https://www.epa.gov/toxics-release-inventory-tri-program/pollution-prevention-works-storytelling-challenge-students

Presentation Overview

- About the Pollution Prevention Works: A Storytelling Challenge for Students

- About the Toxics Release Inventory (TRI) and pollution prevention (P2)

- Collected P2 information and examples of P2 activities

- Demo

  - [Video Challenge webpage](#)

  - How to identify facilities that have implemented P2

  - How to verify facility compliance history

- Questions & Answers

Challenge Overview

- Tell a story about a company or industry sector's pollution prevention activities and the resulting benefits

- You can win up to $5,000!

- 20 high school and college students can win!!

Prizes

EPA will award $50,000 in total prize money to multiple participants!

	First Place (two winners per category)	Second Place (three winners per category)	Third Place (five winners per category)
High School	$5,000	$2,500	$1,500
Colleges and Universities	$5,000	$2,500	$1,500

For team submissions, awards will be split among team members. EPA will recognize participating business partners with letters of appreciation.
Students under 18 years of age must have parental permission.

Eligibility and Timing

Eligibility:

- Students: high school (grades 9-12) or college/university
- Must be a United States citizen or resident
- Participants may be an individual or a team

Not eligible to apply: Federal employees, children of EPA employees, children of affiliated state or tribal judging panel members, and employees of the companies highlighted.

Timing:

- Submissions accepted: September 19, 2022 - February 17, 2023
- Review of submissions: February - May 2023
- Prizes awarded: May 2023

How to Enter

Participants must submit their submission by the February 17, 2023, deadline.

- *If the entry is a video*, you must post it to YouTube as an unlisted video and send the link along with the required paperwork listed below.

Submission Email

- Fill out the challenge Entry Form online and submit other paperwork by email to guthrie.christina@epa.gov.

- Send emails with Subject: TRI-P2 Storytelling Challenge Entry_[challenge team name]

Required Paperwork

Each entry must be accompanied with the following paperwork:

- Challenge Entry Form (one entry form per challenge submission)

- EPA Agency Consent Form (pdf) (one form for each challenge participant, requires signature for underage participants)

- Video/Audio/Photo License Agreement (pdf) (one form per individual appearing on the video)

- Videos can be submitted in any language, but the applicant is required to include a transcript for both English and the language presented.

Judging Criteria

- **Submission Quality (20 points):** Submissions will be evaluated for the quality of the entry submitted.

- Make sure all submissions are legible and audio is clear for video entries.

Questions to think about:
- Is the messaging clear?
- Can the audience digest the material?
- Does the submission look appealing?

- **Pollution Prevention Storytelling (40 points):** Submissions will be evaluated on how they communicate a persuasive, meaningful, accurate and engaging P2 message to a broad set of audiences. Credit will be given to submissions that note information identified in the TRI P2 Search Tool, describe the P2 activities that were implemented, illustrate the benefit(s) to the facility, and explain why the facility decided to invest in the P2 activity or activities.

Questions to think about:

- Have I included enough detail about the P2 practice?
- Is there a facility (or sector) specific story or example that might help the reader understand why and what the activity entailed?
- Did I explain how the reduction in pollution helped employees or community members?

Judging Criteria

- **Community Impact Storytelling (40 points):** Submissions will be evaluated on how the implemented P2 technique or technology positively impacts the environment and the community. Submissions that quantify the environmental benefit and describe any engagements aimed at increasing awareness of the P2 actions and strengthening relationships with the community will be viewed more favorably.

Questions to think about:

- Did I describe the community?
- Were the pollution prevention impacts explained or quantified?
- Was the community aware of the work the company (or sector) did to reduce pollution?
- Are there local newspaper articles written about pollution prevention in the community that might support your story?

The Power of Community Right to Know

In 1986, Congress passed the Emergency Planning and Community Right-to-Know Act
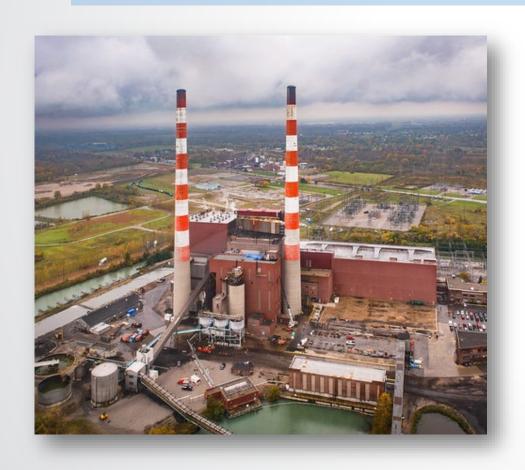
https://www.youtube.com/watch?v=Fqjh6t6Hx6s&t=1s

The Toxics Release Inventory (TRI)

An information resource that can help the public learn about toxic chemical waste management at facilities across the U.S.

