

Engaging TRI Reporters for Pollution Prevention Technical Assistance

TRI: Improving Industry Reporting

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Minnesota Technical Assistance Program
UNIVERSITY OF MINNESOTA



Minnesota Technical Assistance Program

Based at University of Minnesota

Helping MN businesses find **cost-effective solutions that reduce waste, conserve water, save energy, and prevent pollution.**

Confidential, non-regulatory, and no-cost



Industry examples



Brewing & Distilling



Dry Cleaning



Ethanol Production



Fiber Reinforced Plastics



Food Processing



Healthcare



Iron Mining



Machining & Metal Fabrication



Metal Casting



Metal Finishing



Painting & Wood Finishing



Pulp & Paper Mills



POTWs



Printing



Vehicle Maintenance

MnTAP Services

- **Technical Assistance**
 - Site assessments
 - Intern program
 - Phone & email requests
 - Demonstrations/research
- **MN Materials Exchange**
- **Outreach, Tools and Training**



Overview



Interpreting data



Determining targets



Engaging facilities

Interpreting TRI Data – P2 consultant perspective

Where do we begin with the data?

The screenshot shows the EPA website's TRI program page. At the top, there's the EPA logo and navigation links for Environmental Topics, Laws & Regulations, Report a Violation, and About EPA. The main heading is 'Toxics Release Inventory (TRI) Program' with a 'CONTACT US' link. A left sidebar lists various topics like 'TRI Program Home', 'What is TRI?', 'Covered Chemicals', 'Covered Industry Sectors', 'Data Quality', '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', 'What You Can Do', and 'TRI Site Map'. The main content area features a large heading 'Find, Understand and Use TRI' followed by a sub-heading 'Find TRI Data'. Below this, there's a paragraph about finding information and a list of links: 'Select the best tool for getting the data you want', 'Browse guides and tutorials for TRI tools', and 'Learn about the TRI data quality process'. To the right, a green box titled 'What Do You Need to Know?' contains links for 'TRI for Communities', 'TRI for Tribal Communities', 'TRI for Researchers', 'TRI for the Press', and 'TRI for Reporting Facilities'. At the bottom, another heading 'What's Happening at a TRI Facility?' is followed by a paragraph and a list of links: 'Look inside of a TRI facility', 'Explore a metal mine that reports to the TRI', 'Learn what common TRI terms mean', and 'Browse the reporting instructions'.

An official website of the United States government [Here's how you know](#) ▼

EPA United States Environmental Protection Agency

Search EPA.gov

Environmental Topics ▼ Laws & Regulations ▼ Report a Violation ▼ About EPA ▼

Toxics Release Inventory (TRI) Program

[CONTACT US](#)

- TRI Program Home
- What is TRI?
- Covered Chemicals
- Covered Industry Sectors
- Data Quality
- 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
- What You Can Do
- TRI Site Map

Find, Understand and Use TRI

[Watch webinar recordings](#) to learn more about TRI and data access tools.

Find TRI Data

Find out about particular facilities, chemicals, geographic areas, and industry sectors.

- [Select the best tool for getting the data you want](#)
- [Browse guides and tutorials for TRI tools](#)
- [Learn about the TRI data quality process](#)

What Do You Need to Know?

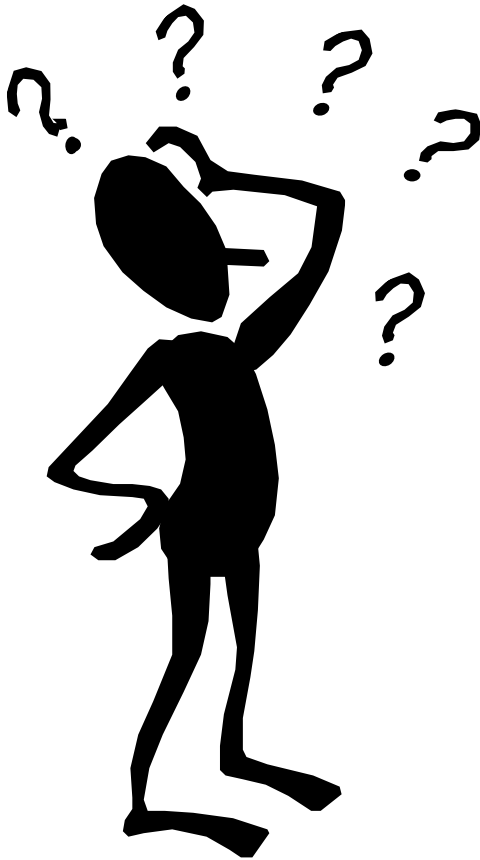
- [TRI for Communities](#)
- [TRI for Tribal Communities](#)
- [TRI for Researchers](#)
- [TRI for the Press](#)
- [TRI for Reporting Facilities](#)

What's Happening at a TRI Facility?

