

# **From Cradle to Grave: Manufacture, Storage, Handling, Transportation and Disposal of Hazardous Materials**

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**Isaac Powell, Product Manager, 3E Technical Services  
3E Company**

**AHMP Conference  
September 1, 2009**

# About the Speaker



## **Isaac Powell:**

*Product Manager, 3E Technical Services*



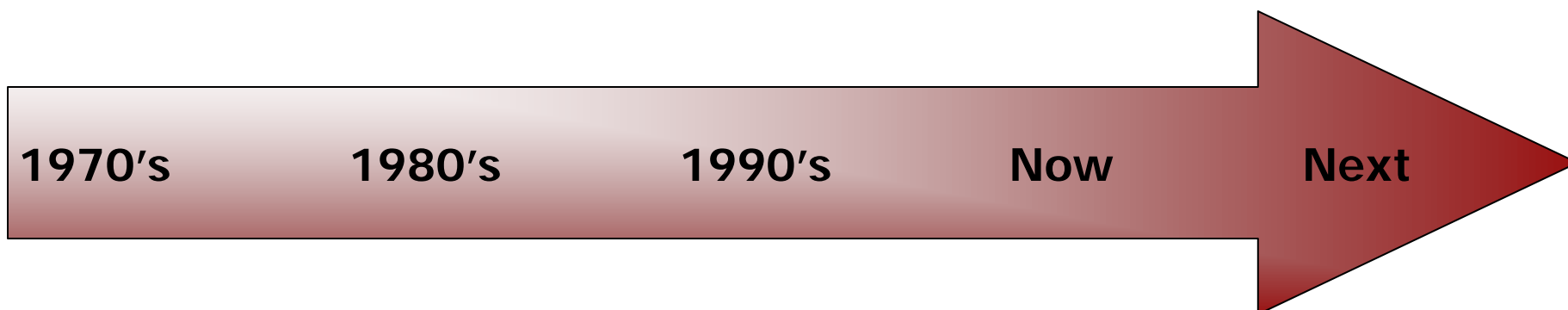
- 12 years in EH&S data and consulting services.
- Previously Managed Compliance Reporting Services, Hazmat Classification Services, and Transportation Call Center
- Currently Product Manager for 3E Emergency Response, Hazardous Waste Management, Transportation, Classification & Regulatory Reporting Services
- Current member of the AWMA, AHMP, National Fire Protection Association & International Code Council
- Bachelors from the Univ. of Michigan, Ann Arbor

# Agenda

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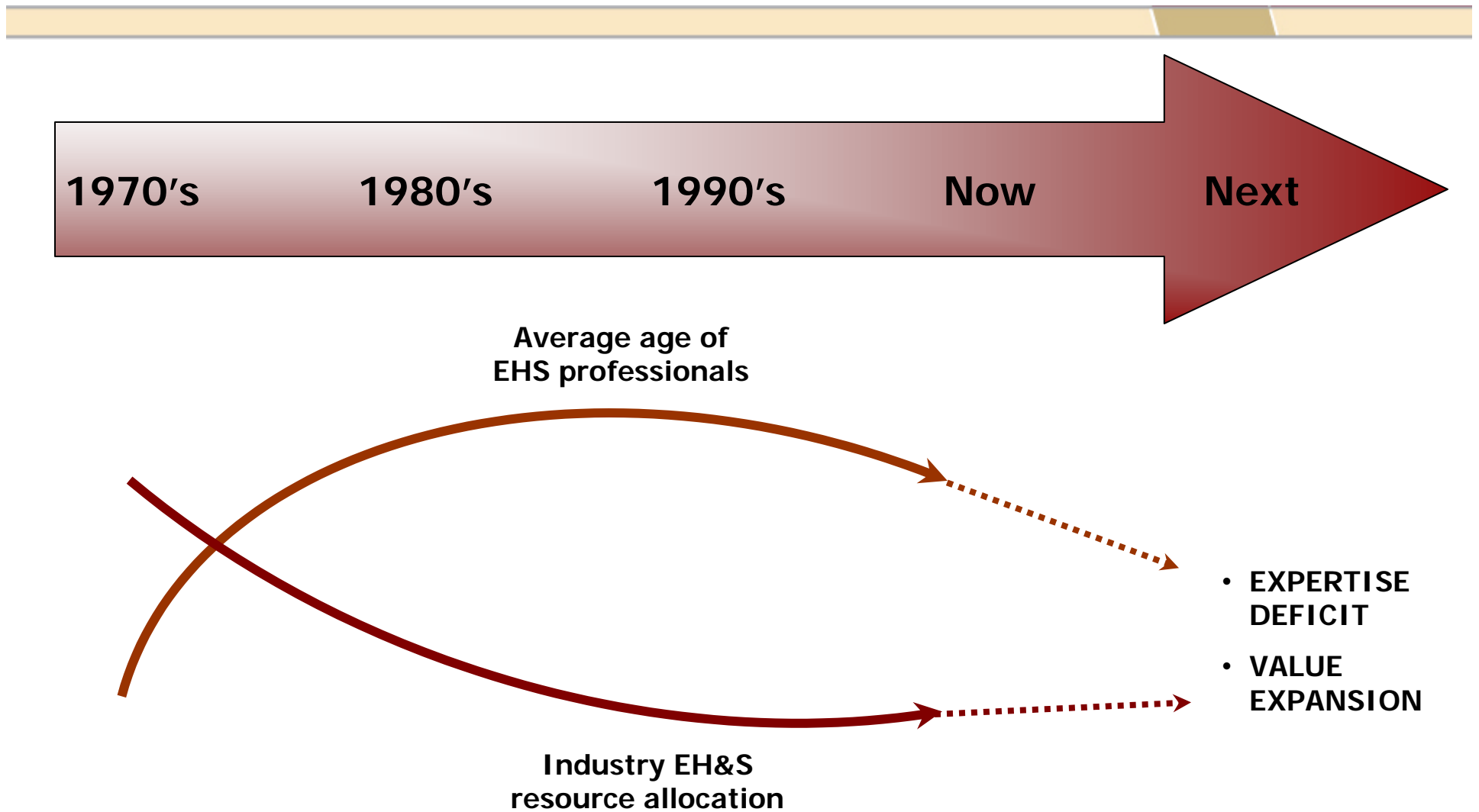
- Modern EH&S Data Management
- EHS Information & The Supply Chain
- Essential Building Blocks of EHS Information Management
- Supply Chain Approach to EHS Data Management
- Utilizing this approach for managing elements of your EHS Performance Metrics

