

EPCRA SECTION 313

Toxics Release Inventory

OVERVIEW SESSION

**Toxic Release Inventory
Reporting Requirements
(EPCRA Section 313)**

Determining Thresholds

Estimating Releases

PBT

TRI Update

TRI

WHAT IS THE TOXICS RELEASE INVENTORY ?



- The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic **chemical releases** and other **waste management activities** reported annually by certain covered industry groups as well as federal facilities.
- This inventory was established under the Emergency Planning and Community Right-to-Know Act of **1986** (EPCRA) and expanded by the Pollution Prevention Act of 1990.
- This law requires facilities to report on an annual basis on **July 1st** for preceding calendar year's activities.
- Over **24,000** facilities reported on approximately **650** chemicals and chemical categories for calendar year 2005.

Toxic Release Inventory
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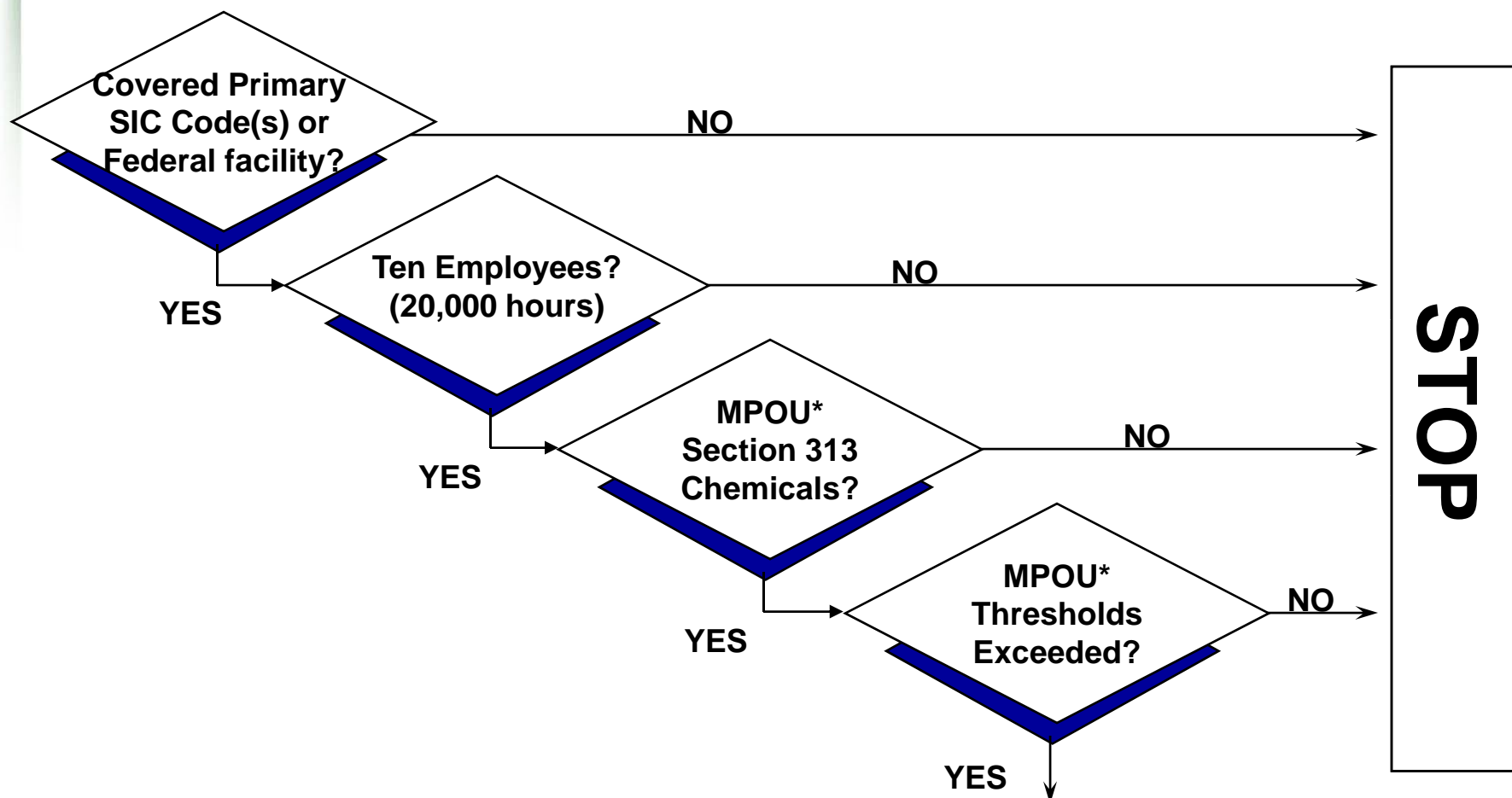
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Who is Required to Report?



Reporting Thresholds Met; Form R/Form A Required

*MPOU: Manufacture (including import), process, or otherwise use

COVERED SIC CODES



Industrial Sector	Primary SIC Code
Manufacturing	20-39
Metal mining	10 (except 1011, 1081, and 1094)
Coal mining	12 (except 1241)
Electrical utilities	4911, 4931, and 4939, limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce
Treatment, Storage, and Disposal facilities	4953, (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C, 42 U.S.C. Section 6921 et seq.)
Solvent recovery services	7389, limited to facilities primarily engaged in solvent recovery services on a contract
Chemical distributors	5169
Petroleum bulk terminals	5171

FEDERAL FACILITIES

- **Federal facilities (covered by Executive Order 13148)**
 - Owned or operated by Executive Branch agencies
 - » **No restrictions based on SIC code**
 - » **Includes federal prisons, national parks, federal hospitals**
 - With 10 or more full-time employees (equivalent of 20,000 hours per year)
 - That exceed manufacture, or process, or otherwise use thresholds
 - Agency responsible for reporting on activities conducted at Federal facilities