800+
individual chemicals and chemical categories

21,000+
industrial and federal facilities

since 1987
annual reporting directly from facilities

What Information do Facilities Report?

The TRI database includes information on:

Releases

Waste Transfers

Recycling
Energy Recovery
Treatment

Pollution Prevention

And much more!

TRI Pollution Prevention (P2)

EPA encourages facilities to **first reduce or eliminate the use of TRI-listed chemicals and the creation of chemical waste through source reduction**, as shown in the Waste Management hierarchy adapted from the Pollution Prevention Act (PPA) of 1990.

Pollution Prevention is "any practice that reduces, eliminates, or prevents pollution at its source"

Waste Management Hierarchy

More Preferable

Source Reduction

Recycling

Energy Recovery

Treatment

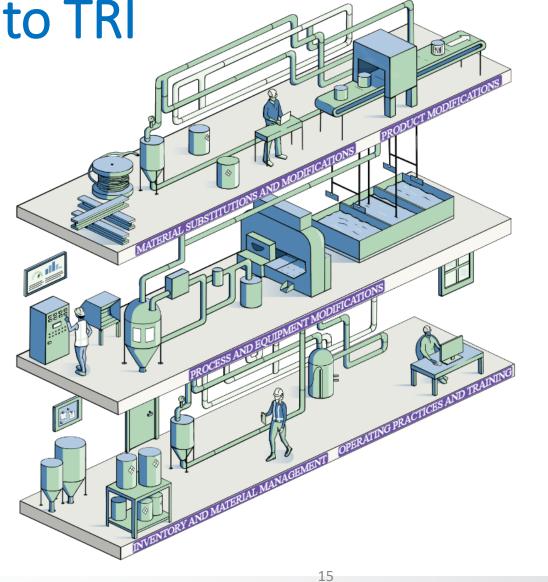Disposal or Other Releases

Less Preferable

Benefits of P2 Implementation

- Reduce environmental impact at the source

- Improve worker safety

- Reduce costs from waste management

- Enhance relationships with communities

Implementing and Reporting Source Reduction Activities to TRI

- Implementation of source reduction activities may occur *anywhere* at an industrial facility

- Facilities must report all such activities started or fully implemented during a given year and the methods used to identify the activity (e.g., audits, vendor assistance)

8.10	Did your facility engage in any newly implemented source reduction activities for this chemical during the reporting year? If so, complete the following section; if not, check NA. NA ☐		
	Source Reduction Activities (Enter code(s))	**Methods to Identify Activity (Enter code(s))**	
8.10.1		a.	b.	c.
8.10.2		a.	b.	c.
8.10.3		a.	b.	c.
8.10.4		a.	b.	c.

- Facilities use pre-defined activity descriptions (codes) to report source reduction
- Source reduction activity codes appear as S or W codes

Example Source Reduction Activity Codes

S02 Substituted an organic solvent
S11 Reformulated or developed new product line
S21 Optimized process conditions to increase efficiency
S23 Implemented new technology, technique, or process

Methods to Identify Activity Codes

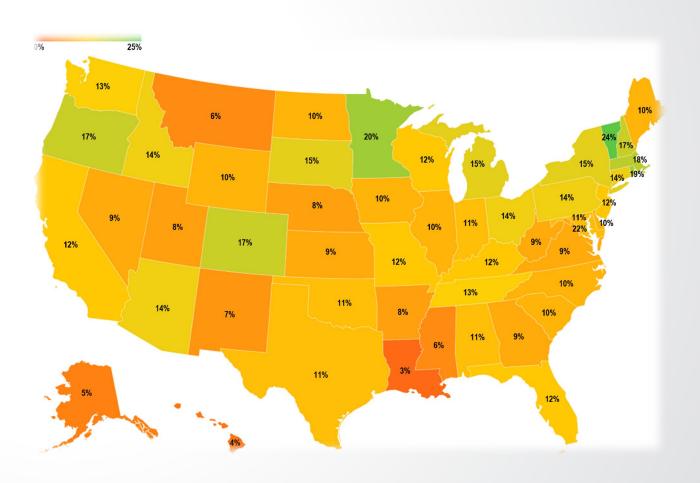**T03** Materials balance audits
T04 Participative team management
T10 Vendor assistance