# EHS Evolution



1970's	1980's	1990's	Now	Next
EH&S rules & regulations development	Industry responds with resources & programs	Compliance vendors and solution providers emerge	Solutions mature and vendors evolve	Compliance is a means, not the goal
EH&S management Baselines Established	Task based approach Check-list dependent	Corporate vision/mission Policies & procedures Program management – plan, do, check, act	Measure, Report , Continuous Improvement	New skills and solutions are required

# EHS Evolution



# Modern EHS Challenges



- EHS professionals have to strike a balance between competing demands
  - Required Tasks > Available Resources
- Specter of Increase in Enforcement Activities
- Increasingly complex and changing regulatory requirements
  - Global Scope
  - Local Variations
- Transition from paper/PC tools to enterprise applications
  - IT Resources Critical to Success
- Significant increase in tasks/activities both for regulatory compliance and managing corporate standard

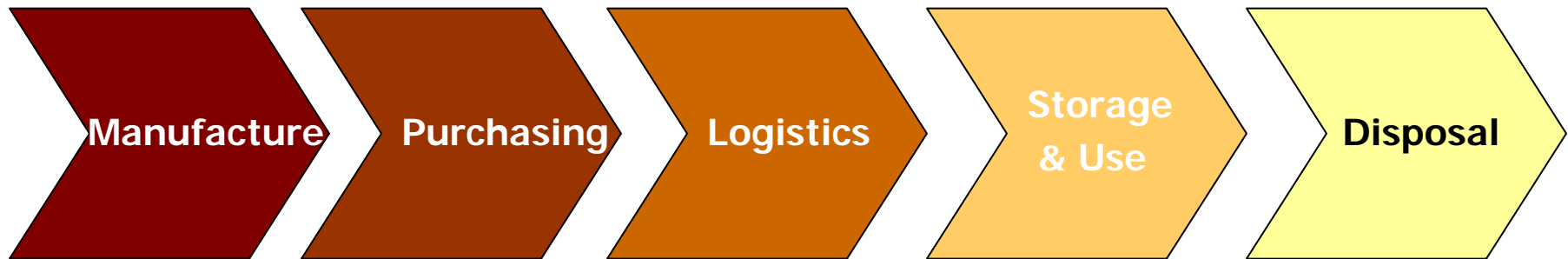
**Demand**

# Impact

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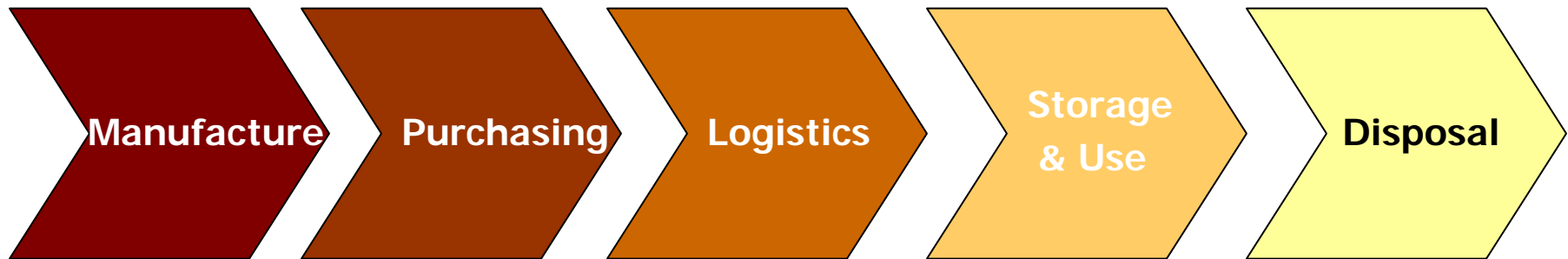
- EH&S compliance is a critical BUT will become the basic building block for new paradigms
  - Corporate Social Responsibility
  - Sustainability
- As regulations evolve metrics may become performance oriented
  - Industry standards will also need to evolve to meet for EH&S performance reporting requirements
- Companies will need to understand and anticipate impact from its suppliers and impact to its customers
  - Every business is both a supplier and a customer
  - Accurate Data is needed earlier in the supply chain
  - Data is required faster to support global business needs
  - Data required to be exchanged and integrated into multiple platforms

# Regulatory Drivers in the Supply Chain



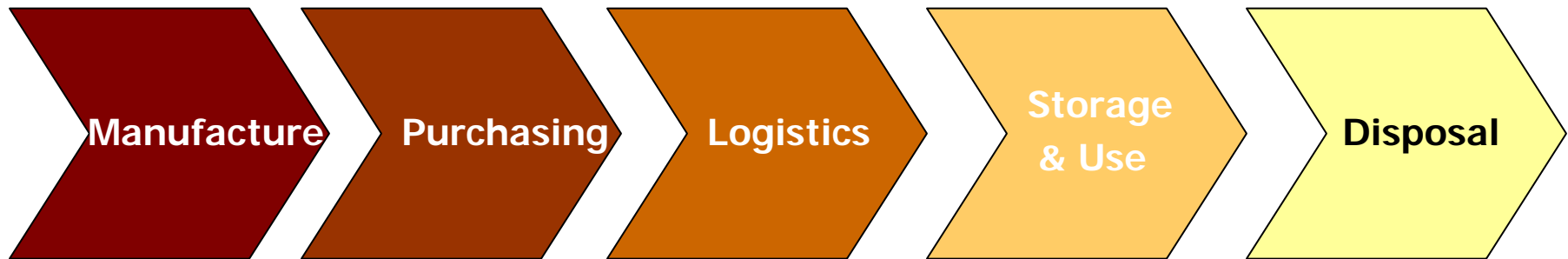
<ul style="list-style-type: none"> <li>• Global Inventories</li> <li>-TSCA</li> <li>-DSL</li> <li>-REACH</li>   <li>• OSHA</li> <li>-MSDS Elements</li> <li>-Distribution</li> </ul>	<ul style="list-style-type: none"> <li>• Internal Corporate Requirements</li> <li>-Restricted Chemical Lists</li> <li>-Green Procurement Lists</li> </ul>	<ul style="list-style-type: none"> <li>• Transportation Regulations:</li> <li>-DOT</li> <li>-IATA</li> <li>-IMDG</li> <li>-TDG</li> <li>-ADR/RID</li> </ul>	<ul style="list-style-type: none"> <li>• OSHA</li> <li>- HazComm</li> <li>- OEL's</li>   <li>• EPA</li> <li>- CAA</li> <li>- CWA</li>   <li>• Fire Codes</li>   <li>• Local &amp; Regional Requirements</li> </ul>	<ul style="list-style-type: none"> <li>• RCRA (EPA)</li> <li>• State EPA's</li> <li>• Local Requirements</li> <li>• Other</li> </ul>
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# Supply Chain Activities



