


**Understanding the Basics of TRI Data
Collection and Presentation
*Before the Interpretation***

National Training Conference on TRI...

**Session: Advances in TRI Data Reporting and
Collection**

October 19, 2016

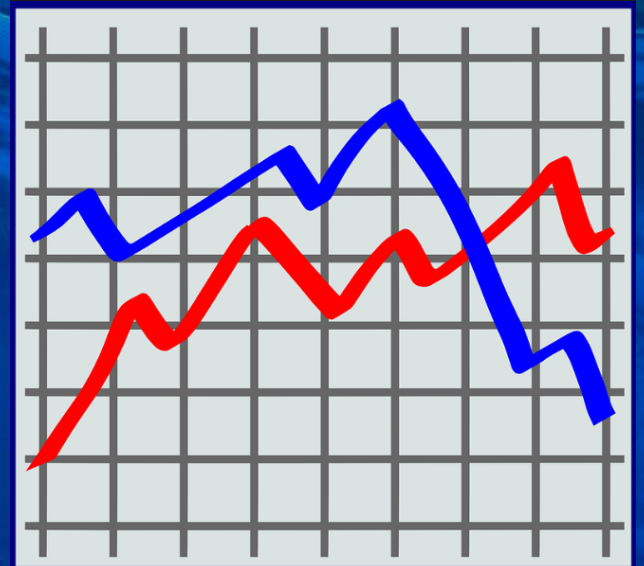
**Dr. Morton E. Wakeland, Jr. (“Mort”)
EPA Region 6, Dallas, Texas**



The BIGGEST thing to remember about the TRI database is that it is not static! Chemicals are added/removed (delisted), and reporting requirements change!



**This is of most importance
when analyzing TRENDS!**



TRI

Reporting to TRI began...

The Emergency Planning and Community Right-to-Know Act, i.e. EPCRA (pronounced “ep-kra” – short “a”) was enacted as part of the Superfund Amendments and Reauthorization Act of 1986, aka SARA Title III. President Ronald Reagan signed into law on October 17, 1986.

Final rule was published February 16, 1988 (53 Fed. Reg. 4500).

Reports were first due for the 1987 calendar year on or before July 1, 1988, and yearly thereafter on or before July 1st for the previous year’s activity.



**Congress utilized existing lists from
the states of
Maryland and New Jersey
to establish the first TRI list of
308 individually listed chemicals &
20 chemical categories
for reporting**



Compilation of Changes for TRI Reporting

- 1988, threshold changes & 2 chemicals delisted
- 1989, threshold changes & 4 new chemicals delisted
- 1990, 2 new chemicals delisted & 9 new chemicals added
- 1991, 3 new chemicals delisted & 7 new chemicals added
- 1992, no chemicals delisted/added or threshold changes
- 1993, 1 new chemical delisted & *de minimis* changes
- 1994, 30 new chemicals, 2 chemical categories added, automated Form R software introduced
- 1995, Form A added, 282 new chemicals & chemical categories added
- 1996, Federal facilities added per EO 12856, 2 chemicals delisted, *de minimis* changes, HCl – aerosols only

Compilation of Changes for TRI Reporting

- **1997**, 2 chemicals delisted, 3 chemicals lowered *de minimis* from 1.0% to 0.1%, AFR software available on CD
- **1998**, 7 new sectors outside SIC code range 2000-3999 added, revised interpretation for “*otherwise use*,” 2 exemptions added for mining sector, **no changes to TRI chemicals**
- **1999**, **no changes to TRI chemicals**
- **2000**, PBT’s added – persistent, bioaccumulative and toxic chemicals, PBT thresholds revised, *fume or dust* removed from vanadium, *except when contained in an alloy* added to vanadium, vanadium compounds added, *de minimis* – atrazine from 0.1% to 1.0%

Compilation of Changes for TRI Reporting

- **2001**, lead & lead compounds are reclassified as PBT's, threshold lowered to 100 pounds, *de minimis* level changes for several chemicals
- **2002**, no chemicals delisted/added or threshold changes
- **2003**, Section 8.1 divided into 8.1a, 8.1b, 8.1c, & 8.1d surface impoundments (5.5.3) divided into RCRA Subtitle C (5.5.3A) and Other surface impoundments (5.5.3B)
- **2004**, Methyl Ethyl Ketone (MEK) delisted, naphthalene *de minimis* goes from 1.0% to 0.1%
- **2005**, no chemicals delisted/added or threshold changes
- **2006**, Burden Reduction Rule: PBT's added to Form A, with stipulations, increase to 5,000 pounds for Non-PBT's, NAICS codes (6 digits) replace SIC codes (4 digits)