Facilities may disclose optional P2 information:

- **Additional details about source reduction** activities implemented. Ex: efficiencies, benefits, specific substitute chemicals

- **Estimate of expected annual reduction** (amount no longer managed) resulting from the implemented activity. Ex: R1 = 100% (elimination of the chemical)

- **Barrier(s) to source reduction implementation** if a facility faces challenges in implementing source reduction. Ex: B1 Insufficient capital ….

Optional Details Reported for 2019:

Styrene: With supplier assistance, a fiberglass manufacturing facility *began using gel coats with lower styrene content* which reduced the facility's overall usage of styrene (W82). [Link]

N-Methyl-2-pyrrolidone: A paint and coating manufacturing facility *implemented better monitoring of shelf life and improved its "first-in, first-out" inventory method,* which reduced the quantity of N-methyl-2-pyrrolidone waste generated. The facility also began manufacturing some products on demand rather than stocking inventory (W29). [Link]

Trichloroethylene: A metal heat treating facility *installed a newer degreaser with a lower temperature surface vapor control and a smaller surface* which reduced trichloroethylene waste (W71). [Link]

Example of Source Reduction Activities

Using both the source reduction activity codes and the optional details, facilities may report the following:

To reduce toxic chemical emissions:

- Switching to water-based paint or power coating
- Increasing transfer efficiency
- Using recirculating parts or a spray gun cleaner
- Choosing water based or VOC exempt solutions
- Purchasing low HAP or low VOC input materials

Example of Other Environmental Practices

Facilities often engage in other environmental practices that, while not source reduction, help to protect the environment.

These are considered other environmental practices:

- Substituting shipping containers with reusable containers
- Replacing or reducing the amount of plastic wrap
- Replacing appliances with more energy efficient equipment
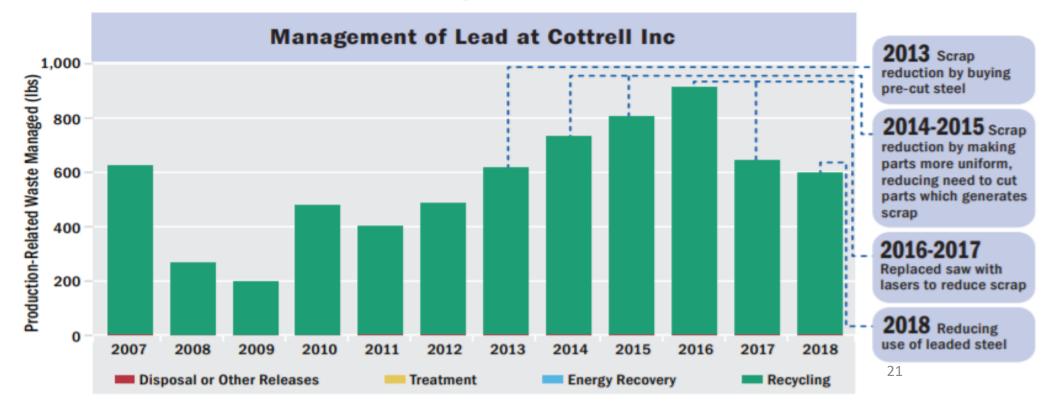- Installing auto flow valves to control and conserve water

The P2 story may describe other environmental practices if at least one source reduction activity is described.

€EPA

FACILITY FOCUS: Automotive Manufacturer

A manufacturer of over-the-road car hauler trailers implemented multiple P2 activities to **reduce its use of lead-containing steel and generation of scrap metal**. This facility reported P2 activities for lead every year from 2013 to 2018. For lead waste that is generated, the facility sends it offsite for recycling. The facility tracks all lead waste through an inventory management system to ensure all lead waste generated is recycled. The quantity of lead waste managed at the facility increased from 2011 through 2016 as production increased, but since 2016, lead waste managed has decreased considerably (down 35%) while production decreased slightly (down 8%).