<ul style="list-style-type: none"> <li>• Research regulatory &amp; scientific data on substances for final product</li> <li>• Author MSDS for the finished good</li> <li>• Evaluate import/export regulations</li> <li>• Determine regulatory profile for purchased product (REACH, Prop 65)</li> </ul>	<ul style="list-style-type: none"> <li>• Analyze product information against lists as specified by corporate</li> <li>• MSDS Review</li> <li>• Product Hazard / Green Analysis</li> <li>• Alternative Products Comparison</li> </ul>	<ul style="list-style-type: none"> <li>• DG Classification by Mode of shipment</li> <li>• Determine Product Routing Protocols n WMS</li> <li>• Preparation of shipping documentation</li> <li>• Emergency Response Information</li> <li>• Evaluate import/export regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Communicate product hazards to employees and customers                             <ul style="list-style-type: none"> <li>▪ MSDS &amp; Labels</li> <li>▪ Employee Training</li> <li>▪ RTK (Prop65)</li> </ul> </li> <li>• Prepare EH&amp;S Reports                             <ul style="list-style-type: none"> <li>▪ Tier II</li> <li>▪ SARA 313</li> <li>▪ Emissions</li> </ul> </li> <li>• Evaluate Store Limits and Arrangements</li> <li>• Data for IH Evaluation and Controls</li> </ul>	<ul style="list-style-type: none"> <li>• Determine how product will be regulated for disposal (Federal, State &amp; Local)</li> <li>• Development of Waste Profiles from Raw Materials</li> <li>• Other Regulated Materials                             <ul style="list-style-type: none"> <li>▪ Pharmaceuticals</li> <li>▪ E-Waste</li> <li>▪ White Goods</li> </ul> </li> </ul>
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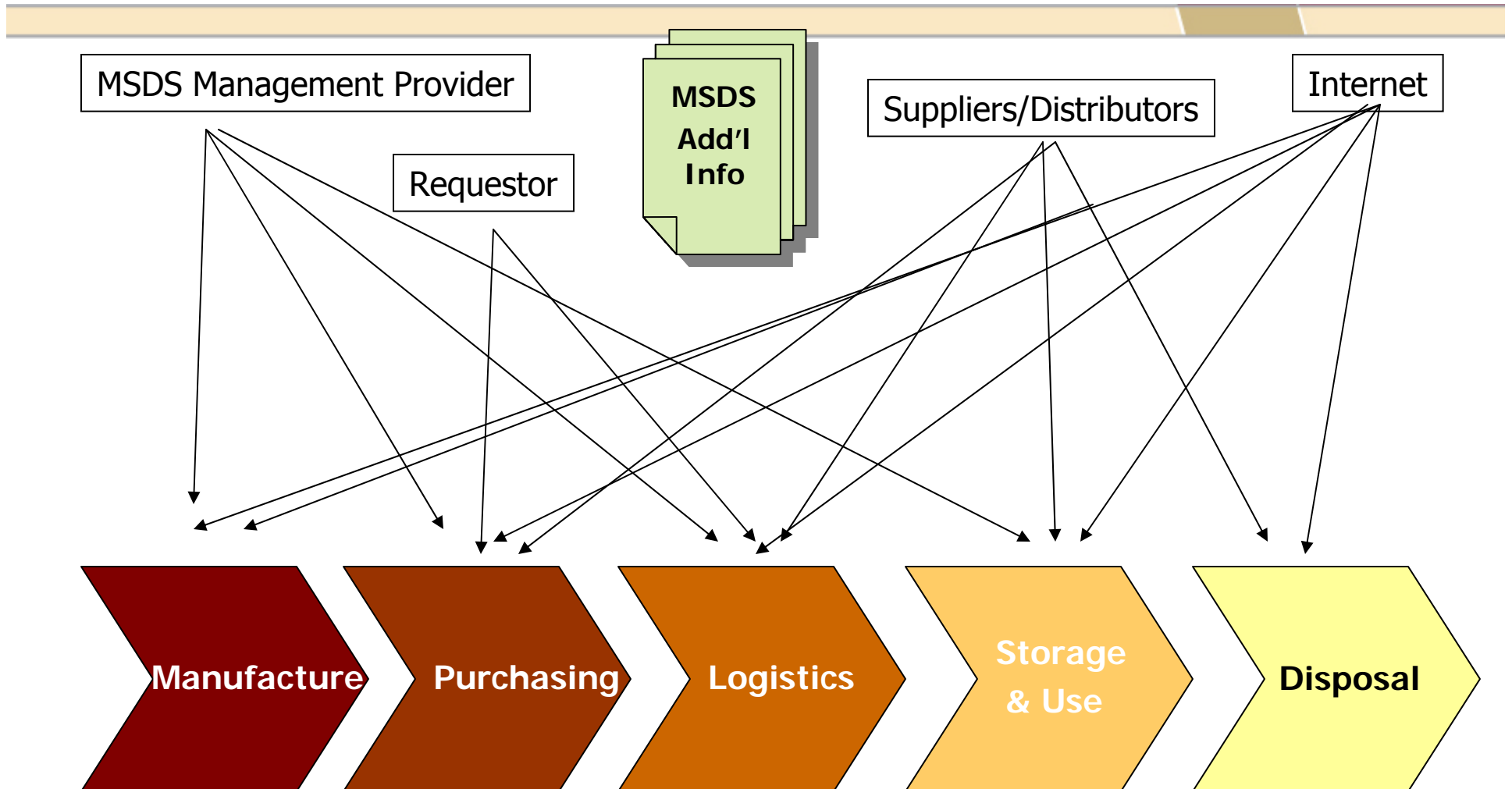
# Data Sources



Source:	Source:	Source:	Source:	Source:
<ul style="list-style-type: none"> <li>•Governing Body</li> </ul>	<ul style="list-style-type: none"> <li>•Internal EHS Expertise</li> </ul>	<ul style="list-style-type: none"> <li>•DOT Data Tables</li> </ul>	<ul style="list-style-type: none"> <li>•MSDS Management Provider</li> </ul>	<ul style="list-style-type: none"> <li>•Raw Material MSDS</li> </ul>
<ul style="list-style-type: none"> <li>•Regulatory Content Application</li> </ul>	<ul style="list-style-type: none"> <li>•Regulatory Content Provider</li> </ul>	<ul style="list-style-type: none"> <li>•Internal EHS Expertise</li> </ul>	<ul style="list-style-type: none"> <li>•Governing Body</li> </ul>	<ul style="list-style-type: none"> <li>•Generator Knowledge</li> </ul>
<ul style="list-style-type: none"> <li>•Raw Material MSDS</li> </ul>	<ul style="list-style-type: none"> <li>•Vendor MSDS &amp; Technical Data Sheets</li> </ul>	<ul style="list-style-type: none"> <li>•Outside Consultant</li> </ul>	<ul style="list-style-type: none"> <li>•Outside Consultant</li> </ul>	<ul style="list-style-type: none"> <li>•Waste Vendor</li> </ul>
		<ul style="list-style-type: none"> <li>•Vendor MSDS</li> </ul>	<ul style="list-style-type: none"> <li>•EH&amp;S Management Systems</li> </ul>	<ul style="list-style-type: none"> <li>•Laboratory Testing</li> </ul>
		<ul style="list-style-type: none"> <li>•ER Guide Book</li> </ul>		<ul style="list-style-type: none"> <li>•Trial and Error</li> </ul>