Section 313 Chemicals and Thresholds



- A facility meeting all applicability criteria must file a Form R report for a non-PBT Section 313 chemical if the facility:

Non-PBT Thresholds

- Manufactured (including imported) more than **25,000** pounds of the chemical in the reporting year, or
- Processed more than **25,000** pounds of the chemical in the reporting year, or
- Otherwise Used more than **10,000** pounds of the chemical in the reporting year

Section 313 Persistent, Bioaccumulative, Toxic (PBT) Chemicals and Thresholds

PBT chemicals are subject to separate and **lower thresholds**

PBT Chemical Thresholds

- 100 lbs./yr** - Aldrin
 Lead
 Lead Cmpds.
 Methoxychlor
 Pendimethalin
 Polycyclic Aromatic Cmpds.
 Tetrabromobisphenol A
 Trifluralin
- 10 lbs./yr** - Chlordane
 Heptachlor
 Mercury
 Toxaphene
 Isodrin
 PCBs
 Benzo(g,h,i)perylene
 Hexachlorobenzene
 Mercury compounds
 Octachlorostyrene
 Pentachlorobenzene
- 0.1 g/yr** - Dioxin and dioxin-like compounds

Phase II TRI Burden Reduction Rule

- The final TRI Burden Reduction Rule was published in December 18, 2006 and it expands eligibility for use of the Form A Certification Statement (Form A).

For non-PBT

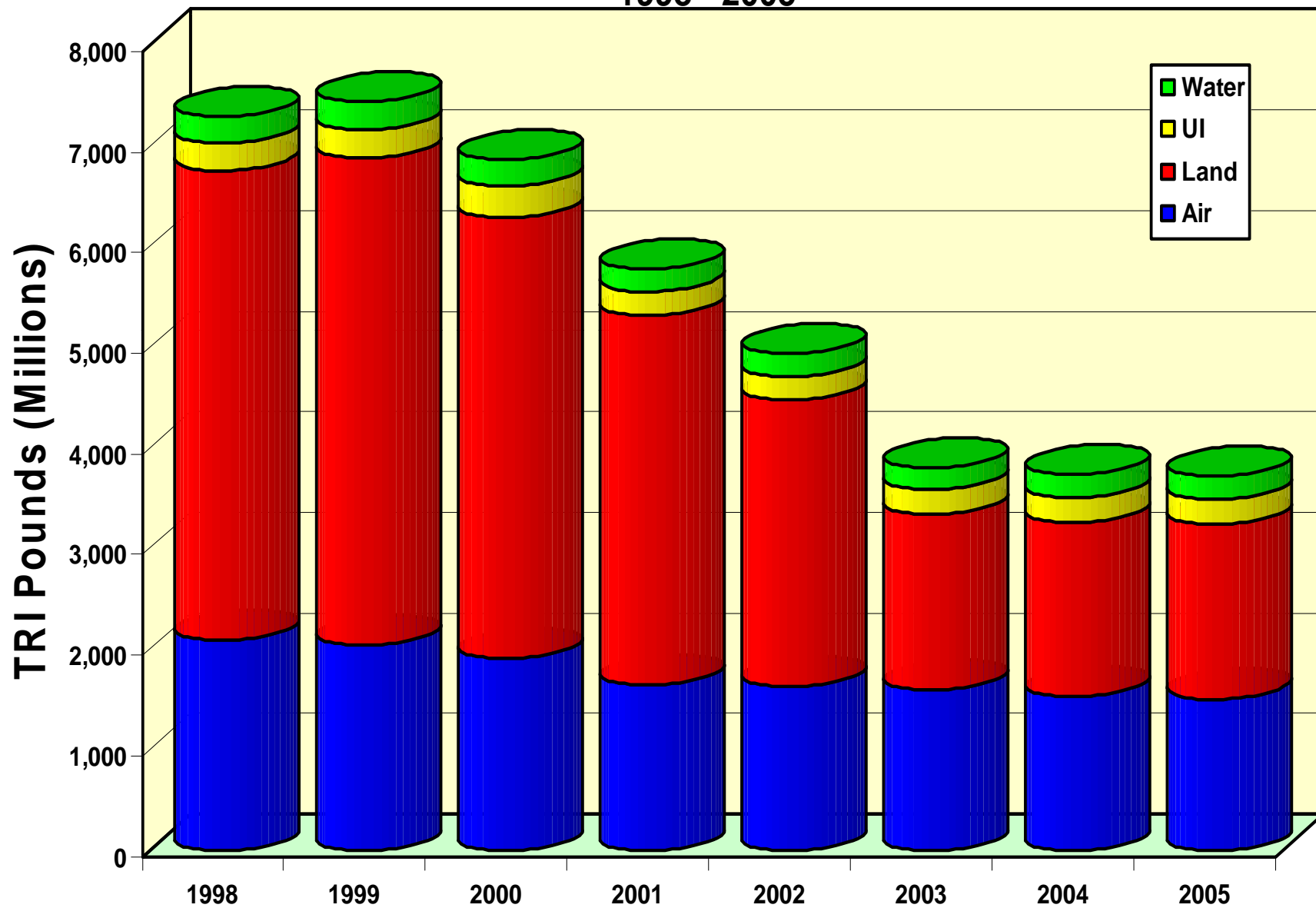
- For facilities using less than 1,000,000 pounds of a TRI chemical, the final rule expands the current use of Form A for non-PBT (persistent, bioaccumulative, and toxic) chemicals by raising the eligibility limit on total waste management (i.e., releases, recycling, energy recovery, and treatment) from 500 pounds to **5,000 pounds**, with a cap on releases and other disposal of **2,000 pounds**.