Management of Lead at Cottrell Inc

Production-Related Waste Managed (lbs)

Legend: Disposal or Other Releases | Treatment | Energy Recovery | Recycling

2013 Scrap reduction by buying pre-cut steel

2014-2015 Scrap reduction by making parts more uniform, reducing need to cut parts which generates scrap

2016-2017 Replaced saw with lasers to reduce scrap

2018 Reducing use of leaded steel

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Video spotlighting a facility's P2 actions:
Nordic Ware in Minneapolis, Minnesota

For inspiration:
This video highlights one facility's operations, philosophy toward chemical reduction, and description of changes resulting from reduced chemical use.

Demonstration

- Overview of the [Storytelling Challenge webpage](#)

- Learn more about P2 at the [TRI P2 webpage](#) and how to find facilities implementing P2 activities using the [TRI P2 Search tool](#)

Get the latest information on the P2 Storytelling Challenge webpage:

- Rules
- How to enter
- Terms and conditions
- Judging
- Helpful resources
- FAQs

Toxics Release Inventory (TRI) Program

TRI Program Home

What is TRI?

Covered Chemicals

Covered Industry Sectors

Reporting for Facilities

Guidance (GuideME)

Reporting Software (TRI-MEweb)

Laws & Regulatory Activities

Enforcement

Find, Understand & Use TRI

TRI Data & Tools

TRI National Analysis

TRI Pollution Prevention

P2 Analyses

P2 Resources

Data Quality

What You Can Do

TRI Site Map

Pollution Prevention Works: A Storytelling Challenge for Students

Tell a story about how a company that reports to TRI has taken steps to reduce pollution and win up to $5000!

EPA launched a challenge promoting innovation in pollution prevention at industrial and federal facilities. The Challenge invites high school and college students and to use the TRI P2 Search Tool to identify a TRI facility that has reported implementing source reduction practices and tell a compelling story about how those practices or techniques benefit the business and positively impact communities and the environment. The challenge is open now and all entries must be submitted by February 17, 2023.
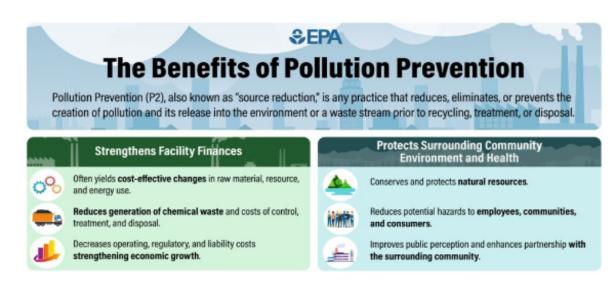
Pollution Prevention Works: A STORYTELLING CHALLENGE FOR STUDENTS

Tell a story about how a company that reports to the Toxics Release Inventory (TRI) has taken steps to reduce pollution.

Submit a video, infographics, story, or other creative format to win up to $5000! Open to high school, undergraduate, and graduate students.

Due by February 17, 2023

To access P2 information, go to www.epa.gov/tri/p2

or go directly to the TRI P2 Search Tool: enviro.epa.gov/facts/tri/p2.html
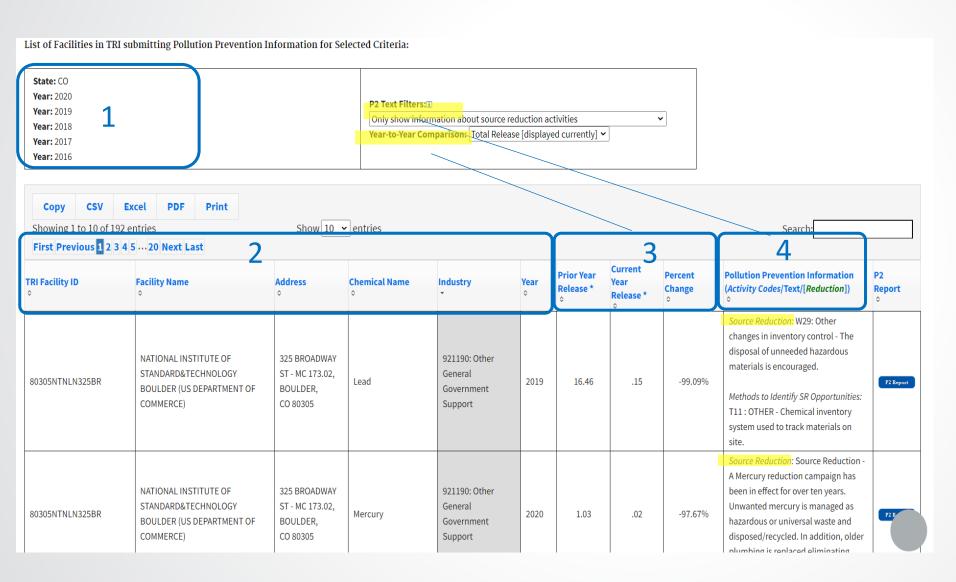
TRI P2 Search Tool