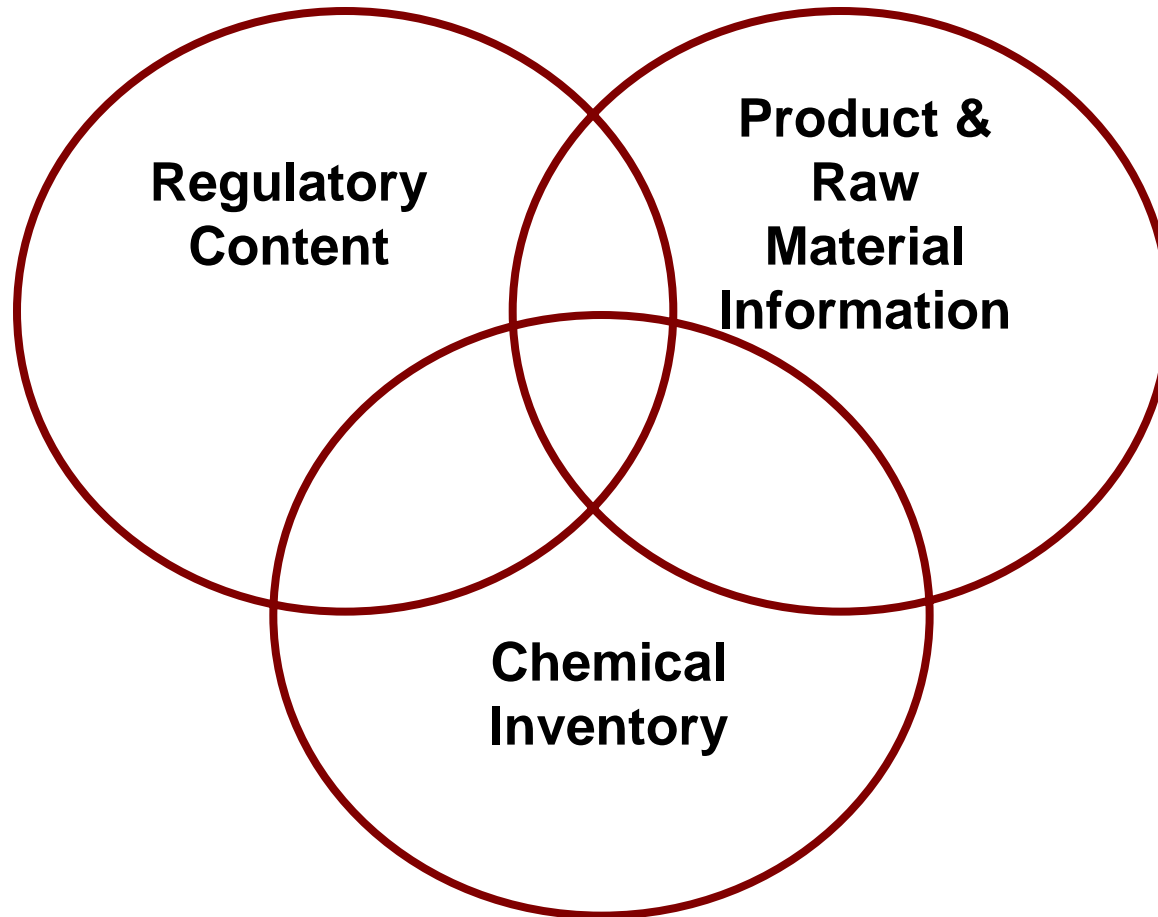
**Multiple parts of the supply chain sourcing similar information = \$\$\$\$**

# MSDS & Supply Chain



# EHS Information Management

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# Core Component: Regulatory Data

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- Regulatory, Transportation & Scientific Data
  - Global Regulatory lists (TSCA)
  - Scientific Data (Phys, Chem, Tox, EcoTox Data)
  - Transportation Regulations (DOT, ADR, IATA, IMDG)
  - Storage Information (NFPA / Fire Code)
  - Disposal Information
- Methods for Managing Regulatory Data:
  - Manage internally
  - Purchase from content provider

*Challenge: Translate regulatory text in to actionable regulatory data*

# Regulatory Data

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- Keys to effective Regulatory, Transportation & Scientific Data Management
  - Must be updated regularly
  - Must be able to identify non-CAS RN regulated chemicals. (i.e. Compounds)
  - Need system to run queries and reports against this information by individual CAS RN and Product Mixtures (Multiple Substances)

# Core Component: Product and Raw Material Information

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- Accurate information about each Product or Raw Material
  - Chemical Constituent(s) and Percentages
  - Product Classification (DOT, NFPA, RCRA, ... EU, WHMIS)
  - Physical Properties: VOC, PPE, etc
- Methods for Materials Data Collection:
  - Begin with MSDS Information
  - Request additional/incomplete information from manufacturer as needed
    - Full Composition
    - Trade Secret ingredients

*Challenge: Regulations at CAS number level; Business managed at product level*

# Product and Raw Material Information

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- Keys to accurate Raw Material Information
  - Work with manufacturer to obtain additional information
  - Must have a place to store the additional information
  - Must be able to distinguish the source of this information.

