

HAZARD COMMUNICATION ORIENTATION WORKSHOP



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Left Hand Brewing Company

Why is a Hazcom program vital ?

- ▣ With few exceptions, you are required by law to comply.
- ▣ Organizations both large and small rely on their employees to do their jobs. If your employees are on a work restriction or home watching soap operas they are not doing their job... you are... then who's doing yours?
- ▣ Hazcom allows your employees to be proactive and engaged in their own safety.
 - Personal responsibility and accountability should align with your POV.
- ▣ You're a good person, you want your team members to be safe and be able to return to their families at the end of their shift.
- ▣ **Establishes a culture of safety early.**

Culture of Safety

- ▣ Establishing this is the biggest challenge and best guarantee of success.
 - Rules and program count for little if you don't...
 - ▣ **Lead it! Enforce it! Document It!**
- ▣ Adherence to a safety standard separates the professionals from the amateurs.
- ▣ Present Hazcom on an employee's first day on the job before you let them on the production floor.



***YOUR BREWERY'S* HAZARD
COMMUNICATION PROGRAM**

(HAZCOM)

Abridged Version

What Is HAZCOM?

- ▣ Hazard communication is the section of the Occupational Safety and Health Act that requires:
 - chemical manufacturers and importers to determine the hazards of the substances they are producing and importing, and communicate those hazard to their customers
 - Employers to provide training and communicate those hazards to employees, and provide protection from those hazards
 - Employees to understand the hazards of the chemicals they may be exposed to and follow all safety requirements in regards to those hazards
- ▣ The requirements of HAZCOM are laid out in 29CFR1910.1200

What Is HAZCOM?

OR to say it simply:

- ▣ You have a right to know the chemical hazards you are exposed to.
- ▣ You have an obligation to obey all safety requirements to minimize those hazards.
- ▣ *Your company* has an obligation to provide you with that knowledge, and to act to minimize those hazards

Why Does HAZCOM Matter?

Hazardous Substances are used in all of the following facets of brewery operations:

Grain Handling

CIP/ SIP

Brewing

Fermentation

Transferring Beer

Conditioning Beer

Clarification of Beer

Packaging Beer

Keg/ Cask Cleaning

Dock Ops

Cooler and Warehouse Ops

Draft Line Cleaning

Draft Beer Dispensing

Cleaning Glassware

Equipment Cleaning

Equipment Maintenance

Building Maintenance

Vehicle Maintenance

Why Does HAZCOM Matter?

Hazardous Substances are used in all of the following facets of brewery operations:

Almost Every
Thing We Do!

Why Does HAZCOM Matter?

If you don't understand the hazards of the world around you, you can't avoid them and do your job safely!



HAZCOM Training overview

- ▣ How do we communicate Hazards?
- ▣ What hazards are present?
- ▣ How do we protect ourselves from those hazards?
- ▣ How do we detect the release or presence of hazardous chemicals in the work place?

How do we communicate hazards?

- ▣ MSDS- now converting to SDS
- ▣ Labeling of Primary and Secondary Containers
- ▣ Employee Training
- ▣ Signage and Placards



How do we communicate hazards?

MSDS / SDS

- ▣ An MSDS is an SDS!
- ▣ OSHA has updated regulations to require compliance with the Globally Harmonized Standard. Similar information, different format
- ▣ OSHA has required that all MSDS's be compliant by June of 2015

How do we communicate hazards?

An SDS has 16 sections, defined by OSHA. They are

1. Identification
2. Hazards identification
3. Composition/ information on ingredients
4. First Aid Measures
5. Fire Fighting Measures
6. Accidental Release Measures
7. Handling and Cleanup
8. Exposure Controls. Personal Protection
9. Physical and Chemical Properties
10. Stability and reactivity
11. Toxicological Information
12. Ecological Information
13. Disposal Considerations
14. Transport information
15. Regulatory Information
16. Other information including date of preparation and last revision

How do we communicate hazards?

Let's review an actual SDS for a chemical we use every day at the brewery:

Pick one of the most common chemical hazards and go through each section. Be sure to highlight the kinds of information and where employees can find it.