Compilation of Changes for TRI Reporting

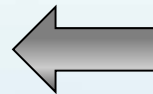
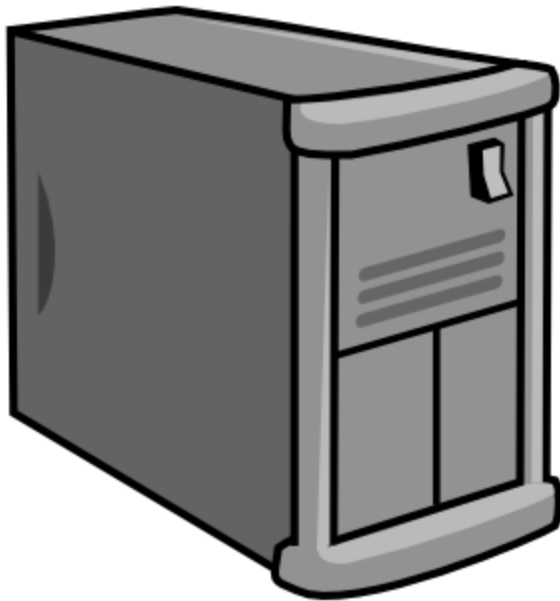
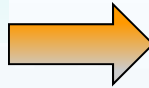
- ❑ 2007, no chemicals delisted/added or threshold changes
- ❑ 2008, last year of TRI-Me desktop, Burden Reduction repealed for Form A qualifications, no chemicals delisted/added or threshold changes
- ❑ 2009, debut of *TRI-MEweb*, no chemicals delisted/added or threshold changes
- ❑ 2010, no chemicals delisted/added or threshold changes
- ❑ 2011, Addition of National Toxicology Program (NTP) Carcinogens to list of TRI chemicals, 12 individually listed, and 4 within 1 category (PAC's)
- ❑ 2012, Stay lifted for H₂S

Compilation of Changes for TRI Reporting

- **2013**, mandatory electronic reporting utilizing *TRI-Meweb*, no chemicals delisted/added or threshold changes
- **2014**, nonylphenol category added to list of TRI chemicals, o-Nitrotoluene added to the list of TRI chemicals
- **2015**, first reports due for nonylphenol category, 1-Bromopropane added to list of TRI chemicals, first reports due by July 1, 2017

REMEMBER!!

EPCRA § 313 is the law.
(42 U.S.C. § 11023)
Regs (40 C.F.R. § 372)



TRI is the *main* database where the data collected, pursuant to the law, resides. EPA websites make the data available to *everyone!*

**What exactly are...tha data...and
reporting
that we
keep referring to anyway?**

TRI is all about chemicals:

**Tha Good,
Tha Bad, &
Tha Ugly**



How many “toxic” chemicals are we talking about?



- Currently, there are **594** individually listed “toxic” chemicals and **31** “toxic” chemical categories. Do not use the term “*hazardous*.” Σ **625**

So, what are categories?



Essentially groupings of like chemicals for example:

Polycyclic aromatic compounds

Metal compounds, e.g.

Antimony compounds

Chromium compounds

Lead compounds

Mercury compounds

Dissocyanates

Dioxin & dioxin-like compounds

Nitrate compounds

Total number of TRI chemicals on list has changed



From TRI Explorer

1988 Core Chemicals = 296

1991 Core Chemicals = 313

1995 Core Chemicals = 588

1998 Core Chemicals = 588

2000 Core Chemicals = 608

2001 Core Chemicals = 610

2011 Core Chemicals = 624

Core Chemicals



Core TRI chemicals for a particular year, e.g., 1995 (282 chemicals added), are all the TRI chemicals reportable in 1995 minus any of the TRI chemicals in 1995 which have been later delisted or whose reporting requirements have changed, e.g., threshold.

Initially, TRI reporting was all about amounts of chemicals released to air, land, and water, and amounts treated.

**Effective for 1991 RY (reporting year)
Section 8, Form R, “Source Reduction
and Recycling Activities”**

**became mandatory
per the Pollution
Prevention
Act 1990**



Effective for RY 2000, reports due on or before July 1, 2001, a new class of chemicals was added to the TRI.

**Persistent Bioaccumulative Toxins,
aka PBT's**

**Biggest impact,
thresholds were
significantly lowered!**



Who Has to Report to TRI?

- Facility must be in a covered ***primary*** industry sector or category NAICS code, including **Federal Facilities** (*excluded from NAICS*):



Manufacturing



**Coal/Oil
electricity
generation**



**Certain Mining
Facilities**



**Hazardous
Waste
Management**



Federal Facilities

- Primary***, associated with the process resulting in most revenue
- Facility must have at least 10 full-time employees or the equivalent of 20,000 hours worked in the year...
- Facility must “manufacture, process or otherwise use” more than a threshold amount (pounds) of a TRI toxic chemical in a year

(NOTE: ALL 3 REQUIREMENTS MUST BE MET YEARLY)

Changes to reporting requirements began...