# Core Component: Chemical Inventories

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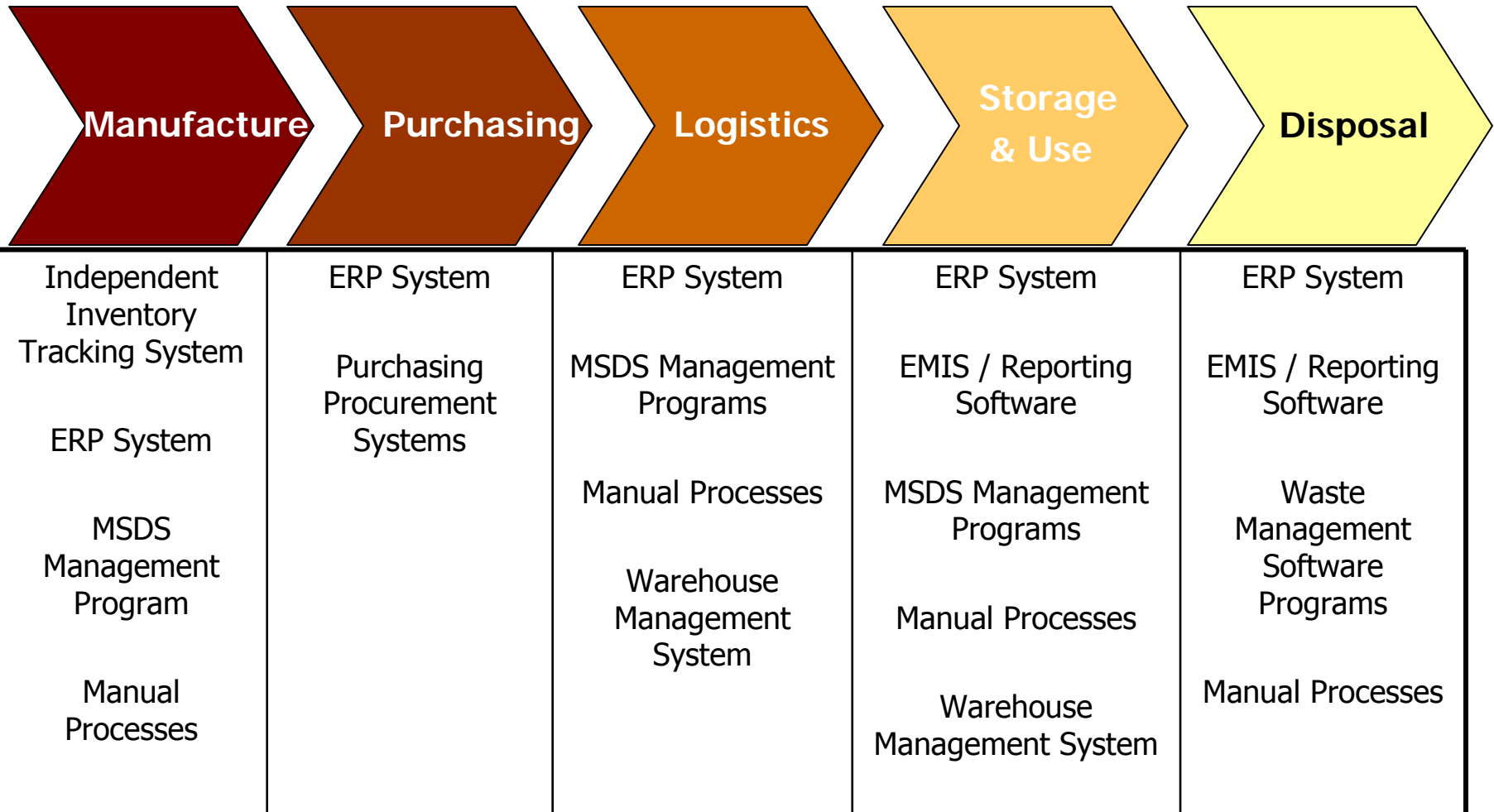
- Chemical inventory is critical to understanding impact of regulations on the business
- One of the most basic elements but often one of the most overlooked
- Baseline of data from ERP or purchasing systems
- Methods for collecting Raw Material Inventories
  - Hazardous Materials Inventories stored in online or other software application
  - Quantity/Use data stored in enterprise or purchasing systems

# Chemical Inventories

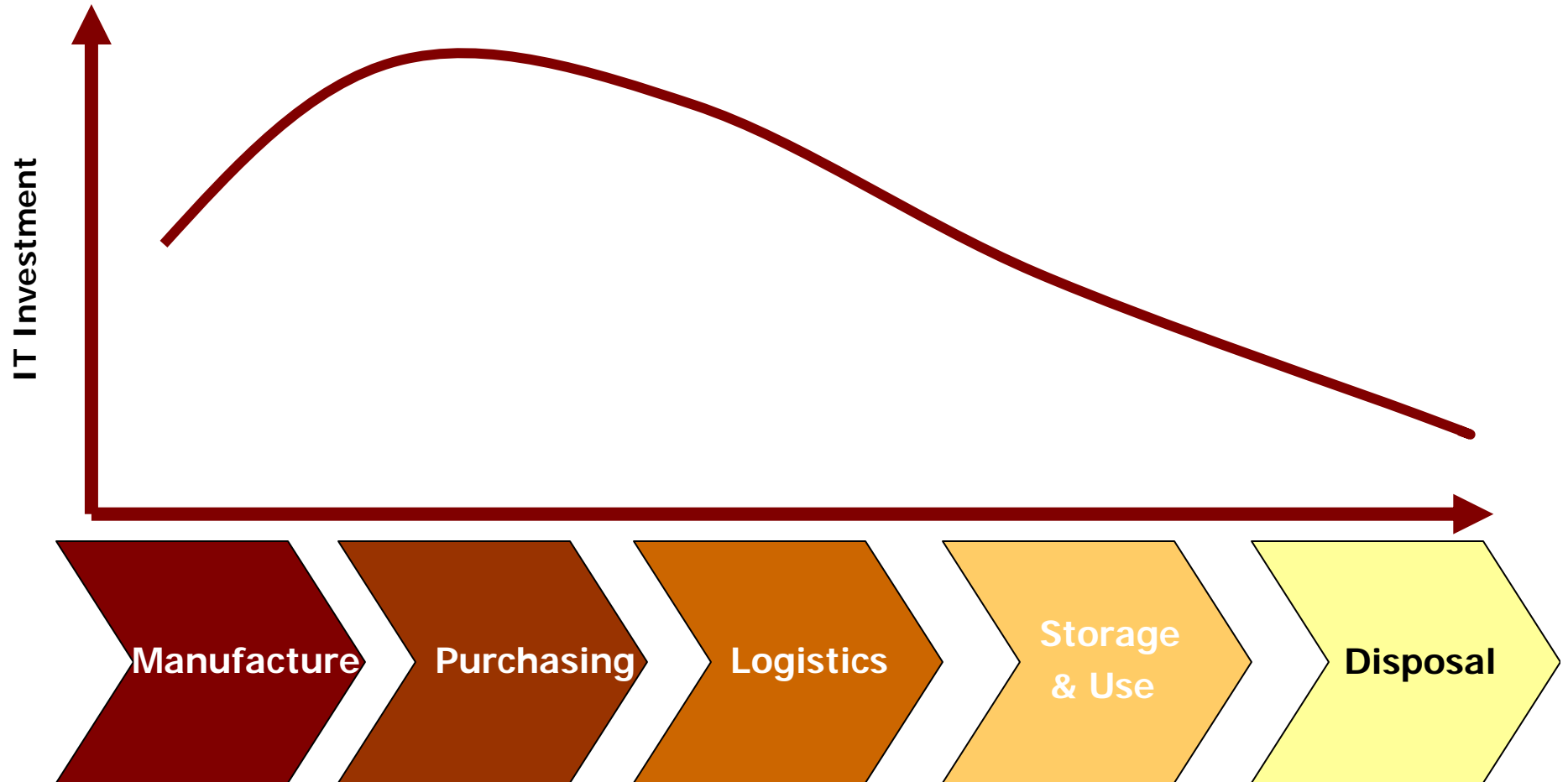
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- Keys to a strong Inventory Management Program
  - Efficient Protocols for inventory tracking, including updates and modification.
  - Consistent Data across unique products
    - Avoid product duplication
    - Consistent Corporate Reporting
  - Time & Effort
    - Maintaining an accurate hazardous material inventory requires attention.
    - User enterprise systems for quantity and use tracking to avoid data redundancy.