Get context for the data facilities submit on TRI reporting forms, including definitions and examples.

- [Look inside of a TRI facility](#)
- [Explore a metal mine that reports to the TRI](#)
- [Learn what common TRI terms mean](#)
- [Browse the reporting instructions](#)

Determining Targets



Reporters near
thresholds

Location

Industry type

P2 expertise

Active projects

Pre-existing
relationships

Determining Targets

What can we do and what are our limitations?

Self-assessment of...

- **P2 expertise**
 - Source reduction assistance
 - Alternative product exploration
- **Knowledge gaps**
 - Where are we lacking?
 - Can we bring anyone else to the table?
- **Connections**
 - Are there partnerships we can leverage?
 - i.e. industry trade groups, city/county staff, etc.

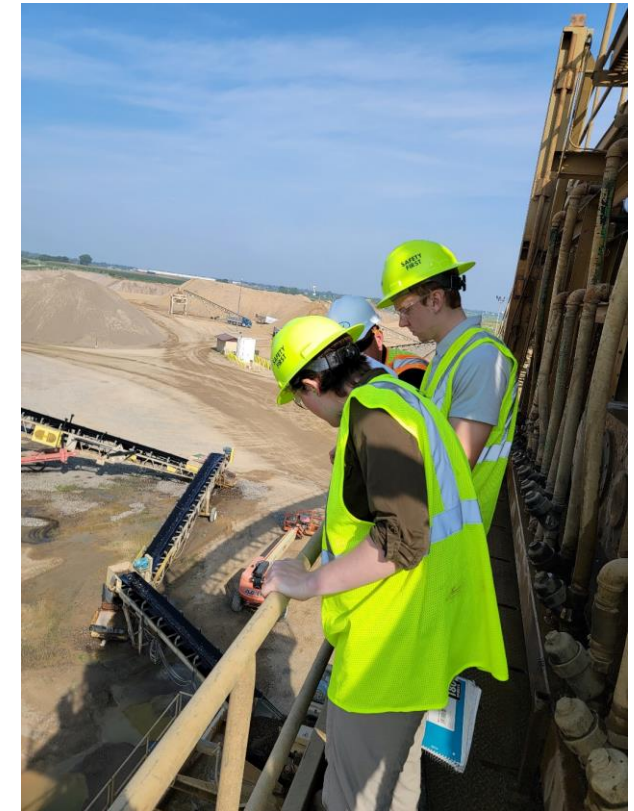


Engaging TRI-reporting facilities

Strategies and considerations

Meet each facility “where they are at”

- Be flexible with location and time
- Evaluate potential trust issues



Demonstrate your value

- Outline your process clearly
- Be transparent about capabilities and expertise



Pre-site site visit Zoom, Teams or phone call:
Introductions, general process overview, set expectations

Data review:
Analyze provided data if available

In-person site visit:
Use Zoom 'Virtual Assessment' as alternative

Recommendations:
Schedule follow-up call or visit to review suggestions

Follow-up:
Stay in touch to support implementation



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Benefits of solvent distillation

- Reduce solvent purchasing
- Decrease solvent waste
- Save disposal costs
- 2-year payback on \$25K investment

EDCO Lowers Solvent Use and Waste Through Recycling

Solvent distillation saves money, reduces waste and makes cleaning quick and efficient

Company background

EDCO in Hopkins is the largest manufacturer of residential steel roofing and siding in the U.S. It's also among the oldest steel/metal companies in America. EDCO was founded in 1946 and today produces steel roofs, steel siding, aluminum soffit, steel fascia, shingles, gutters, and other accessories. The company uses eco-friendly steel that is 25–30% recycled content and aluminum that is 90–95% recycled content. The metals used in their roofing products are 100% recyclable. What's more, EDCO is able to install their steel roofing over an existing roof, saving asphalt from becoming waste and improving insulation.

Operations

The primary operation that uses solvent is a paint line where galvanized steel is washed, painted and dried before being processed into siding and roofing. When the color or type of paint needs to be changed on this line, solvent is used to clean the paint tins, pumps and rollers. The solvent is then disposed of as hazardous waste.

Motivation to change

EDCO was motivated by a variety of factors to reduce their solvent. "Reducing waste is the right thing to do; it is good for the environment and it saves money," said plant manager Michael Bergeson.