Search Objective:

What P2 activities have been reported by facilities located in [my] state over the past five years?

1. Keep default for industry and chemical filtering parameters

2. Filter for the desired range of years. Click on the menu and select the individual years

3. Filter by state from the drop-down menu. *Narrower search can be conducted by filtering for ZIP code or city name*

4. Click "Show P2 Activities" to query

Access the TRI P2 Search tool at: enviro.epa.gov/facts/tri/p2.html

P2 Search Results – List of Facilities that reported P2 information

Note: To find P2 information, look for text marked "Source Reduction"

1. Search parameters are listed here

2. Facility report information: facility name, sector, chemical and year reported

3. Comparison Information related to release and waste managed quantities. Default set to Total Release

4. P2 information including source reduction codes and optional comments. Default set to "Only show information about source reduction activities"

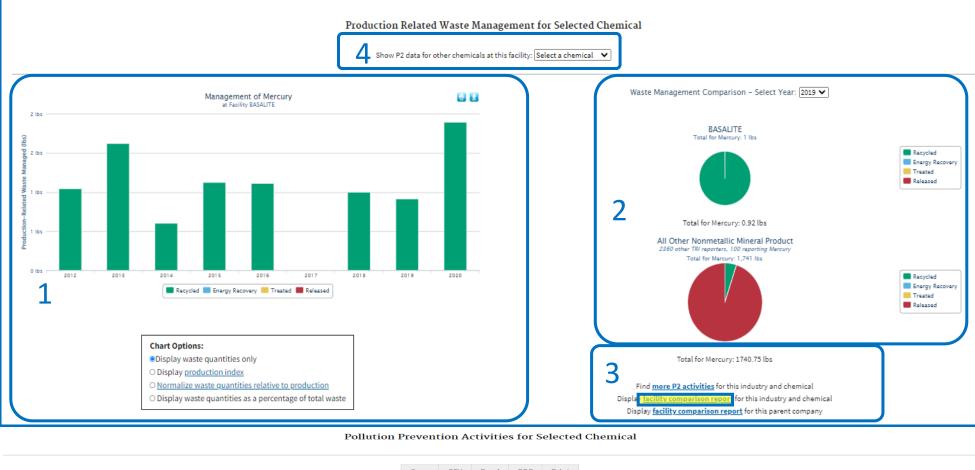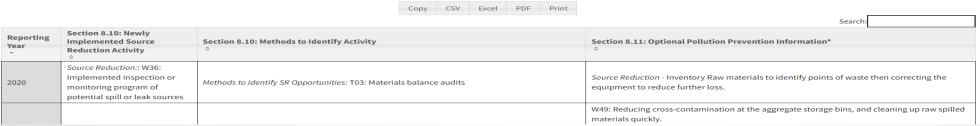# P2 Search Results: List of Facilities that Reported P2 Information

List of Facilities in TRI submitting Pollution Prevention Information for Selected Criteria:

State: CO
Year: 2020
Year: 2019
Year: 2018
Year: 2017
Year: 2016

1

P2 Text Filters: ℹ️

Only show information about source reduction activities ▾

Year-to-Year Comparison: Total Release [displayed currently] ▾

→

Only show information about source reduction activities
Show information about source reduction AND other environmental practices
Exclude facilities that reported activity codes but no text descriptions
Show information on barriers to implementing source reduction activities
Show ALL information reported in pollution prevention data fields

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Copy CSV Excel PDF Print **2**

Showing 1 to 10 of 192 entries   Show 10 ▾ entries   **3** Search: [   ]