# Tracking Inventory Across the Supply Chain



# System Support



# Full Chemical Lifecycle Approach to EHS Information Management



# The 3-Step Approach

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- **Step 1:**
  - Centralize your data components across the organization
- **Step 2:**
  - Integrate these components for maximum value
- **Step 3:**
  - Expose the necessary information to only those who need it.

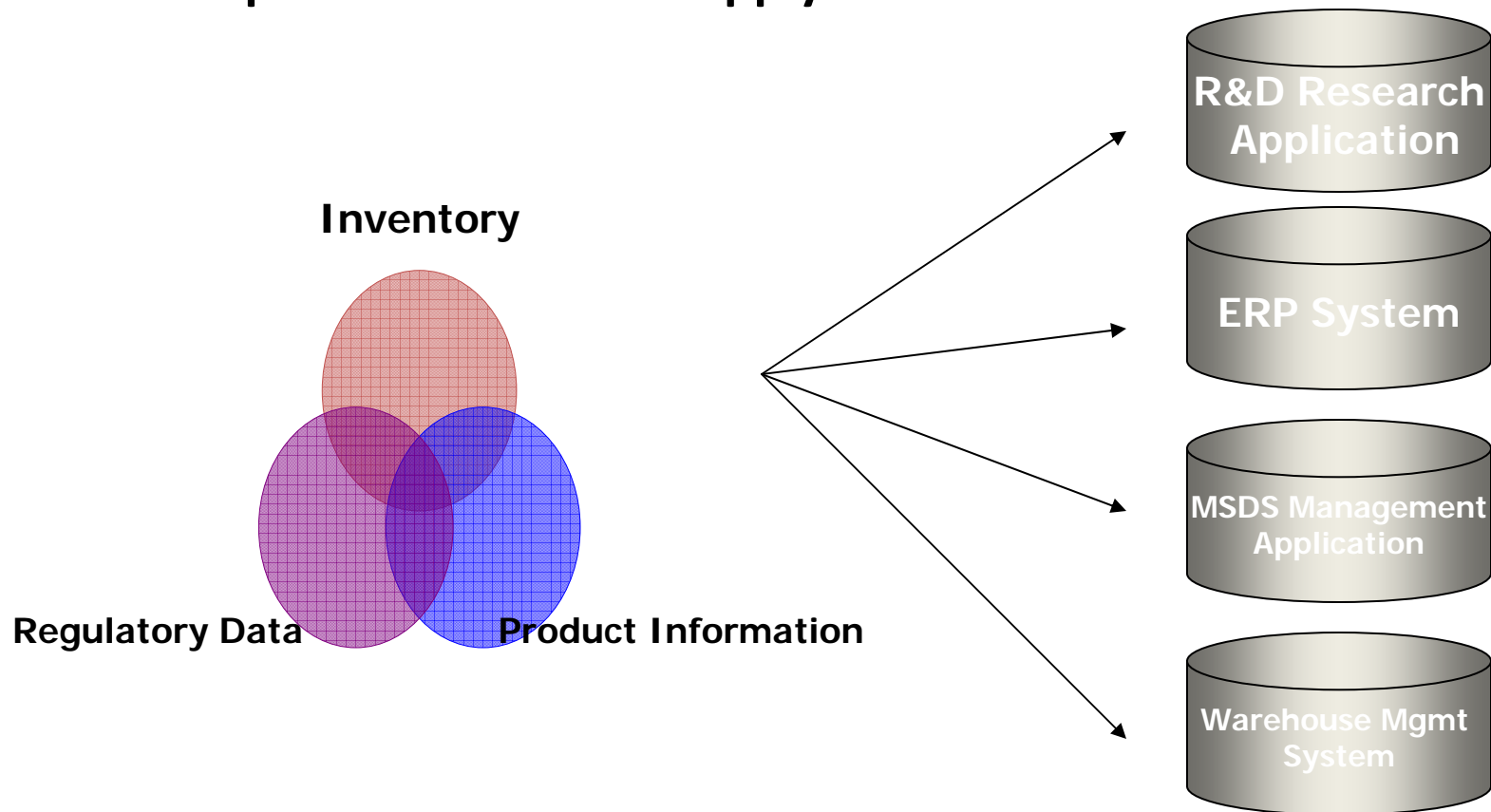
# Step 1: Centralize your data sources

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- Assemble all stakeholders
  - Corporate (Legal, Risk Management, Marketing, Product Stewardship, IT)
  - Facilities: Plant Managers, EHS Manager, Transportation Managers, local IT)
- Prioritize Objectives
- Evaluate your options for EHS Data
  - Internally Managed
  - Outsourced
- Implement
  - Typically a phased approach with one data component at a time.

## Step 2: Integrate EHS Data Components

Develop integrated systems, either internally or outsourced, that allow you to send each data component across the supply chain.



## Step 3: Expose Relevant Data by User

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- Understand each user to provide what is relevant
  - Plant Employees: Simple Access to MSDS
  - R&D: Detailed Regulatory Information
  - EHS Management: Regulatory reporting capabilities
  - Customers: MSDS, Technical Data Sheets for Finished Goods

# Benefits of this Approach

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- Significant Cost Savings
  - Reduction in duplicate data sources
  - Increased efficiencies across supply chain
- Improved Product Stewardship
  - Able to react swiftly to regulatory changes
  - Ability to support internal and external customers with Regulatory and MSDS information in a timely manner.
- Change Management
  - Once the baseline of regulations, locations and products is established, you need to track any changes to this baseline.
  - Each of these changes can impact Product Safety and Workplace Safety related protocols.
  - By integrating each of these entities, you can track this impact based on any type of change.