LOEFFLER CHEMICAL CORPORATION
200 GREAT SOUTHWEST PARKWAY • ATLANTA, GEORGIA 30336
TELEPHONE: 1-800-769-5020 • (404) 629-0999 • TELEFAX: (404) 629-0699
www.loefflerchemical.com • E-mail: info@loefflerchemical.com



SAFETY DATA SHEET

SECTION 01 - IDENTIFICATION

PRODUCT NAME: LERASEPT™ PAA
PRODUCT CODE: 4004
CAS CHEMICAL NAME: Mixture
SYNONYMS: Peroacetic Acid/Peroxyacetic Acid
INTENDED USAGE: Cleaner/Bleaching Agent/Oxidizer
COMPANY: Loeffler Chemical Corporation
200 Great Southwest Parkway
Atlanta, Georgia 30336 - USA

CHEMICAL EMERGENCY RESPONSE NUMBER:
SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT
CALL CHEMTREC (24hrs): 1-800-424-9300
Reference Code: CCN13310

SECTION 02 - HAZARDS IDENTIFICATION

CLASSIFICATIONS:

Acute Toxicity: Category 4
Corrosive to skin: Category 1
Eye Damage: Category 1
Respiratory Sensitizer: Category 1b
Specific Target Organ Toxicity (single exposure): Category 3
Specific Target Organ Toxicity (repeated exposure): Category 2
Aspiration Hazard: Category 1
Aquatic Toxicity: Category 1

PICTOGRAMS:



SIGNAL WORD:

DANGER

HAZARD STATEMENT:

Human health hazards : Harmful by inhalation, in contact with skin and if swallowed.
Causes severe burns.
Irritating to respiratory system.

How do we communicate hazards?

**The complete list of all hazardous substances used in the workplace along with all SDS / MSDS sheets are available electronically at
All Files (LHBserver)/MSDS**

Individual SDS / MSDS sheets for specific areas may also be found in Binders located on or near first aid kits.

How do we communicate hazards?

Labeling of primary and secondary containers

- ▣ All primary containers must have the manufacturer's label, or be rejected at the dock
- ▣ Missing / Damaged/ Illegible Labels must be reported to a supervisor immediately
- ▣ Secondary Container must be labeled with at least the name of the chemical, and the original Label and MSDS/SDS must be available

Let's Look at a GHS compliant Label

The Basic Parts of A GHS-Compliant Label

1 →

n-Propyl Alcohol

UN No. 1274

CAS No. 71-23-8

2 →

DANGER

3 →

Highly flammable liquid and vapor. Causes serious eye damage.
May cause drowsiness and dizziness.

4 →

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing fumes/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing.

5 →

Fill Weight: 18.65 lbs.

Lot Number: B56754434

Gross Weight: 20 lbs.

Fill Date: 6/21/2013

Expiration Date: 6/21/2020

Acme Chemical Company • 711 Roadrunner St. • Chicago, IL 60601 USA • www.acmechem.com • 123-444-5567



1. **Product Identifier** - Should match the product identifier on the Safety Data Sheet.
2. **Signal Word** - Either use "Danger" (severe) or "Warning" (less severe)
3. **Hazard Statements** - A phrase assigned to a hazard class that describes the nature of the product's hazards
4. **Precautionary Statements** - Describes recommended measures to minimize or prevent adverse effects resulting from exposure.
5. **Supplier Identification** - The name, address and telephone number of the manufacturer or supplier.
6. **Pictograms** - Graphical symbols intended to convey specific hazard information visually.

How do we communicate hazards?

