GOVERNMENT CHEMIST LABORATORY AUTHORY (GCLA) NORTHERN ZONE OFFICE

HAZARD IDENTIFICATION AND HAZCOM

Presented by: Michael S. Benarnard

Venue: Mount Meru Hotel

Introduction

- **What is a Chemical Hazard?**
  - refer to any chemical that has the potential to cause **harm to people, animals, or the environment, in various forms, gas, liquid or solid**
  - Chemical hazards can be **classified based on their properties**, such as flammability, explosiveness, reactivity, corrositivity, and toxicity (health and physical)

- **Hazard communication**

  - this refers to the information provided to any employees who have the potential of being exposed to a hazardous chemical “under normal condition of use or in a foreseeable emergency.”

- A **hazardous chemical** can be a solid, liquid or gas. It can be a pure substance, consisting of one ingredient, or a mixture of substances

Chemical hazards....

- Chemical hazards can be **classified based on their properties**, such as flammability, explosiveness, reactivity, corrositivity, and toxicity (health and physicochemical)

  i) Physicochemical hazard

  ii) Health hazard

i) Physicochemical Hazards

- Physicochemical hazard are chemical substance that pose risks to workers other than health risks, as they do not occur as a consequence of the biological interaction of a chemical with people. There are five main classes of physicochemical hazard namely Explosive, Flammable, Oxidising and Corrosive

ii) Health Hazards

- Health hazards are chemicals that can have negative impacts on our short- or long-term health and exposure occur through touch, inhalation and ingestion:
  - Short-term (acute) health problems
  - Long term (chronic) health problems

Health Hazards…

- a health hazards chemical is the one which:
  - Is toxic
  - Is corrosive to the skin or eyes
  - Is a respiratory sensitizer
  - May cause cancer, birth defects or reproductive issues
  - Attacks specific organs
  - Is harmful or deadly when inhaled

The chemical hazards identification and HazCom Chain

Haz identification starts at the chemical manufacturing plant:

- Chemists classify and categorize the chemical
- Safety data sheets and labels are created
- Safety data sheets and labels are passed along to each company and person who handles the chemical

HazCom

What You Need To Know

The HazCom……

- Gives you the right to know about:
  - Chemicals that are used in your workplace
  - Possible dangers you could be exposed to
  - How to protect yourself and others

Who is covered

- Hazard Communication applies to general industry, chemical manufacturers, importers, employers, and employees exposed to chemical hazards.
- The Hazard Communication is based on a simple concept--that employees have both a need and a right to know the hazards and identities of the chemicals they are exposed to when working
- They also need to know what protective measures are available to prevent adverse effects from occurring

Hazard Communications

- Employers are required to provide information to their employees about the hazardous chemicals to which they are exposed using:
  - A hazard communication program
  - labels and other forms of warnings
  - material safety data sheets (MSDS)
  - information and training

Hazcom Requirements

1. Create a hazardous chemical inventory
2. Ensure each chemical has a safety data sheet
3. Ensure each chemical container is properly labeled
4. Create and implement an employee training program
5. Develop a written HazCom program