First Previous **1** 2 3 4 5 … 20 Next Last

TRI Facility ID	Facility Name	Address	Chemical Name	Industry	Year	Prior Year Release *	Current Year Release *	Percent Change	Pollution Prevention Information (*Activity Codes*/Text/[*Reduction*])	P2 Report
80305NTNLN325BR	NATIONAL INSTITUTE OF STANDARD&TECHNOLOGY BOULDER (US DEPARTMENT OF COMMERCE)	325 BROADWAY ST - MC 173.02, BOULDER, CO 80305	Lead	921190: Other General Government Support	2019	16.46	.15	-99.09%	*Source Reduction:* W29: Other changes in inventory control - The disposal of unneeded hazardous materials is encouraged. *Methods to Identify SR Opportunities:* T11 : OTHER - Chemical inventory system used to track materials on site.	P2 Report
80305NTNLN325BR	NATIONAL INSTITUTE OF STANDARD&TECHNOLOGY BOULDER (US DEPARTMENT OF COMMERCE)	325 BROADWAY ST - MC 173.02, BOULDER, CO 80305	Mercury	921190: Other General Government Support	2020	1.03	.02	-97.67%	*Source Reduction:* Source Reduction - A Mercury reduction campaign has been in effect for over ten years. Unwanted mercury is managed as hazardous or universal waste and disposed/recycled. In addition, older plumbing is replaced eliminating	P2 R

4

1. P2 Text filters drop down changes the type of P2 information displayed. *To find facilities that have reported optional P2 details, select "Exclude facilities that reported activity codes but no text descriptions"*

2. Export the results. The list of facilities is downloadable in a variety of formats.

3. Explore and refine list within tool by entering terms in the search bar. Searches all columns.

4. Click on the P2 Details button to view a facility level P2 report for that facility-chemical.
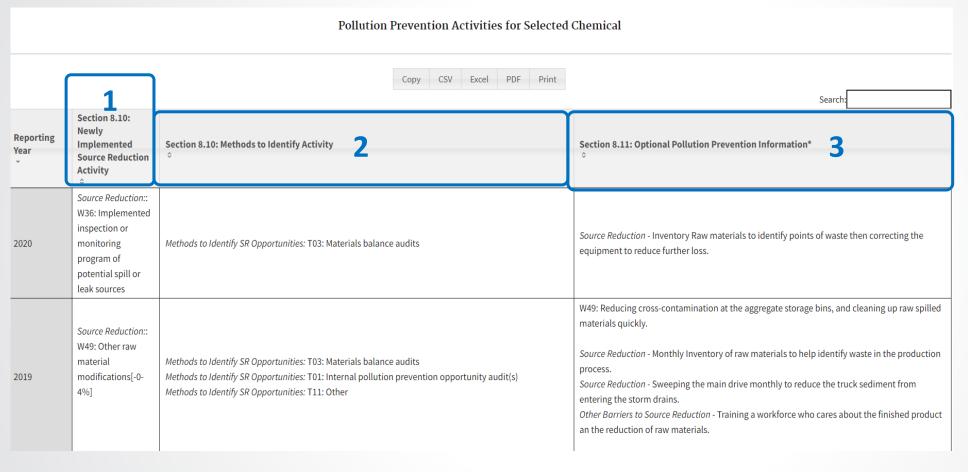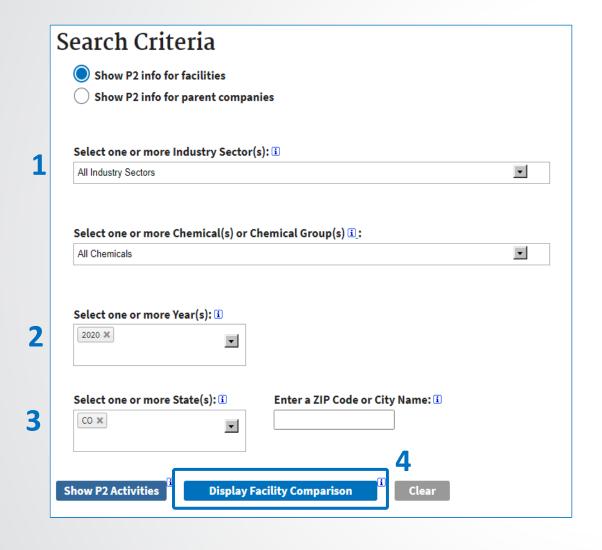
P2 Facility-level Report for an Individual Chemical