Phase II TRI Burden Reduction Rule

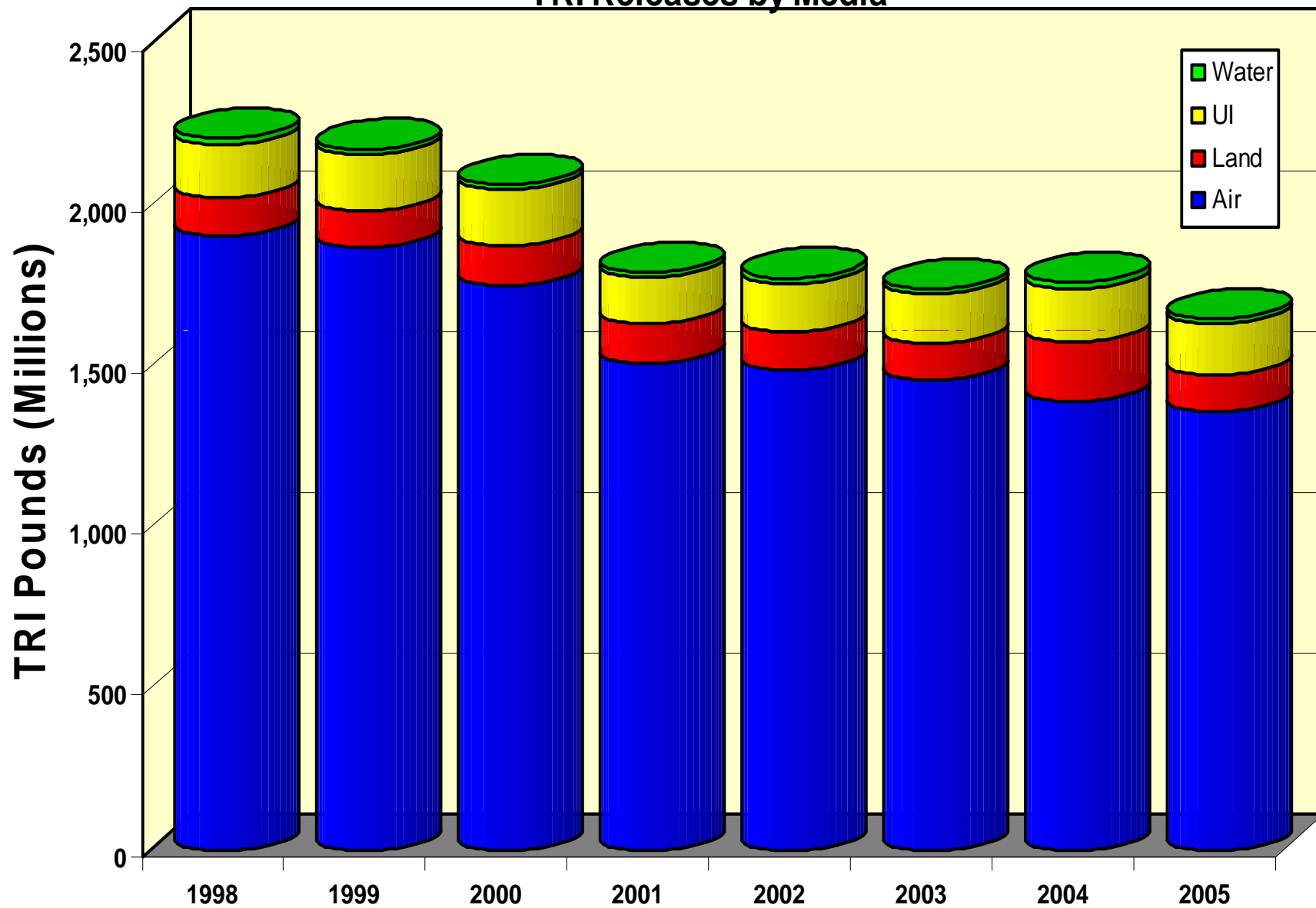
For PBT Chemicals

In addition, for the first time a Form A may be used for certain PBT, chemicals, when there are no releases or other disposal and no more than 500 pounds of other waste management (e.g., recycling or treatment).

United States TRI Releases by Media 1998 - 2005



United States High Production Volume Chemicals TRI Releases by Media



For More Information

How To Get TRI Data:

TRI data and information are made available in a number of ways to assist the widest range of users:

TRI Explorer:

<http://www.epa.gov/triexplorer>



Envirofacts Data Warehouse:

http://www.epa.gov/enviro/html/tris/tris_query.html

The National Library of Medicine:

<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?TRI>



Region 4 TRI Contacts:

We Are Happy To Help You!

Ezequiel Vélez

Region 4 TRI Coordinator

(404) 562-9191

velez.ezequiel@epa.gov



Douglas M. Chatham

TRI Program

(404) 562-9113

chatham.douglas@epa.gov

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The Effects of Being Exposed to Too Many Toxic Chemicals





**EPA's
Risk-Screening Environmental Indicators
(RSEI)**

What Is the Risk-Screening Environmental Indicators Model?

RSEI is a screening-level model for assessing potential chronic human health impacts of industrial releases of toxic chemicals.

RSEI provides the following types of screening analyses:

Pounds

Hazard

Risk-
related

RSEI uses TRI pounds of release data and adds toxicity, fate and transport, and an estimate of exposed population to allow new perspectives on hazard and risk.



