 3%.

However, *air* releases of lead increased 8%, due to an increase from one facility, accounting for 25% of the total air releases of lead for 2008. The facility, Moody Air Force Base in Texas, says that the increase was due to a change in mission at the facility.

**Mercury and Mercury Compounds**

From 2007 to 2008, disposal or other releases for mercury and mercury compounds decreased 11%. Air emissions of mercury and mercury compounds decreased 5%.

- Metal mining, which accounts for almost 90% of the total disposal or other releases of mercury and mercury compounds, decreased its total disposal or other releases of mercury by 12%.
- Electric utilities accounted for 72% of all mercury and mercury compound releases to air. Electric utilities decreased mercury air releases by 4%.
- The cement, primary metals, and chemicals sectors are the next biggest contributors to air releases of mercury, and all of these sectors decreased their releases as well.

Background:

There is no mercury mining per se in the United States. Mercury results as a byproduct associated with mining other metals, especially gold and silver.

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### **Dioxin and Dioxin-like Compounds**

Total disposal or other releases of dioxins decreased 77% from 2007 to 2008.

The two largest releasers of dioxins last year (Oxy Vinyl in LaPorte, Texas and Dupont Deslisle Plant in Pass Christian, Mississippi) reported on remedial activities last year, and had much smaller releases this year. This drove the overall decrease.

Air releases of dioxins increased by 4%, driven by an increase in dioxin air releases from a single metal smelting and refining facility (Quemetco, Inc. in California). Dioxins are not created intentionally, but are formed during some high-temperature processes such as smelting and recycling metals. Different materials and temperature levels can change the amount of dioxin that is formed in the process. Also, sometimes facilities change or refine estimation techniques, which also can affect reported totals

Without the Quemetco facility, dioxin air releases decreased nearly 4%.

### **Polychlorinated Biphenyls (PCBs)**

PCB total disposal or other releases increased 121% from 2007 to 2008.

#### Background:

Because PCBs are no longer manufactured or used in new products, the disposal or other releases of PCBs represents amounts that are being cleaned up or capacitors being taken out of service and properly disposed of in facilities that minimize risk to human health and the environment.

PCB total disposal or other releases typically fluctuate from year to year based on how many significant cleanup activities are underway or how many PCB transformers are removed from service.

### **Q: What are dioxin TEQs and why is EPA including them in the analysis?**

There are actually 17 different chemicals in the category of dioxins and dioxin-like compounds in TRI. They are all very toxic, but there some of them are much more toxic than others. TEQ (Toxic Equivalency) values provide a weighted sum for each facility, so that there is one number that takes into account both quantity and toxicity. This number helps to understand the relative hazard from dioxins; however, it does not necessarily compare the risk from different facilities because it does not take into account exposure.

TEQs will allow the public to make more informed environmental decisions within their communities. Expressing dioxin releases and waste management information in grams TEQ also permits easier comparisons between TRI data and other EPA and international data.

For more information, see TRI's webpage on the dioxin TEQ rule:

<http://www.epa.gov/TRI/lawsandregs/teq/teqpfinalrule.html>

**Q. What about known or suspected carcinogens?**

This category of analysis was added to the Key Findings in 2005, at request of stakeholders.

- About 66% of TRI facilities reported disposal or other releases of carcinogens.
- Total disposal or other releases of carcinogens decreased 7% from 2007-2008 compared to a decrease of 6% for all TRI chemicals.
- Air releases of carcinogens decreased by 18%.
- Lead and lead compounds account for 60% of the disposal or other releases of carcinogens
- Almost 90% of carcinogens were released to various forms of land disposal
- Metal mines accounted for about two-thirds of the disposal or other releases of carcinogens; lead accounts for most of these disposal or releases.

Background:

The list of known or suspected carcinogens,(which EPA sometimes refers to as OSHA carcinogens) is actually a list of chemicals derived from the three sources: National Toxicology Program (NTP), International Agency for Research on Cancer (IARC) and/or 29 CFR 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Hazardous Safety and Health Administration (OSHA). If the chemical is listed according to the criteria on any of the three lists, it is included as a carcinogen under TRI.

**Q: Which industry sectors reported decreases in total disposal or other releases from 2007-2008?**

Electric utilities reported a 10% decrease.

The primary metals industry reported a 12% decrease.

