Achieving Regulatory Chemical Compliance: Strategies & Approaches that Reduce Risk & Lower Costs

Presented by:

Laura Casey
Anne Sefried

Wednesday, August 18, 2013
2:00 p.m. to 3:00 p.m. Eastern
1:00 p.m. to 2:00 p.m. Central
12:00 p.m. to 1:00 p.m. Mountain
11:00 a.m. to 12:00 p.m. Pacific
Achieving Regulatory Chemical Compliance: Strategies & Approaches that Reduce Risk & Lower Costs

Presented by:
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SPEAKERS

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Sr. Inventory Consultant
AGENDA

• General Regulatory Requirements
• Recent Developments
• Common Methods for Chemical Management and Tracking
• Best Practices for Chemical Management
• ROI for Best Practices Chemical Management
• Q&A

APPLICABLE REGULATIONS

• OSHA
  • HAZCOM: 1910.1200 has been updated to align with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Revision 3, issued in the Federal Register, March 26, 2012. This rule became effective May 25, 2012.
APPLICABLE REGULATIONS

- **GHS**: In 2003, the United Nations (UN) adopted the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The GHS includes criteria for the classification of health, physical and environmental hazards, as well as specifying what information should be included on labels of hazardous chemicals as well as safety data sheets.

GHS COMPLIANCE DATES

<table>
<thead>
<tr>
<th>IMPORTANT DATES FOR GHS COMPLIANCE:</th>
</tr>
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<tbody>
<tr>
<td>Dec. 1, 2013: Employees must be trained on label requirements and the new safety data sheet</td>
</tr>
<tr>
<td>June 1, 2016: Chemical manufacturers must comply with all final rule provisions of the regulation</td>
</tr>
<tr>
<td>Dec. 1, 2016: Chemical distributors must ship containers using GHS-compliant labels</td>
</tr>
<tr>
<td>June 1, 2016: Workplace employers must update labeling and HazCom programs and provide ongoing training</td>
</tr>
</tbody>
</table>
MORE OSHA/GHS INFORMATION

• Changes of note include:
  • MSDS = SDS
  • # of required sections
  • Use of pictograms
  • Classification of hazards: 0-4 vs. 4-0
  • Chemicals: pure vs. mixtures according to criteria or rule

https://www.osha.gov/dsg/hazcom/global.html
[PDF downloads also available here]

ENVIRONMENTAL PROTECTION AGENCY

• EPA – EPCRA & RCRA (1976)
  • EPCRA
    • Emergency Planning & Community “Right to Know”
    • any facility required under OSHA to have MSDS’ (now SDS)
  • RCRA : RESOURCE CONSERVATION & RECOVERY ACT
    • 262-266 – “cradle to grave”
**40 CFR**

- CODE OF FEDERAL REGULATIONS
  - Tier I & II Reporting
    - Chemical name
    - Estimate of maximum quantities
      - Both per year and average daily storage
    - Description of storage
    - Location within the facility
    - Confidential locations & disclosures
  - 370 – Hazardous Chemical Reporting
    - Most states require tier II reporting
    - Forms for reporting: July 13, 2012

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**REGULATORY REPORTING**

<table>
<thead>
<tr>
<th>REGULATION</th>
<th>SUBMISSION</th>
<th>FREQ</th>
<th>SUBMISSION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA TSCA New Chemicals</td>
<td>TSCA Polymer Exemption Report</td>
<td>Annual</td>
<td>Jan 1</td>
</tr>
<tr>
<td>NExE Emissions Statement Rule</td>
<td>Emission Statement from Responsibility Report</td>
<td>As Required</td>
<td>Feb 1</td>
</tr>
<tr>
<td>OSHA Recording &amp; Reporting Hazardous Injuries &amp; Illnesses</td>
<td>OSHA Injury and Illness Log Summary – Form 300A</td>
<td>Annual</td>
<td>Feb 1 to Apr 30</td>
</tr>
<tr>
<td>EPA TSCA Chemical Data Reporting Rule</td>
<td>TSCA Chemical Data Report</td>
<td>Daily</td>
<td>Jan 1 to June 20</td>
</tr>
<tr>
<td>RCRA</td>
<td>Biennial Hazardous Waste Generation Report</td>
<td>Biennial</td>
<td>Mar 1</td>
</tr>
<tr>
<td>Emergency Planning and Community Right-to-Know Act (EPCRA) Section 302</td>
<td>Community Right-to-Know (CERCLA) Survey &amp; Tier II Report</td>
<td>Annual</td>
<td>Mar 1</td>
</tr>
<tr>
<td>NRC Radioactive Material Program</td>
<td>Annual Certification</td>
<td>Annual</td>
<td>Varies by State</td>
</tr>
</tbody>
</table>
40 CFR – PROTECTION OF ENVIRONMENT