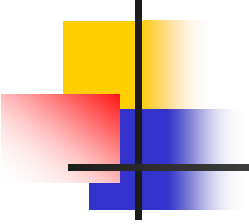


RSEI and Risk Assessment

RSEI incorporates components of risk assessment:

- ✓ Amount of chemical released
- ✓ Toxicity of the chemical
- ✓ Fate and transport of the chemical
- ✓ Route and extent of human exposure
- ✓ Number of people affected

RSEI is NOT a formal risk assessment, but is useful for performance measurement, prioritization, and trend analysis because it systematically incorporates toxicity and exposure considerations in a screening-level analysis.



How RSEI Works -- Calculations

- Pounds-based results = TRI Pounds released
- Hazard-based results = Pounds * Toxicity Weight
- Risk-related results = Surrogate Dose * Toxicity Weight * Population

RSEI Model Details

Inhalation (Air) surrogate dose -

- ✓ divides U.S. and territories into 1-km x 1-km grid cells
- ✓ calculates air concentrations for each cell in 101 x 101 km grid around facilities
- ✓ uses population-specific exposure factors

Ingestion (Water) surrogate dose -

- ✓ calculates water concentrations in receiving streams up to 200 km downstream of outflow
- ✓ finds downstream drinking water intakes
- ✓ calculates fish ingestion exposure for population within 80 km of receiving stream
- ✓ uses population-specific exposure factors

What Kinds of Questions Can RSEI Answer?



- What are the **trends** in hazard and risk associated with toxic chemical releases and other waste management activities at industrial facilities?
- When comparing industries, how can I **rank** which industry sectors are associated with relatively more risk?
- What is the relative contribution of specific chemicals to overall risk in a **community** (state, county, city), and how do I **prioritize** these for follow-up activities?
- For any given scenario, what **release pathway** for a particular chemical poses the greatest risk-related concerns?
- Also questions concerning: **Tribal lands, EJ issues, important age groups (e.g., children & elderly), etc.**



How Is RSEI Data Processed?

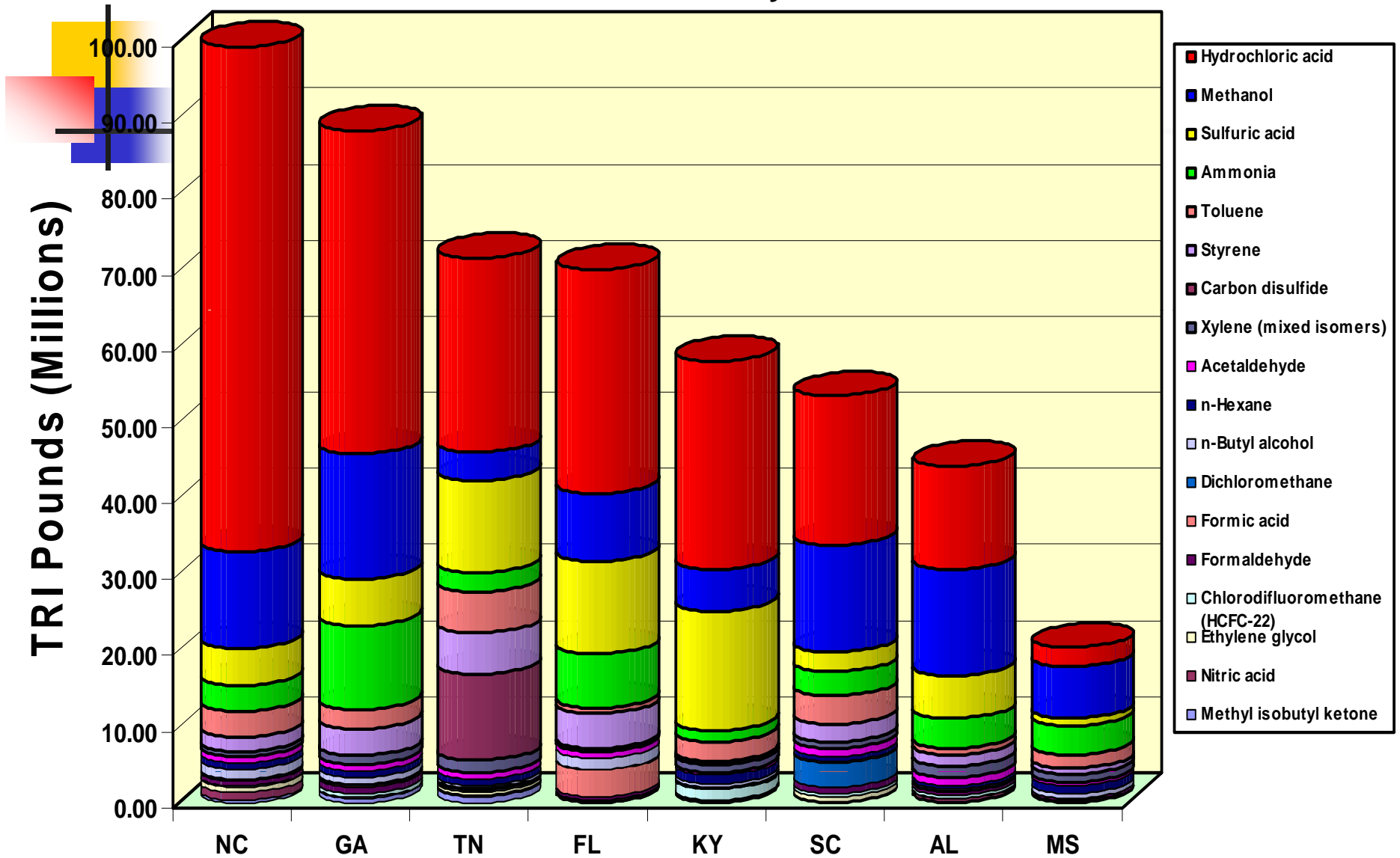
- **1. Select Search Parameters**
 - (NWFL – Selected 15 Counties)
- **2. Setup a table**
 - Table includes Facility Name, Chemical, Media, SIC Code, and County
- **3. Export to Excel**
- **4. Setup Pivot Tables & Charts**



Using RSEI as a Targeting Guide for Pollution Prevention

- Rank counties, industries, chemicals, and facilities by Pounds Released and Relative Risk using RSEI.
- Florida DEP used the TRI and RSEI charts of Northwest Florida to select several facilities to approach about Pollution Prevention (P2) activities.

