Chemical Management
Why and How
Questions for the Group?

1. Who in this room has a good MSDS management system?

2. Who has a chemical management system?

3. What’s the difference?
What is the best way to manage chemicals?
DO NOT HAVE THEM
Why: The Importance of Chemical Management

- Food Safety
- Environmental Reasons
- People Safety
- Sustainability
- It’s the right thing to do
Food Safety

- *Misuse or accidents with chemicals can:*
  - contaminate food products and food surfaces
  - be harmful to the people who eat our product
Environmental Reasons

• Misuse or accidents with chemicals have caused:
  – Contamination – requiring remediation
  – Property damage -
  – Wastewater chemical (acid) misuse - sewer system replacement, fines
  – Environmental harm (quaternary ammonium) – fish kills, wastewater upsets, public outcry, well contamination
  – pH violations at the wastewater plant and wastewater upsets
    • liquid smoke, cleaning chemicals, sanitizers, corn syrup
  – Chemical related violations: opacity, pH, haz waste, stormwater
Risk and Liability Associated with Chemical Use

Regulatory requirements

Environmental

- RCRA/Solid Waste
- Clean Water Act
- Clean Air Act
- EPCRA/Sara Title III
- FIFRA
- TSCA
- Others? (DHS, Prop 65.)
Without chemicals………! 

- No Hazardous Waste
- No Tier II Reports
- No Stormwater Permit
- Air Emissions easier
- Wastewater exceedances???
People Safety

- Misuse or accidents with chemicals can harm people by:
  - burns
  - skin irritations
  - eye irritations
  - respiratory irritations
  - slips/trip/falls
OSHA’s Hazard Communication Standard

To ensure that employers and employees know about work hazards and how to protect themselves so that the incidence of illnesses and injuries due to hazardous chemicals is reduced.
People Safety programs that apply to us involving chemicals

- Hazcom
- PSM
- Methylene Chloride
- Hazwoper
- Chrome standard
- Allergens (flour, cinnamon, cardboard dust, egg protein, maltodextrin, others?)

Without chemicals………..!

- No or low worker exposure
- No or lower MSDS Management
- No Monitoring required for chrome, methylene chloride, others
“Chemical” Pictures
What is a Chemical Management System?

1. A Chemical Management System is a process that ensures proper compliance with safety, environmental and food safety policy. The process includes:
   2. A comprehensive chemical inventory,
   3. A system to manage Material Safety Data Sheets (MSDS)
   4. An approval process for introducing new chemicals to the site
   5. On-site chemical management
   6. Proper waste disposal.

Employee training on all aspects of the program is critical to its success.
Goals of a Chemical Management System

- Improve compliance with OSHA and environmental regulations by improving systems for:
  - Regulatory compliance
  - MSDS management
  - Regulatory reporting of chemicals
  - Purchasing, handling, and storage of chemicals and wastes
  - Tracking chemicals and byproducts
  - Manifesting and disposal or recycling of waste
  - Monitoring of emissions, discharges or releases resulting from chemical usage
  - Product environmental compliance
Components of a Chemical Management System

1. Chemical review and approval system
2. MSDS management and data evaluation
3. Chemical inventory
4. Chemical labeling - LOCKDOWN (STOPLIGHT)
5. A SYSTEM everyone in the plant understands and owns
1. Chemical Review and Approval System:

A program or process for approving use of a chemical at the facility prior to the chemical entering the site.

**Purpose of the system:**

- Allows facility to make informed decision about whether to bring the chemical on site, and keep out chemicals it does not want.

**Scope of the program:**

- Review of all chemicals or mixtures coming onto site.
- Includes review of chemicals used by contractors.
What needs to be reviewed?

- Environmental Review
  - Regulatory requirements
  - Regulatory classifications
  - Handling Issues
  - Product environmental compliance
  - Chemical end fate destination

- Emergency Release
  - Concerns/reporting requirements review

- Safety Review
  - OSHA requirements
  - Toxicity issues
  - Handling issues

- Quality assurance review, where appropriate
  - USDA requirements
  - FDA requirements

CHEMICAL LOCKDOWN – NO GROWTH in INVENTORIES
Components of a Chemical Management System

1. Chemical Review and Approval System, continued

- Chemical substitution
  - prior chemicals used
  - cost/benefits
- Chemical composition for mixtures
- Chemical properties
- Others?
**STOPLIGHT Program – Chemical 5S**

- Pre-assessment and assignment of color rating of all new non-food compounds
  - Obtaining and maintaining all appropriate records on the compounds
  - Training team members on proper usage within the facility

- The emphasis is to make sure we all see that lubricants, solvents, cleaners, etc. are being properly used in all plant areas.

- Color Coding: All non-food chemicals must have a colored sticker/coding indicating if they are ok to use in production areas.
DEFINITION OF 5S/STOPLIGHT - OVERVIEW

- **Sort**
  - Eliminate non-essential chemicals from workplace

- **Straighten**
  - Organize necessary Chemicals
  - Assign to optimal area in workplace
  - Clean the workplace and equipment
  - Identify regular activities required to maintain clean condition

- **Sanitize**
  - Document new procedures

- **Standardize**
  - Develop audit / monitoring system to ensure incorporation of 5S culture

- **Sustain**
FIVE S’s: “A Place for Everything, and Everything in its Place”

- Sort
- Straighten
- Sanitize
- Standardize
- Sustain

5 S Checklist
- Floors clean
- Tools stored
- Gages clean
- Std WIP
- Safety Guards
How & Where?

- Departments obtain accurate list of chemicals.
- Training departments to get rid of, consolidate, be aware of chemicals. Decide on your “Greens” and work back
- Supervisors & managers submit consolidated list to designated person at the plant.
- Quality, environmental & safety begin the plant specific approval process.
- Track usages and number of chemicals
- Develop this **system** so everyone manages it
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<th>MSDS File #</th>
<th>Manufacturer</th>
<th>Product Name / Trade Name</th>
<th>Color Code</th>
<th>Medical</th>
<th>Parts Room</th>
<th>Production</th>
<th>Refrigeration</th>
<th>North Shore</th>
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<th>Boiler Rm</th>
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Plant Activities to Facilitate CMS Implementation

1. Plant management commitment and support
2. Formation of Chemical Management Team
3. Implementation of thorough MSDS Management System
4. Person designated to maintain MSDS's
5. Dedicated employees (man-hours)
6. Implementation of Chemical Approval/Purchasing System
7. Person designated as final sign-off
What is the best way to manage chemicals?
DO NOT HAVE THEM
THANK YOU!

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