Thresholds, for example, for the original list of TRI chemicals

“Manufacturing & Processing” = 75,000 lbs/yr for **1987**

“Manufacturing & Processing” = 50,000 lbs/yr for **1988**

“Manufacturing & Processing” = 25,000 lbs/yr for **1989** & thereafter

“Otherwise Using” = 10,000 lbs/yr for all years



What is the Toxics Release Inventory (TRI)?

- TRI maintains data (amounts) submitted by industry on releases and waste management of toxic chemicals from certain facilities on a yearly basis.
- TRI collects information on:



Releases



Waste transfers



Recycling



Pollution prevention

Original SIC codes covered under EPCRA § 313

- SIC code = Standard Industrial Classification code (maximum 4 digits)
- Major Group codes 20 – 39 (Manufacturing) covered in law
- **Effective for Reporting Year (RY) 1998, 7 Sectors, outside the above SIC code range, were added to TRI reporting obligations:**
 - SIC Code 10 (except 1011, 1081, 1094) Metal Mining
 - SIC Code 12 (except 1241) Coal Mining
 - SIC Codes 4911, 4931, 4939 Electric Generating Facilities (oil or coal)



Utilizing EPA Databases Containing Toxic Release Inventory (TRI) Data



- 1. Envirofacts (internet based)
EZ-Query (internet based)**
- 2. TRI Explorer (internet based)**
- 3. TRI.NET (stand alone program)**

How to Use Envirofacts

News and Information

Data Update

Envirofacts Model



Envirofacts

Your one-stop source for Environmental Information

Recent Updates

- Assessment, Cleanup and Redevelopment Exchange System (ACRES) :09-02-2016
- Toxics Release Inventory (TRI) :08-24-2016
- Integrated Compliance Information System (ICIS) :08-23-2016

Get the EnviroFACTS!

Retrieve information from multiple sources of Envirofacts' System Data for your area of interest.

Enter a location such as address, zip, city, county, waterbody, park name, etc.



[Advanced](#)

Topic Searches



Air



Waste



Facility



Land



Toxics



Compliance



Water



Radiation



Other



Envirofacts System Data Searches

[Multisystem Search](#)

BR
Brownfields-Cleanups
CERCLIS
Cleanups
ECHO/IDEA
ICIS-AIR

FRS
▪ EZ Search
▪ Organization Search
Greenhouse Gas
▪ Customized Search
ICIS
ICR

IGMS
Locational Information
▪ Locational Search
PCS
▪ Customized Search
RADInfo

RadNet
▪ Customized Search
RCRAInfo
SDWIS
SRS
TSCA
UV Index

TRI
▪ TRI Explorer
▪ TRI Search
▪ Form R Search
▪ Form R & A Download
▪ **EZ Search**
▪ Customized Search
▪ Pollution Prevention

Other Sites of Interest

[Geospatial Download](#)

[EnviroMapper](#)

[MyEnvironment](#)

TRI EZ Search:

Data Element Search Tool will provide you information on database data element (column),

tables and subject areas that are used in the search.

STEP 1: Select a Subject Area to Focus your Search

Facility Information

[Facility Information](#)

Address and other location information about the facility.

[Submissions](#)

Toxic Chemical Release Inventory Reporting Form (EPA Form R) information and Facility Information

Toxic Chemical Releases to the Environment

[Chemical Discharge to Water](#)

Total annual toxic chemical release to each receiving surface body of water.

[Chemical Release to Air](#)

Total annual toxic chemical air emissions.

[Chemical Release to Land](#)

Total annual toxic chemical release to land.

[Chemical Underground Injection](#)

Total annual toxic chemical amount injected into all on-site wells.

[Off Site Transfers for Disposal](#)

Total annual toxic chemical amount transferred to other sites for disposal.

[Combined Releases](#)

All chemical releases for a facility. Categorized by release category type (WATER, LAND, etc.).

[Releases – Brief](#)

A brief view of release information for a facility.

[Releases – Extended](#)

An extended view of release information for a facility.

[Releases – Complete](#)

A complete view of release information for a facility.

TRI EZ Search:

Toxic Chemical Transfers

[Chemical Transfer to Outside Location](#)

Toxic chemical in wastes transferred to an off-site location other than a Publicly Owned Treatment Works (POTW) facility.

[Chemical Transfers to POTW Locations](#)

Toxic chemical wastes transferred off-site to a Publicly Owned Treatment Works (POTW) facility.