Process and results

To reduce solvent use EDCO installed a solvent distillation machine to allow for solvent reuse. Solvent distillation reduces waste by separating good solvent from waste material. The good



Minnesota Technical Assistance Program



Benefits of paint reformulation

- Reduce hazardous air pollutants
- Lower volatile organic compounds
- Maintain flexible class D air permit

GRACO Switches to Low HAP and VOC paint

Reformulating paint resulted in 28% reduction of volatile organic compounds

Company background

Minneapolis-based GRACO was started in 1926. On a winter day, company founder Russel Gray was using a hand-pump grease gun to lubricate automobiles, but it was so cold the grease wouldn't budge. He was inspired to develop a grease gun powered by air pressure, which received a favorable reaction from others in the industry. GRACO is now a multimillion dollar organization with seven manufacturing facilities in the U.S. making fluid transfer and application equipment, including pumps for many business and industrial applications such as paint, vehicle oil and lubricant.

Motivation to change

Part of GRACO's production process involves painting their fluid application products. Volatile organic compounds and hazardous air pollutants, such as toluene and xylene, are commonly found in liquid paint. When liquid paint dries on a part, chemicals within the liquid evaporate into the air, creating ground level ozone, a contributor to air pollution. In the interest of maintaining flexibility in their class D air permit and their toxic release inventory chemical usage, as well as being better environmental stewards, GRACO sought to reduce its VOC emissions.

Process and results

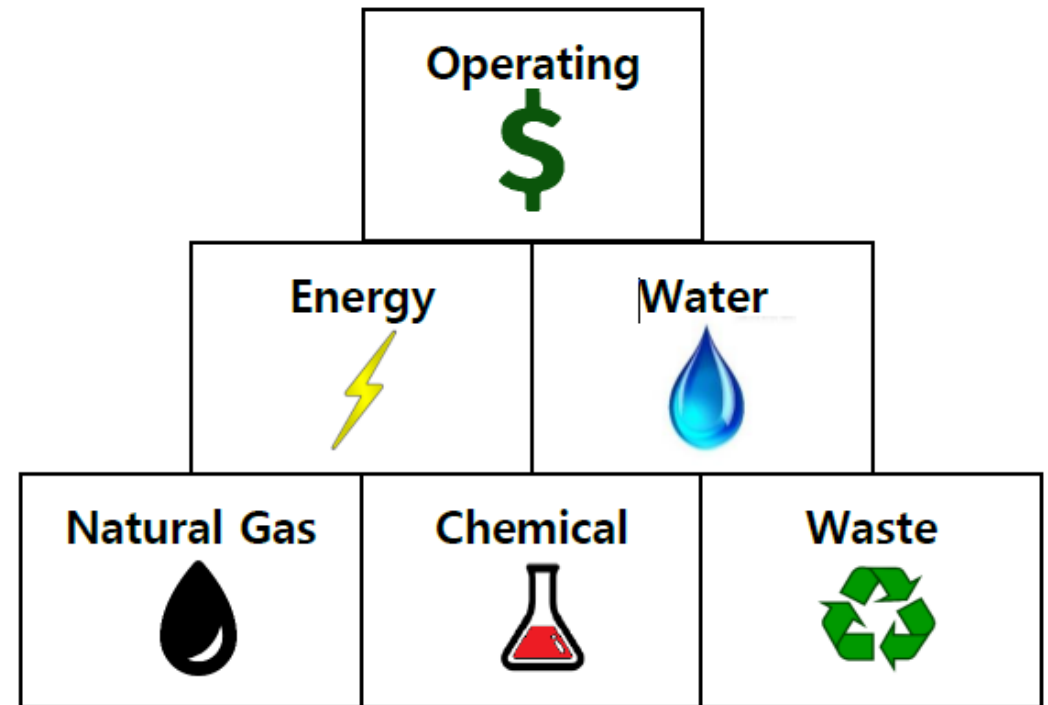
To lower emissions from its paint process, GRACO focused on the coating used at the Minneapolis production paint line. They worked with their paint supplier to have the coating they purchased reformulated with less toluene and xylene. After some experimenting they settled on coatings with lower HAP content without sacrificing appearance or quality, with only a slight cost increase.



Provide additional P2, conservation services

While we're there, we can help you with...

- Wastewater load minimization
- Compressed air leaks and system optimization
- Process water optimization
- Irrigation and domestic water fixture best practices
- Water pre-treatment optimization



Leave them with resources

Aqueous Cleaning Toolkit

Home > Aqueous Cleaning Toolkit

Free Resources for Manufacturers

In 2022, Minnesota became the first state to ban the use of Trichloroethylene (TCE) for all businesses requiring an air permit. Known as a powerhouse cleaning agent, TCE is also used in other industrial processes and as an ingredient in some consumer products—but its hazards are now well recognized.