The hazardous waste/solvent recovery industry reported a 19% decrease.

The transportation equipment industry reported a 30% decrease.

The chemical manufacturing industry reported a 3% decrease.

The paper products industry reported a 6% decrease.

The wood products industry reported a 25% decrease.

The metal mining industry reported a very slight (less than 1%) decrease.

**Q: Which industry sectors reported increases from 2005?**

The food and beverage industry reported a 5% increase. Most of these releases are surface water discharges. See “Why have water releases increased from 2007 – 2008?” below for more information.

The petroleum industry reported a 4% increase. See “Why have releases from the petroleum industry increased from 2007-2008?” below for more information.

Facilities that do not fit into a TRI sector (mainly federal facilities which have to report regardless of industry sector) increased 15%. See “How did federal facilities fare this year?” below for more information.

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### **Q: Why have water releases increased from 2007 - 2008?**

Surface water discharges increased 3% from 2007 to 2008. The large coal ash spill that took place at the Tennessee Valley Authority (TVA) Kingston plant in Kingston, TN contributed to this increase. Several large animal slaughtering facilities (in the food and beverage sector) also increased their releases by over 1 million pounds from 2007 – 2008. Most of the releases from these facilities are nitrate compounds. It is possible that the gasoline price increases and the increased demand for corn for reformulated fuels may have made cattle feed more expensive, causing increased movement of cattle to the slaughtering operations.

### **Q: Have water increases from electric utilities increased from 2007 - 2008?**

A recent New York Times article suggested that electric utilities were cutting down on air pollution at the expense of water pollution. There was an increase in water releases from electric utilities from 2007 to 2008; however this increase was due mainly to a large accidental coal ash spill from the Tennessee Valley Authority (TVA) Kingston Plant. Without the increase from the TVA Kingston plant, there was virtually no change in TRI water releases from electric utilities from 2007 to 2008.

### **Q: Why have releases from the petroleum industry increased from 2007 - 2008?**

The petroleum sector's releases increased 4% from 2007 – 2008. Many facilities in the petroleum sector were temporarily closed due to Hurricane Katrina in 2005, lowering the releases from this sector. The petroleum sectors releases have risen slightly since 2005, but are still lower than they were before Hurricane Katrina.

### **Q: What accounts for the 30% decline in disposal or other releases from 2001 to 2008?**

Definitive answers for this question are only possible at the facility-specific level following consultation with the particular facility.

A large portion of the change is accounted for by the metal mining industry, which reported a decrease of 49% during this time. In large part this decrease is associated with a court decision that mining facilities could use the de minimis exemption when reporting TRI chemicals in waste rock. The decrease from metal mining accounts for almost two-thirds of the overall decrease.

Electric utilities decreased 10% from 2007 and 15% from 2001.

All other industries decreased 9% from 2007 and 20% from 2001.

Some of the reasons for this decrease include:

- reductions in chemical use,
- a shift to different management methods, such as recycling and treatment of chemicals,

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- which reduces the amounts released, and
- a gradual decrease in the number of facilities reporting to TRI from 2001 to the present.

### **General**

#### **Q: What factors should I consider when using TRI data?**

Users of TRI information should be aware that TRI release estimates alone are not sufficient to determine exposure or to calculate potential risks to human health and the environment.

TRI data, in conjunction with other information, such as the toxicity of the chemical, the release medium, and site-specific conditions, can be used as a starting point in evaluating exposures that may result from releases of toxic chemicals.

Factors users of TRI data might consider include:

- Toxicity of the chemical
- Exposure
- Bioconcentration of the chemical in the food chain
- Type of disposal or release (environmental medium)
- Fate and transport of the chemical in the environment
- Type of off-site facility receiving the chemical and the efficiency of its waste management practices
- On-site waste management of the toxic chemical

More information relating to the factors to consider when using TRI data is available at:  
<http://epa.gov/tri/tridata/>.

#### **Q: Should I Worry About Releases In My Community? EPA provides lists of the top 50 facilities with the largest disposal or other releases by industry sector. Should the communities around these facilities be concerned about the chemicals coming out of these facilities?**

The list of top 50 facilities, and other ranking lists, are best used as screening tools to identify facilities that may warrant a closer examination. A release of toxic chemicals does not automatically mean that local communities are at risk. Large release numbers do not necessarily translate to large risk, nor do small releases necessarily translate into low risk. "Disposal or other releases" represent a wide range of management methods, from highly controlled disposal, such as in hazardous waste landfills, to uncontrolled releases due to accidental leaks or spills. Many releases reported to TRI are subject to permits and/or environmental standards that establish emissions limits under federal or state laws such as, for example, air permits issued under the Clean Air Act.