[Chemical Transfer to Treatment Works](#)

Total toxic chemical wastes transferred off-site to all a Publicly Owned Treatment Works (POTW) facilities.

[POTW Transfer Locations](#)

POTW facility locations that Toxic chemical wastes were transferred to.

[Combined Transfers](#)

All chemical transfers for a facility. Categorized by transfer category type (POTW, OLOC).

Combined Releases and Transfers

[Facility Releases and Transfers](#)

All chemical releases and transfers combined for a facility. Categorized by release or transfer type (WATER, LAND, POTW, OLOC, etc.).

Source Reduction and Recycling

[Source Reduction and Recycling Amounts](#)

Chemical Source Reduction and Recycling Amounts for a facility. From Section 8 of the Form R.

[Source Reduction and Recycling Activities and Methods](#)

Chemical Source Reduction and Recycling Activities and Methods for a facility. From Section 8 of the Form R.

[Additional Information on Source Reduction](#)

Additional optional information on chemical source reduction, recycling, or pollution control activities as reported in TRI-ME web. Note, data from non TRI-ME web submissions are not available through this report. Data are from section 8.11 of the Form R.

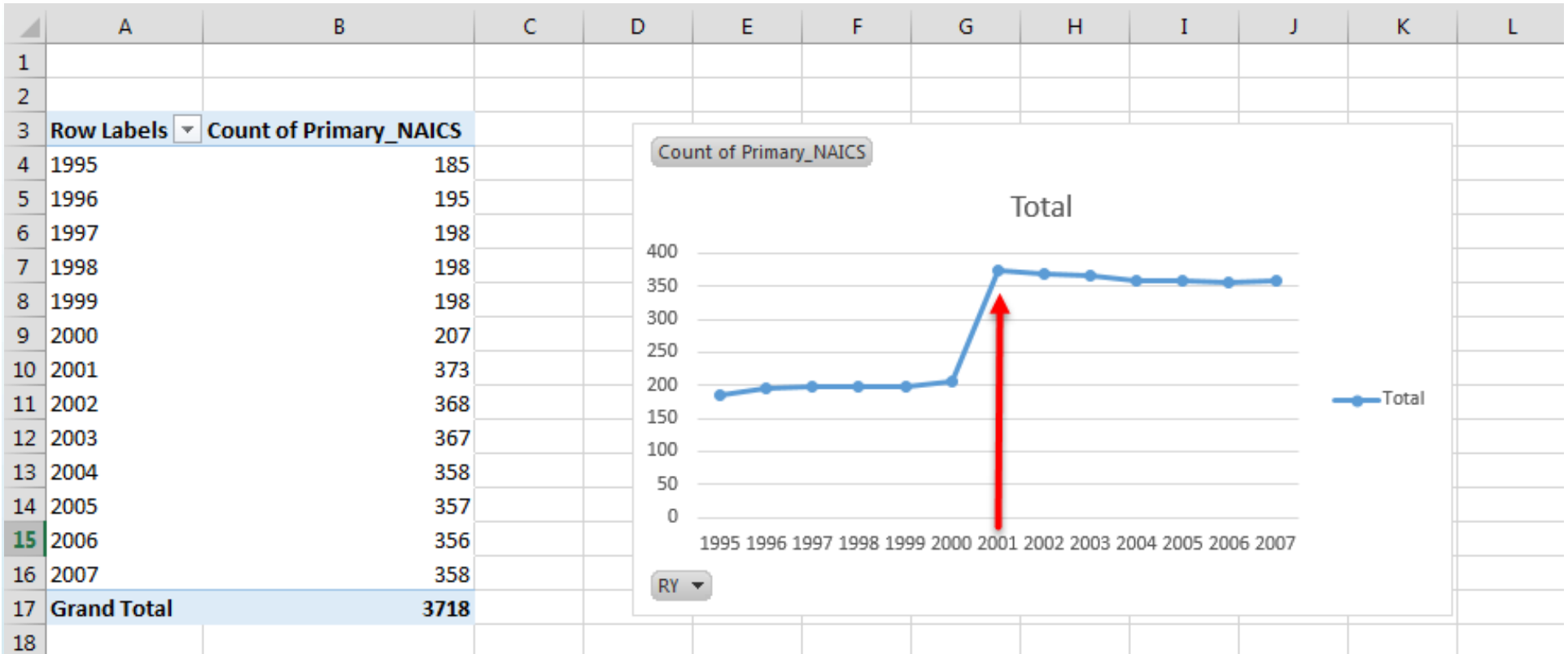
[Miscellaneous, Additional, or Optional Information](#)

Miscellaneous, Additional, or Optional information as reported in TRI-ME web. Note, data from non TRI-ME web submissions are not available through this report. Data are from section 9.1 of the Form R.