<p>Health Hazard</p>  <ul style="list-style-type: none">• Carcinogen• Mutagenicity• Reproductive Toxicity• Respiratory Sensitizer• Target Organ Toxicity• Aspiration Toxicity	<p>Flame</p>  <ul style="list-style-type: none">• Flammables• Pyrophorics• Self-Heating• Emits Flammable Gas• Self-Reactives• Organic Peroxides	<p>Exclamation Mark</p>  <ul style="list-style-type: none">• Irritant (skin and eye)• Skin Sensitizer• Acute Toxicity (harmful)• Narcotic Effects• Respiratory Tract Irritant• Hazardous to Ozone Layer (Non Mandatory)
<p>Gas Cylinder</p>  <ul style="list-style-type: none">• Gases under Pressure	<p>Corrosion</p>  <ul style="list-style-type: none">• Skin Corrosion/ burns• Eye Damage• Corrosive to Metals	<p>Exploding Bomb</p>  <ul style="list-style-type: none">• Explosives• <u>Self-Reactives</u>• Organic Peroxides
<p>Flame over Circle</p>  <ul style="list-style-type: none">• Oxidizers	<p>Environment *(Non Mandatory)</p>  <ul style="list-style-type: none">• Aquatic Toxicity	<p>Skull and Crossbones</p>  <ul style="list-style-type: none">• Acute Toxicity (fatal or toxic)

What Are the Hazards in our Workplace?

Caustic Chemicals

- ▣ High pH (Bases)
- ▣ Corrosive to skin, eyes mucus membranes
- ▣ Mists are dangerous to respiratory tract
- ▣ Ingestion is harmful or fatal
- ▣ Reactive with soft metals (aluminum, zinc, etc) as well as acids and oxidizers
- ▣ Give examples of what you have in your workplace

How do we protect ourselves for these hazards?

Caustic Chemicals

- ▣ Corrosives PPE
 - Full strength: safety glasses, face shield, rubber apron, boots, brewers gloves
 - In solution: safety glasses, boots, brewers gloves
- ▣ Reactivity
 - Proper storage: On drip tray, separated from acids, oxidizers
 - Proper containers: plastic, stainless steel

What Are the Hazards in our Workplace?

Chlorinated Chemicals

- ▣ Contact with acids, iron, copper, ammonium compounds and other compounds can produce chlorine gas, which may be fatal
- ▣ Present list of the examples in your brewery.

How do we protect ourselves for these hazards?

Chlorinated Chemicals

- ▣ PPE
 - Full strength: safety glasses, face shield, rubber apron, boots, brewers gloves
 - In solution: safety glasses, boots, brewers gloves

- ▣ Proper Storage: Away from Acids and oxidizers
- ▣ Process Controls: Never mix with any acid or oxidizer

What Are the Hazards in our Workplace?

Acids

- ❑ Low pH (acids)
- ❑ Corrosive to skin, eyes mucus membranes
- ❑ Mists are dangerous to respiratory tract
- ❑ Ingestion is harmful or fatal
- ❑ Reactive with soft metals (aluminum, zinc, etc) as well as bases, and chlorinated chemicals.
- ❑ Present list of acids used in your brewery.

How do we protect ourselves for these hazards?

Acids

- ▣ Corrosives PPE
 - Full Strength: safety glasses, face shield, rubber apron, boots, brewers gloves
 - In solution: safety glasses, boots, brewers gloves
- ▣ Reactivity
 - Proper storage: on drip tray, separate from bases, chlorinated chemicals
 - Proper containers: plastic, stainless steel

What Are the Hazards in our Workplace?

Oxidizers

- ❑ Oxidizers can react violently with organics, metals and particulate to produce oxygen and can lead to self combustion
- ❑ Heating Oxidizers can produce oxygen, which can lower the flash point of flammables and combustibles
- ❑ Heating Oxidizers can lead to large production of Oxygen and steam, rapidly increasing the pressure of containers
- ❑ Present list of oxidizers used in your brewery.

How do we protect ourselves for these hazards?

Oxidizers

- ▣ Reactivity: Proper storage, avoid contamination by organics, metals, and other substances. Never add unused chemical back to the original container
- ▣ Pressure: Never put into a sealed container, primary containers are self venting. Store in cool, well ventilated areas to avoid buildup of fumes.

What Are the Hazards in our Workplace?

