

# Hazardous Materials and Chemicals

## I PURPOSE

To ensure that controls are in place to minimize the risk to the lowest practical level of adverse health and safety effects to employees, customers, contractors and the public, from exposure to hazardous materials and chemicals used or produced as part of the COMPANY Operations.

## 2 SCOPE

This procedure applies to all functional areas, operations, offices, including employees, vendors, visitors and contractors within the scope of the Integrated Management System (IMS).

## 3 DEFINITIONS AND ACRONYMS

### Definitions

**Dangerous Goods** are also called hazardous material or HazMat. The term refers to the international transportation of hazardous materials (Dangerous Goods) by sea, air, road, rail and waterways. Applicable regulations shall be followed.

**Hazardous Chemical** is any chemical that can present a physical or health hazard to employees.

**Hazardous Material (HazMat)** is any material that poses a threat to people's health, safety, property or public welfare. This term includes hazardous chemicals, hazardous substances, and hazardous wastes regulated by the Occupational Safety and Health Administration (OSHA), Mine Safety and Health Administration (MSHA), Department of Transportation (DOT), Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA).

**Hazardous Substance** is any substance regulated by the Consumer Product Safety Commission (CPSC) under the Federal Hazardous Substances Act or the EPA under the Comprehensive Environmental Response, Compensation, and Liability Act.

**Hazardous Wastes** is any chemical that is regulated by EPA under Solid Waste Disposal Act as amended by the Resource, Conservation and Recovery Act.

**Hazmat and Chemical Inventory** is an inventory of hazardous materials and chemicals used at the site.

**Health Risk** is the potential impact on a person's continuing physical, emotional, mental and metabolic ability to function efficiently.

**Material Safety Data Sheet** is a standardized document containing information on the identity of hazardous chemicals and other hazards substances including health and physical hazards, exposure limits and precautions, first aid information, spill and clean up, PPE requirements, etc.

**NFPA and HMIS Labels** HMIS and NFPA labeling systems appear quite similar. Both have four sections colored blue, red, yellow and white. These systems utilize colors, numbers and symbols to convey the hazards of chemicals used in the workplace.

- a HMIS uses colored bars and attempts to convey full health warning information to all employees
- b NFPA uses colored diamonds and is meant primarily for fire fighters and other emergency responders

**Note:** HMIS is not intended for emergency circumstances.

**Property Risk** is the potential losses to property or to the company's production process.

**Public Welfare Risk** is the potential losses to public or private property, or to the ecosystem.

**Safety Risk** is any harmful impact that could be caused by hazardous materials and chemicals.

**Site** refers to any COMPANY facility.

#### Acronyms

<b>CPSC</b>	Consumer Product Safety Commission
<b>DOT</b>	Department of Transportation
<b>EPA</b>	Environmental Protection Agency
<b>HazMat</b>	Hazardous Material
<b>HMR</b>	HSLP Management Representative
<b>HSLP</b>	Health, Safety and Loss Prevention
<b>IMS</b>	Integrated Management System
<b>MSDS</b>	Material Safety Data Sheet
<b>MSHA</b>	Mine Safety and Health Administration
<b>NFPA</b>	National Fire Protection Agency
<b>NRC</b>	Nuclear Regulatory Commission
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PPE</b>	Personal Protective Equipment

## 4 ROLES AND RESPONSIBILITIES

### Document Owner

HMR

### Responsible Roles and Position-Holders

**Contractors/Vendors** are businesses performing a service for the COMPANY. They are responsible for ensuring their employees working on COMPANY sites understand and comply with the requirements as outlined in this procedure.

**All Employees** in any position whether COMPANY or contracted employees working on any COMPANY site are responsible for complying with the requirements as outlined in this procedure.

**Visitors** are anyone not employed by COMPANY in any capacity but are traveling or touring on a COMPANY site. They are responsible for complying with the requirements as outlined in this procedure.

**HSLP** is any COMPANY employee working under and including the Regional Director of HSLP. They are responsible for periodically auditing for compliance to this procedure.

**A Supervisor/Foreman or Designee** can be a COMPANY employee or a contractor/vendor working or traveling on any COMPANY site. They are responsible for enforcement of all requirements, rules, and established guidelines as outlined in this procedure. They ensure personnel are provided with the necessary training and proper instructions for this procedure.