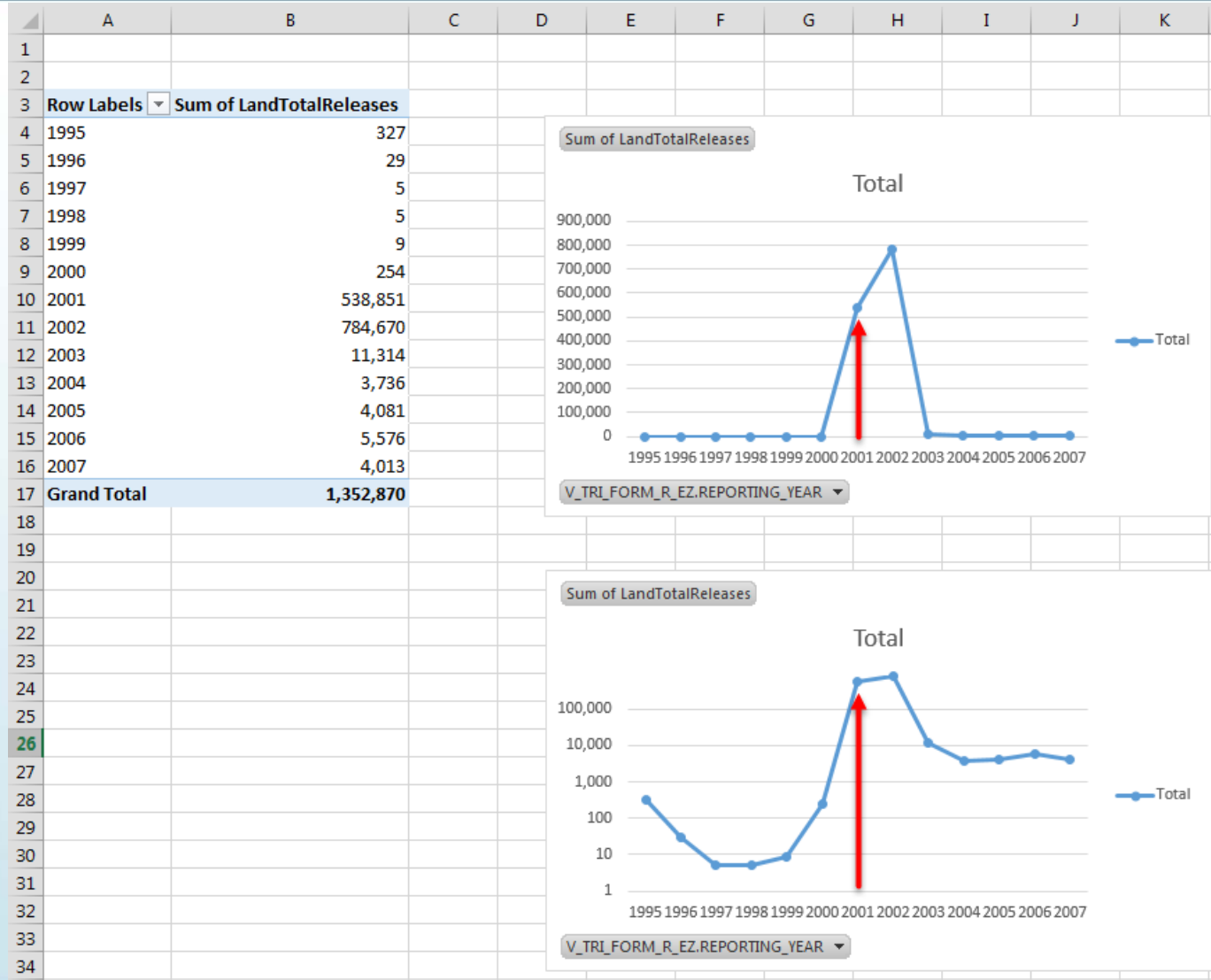
TRI EZ Search:

Summaries	
Facility Summary	Summary of release estimate statistics, for both releases and transfers, categorized by facility, media, and reporting year.
State Chemical Summary	Summary of release estimate statistics, for both releases and transfers, categorized by State, chemical, and reporting year.
State Summary	Summary of release estimate statistics, for both releases and transfers, categorized by release or transfer type (Air stack, Air fugitive, water, land, etc) and reporting year.
Production Related Waste	
Production Related Waste – Brief	A brief view of production related waste information for a facility.
Production Related Waste – Extended	An extended view of production related waste information for a facility.
Dioxin and Dioxin-like Compounds – Schedule One Data and TEQ Amounts	
On-site Releases	Quantity of Dioxin and Dioxin-like Compounds entering each environmental medium on-site
Off-site Transfers	Transfers of Dioxin and Dioxin-like Compounds in waste to off-site locations
Production Related Waste	Source Reduction and Recycling Activities for Dioxin and Dioxin-like compounds (current year only)
Specialized Views for Downloading	
Flat (Denormalized) Form R	A "flat" view of the TRI database that contains a majority of the available TRI information.