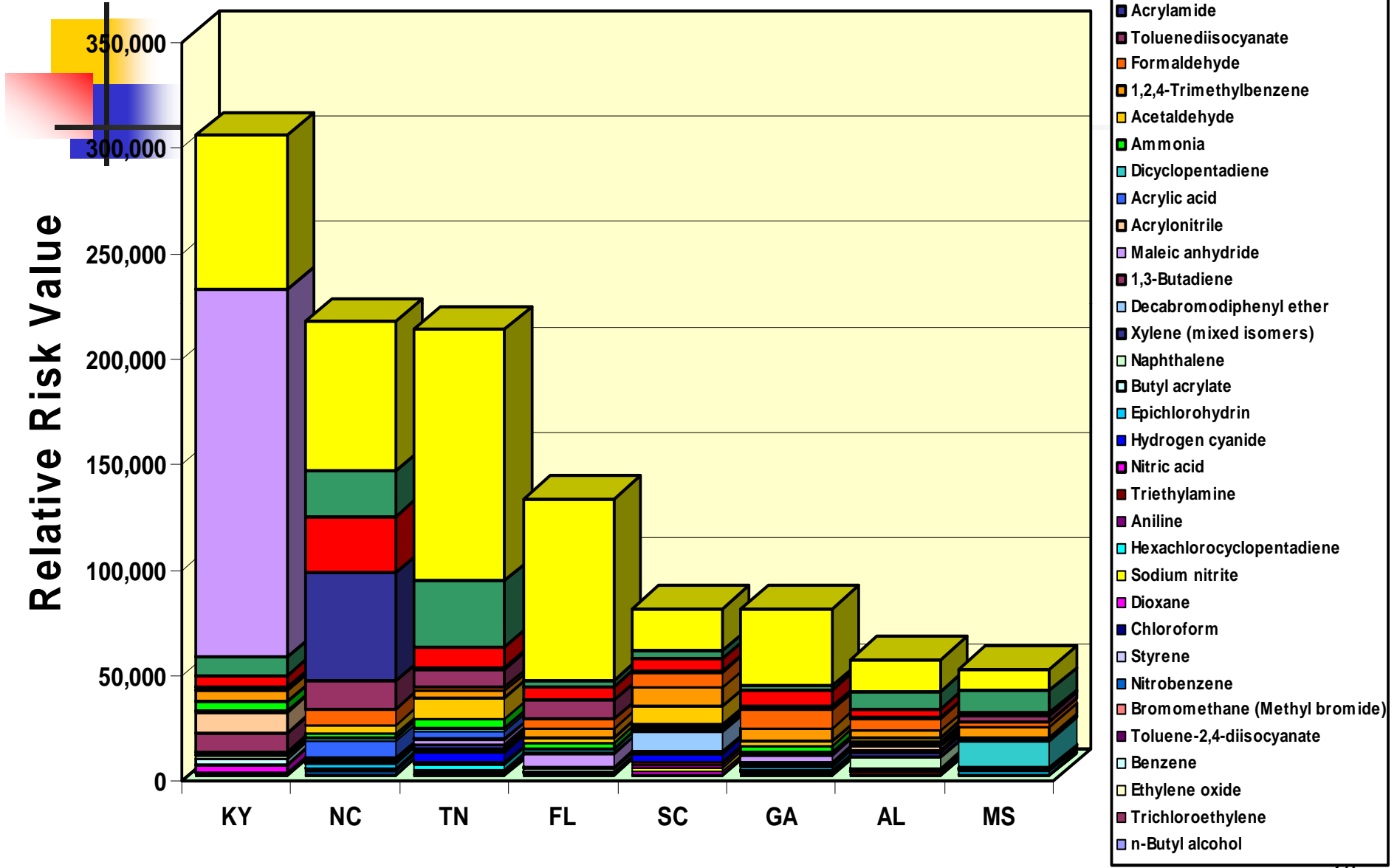
Region 4 2005 High Production Volume Chemicals TRI Releases by State