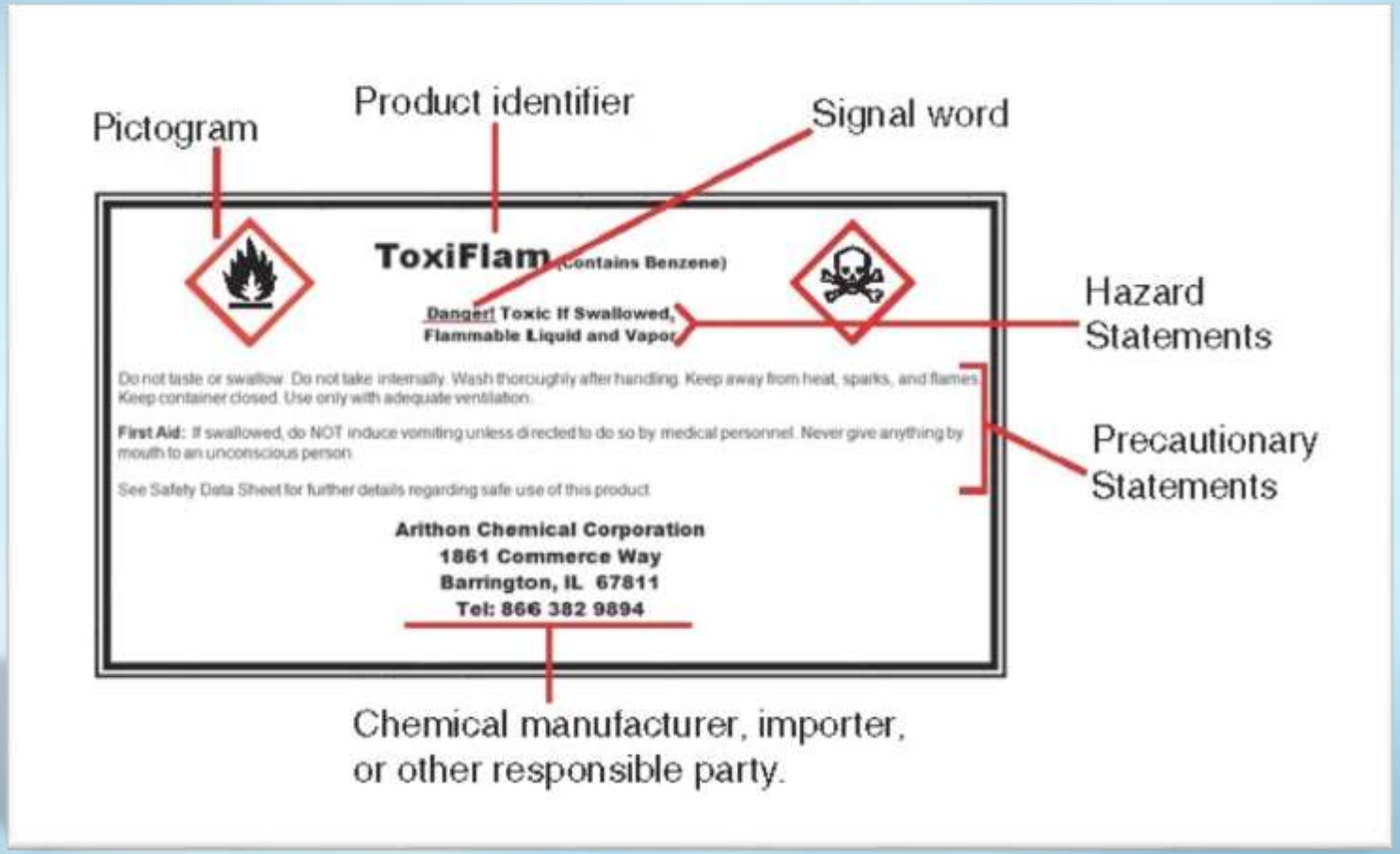
1. Chemical Inventory

- When a chemical arrives at your company, hazard information is passed along with it.
- This information is added to your company's chemical inventory.
- each company keep an inventory on all its hazardous chemicals.

2. Safety Data Sheets

- Explain what you need to know to safely work with a chemical
- Must have the GHS-specified 16 section format
- Must include certain types of information in each section
- Help ensure that employers and employees understand the chemical
- Must be readily accessible to employees in the work area during each work shift

3. Labels, Tags and Markings



Labels, Tags and Markings.....

- The employer must ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with the following:
  - **Identity of the hazardous chemical**
  - **Appropriate hazard warnings**
- This above labeling information is to be provided by the manufacturer so the employer must ensure that the original labels from the manufacturer are on all containers and remain legible

Pictograms


Globally Harmonized System Pictograms
Flame Over Circle
• Oxidizers
Flame
• Flammables
• Self Reactives
• Pyrophorics
• Self-Heating
• Emits Flammable Gas
• Organic Peroxides
Exploding Bomb
• Explosives
• Self Reactives
• Organic Peroxides
Skull and Crossbones
• Acute Toxicity (severe)
Corrosives
• Corrosives
Gas Cylinder
• Gases Under Pressure
Health Hazard
• Carcinogen
• Respiratory Sensitizer
• Reproductive Toxicity
• Target Organ Toxicity
• Mutagenicity
• Aspiration Toxicity
Environment
• Acute Aquatic Toxicity
• Chronic Aquatic Toxicity
Exclamation Mark
• Irritant
• Dermal Sensitizer
• Acute Toxicity (harmful)
• Narcotic Effects
• Respiratory Tract Irritant

Re-Labeling

- Re-labeling can take place when:
  - A large quantity of a chemical is broken down into smaller ones to use in different areas.

Re-Labeling, continued…

- If you ever find a container with no label, or an illegible label, contact your supervisor.
- Never use a chemical from an unlabeled container.

4. Training & Information

- Employers must provide employees information and training on hazardous chemicals in their work area:
  - At the time of their initial assignment
  - Whenever a new physical or health hazard the employees have not previously been trained about is introduced into their work area
- Employers must inform employees:
  - Any operations in their work area where hazardous chemicals are present;
  - The location and availability of the written hazard communication program
- Employee training shall include **at least:**
  - The means to detect the presence or release of a hazardous chemical in the work area
  - The physical and health hazards of chemicals in the work area
  - Measures employees can take to protect themselves

5. Written HazCom Program

- Employers must develop a written program that covers at least:
  - Labels and other forms of warnings
  - Material Safety Data Sheets
  - Employee Information and Training
- Employers must develop a written program that covers at least:
  - A list of the hazardous chemicals known to be present at the facility along with MSDS's for each chemical
  - The methods the employer will use to inform employees of the hazards non-routine tasks
  - The hazards of chemicals in unlabeled pipes/containers
- Where work is carried out at more than one location, the program may be kept at the main location

Staying safe

- Simple actions you can take to stay safe when working with chemicals:
  - Remove all jewelry
  - Use eye and face protection (PPES)
  - After using a chemical, wash your hands
  - Clean and store safety gear properly
- Employers must only do the following:
  - Ensure labels on incoming chemicals are not defaced or removed
  - Maintain copies of any material safety data sheets that are received with incoming shipments
  - Obtain MSDS for shipments received without MSDS

Staying safe, continued…

- Other simple actions:
  - Know where the nearest eyewash station or emergency shower is located
  - Dispose of hazardous chemicals properly
  - Know how to deal with spills and leaks
  - Know how to respond in an emergency

Exposure = Dose x Duration

- **chemical risks** refer to the likelihood of harm due to exposure to a chemical hazard.
- **Risk assessments** are thus conducted to determine the likelihood and severity of damage associated with exposure to chemicals

ASANTENI SANA