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Other factors, such as exposure to the release, route of exposure (e.g., breathing, via skin), bioavailability from the exposure route, and sensitivity of exposed individuals to effects caused by a toxic chemical must be considered before any judgments regarding risk can be made.

### **Q: What is Total Production-Related Waste Managed and why does EPA include information about this number as well as total disposal or other releases?**

Total production-related waste managed represents a focus on management of toxic chemicals rather than only on their final disposition. It includes reporting for on- and off-site recycling, energy recovery, and treatment as well as on- and off-site disposal or other releases.

Total production-related waste managed represents how facilities are managing their toxic chemicals and includes counting these chemicals each time they are managed whether that is by recycling, energy recovery, treatment or disposal or other releases.

### ***Federal Facilities***

#### **Q: How did Federal Facilities fare this year?**

Total disposal or other releases from federal facilities increased 6% from 2007 to 2008.

Releases from federal facilities decreased 10% from 2006 to 2007, so the 2008 levels are still below those in 2006. Releases from federal facilities often vary from one year to the next, and these changes do not necessarily represent a long term trend.

- One reason for the fluctuation this year was the large accidental release of coal ash from the Tennessee Valley Authority (TVA) Kingston plant. This release accounts for nearly half of the increase from federal facilities.
- Many federal facilities that report to TRI are national defense sites. When the primary mission of one of these sites changes, it can lead to either a sudden increase or a sudden decrease in their releases. These sites are required to report to TRI because they are federal facilities, even though they do not fit into the industry categories that normally report to TRI.

For 2008, 340 federal facilities reported over 100 million pounds of total on- and off-site disposal or other releases and 273 million pounds of total production-related waste.

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The Tennessee Valley Authority (TVA) utilities reported 59% of the total disposal or other releases from federal facilities for 2007, while the Department of Defense (DOD) accounted for 31%.

We received 1,135 forms from federal facilities, almost all of which are Form Rs (1,110).

- 72% of the forms came from DOD facilities.
- 5% of the forms came from TVA facilities.
- EPA submitted 10 TRI forms for 1.4 million pounds of waste, almost all of which was from site cleanup.

### ***The 2009 Omnibus Appropriations Act and the rescission of the TRI Burden Reduction Rule***

**Q: What did EPA do to comply with the language in the Omnibus Appropriation Act, 2009, (H.R. 1105-225-226, Section 425: Toxics Release Inventory Reporting) that invalidates the language in the 2006 Toxics Release Inventory Burden Reduction Rule?**

EPA reversed the previous rule and restored all reporting requirements to those in place prior to the Burden Reduction Rule.

**Q: Does this rescission of the Burden Reduction Rule affect the 2008 TRI National Analysis?**

Yes, the 2008 data was collected with the same rules for Form A eligibility as before the 2006 Burden Reduction Rule.

**Q: How many reporting forms did the TRI final rule expanding Form A eligibility affect?**

During the two years (2006 and 2007) while the rule was in place, Form As made up about 14% of total forms, compared to about 12% before the rule. Many facilities that became eligible to submit Form As under the rule still submitted Form Rs. In 2008, the first year after the rule was rescinded, the number of Form As dropped 20%, reducing Form A use to less than it was before the Burden Reduction Rule.

**Q: What is the difference between Form R and Form A?**

Form R provides details about releases and other waste management (e.g., total quantity of

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releases to air, water, and land; and on- and off-site recycling, treatment, and combustion for energy recovery).

Form A provides the name of the chemical and certain facility identification information. Form A can be used by the public as a “range report,” i.e., an indication that the facility manages as waste between 0 and 500 pounds of a PBT chemical as waste and has no disposal or other releases.

For a non-PBT chemical, a Form A means the facility manages between 0 and 5,000 pounds of the chemical as waste, of which no more than 2,000 pounds is disposed of or released.

Several chemicals may be reported on Form A; only one chemical may be reported on each Form R submission.