Preventing Chemical Accidents in Ethanol Facilities

Risk Management Program & EPCRA Compliance

Topeka, KS April 24, 2013
Today’s Presenters

Logistics—bathrooms, lunch, etc.

Approximate Schedule
- 11:30 — Lunch
- Breaks — As Needed
- 2:50 — Closing Remarks

Student Introductions
Course Objectives

- Discuss requirements of CAA 112(r) and portions of EPCRA
- Provide information on common compliance pitfalls
- Help facilities prepare for inspections
- Help prevent accidents & minimize consequences of those that do occur
From Response to Plan/Prevention

- Bhopal, India (1984)
- Institute, West Virginia (1985)
- Increased public concern
- Worker and community planning and right-to-know laws
- Chemical accident prevention laws

Community—Environmental Protection Agency (EPA) Superfund Amendments and Reauthorization Act (SARA)—EPCRA or SARA Title III
Clean Air Act Amendments of 1990
- General Duty Clause
- OSHA Process Safety Management (PSM)—1992
- EPA Risk Management Program [Section 112(r)]—1999
- U.S. Chemical Safety and Hazard Investigation Board (CSB)—1998
General Duty Clause

- No thresholds, no lists

- Facilities must:
  - Identify hazards
  - Design and maintain facility to prevent releases in accordance with good engineering and industry practices
  - Minimize consequences of releases that do occur
Emergency Planning and LEPC Coordination

Basics under the Emergency Planning and Community Right-to-Know Act (EPCRA)
EPCRA Requirements

- Provide for local emergency planning around chemical risks in the community
- Industry required to provide chemical information to states, local communities, and fire departments
- Allow public to request and receive information about chemicals and chemical risks in their community
EPCRA Sections

- 301-303 Emergency planning
- 304 Emergency notification
- 311 Hazardous Chemical Inventory (MSDSs)
- 312 Hazardous Chemical Inventory (Tier I or II)
- 313 Toxic Chemical Release Reporting
- 321-329 Miscellaneous
Includes representatives from the following groups/organizations

- Elected state & local officials
- Local environmental
- Broadcast & print media
- Community groups
- Law enforcement
- Transportation
- Health
- Civil defense
- Firefighting
- First aid
- Hospital
- **Facilities**
Supply LEPC/SERC/TERC with planning information

Coordinate emergency response planning with community

Designate facility emergency coordinator
Threshold Planning Quantities (TPQ)

- For all listed substances - Lesser of 500 pounds or TPQ
  - Anhydrous ammonia 500 pounds
  - Gasoline* 75,000 gallons
  - Gasohol* (90% gasoline/10% ethanol) 75,000 gallons
  - Diesel* 100,000 gallons
  - All other hazardous chemicals 10,000 pounds

*(at retail gas station, stored entirely underground, in compliance at all times in previous calendar year with UST requirements)
Provide **IMMEDIATE (15 min)** notification via telephone, radio, or in person to:

- Emergency coordinators of **ANY** area likely to be affected by the release
- TERC/SERC representative of **ANY** tribe/state likely to be affected by the release; and
- National Response Center (NRC) if *required under CERCLA Section 103*
EPCRA 304 & CERCLA 103

Reports Include

- Chemical and amount released
- Known information about the cause, weather, and impacts at the time of the call
- Who called in the information
Send to LEPC/SERC/TERC as soon as practicable

Update of initial information, including:

- Actions taken
- Known or anticipated chronic health risks
- Medical attention and/or advice for exposed individuals
NOTE: Be advised that this application makes use of a remote executable file that may be blocked by firewall or browser settings. If you have problems querying the database, please check your browser security settings or contact your system administrator for further assistance.