Compressed Gasses

- ❑ Compressed gas cylinders can fall over, shearing off the valve and creating a rocket
- ❑ Rapid decompression of a compressed gas can create deadly explosive force
- ❑ CO₂, N₂, and argon are simple asphyxiates
- ❑ Natural gas and propane are flammable
- ❑ Natural gas and propane are toxic if inhaled in sufficient quantities
- ❑ Contact with liquefied gasses will cause frostbite
- ❑ Provide list of compressed gases in your brewery.

How do we protect ourselves for these hazards?

Compressed Gasses

- ▣ Cylinders: Must always be chained securely and stored with a valve cover on
- ▣ Explosive decompression: All vessels must be fitted with a pressure relief valve. Never fill a vessel beyond it's pressure rating.



How do we protect ourselves for these hazards?

Compressed Gasses/ Simple Asphyxiation

- ▣ Adequate ventilation in areas prone to the buildup of CO₂
- ▣ CO₂ monitors in all areas where CO₂ buildup is expected
- ▣ The presence of CO₂ is detectable by smell
- ▣ Inadequate oxygen creates hypoxia, which causes headache, dizziness, and disorientation.

How do we protect ourselves for these hazards?

Compressed Gasses

- ▣ Flammability: Flammable gases have a distinct rotten egg odor added to allow detection at very low concentration
- ▣ Frost Bite: Avoid contact with liquefied gases.

What Are the Hazards in our Workplace?

Dust Hazards

- ▣ Most granulated materials can create dust which is an irritant
- ▣ Long term exposure to high levels of silica dusts can cause silicosis and other respiratory diseases
- ▣ Grain dust can be explosive
- ▣ Present list of dust hazards in your brewery.

How do we protect ourselves for these hazards?

Dust Hazards

- ▣ Irritant Dust: Avoid the generation of dust
- ▣ Silicates (DE): Testing by an industrial hygienist has shown that exposure levels during filtration are not hazardous. However the optional use of an N-95 half mask respirator is allowed
- ▣ Explosive Dust: Keep all grain handling areas clean, avoid dust generation, keep ignition sources away from grain handling areas.
- ▣ *Environmental testing will determine if you need a respirator program.*

What Are the Hazards in our Workplace?

Organic Solvents

- ❑ Inhalation may cause intoxication, respiratory damage, and long term nervous system damage
- ❑ Ingestion may be harmful or fatal
- ❑ Skin and eye contact may cause irritation
- ❑ Flammable

What Are the Hazards in our Workplace? Organic Solvents

- ▣ Ink Jet Dater Fluids
- ▣ Isopropanol
- ▣ Lacquer Thinner

How do we protect ourselves for these hazards?

Organic Solvents

- ▣ Inhalation: Use only in a well ventilated area
- ▣ Ingestion: avoid contact and ingestion
- ▣ Skin and Eye Irritant: Always wear safety glasses and gloves when handling
- ▣ Flammability: Avoid ignition sources, store in a flammable liquids cabinet.

How do we protect ourselves from hazards?

PPE

- ▣ Safety Glasses
 - Required in all production areas, all the time
 - Inspect for fit, and condition
- ▣ Face Shield- used with un- diluted chemicals
- ▣ Boots- check for holes (Glass!)
- ▣ Gloves- check for holes (T/C pinch)
- ▣ Rubber Apron- check for holes and serviceability
- ▣ N95 Half Mask- provided for comfort only
- ▣ *Discuss use and inspection with all these items*



How do we detect hazards

Discuss how to detect the presence of hazardous chemicals in the brewery

- ▣ Sight: Visible spills, chemical residue
- ▣ Smell: Chemical/ CO₂ smells
- ▣ Sound: Leaking pipes, alarms, dripping vessels etc.
- ▣ Experience and identifying what is not normal

After the Written Program

- ▣ Tour the facility together
 - Visit First Aid stations and available SDS reference
 - Visit chemical storage areas
 - ▣ Show point of use containers
 - Visit eyewash stations and chemical showers
 - ▣ Demonstrate their use
 - Find CO₂- smell it, feel it
 - Give them the benefit of your experience and knowledge

Thank you!- Questions?

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