### CHEMICAL SEARCH

#### 1. Hold down Ctrl to select multiple sets

- Regional Sets
- North America
- Western Europe
- Central/Eastern Europe
- Asia Pacific
- Latin America
- Global Inventories
- Middle East and Africa

[Customize View](#)

[Add new set](#)

#### 2. Criteria

CAS Number

#### 3. Search Pattern [Help](#)

108-88-3

Search

### POWER SEARCH

Search Pattern [Help](#)

e.g. ACGIH 50000

Search

[Export to PDF](#) | [Export to Word](#) | [Open in New Window](#) | [Additional Options](#) | [Close](#)

#### CAS Numbers

108-88-3

#### Regulatory Lists

Global Inventories

[Expand All Sections](#)

#### Global Inventories

- ▶ United States
- ▶ Australia
- ▶ Canada
- ▶ China
- ▼ European Union

#### EU. European Inventory of Existing Commercial Chemical Substances (EINECS)

CAS RN: **108-88-3**  
Name: Toluene  
EC Number: 2036259  
Molecular formula: C7H8

- ▶ Japan
- ▶ Korea
- ▶ New Zealand
- ▶ Philippines
- ▶ Switzerland

Home (M)SDS Product Catalog **Inventory** Chemical Analysis Regulatory RegImpact Admin Help

Inventory > Chemical Approval

1 Select Location (optional) 2 Enter search criteria to find a product, or select show all to display all inventory items under chemical approval.

**(No location selected)**

Browse Search Clear

My locations

- Eastern Region
- Europe
- Northeast Region
- Western Region

Filter by custom list: OSHA Z Tables

Search for: Chemical Approval State equals Denied

Search Show All Customize this search

Approve Deny Request more info

Items per Page: 100

Action	Product	Manufacturer	Part #	Location	Requested
Action	1025 1038 Black Dry Ink	Xerox Corporation	A-0042	Seattle, WA (...)	Jan 04, 2007
Action	Acrylic Alkyd Paint	Sherwin-Williams	35-32668 Bro...	Seattle, WA (...)	Jan 29, 2007
Action	Acrylic Alkyd Silver Metallic	Sherwin-Williams	BR-49649	Seattle, WA (...)	Jan 16, 2007
Action	Acrylyd Enamel Satin Gray	Sherwin-Williams	35-32669	Seattle, WA (...)	Mar 09, 2007
Action	Battery	Delco	UN2794	Seattle, WA (...)	Sep 07, 2007
Action	Centari Acrylic Enamel Overall Gloss Har...	Dupont	793S	Seattle, WA (...)	Jan 23, 2008
Action	Clutch friction facings	Wellman friction produ...	2388	Seattle, WA (...)	Jan 30, 2008

Page 1 of 1 (7 items)

Chemical Approval Legend

- **Approved:** This item has been approved by the Chemical Approval Manager.
- **Denied:** This item has been denied by the Chemical Approval Manager.
- **Needs more Information:** Chemical Approval Manager needs additional information from the Requestor.
- **Ready for Approval:** Requestor has responded to the Chemical Approval Manager and the product is ready for review.
- **In Process by 3E:** 3E has not yet received an MSDS from the Manufacturer, 3E needs additional information from the Client to match an MSDS, or 3E has not completed specific data points for the Chemical Approval Manager to complete the review, such as Fire Code Classification.

Done Internet 100%

start Microsoft PowerPoint ... 3E Company Portal - ... 12:52 PM

Home (M)SDS Product Catalog **Inventory** Chemical Analysis Regulatory RegImpact Admin Help

Inventory > Search Inventory > Transportation Mode Details

**Inventory Item** Action **1** Review 49CFR mode transportation information

Product Name:  
**1,2-Dichlorobenzene**

Manufacturer:  
**EM Industries**

Mfg Part #:  
**DX0690**

Location Name:  
**Pool & Spa**

Source Document: **(M)SDS (English)**  
 (M)SDS Product Name: **1,2-Dichlorobenzene**  
 (M)SDS Manufacturer: **EMD Chemicals, Inc. (EM Industries)**

Transportation Mode :	<b>49CFR</b>
Proper Shipping Name :	<b>o-Dichlorobenzene</b>
Hazard Classes :	<b>6.1</b>
UN/NA# :	<b>UN1591</b>
Packing Group :	<b>III</b>
Symbol (1) :	<b>+</b>
Information (2) :	<b>--</b>
Special Provisions (7) :	<b>IB3, T4, TP1</b>
Exceptions (8A) :	<b>153</b>
Reference - Non-Bulk (8B) :	<b>203</b>
Reference - Bulk (8C) :	<b>241</b>
Passenger Vehicle Limits (9A) :	<b>60 L</b>
Air Cargo Limits (9B) :	<b>220 L</b>
Vessel Storage Location (10A) :	<b>A</b>
Vessel Other Limitations (10B) :	<b>--</b>

**Labels**

Primary

Done Internet 100%

View Detailed Shipping Information for Product by Mode

**1** Select Location (optional)

### Finished Goods

Browse

Search

[Clear](#)

My locations

Eastern Region

Europe

Finished Goods

Western Region

**2** Please select date range to search for changes and then select Analyze.

From: **January 2005**



To: **May 2007**



**Analyze**

- Data range to identify regulatory changes

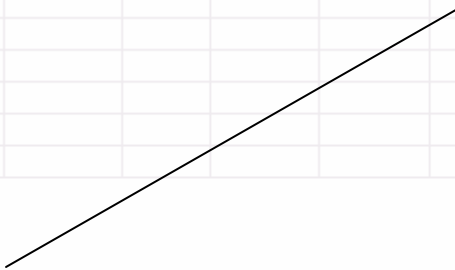
- Inventory Data by Facility

1/2005-5/2007 - Finished Goods Items per page: 15 ▾

Product Name	CAA_RISK	CAA_602	HON_SOC	HON_HAP	CWA_307	IARC_OE	NIOSH	NTPLIST	CERCLA	ACUTE	TOXIC	CAA112_HAZ	ACGIH O:
<u>1,2-Dichlorobenzene</u>											10/2005		
1025 1038 Black Dry Ink													
1025/1038 Blue Dry Ink Plus													
1025/1038/2510 Black Toner													
5080 Developer													
5100 Developer													

1,2-Dichlorobenzene  
95-50-1 October, 2005

**EPCRA – SARA Title III  
Section 313**



http://192.168.42.87 - Summary Report of Changes - Microsoft Internet Explorer

Back Forward Stop Home Search Favorites Refresh Print Mail Wordpad Notepad Search Web Upgrade your Toolbar Now! Bookmarks