• 68 - Chemical Accident Prevention Provisions
  • Offsite consequence analysis parameters
  • Worst-case release scenario analysis
  • Defining offsite impacts—population
  • Defining offsite impacts—environment

http://www.epa.gov/osweroe1/docs/chem/W-ApendAB.pdf

40 CFR

• 302 – Designation of Reportable Quantities & Notifications
  • Table 302.4 – list of hazardous substances and reportable quantities for these substances
  • Downloadable PDF of the table is available on the EPA’s website – August 14, 1989

HIGHLY HAZARDOUS CHEMICALS

Process Safety Management (PSM) - OSHA

- OSHA has issued the Process Safety Management of Highly Hazardous Chemicals standard (29 CFR 1910.119), which contains requirements for the management of hazards associated with processes using highly hazardous chemicals.
- Process safety management (PSM) is addressed in specific standards for the general and construction industries. They emphasize the management of hazards associated with highly hazardous chemicals and establishes a comprehensive management program that integrates technologies, procedures, and management practices.

PROCESS SAFETY MANAGEMENT

- General Industry (29 CFR 1910)
  1910 Subpart H, Hazardous materials
  - 1910.119, Process safety management of highly hazardous chemicals
    - Appendix A, List of highly hazardous chemicals, toxics and reactives (Mandatory)
    - Appendix B, Block flow diagram and simplified process flow diagram (Non-mandatory)
    - Appendix C, Compliance guidelines and recommendations for process safety management (Non-mandatory)
    - Appendix D, Sources of further information (Non-mandatory)
PROCESS SAFETY MANAGEMENT

- Construction Industry (29 CFR 1926)  
  1926 Subpart D, Occupational health and environmental controls  
  - 1926.64, Process safety management of highly hazardous chemicals  
    - Appendix A, List of highly hazardous chemicals, toxics and reactives (Mandatory)  
    - Appendix B, Block flow diagram and simplified process flow diagram (Non-mandatory)  
    - Appendix C, Compliance guidelines and recommendations for process safety management (Non-mandatory)  
    - Appendix D, Sources of further information (Non-mandatory)  

PSM - DIRECTIVES

- PSM Covered Chemical Facilities National Emphasis Program. CPL 03-00-014, (2011, November 29).  
- Process Safety Management of Highly Hazardous Chemicals – Compliance Guidelines and Enforcement Procedures. CPL 02-02-045 Revised [CPL 2-2.45A Revised], (1992, September 28). (Note: Some original CPL and audit guidelines are not included in this document).  
- OSHA Response to Significant Events of Potentially Catastrophic Consequences. CPL 02-00-094 [CPL 2.94], (1991, July 22).
Under section 112(r) of the Clean Air Act, the Chemical Accident Prevention Provisions require facilities that produce, handle, process, distribute, or store certain chemicals to develop a Risk Management Program, prepare a Risk Management Plan (RMP), and submit the RMP to EPA. The rule has been amended on several occasions since then, most recently in 2004.

**RISK MANAGEMENT PROGRAM ELEMENTS**

- Risk Management Program shall include:
  - Hazard assessment that details the potential effects of an accidental release
  - An accident history of the last five years, and an evaluation of worst-case and alternative accidental releases scenarios
  - Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures
  - Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g., the fire department) should an accident occur
RISK MANAGEMENT PLANNING

• A link to EPA’s list of regulated substances and their threshold quantities can be found at: http://www.epa.gov/emergencies/content/rmp/index.htm

• The regulated substances are listed in four tables, two listing the regulated toxic substances (alphabetically and by CAS number) and two listing the regulated flammable substances (alphabetically and by CAS number)

http://www.epa.gov/oem/docs/chem/clean_air_guidance.pdf
ACHIEVING COMPLIANCE

With the increasing number of new regulations and ever-changing existing regulations,
How do we maintain compliance?

COMMON INVENTORY MANAGEMENT METHODS

Inventory
CHEMICAL INVENTORY MANAGEMENT

CHALLENGES

What materials are onsite?
How much do we have?
Where are materials located?
Are materials stored correctly?
Are containers labeled correctly?

Are Safety Data Sheets available?
Are the chemicals hazardous?
Are the chemicals reportable?
Are my reports accurate?
Are we exceeding any thresholds?
CHEMICAL INVENTORY MANAGEMENT
BEST PRACTICES

What are the goals of a Best Practices Chemical Inventory Management System?

GOALS OF A BEST PRACTICES CHEMICAL INVENTORY SYSTEM

• Real-time tracking of inventory
• Accurately link inventory with owner, location, hazard data, expiration dates, and safety data sheets (SDS)
• Simplify workflow process to ensure adoption
GOALS OF A BEST PRACTICES CHEMICAL INVENTORY SYSTEM

- Reduce amount of time managing chemical inventory
- Reduce resources for inventory reporting, SDS management, and inventory management
- Reduce chemical purchase, storage and disposal costs

GOALS OF A BEST PRACTICES CHEMICAL INVENTORY SYSTEM

- Increase laboratory efficiency and productivity
- Maximize chemical inventory accuracy
- Enhance health, environment and safety program and ensure regulatory compliance
STRATEGIES FOR CHEMICAL REGULATORY COMPLIANCE