Production Related Waste Management for Selected Chemical

4 Show P2 data for other chemicals at this facility: [Select a chemical ▾]

Management of Mercury
at Facility BASALITE

1

Chart Options:
- ⦿ Display waste quantities only
- ○ Display production index
- ○ Normalize waste quantities relative to production
- ○ Display waste quantities as a percentage of total waste

Waste Management Comparison – Select Year: [2019 ▾]

BASALITE
Total for Mercury: 1 lbs

2

Total for Mercury: 0.92 lbs

All Other Nonmetallic Mineral Product
2360 other TRI reporters, 100 reporting Mercury
Total for Mercury: 1,741 lbs

3 Total for Mercury: 1740.75 lbs

Find **more P2 activities** for this industry and chemical
Display **facility comparison report** for this industry and chemical
Display **facility comparison report** for this parent company

Pollution Prevention Activities for Selected Chemical

Copy | CSV | Excel | PDF | Print

Search: [   ]

Reporting Year	Section 8.10: Newly Implemented Source Reduction Activity	Section 8.10: Methods to Identify Activity	Section 8.11: Optional Pollution Prevention Information*
2020	*Source Reduction*:: W36: Implemented inspection or monitoring program of potential spill or leak sources	*Methods to Identify SR Opportunities:* T03: Materials balance audits	*Source Reduction* - Inventory Raw materials to identify points of waste then correcting the equipment to reduce further loss.
			W49: Reducing cross-contamination at the aggregate storage bins, and cleaning up raw spilled materials quickly.

1. Waste management trend by method. Select another chart display, e.g., view normalized waste quantities.

2. Pie charts comparing facility to others in the sector

3. Links to more P2 information, including detailed facility comparison reports

4. Option to view other individual chemical reports or a facility-level report for all chemicals managed

29

P2 Facility-level Report for an Individual Chemical

Pollution Prevention Activities for Selected Chemical

1. Reported source reduction activities by year for the specific chemical

2. Methods used to identify the implemented source reduction activity

3. Optional comments for source reduction, barriers, and other environmental practices

TRI P2 Search Tool

Search Objective:

How have facilities managed chemical waste in [my] state during a given year? Have any of these facilities reported P2 activities?

1. Keep default for industry and chemical filtering parameters

2. Filter for a specific year

3. Filter for a specific state

4. Click "Display Facility Comparison" to query

Facility Comparison Report of Industry and Chemical

1. Navigate to the Facility comparison report from the facility-individual chemical report.

2. Change display options on the facility comparison waste managed chart

3. Bars compare the methods used by top waste generating facilities to managed production related waste

4. Download options for chart

5. Links to facility-level P2 details report. Green links indicate source reduction was reported.

P2 Search Results – Facility Comparison Report

1. Search parameters. All chemical waste managed in 2020 by facilities in Colorado

2. Display options for facility comparison chart or view results in table and map.

3. Comparison of production related waste managed by method for top facilities

4. Links to facility-level all chemicals managed P2 details report. Green links indicate source reduction was reported.

P2 Facility-level Report for all Chemicals Managed

1. Facility identification details. Click view TRI Facility profile to view contact information.

2. Menu to select a specific chemical instead of viewing all chemicals

3. Trend in waste management for all chemicals

4. Waste management by chemicals during the selected year

5. Summary table of P2 reporting over time for all chemicals. Option to view a list of the P2 activities.

TRI Search

Navigate to TRI Search Facility Profile to view facility contact information and compliance history

1. Obtain public contact information

2. Check compliance information. Link to Enforcement Compliance History Online (ECHO) for more detailed information.

TRI P2 Resources

- Step-by-step guide to identify [facilities](#) or [sectors](#) that have reported source reduction activities

- [14-minute video on how to access TRI's P2 data using the P2 Search Tool](#)

- See the helpful resources on the P2 Storytelling Challenge webpage

More Information

- Contacts
  - Tina Guthrie, guthrie.christina@epa.gov
  - Sandra Gaona, gaona.sandra@epa.gov

- EPA Websites
  - www.epa.gov/tri (TRI homepage)
  - www.epa.gov/tri/p2 (TRI P2 webpage)
  - www.epa.gov/enviro/facts/tri/p2.html (TRI P2 Search Tool)
  - www.epa.gov/toxics-release-inventory-tri-program/pollution-prevention-works-storytelling-challenge-students (P2 Storytelling Challenge webpage)