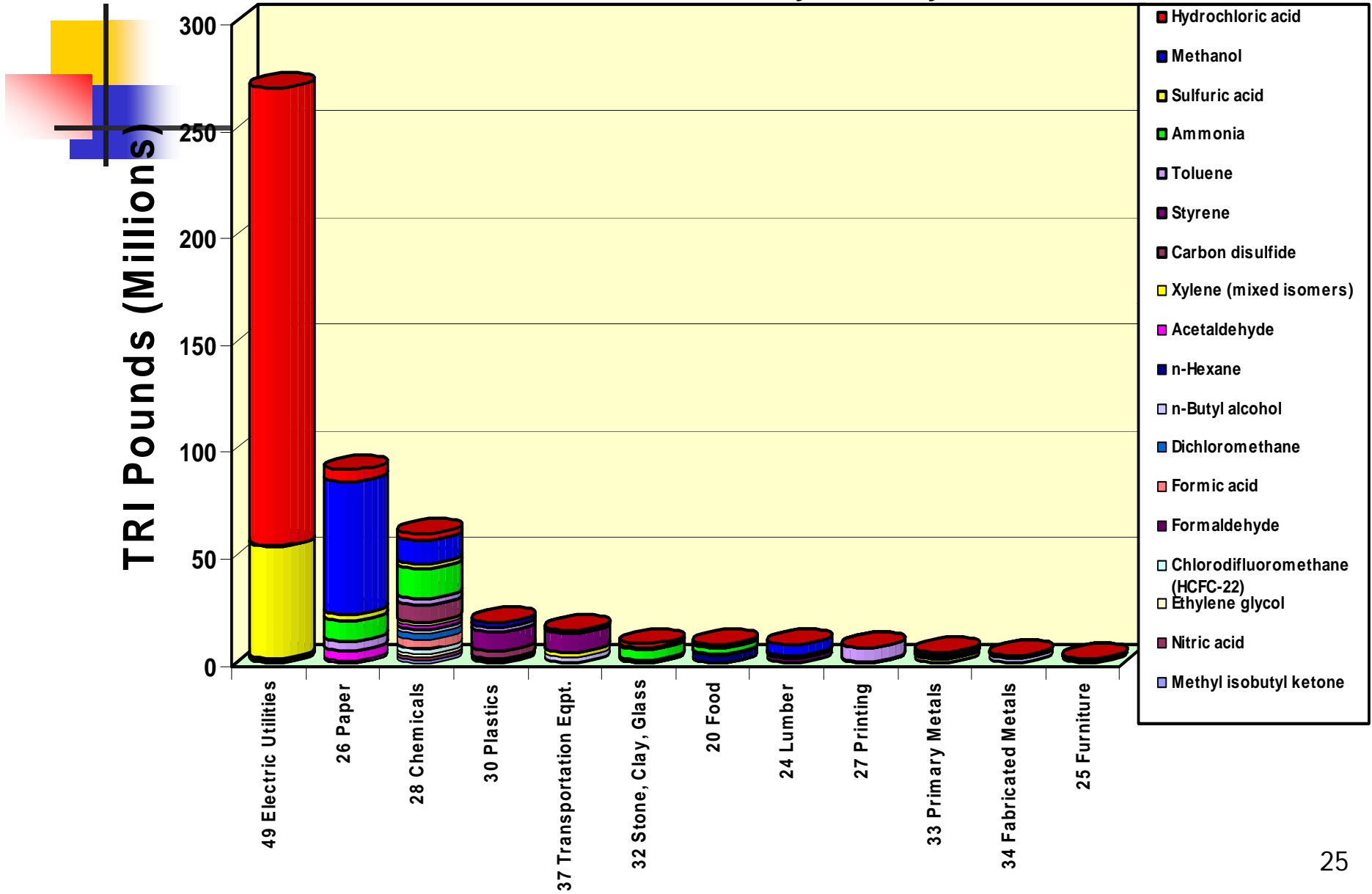
Region 4 2005

High Production Volume Chemicals

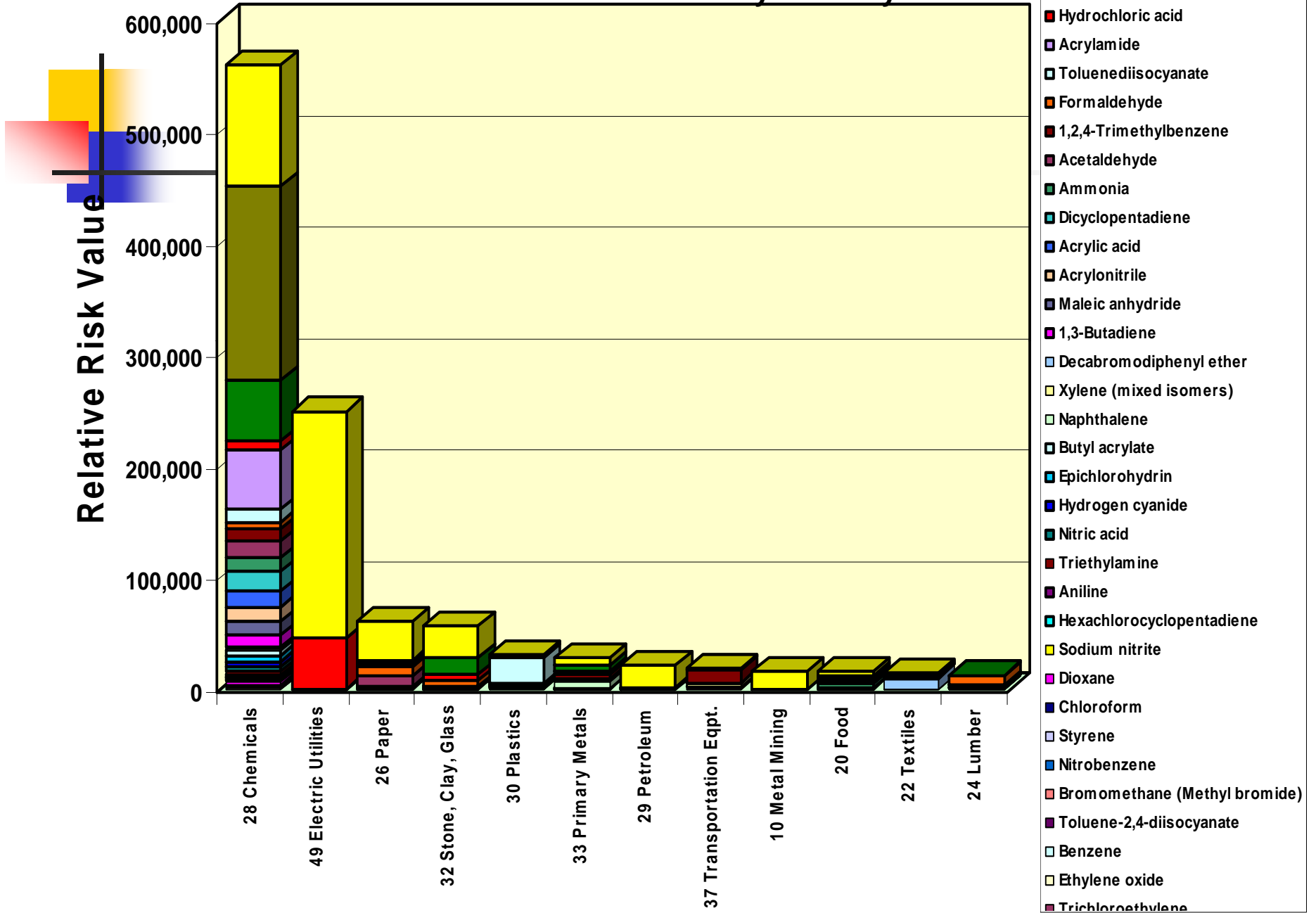