PROVIDE EASY ACCESS TO THE CENTRAL SOLUTION

Workstation

Office

Home

Laptop

Smartphone

Lab

ChemSW

STRATEGIES FOR CHEMICAL REGULATORY COMPLIANCE

LEVERAGE A BUILD IT ONCE, USE IT MANY PHILOSOPHY

Material

Package

Container

Information
- Identity
- Hazards
- Physical
- Structure
- GHS

Information
- Vendor
- Size
- Catalog#
- MSDS/SDS

Information
- Location
- Owner
- Expiration
- Amount

ChemSW
STRATEGIES FOR CHEMICAL REGULATORY COMPLIANCE

BARCODE ALL INVENTORY UPON RECEIPT

• Identify hazards upon receipt
• Label containers based on current hazards
• Easily communicate hazards to users

PROVIDE SIMPLE WORKFLOWS

• Streamline receipt of new containers
• Simple scans of containers, locations, and operations like ‘open’, ‘move’, ‘dispose’
• Leverage Piggy-back labels
• Set up Disposal logs
STRATEGIES FOR CHEMICAL REGULATORY COMPLIANCE

INTEGRATE SAFETY AND MANAGEMENT

• Identify hazards and classifications for each product
• Associate an SDS with each unique product in inventory
• Add Safety Handling SOP, Hazard Disposal process documentation, technical data sheets
• Regulatory List association

ENSURE REGULATORY COMPLIANCE
ROI OF BEST PRACTICES CHEMICAL MANAGEMENT

HIGHLIGHTS FROM CHEMSW FINANCIAL BENEFITS SURVEY

Quantitative questions were asked to measure resources and the associated changes before and after CISPro deployment.

Qualitative questions were asked regarding the types of inventory, reports and MSDS utilization.

Two key value areas emerged:
- Laboratory Operations as related to personnel count
- Inventory Support Services as related to inventory container count

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ROI OF BEST PRACTICES CHEMICAL MANAGEMENT

ESTIMATED ANNUAL LABORATORY OPERATIONS FINANCIAL BENEFIT USING CISPro

- $1.8
- $2.7
- $4.2
- Total = $12.9K Annual Financial Benefit
ROI OF BEST PRACTICES CHEMICAL MANAGEMENT

ESTIMATED ANNUAL INVENTORY SUPPORT FINANCIAL BENEFIT USING CISPro

- Purchase Order Cost Reduction: $0.31
- Chemical Purchase/Inventory Reduction: $0.91
- Inventory Space Reduction: $1.49
- Physical Inventory Process: $2.82
- Inventory Management Processes: $3.32
- Chemical Inventory Reporting: $1.49
- Regulatory Inventory Reporting: $0.31
- MSDS Management Reduction: $0.17
- Waste Drum Management Reduction:

Total = $12.53
Annual Financial Benefit

ROI OF BEST PRACTICES CHEMICAL MANAGEMENT

ESTIMATED ANNUAL COMBINED LAB OPERATIONS AND INVENTORY SUPPORT FINANCIAL BENEFIT USING CISPro

Lab Operations: $12,000 Average Annual Financial Benefit per Chemist

Inventory Support: $12,500 Average Annual Financial Benefit per Container

$645,100 + 125,400 = $770,500
Site With 40 Chemists
Site Having 10,000 Containers
Potential Annual Savings Value
SUMMARY

- Most chemical inventory management challenges are the result of inefficient inventory management
- Barcoding inventory upon receipt helps ensure accurate inventory data
- Best practices drive inventory system use, mitigate risk, ensure compliance, and lower costs

Q&A

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Laura Casey is a dynamic consultant, presenter, leader and Certified Safety Professional with more than 17 successful years in the environmental, safety and health field. Ms. Casey has provided workshops and training courses both nationally and internationally is highly adept at identifying gaps and or risk exposures in operations as well as developing and implementing strong systems of checks and balances. Ms. Casey will share her expertise and insight regarding management of chemicals, wastes, and MSDS and how the regulations come into play for most industries.

Anne Sefried

Anne Sefried is a Sr. Technical Specialist/Inventory Consultant for ChemSW, the leading provider of chemical inventory management systems. She has IT expertise in a variety of technical languages, platforms and concepts, and she has provided many years of top-level support to ChemSW’s enterprise class customers including on-site training and implementation services, as well as data migration and initial inventory project management. As a project manager, Ms. Sefried has provided guidance for and gained experience in resolving the unique challenges faced by a wide variety of organizations in regard to chemical inventory management. She graduated from Chapman University with a B.S. in Computer Information Systems.
Founded over two decades ago, ChemSW is a leading provider of chemical inventory management systems, safety inspection software, and other chemistry laboratory software and services. ChemSW’s products enable organizations to efficiently manage assets and processes. ChemSW supports over 15,000 customers in more than 40 countries worldwide. For more information, visit www.ChemSW.com or call +1 707-864-0845.