Number of NAICS Reporting Lead 1995 - 2007



Total Lead Releases to Land 1995 - 2007



TRI EXPLORER – RELEASE CHEMICAL REPORT



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TRI Explorer

You are here: [EPA Home](#) » [TRI](#) » [TRI Explorer](#) » [Release Reports](#) - Release Chemical Report

Release Reports

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

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

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](#)

2014

Geographic Location [i](#)

All of United States

Chemical [i](#)

All chemicals

Industry [i](#)

All Industries

Data Set [i](#)

The default is 2014 Dataset (released March 2016)

Select 2014 National Analysis dataset (released October 2015)

Select 2013 National Analysis dataset (released October 2014) (Updated Nov 24, 2014)

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

TRI EXPLORER

TRI Explorer

You are here: [EPA Home](#) » [TRI](#) » [TRI Explorer](#) » Release Reports - Release Chemical Report

Release Reports

Fact Sheets | **Release Reports** | Wa

Chemical | Fac

Release Chemical Repo

This site uses pop-up windows, click here f

Year of Data [i](#)

2014

Geographic Location [i](#)

All of United States

Chemical [i](#)

All chemicals

Industry [i](#)

All Industries

Data Set [i](#)

The default is 2014 Data set (released March

Select 2014 National Analysis dataset
October 2015)

Select 2013 National Analysis dataset
October 2014 (Updated Nov 27, 2014)

https://iaspub.epa.gov/triexplorer/tri_text.hreport - Internet Expl...

Chemical

The user can select an individual chemical or multiple chemicals, a "core chemicals" set or a "group of chemicals". The "core chemicals" sets are: [1988 Core Chemicals](#), [1991 Core Chemicals](#), [1995 Core Chemicals](#), [1998 Core Chemicals](#), [2000 Core Chemicals](#), [2001 Core Chemicals](#) and [2011 Core Chemicals](#). The specific "group of chemicals" are: [1995 new chemicals](#), [Hazardous Air Pollutants](#), [Occupational Safety Health Administration \(OSHA\) carcinogens](#), [Metals and metal compounds](#), [Comprehensive Environmental Response, Compensation, and Liability Act \(CERCLA\) Hazardous Substances](#), and [Persistent Bioaccumulative, and Toxic \(PBT\) chemicals](#). All chemicals can also be selected; they are defined as all reportable chemicals in a selected year. For the TRENDS report grouping (output type) only one of the "Core" set or an individual chemical can be selected (see TRENDS REPORTS below). "Core" sets for Trend Reports are a combination of a "Core Chemical" set as identified above and the industry sectors which have been required to report to TRI throughout the entire period covered by the Trend report.

Industry

Dynamic Map

TRI.NET

Toxics Release Inventory (TRI) Program

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- Pollution Prevention and TRI
- TRI Resources
- TRI Chemicals
- Laws and Regulatory Activities
- What You Can Do
- TRI Contacts
- Site Map

You are here: [EPA Home](#) » [Toxics Release Inventory \(TRI\) Program](#) » [TRI.NET](#)