Relative Risk Values by State



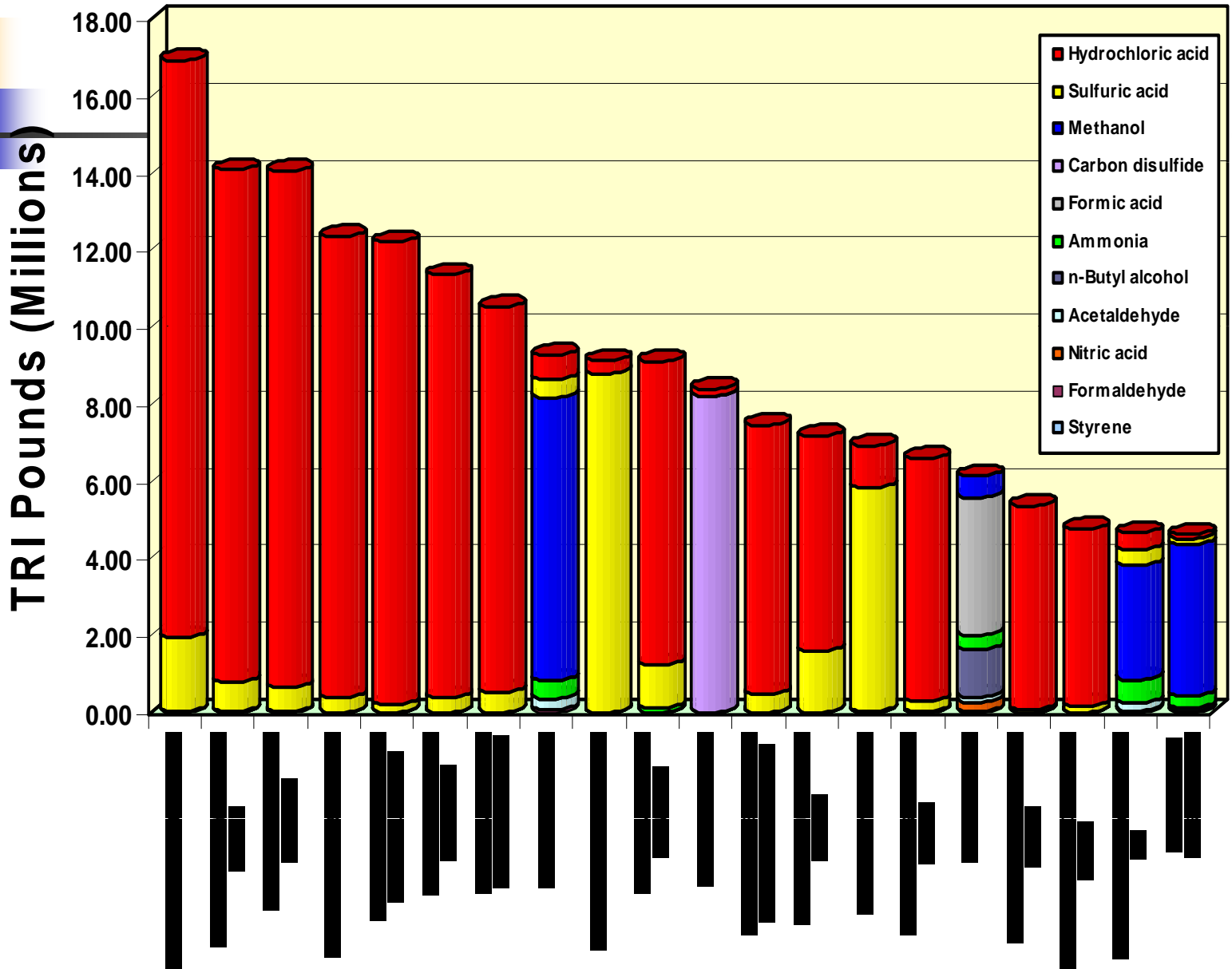
Region 4 2005 High Production Volume Chemicals TRI Pounds Released by Industry