▼ North America

▼ U.S. Federal, Right-To-Know

EPCRA (SARA Title III) Section 313 Toxic Chemical (Reporting Form R Instructions for 2005, as revised January 2006)

Changed in 10/2005

CAS RN: 95-50-1 regulated as a member of the Generics group for CAS RN: 25321-22-6  
 Generics group name: DICHLOROBENZENE (MIXED ISOMERS)  
 De Minimis Concentration for Section 313 is:  
 Old Value:  
 New Value: 0.1 %.  
 Note(s): *sr75*

Changed in 10/2005

CAS RN: 95-50-1  
 Name: 1,2-DICHLOROBENZENE  
 De Minimis Concentration for Section 313 is:  
 Old Value:  
 New Value: 1.0 %.  
 Note(s): *sr75*

**New De Minimus Concentration Value**

**Notes**

Code	Explanation
sr75	40 CFR 372.27. Final rule at 59 Fed. Reg. 61488 (11/30/94). The EPA established an alternative EPCRA sec. 313 reporting threshold for covered facilities with low annual releases of toxic chemicals. A facility which estimates that its annual reportable amount of a toxic chemical does not exceed 500 pounds may apply an alternate 'manufacture, process, or otherwise use' threshold of 1 million pounds to that chemical, provided that certain conditions in the rule are met. Eligible facilities submit a special certification under 40 CFR 372.95 in lieu of a report under 40 CFR 372.30. 40 CFR 372.27 and 327.95 contain information collection and recordkeeping requirements and will not become effective until approval has been given by OMB.

Done Internet

Technical Content Test Inventory

Previous Version

Current Version

Document

(M)SDS Product Name: 3M Bondo Traffic, Detector Loop Sealant Black, P.N. 578  
 (M)SDS Manufacturer: 3M  
 Revision Date: Jul 15, 2009

(M)SDS Product Name: 3M Bondo Traffic, Detector Loop Sealant Black, P.N. 578  
 (M)SDS Manufacturer: 3M  
 Revision Date: Jul 20, 2009

[View](#)

[View](#)

Regulatory Lists

[Regulatory Summary Report](#)

[Regulatory Summary Report](#)

OSHA PEL

CAS RN Direct(*)	List Chemical Name
<a href="#">00001317-65-3</a> *	CALCIUM CARBONATE, RESPIRABLE FRACTION
<a href="#">00001317-65-3</a> *	CALCIUM CARBONATE, TOTAL DUST
<a href="#">00001317-65-3</a> *	LIMESTONE RESPIRABLE FRACTION
<a href="#">00001317-65-3</a> *	LIMESTONE TOTAL DUST
<a href="#">00001317-65-3</a> *	MARBLE RESPIRABLE FRACTION
<a href="#">00001317-65-3</a> *	MARBLE TOTAL DUST
<a href="#">00001333-86-4</a> *	CARBON BLACK
<a href="#">00013463-67-7</a> *	TITANIUM DIOXIDE, TOTAL DUST

OSHA PEL

CAS RN Direct(*)	List Chemical Name
<a href="#">00001317-65-3</a> *	CALCIUM CARBONATE, RESPIRABLE FRACTION
<a href="#">00001317-65-3</a> *	CALCIUM CARBONATE, TOTAL DUST
<a href="#">00001317-65-3</a> *	LIMESTONE RESPIRABLE FRACTION
<a href="#">00001317-65-3</a> *	LIMESTONE TOTAL DUST
<a href="#">00001317-65-3</a> *	MARBLE RESPIRABLE FRACTION
<a href="#">00001317-65-3</a> *	MARBLE TOTAL DUST
<a href="#">00001333-86-4</a> *	CARBON BLACK
<a href="#">00013463-67-7</a> *	TITANIUM DIOXIDE, TOTAL DUST
<a href="#">00060676-86-0</a>	SILICA: AMORPHOUS, INCLUDING NATURAL DIATOMACEOUS EARTH

Prop 65

CAS RN Direct(*)	List Chemical Name
<a href="#">00001333-86-4</a> *	CARBON BLACK (AIRBORNE, UNBOUND PARTICLES OF RESPIRABLE SIZE [≤ 10 MICROMETERS])
<a href="#">00000085-68-7</a> *	BUTYL BENZYL PHTHALATE (BBP)

Prop 65

CAS RN Direct(*)	List Chemical Name
<a href="#">00001333-86-4</a> *	CARBON BLACK (AIRBORNE, UNBOUND PARTICLES OF RESPIRABLE SIZE [≤ 10 MICROMETERS])
<a href="#">00000085-68-7</a> *	BUTYL BENZYL PHTHALATE (BBP)

Right to Know (NJ)

CAS RN Direct(\*) List Chemical Name

Right to Know (NJ)

CAS RN Direct(\*) List Chemical Name

REACH - Eastern Region Items per page: 15

Product Name	EU_RA4	EU_RA5	EU_RA17	EU_RA17_1	EU_RA17_2	EU_RA17_4	EU_RA17_5	EU_RA17_6	EU_AZOC
1025/1038 Blue Dry Ink Plus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1,2-Dichlorobenzene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1025/1038 Blue Dry Ink Plus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1025/1038/2510 Black Toner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>1,3-Butadiene</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1025 1038 Black Dry Ink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1025/1038 Blue Dry Ink Plus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>1,3-Butadiene</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>1,3-Butadiene</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1025 1038 Black Dry Ink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1,2-Dichlorobenzene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1,2-Dichlorobenzene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>1,3-Butadiene</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1025/1038 Blue Dry Ink Plus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1,2-Dichlorobenzene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**1,3-Butadiene**

On the list	Not on the list
<input checked="" type="radio"/>	<input type="radio"/>
106-99-0	

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All CAS RN listed on the MSDS are on the list.
  Some of the CAS RN listed on the MSDS are on the list.
  No CAS RN listed on the MSDS are on the list.

# Summary

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- Measuring and demonstrating performance is going to drive EHS activities
  - Government regulations will establish the baselines, but catalysts will include voluntary industry initiatives and government regulations
- Job descriptions of EHS professionals will evolve to support performance driven approach
  - Focus on strategic, value added tasks/activities
  - Outsource routine tasks
- Cover the basics
  - Regulatory Content; Supplier Data; Chemical Inventories
- Take a lifecycle approach to improve EHS performance
  - Look for regulatory content to enable decision making; not just regulatory text
  - Look to applications/tools that enable workflow; tasks
- Evaluate, plan and budget now using the framework of content, applications and task management to solve basic EHS compliance
  - Significantly reduce the tactical EHS functions
  - Free-up resources for the anticipated strategic focus
- Look across the supply chain – both vendors and customers - to improve your EHS performance

# Questions?



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