TRI.NET



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- [Updates](#)
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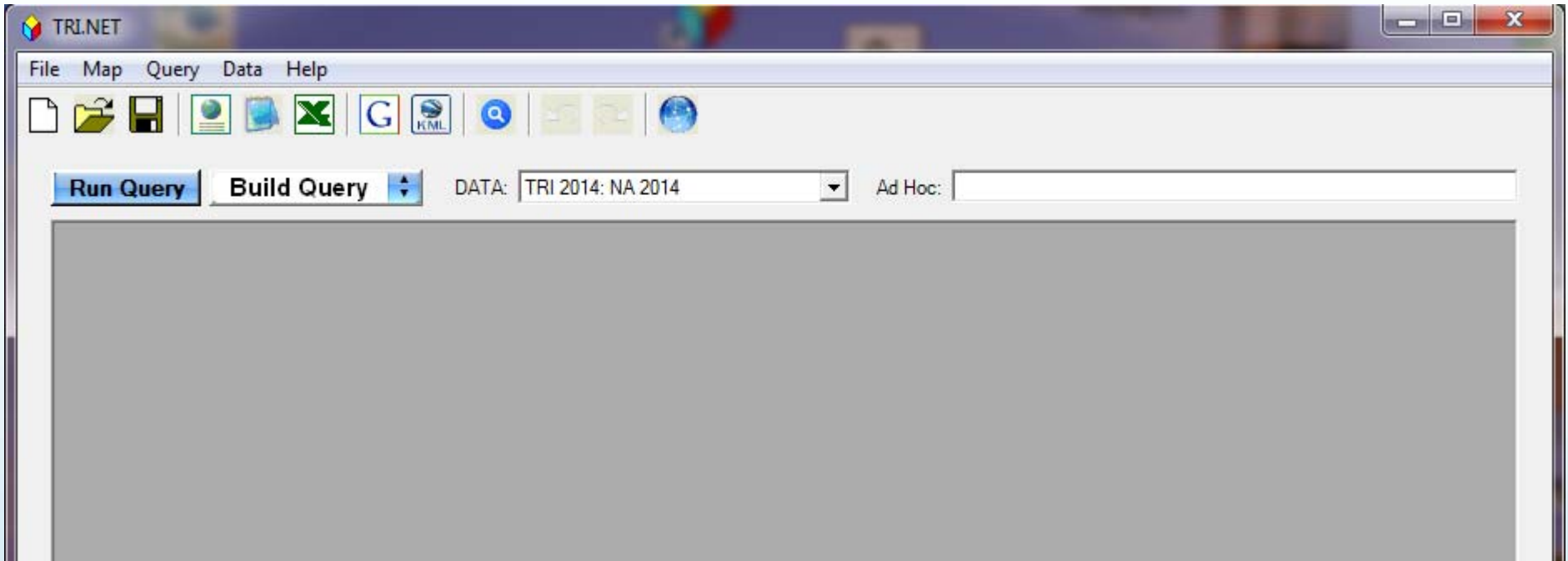
Notice to TRI.NET Users: EPA is phasing out TRI.NET and replacing it with TRI Analyzer, a new Web-enabled application. TRI Analyzer will be released in the next year. The application will be able to deploy data updates much faster than TRI.NET and will include data analytics and visualization information.

The process of withdrawing technical support for TRI.NET has already begun. Additional information will be posted here when available. Please direct questions to tri.help@epa.gov.

Conduct efficient TRI analyses and integrate with mapping

TRI.NET is a downloadable application that allows you to select, sort and filter TRI data. You can combine TRI with other data sources, display your results on a map, and export your results into other applications for further analysis. To begin, [download TRI.NET](#) to your computer.

TRI.NET



Useful EPA Internet Addresses



Toxic Release Inventory & other addresses:

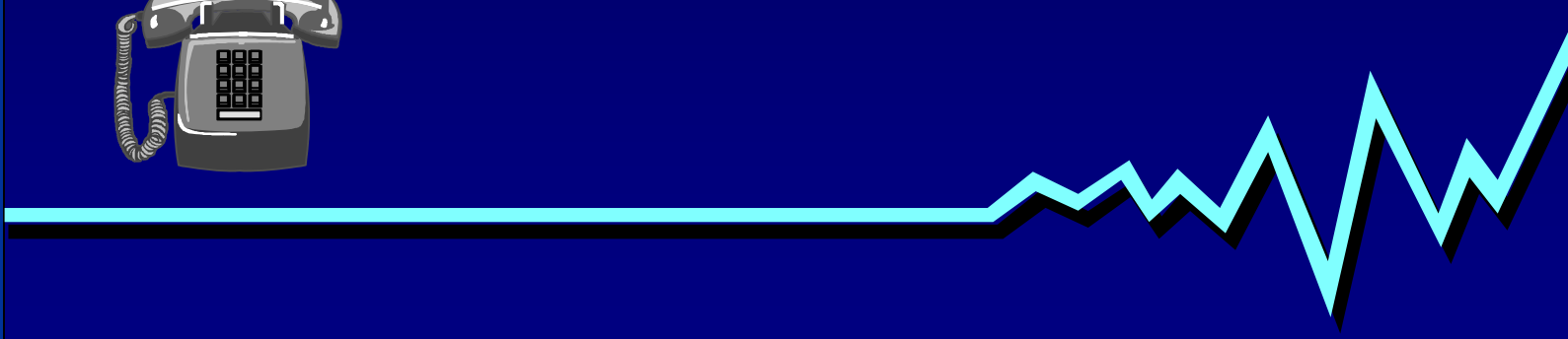
- **TRI Homepage**
<http://www2.epa.gov/toxics-release-inventory-tri-program>
- **EPA Envirofacts**
<http://www.epa.gov/enviro/>
- **TRI Explorer**
http://iaspub.epa.gov/triexplorer/tri_release.chemical
- **Enforcement Compliance & History Online (ECHO)**
<http://www.epa-echo.gov/echo/>