The database is current for reports received through 11/12/2006.
EPCRA 304 & CERCLA 103
Exemptions

- Federally permitted releases
- Continuous releases - as defined under 40 CFR 302.8(b)
  - if appropriate continuous release notifications have been made and all conditions are met
- Pesticide or fertilizer application
- Motor vehicle emissions
EPCRA 304 & CERCLA 103
Petroleum Exemption

- CERCLA—Petroleum is **generally** exempted
- EPCRA—Petroleum is **NOT** excluded if an EHS is present in the petroleum
EPCRA Sections 311-312 Hazardous Chemical Inventory Reports are Required if

- Maximum on-site at any one time is more than or equal to:
  - 500 pounds or TPQ - whichever is less - for EHSs (including those in mixtures), or
  - 10,000 pounds or more if OSHA requires a MSDS
Generate list of chemicals sorted by hazard category

Send list or MSDSs to LEPC/SERC/TERC and local fire department

Submit within 90 days of inventory changes
Submit forms to LEPC/SERC/TERC and local fire department by March 1

Submit any additional requested emergency planning information
MSDS and Tier II information available with respect to a specific facility to the general public upon written request (40 CFR 370.30-31)

Allow fire department(s) to conduct on-site inspections of facilities [40 CFR 370.25(d)]
Facilities that manufacture, process, or otherwise use over certain threshold quantities of listed chemicals (that also are a listed NAICS code and have more than 10 employees).

Report Includes:
- Chemical release and disposal information
- Facility contact Information
So, Do You Need to Report?

Covered Primary NAICS Code(s) or Federal Facility?

- Yes
  - Ten (10) or more Employees? (20,000 hours)
    - Yes
      - Manufacture (including import,) process, or otherwise use Section 313 chemicals?
        - Yes
          - Established threshold for chemicals exceeded?
            - Yes
              - STOP
            - No
              - STOP
        - No
          - STOP
    - No
      - Yes
        - No
          - STOP
  - No
    - Yes
      - No
        - STOP
    - No
      - Yes
        - No
          - STOP
        - Yes
          - STOP
### Common 313 Substances at Ethanol Facilities

<table>
<thead>
<tr>
<th>Substances</th>
<th>Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>lead</td>
</tr>
<tr>
<td>acetaldehyde</td>
<td>lead compounds</td>
</tr>
<tr>
<td>acrolein</td>
<td>mercury</td>
</tr>
<tr>
<td>ammonia</td>
<td>mercury compounds</td>
</tr>
<tr>
<td>barium compounds</td>
<td>methanol</td>
</tr>
<tr>
<td>benzene</td>
<td>n-hexane</td>
</tr>
<tr>
<td>chlorine</td>
<td>nitrate compounds</td>
</tr>
<tr>
<td>cyclohexane</td>
<td>toluene</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>xylene (mixed isomers)</td>
</tr>
<tr>
<td>formaldehyde</td>
<td>zinc compounds</td>
</tr>
</tbody>
</table>
Why TRI?

- Publicly available data
  - Public has access to the data to be able to research how prevalent chemicals of concern are in their community
  - Envirofacts: www.epa.gov/enviro
  - TRI Explorer: www.epa.gov/triexplorer

- Holds facilities accountable for what they are releasing into the environment
TRI Websites & Resources

- **Main Website:** [www.epa.gov/tri](http://www.epa.gov/tri)
- **U.S. EPA EPCRA Hotline:** 1-800-535-0202
- **CRIB Main Contact:** Steve Wurtz  
  913-551-7315  
  wurtz.stephen@epa.gov
EPCRA Common Deficiencies

- Procedures for reporting release preclude notifying agencies within 15 minutes
- Not all potentially affected LEPCs/SERCs/TERCs notified
- EPCRA 311 reports do not occur within 90 days of a previously unreported substance being brought on-site
Subject to penalties of up to $37,500 per day per violation

Companies subject to citizen suits; could also be liable for attorney fees and litigation costs
Nothing in Department of Homeland Security’s Chemical Facility Anti-Terrorism Standards (CFATS) regulations alters the requirements that apply to a facility covered under CFATS and EPCRA or CAA 112(r)
Mark your calendars!

2013 LEPC/TERC Conference
Overland Park Marriott, Overland Park, KS
July 25-27

Five great tracks, including:
Hazmat Response, Health and Medical, LEPC 101,
Industrial Facility Preparedness and Planning, Chemical
Transportation & Security Awareness

Optional training