MnTAP, in partnership with the Minnesota Pollution Control Agency (MPCA), the Toxics Use Reduction Institute (TURI) at the University of Massachusetts Lowell, and funded with a grant from the U.S. Environmental Protection Agency Region 5 (U.S. EPA R5), launched the TCE Alternatives Project to help Minnesota businesses make the switch from TCE to effective, safer alternatives.

What we discovered was a need in our business community: a third-party perspective on mitigating the risks associated with cleaning solvents and degreasers, and clear information about alternatives. This toolkit is organized into three themed areas, each presented in several formats including an E-guide, slideshow, video, and infographic.



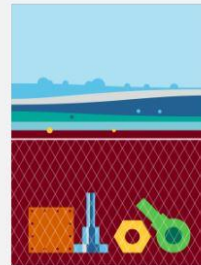
Mitigating Business Risks

- [E-Guide](#)
- [Slideshow](#)
- [Video](#)
- [Infographic](#)



Costs and Benefits

- [E-Guide](#)
- [Slideshow](#)
- [Video](#)
- [Infographic](#)



Converting to Aqueous

- [E-Guide](#)
- [Slideshow](#)
- [Video](#)
- [Infographic](#)

Tools & Calculators

> Resources & Tools

> Business Assistance Providers

> Business Award Opportunities

> Financial Assistance

> Greening Your Business

> Publications

> Regulatory Resources

> Tools & Calculators

> Chloride Reduction

> Industrial Water Search Tool

> Irrigation Tool

> Refrigeration Best Practices

> Webinars

Chloride Reduction Best Management Practices

This project sought to develop Best Management Practices (BMPs) to reduce chloride discharge in industrial wastewater effluent from water softeners. This work compiled a list of BMPs and created a flowchart for operations that should be considered during a water softener audit. These BMPs and audit strategies were tested during site visits at five facilities with a goal of making recommendations to companies to implement the BMPs.

[Water Softener Optimization Flowchart](#)

[MnTAP Industrial Chloride Reduction Report](#)

[Pre-Visit Worksheet](#)

[Site Visit Worksheet](#)

[Elution Study – How to Perform & Interpret](#)

An elution study is a diagnostic tool that helps determine any problems with the regeneration cycle. Performing an elution study is recommended to analyze the effectiveness of the regeneration process. The elution study can help identify any problems in the regeneration process and guide users to proper optimization actions.

[Calculate Capacity & Efficiency](#)

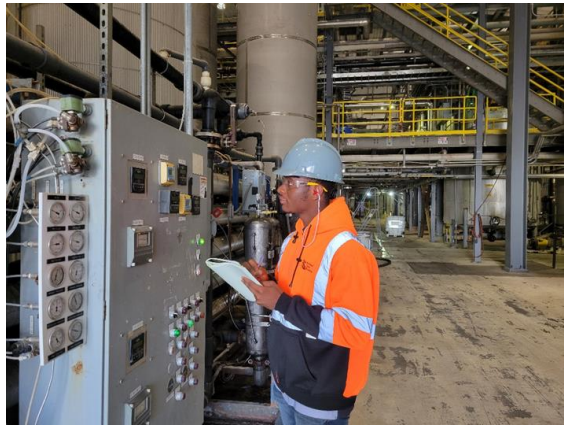
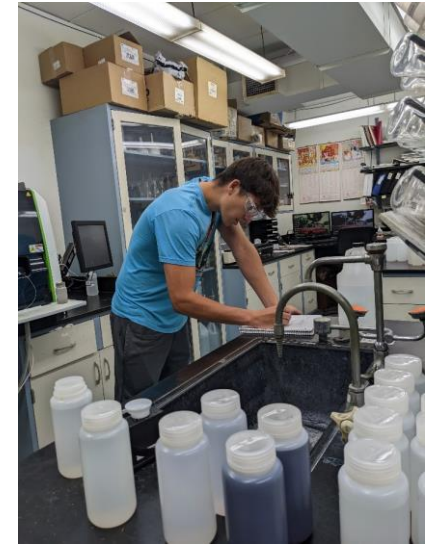


[MnTAP Tools and Calculators](#)

<http://www.mntap.umn.edu/aqueoustoolkit/>



Give them options... maybe an intern?



Give them time!

Thank You!



Case studies, tools and resources:

www.mntap.umn.edu

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