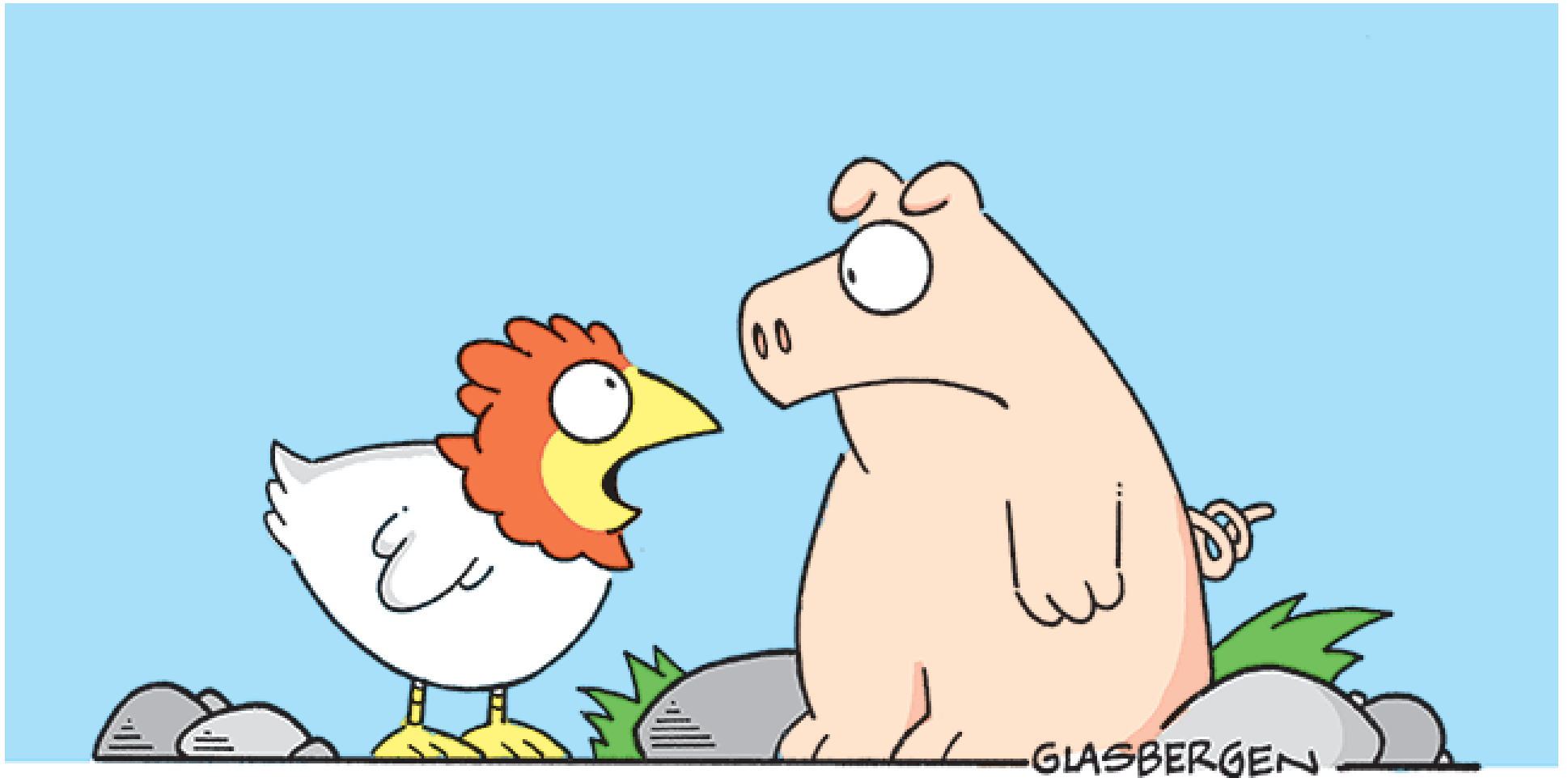
Toxic Release Inventory & other addresses *continued*:

- EPA's Audit Policy homepage
<http://www2.epa.gov/compliance/epas-audit-policy>
- National Service Center for Environmental Publications (NSCEP)
<http://www2.epa.gov/nscep>
- TRI.NET Homepage
<http://www2.epa.gov/toxics-release-inventory-tri-program/trinet>

**TRI &
EPCRA 313 HOTLINE NUMBER:**

1-800-424-9346





“I’m starting to believe in global warming. You smell like bacon.”

QUESTIONS, COMMENTS

BRAINSTORM



OBSERVATIONS?

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