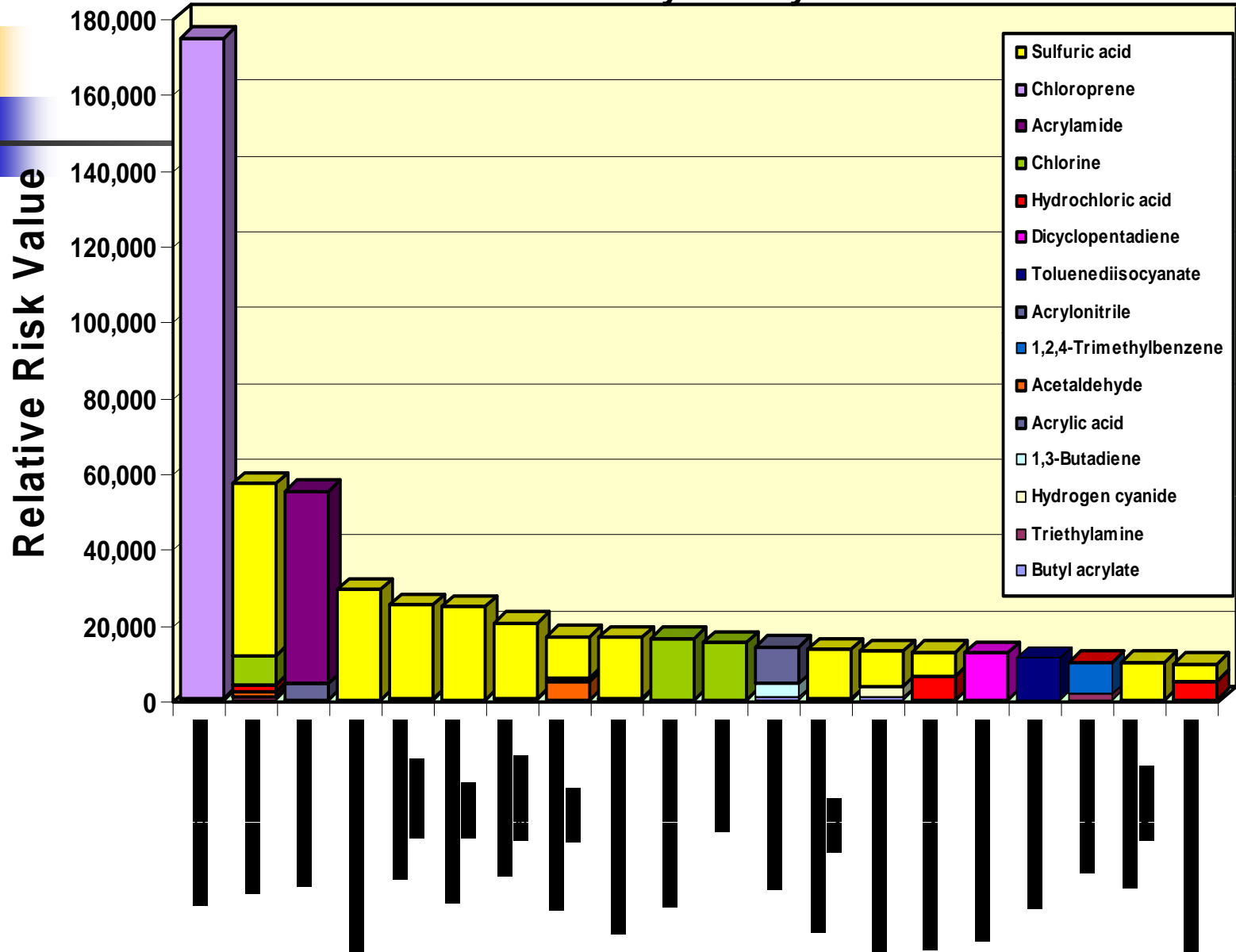
Region 4 High Production Volume Chemicals Relative Risk Values by Industry



Region 4 High Production Volume Chemicals TRI Pounds Released by Facility



Region 4 High Production Volume Chemicals Relative Risk by Facility





TRI and RSEI as Measurement Tools

- If a facility takes action under P2 to reduce their emissions, when should results show up in the TRI?
 - Make P2 Modifications by end of 2007
 - Accumulate Data during 2008
 - Report by July 1, 2009
 - Public Data Release ~March 2010
- Trends charts are used to show progress with P2 and Community Groups.

The Strange Effect Toxic Chemicals Have On Adults



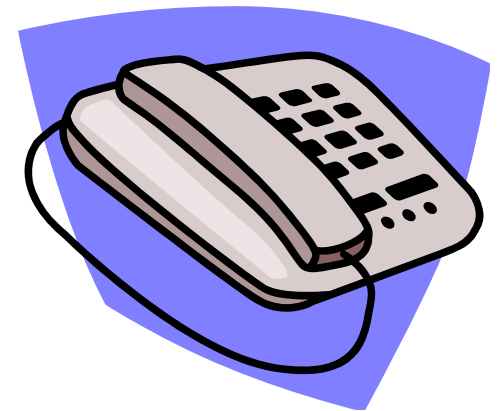


Additional Resources

- EPA Toxics Release Inventory (TRI) Home Page
<http://www.epa.gov/tri>
- EPA EPCRA Hotline (800) 424-9346
- EPA Envirofacts: <http://www.epa.gov/enviro>
- TRI Explorer: <http://www.epa.gov/triexplorer>
- ScoreCard: <http://www.scorecard.org>
- Right To Know: <http://www.rtk.net>

RSEI Team Contacts

- Richard Engler: (202) 564-8587
- Robert Lee: (202) 564-8786



URL: <http://www.epa.gov/oppt/rsei>



Region 4 CONTACT INFORMATION

Ezequiel Velez, EPA Region 4
Toxics Release Inventory (TRI) Coordinator
Tel. (404) 562-9191
velez.ezequiel@epa.gov

Douglas Chatham, EPA Region 4
TRI Program Assistant
Tel. (404) 562-9113
chatham.douglas@epa.gov

U.S. EPA Region 4
61 Forsyth Street, S.W.
Atlanta, GA 30303