## 5 DIRECTION

All employees, vendors, contractors, and visitors traveling/working on site shall comply with and ensure personnel accountable to them comply with the following requirements of this procedure.

### **All Departments**

Ensure employees, contractors, and, their subcontractors and employees, specialized companies and visitors under the responsibility of the department.

Follow all guidelines for use, handling, storage and transport of HazMat & Chemicals specified in this procedure.

Receive training with respect to any HazMat & Chemicals to which they could become exposed during work.

Determine adequate availability of MSDS hard copies for each HazMat & Chemicals used in the work area.

### **Employees**

Do not handle, work with or use any HazMat & Chemicals if you do not have adequate training.

Do not handle or use any HazMat & Chemicals that have not been properly labeled.

Review the MSDS of the HazMat & Chemicals used in the work area.

Wear the proper personal protective equipment (PPE) when working with HazMat & Chemicals.

## **Environmental Department**

For new HazMat & Chemical purchases fill in the appropriate section of the New Product Review Form.

Develop, implement and maintain a Solid Hazardous Waste Management Plan including procedures to label, handle, store, shipping and dispose hazardous wastes.

Develop, implement and maintain a Spill Prevention & Countermeasure Control (SPCC) Plan for COMPANY facilities.

Perform risk assessments of hazardous wastes transported on or off site.

Ensure all hazardous wastes are labeled, properly stored, and delivered in proper containers and safe packaging for final disposal.

Keep updated records of type, storage locations, quantities, permits and shipping manifests for all hazardous wastes.

Assist the shipper/handler when needed, to evaluate treatment procedures for final disposal of hazardous wastes.

Inspect hazardous waste storage areas, check disposal verification, and keep inspections records.

Perform an external assessment, by designated and authorized professionals, of hazardous waste practices including transportation providers and storage areas every three (3) years.

## **HSLP Department**

Maintain an updated Chemical Inventory List and MSDS's for all HazMat & Chemicals used at each COMPANY operation.

For new HazMat & Chemical purchases complete required review section of New Product Review Form.

For extreme and high risks ensure that proper controls are defined prior to the chemical being permitted on site.

Perform a technical review, risk assessment, and identified product alternatives of new HazMat & Chemicals.

Conduct periodic inspections to verify that HazMat & Chemicals are properly transported, used, labeled, and stored in the workplace.

Coordinate and insure the quality of HazMat & Chemical training at the COMPANY.

Provide employees HazMat & Chemicals awareness training based on exposure potential and type of work.

Keep individual records showing the date and type of training given to each employee

Develop and implement HazMat practices such as storage, containment, loading/unloading, compatibility, etc.

Conduct risk assessments for transportation and storage of HazMat & Chemicals.

Maintain an Emergency Response Plan for responding to HazMat & Chemical emergencies.

Implement training and equip emergency response teams.

Perform an annual internal review and external assessments by qualified professionals. Also, perform a detailed audit of HazMat & Chemicals Control not less than once every 3 years.

### **Material Management**

Only purchase HazMat & Chemicals which have a New Product Review Form, approved by the appropriate departments.

Only transport HazMat & Chemicals in accordance with the COMPANY Transportation of Hazardous Materials Procedure.

Keep up to date information on HazMat quantity (transfers in, transfers out), balances and location of HazMat & Chemicals.

Maintain a current register of the COMPANY's HazMat & Chemicals manufacturers, vendors, distributors, and transporters.

Survey, control, inspect and evaluate transportation service providers to ensure they comply with the requirements of this standard.

Perform annual audits of HazMat & Chemicals transportation providers and storage practices.

Inspect all HazMat & Chemicals to ensure they are delivered in proper containers.

Inspect and maintain all storage HazMat & Chemicals facilities in accordance with the COMPANY Storage of Hazardous Materials Procedure.

Develop a stock rotation system to use and store all HazMat and Chemicals based on the principle: "oldest stock used first".

### **Supervisors**

Before beginning any jobs involving the use of HazMat and Chemicals, insure employees have been trained in all hazards to which they might be exposed, providing the following information:

- a** Specific chemical dangers involving the task.
- b** Personal Protective Equipment to be worn.
- c** Safety measures to be adopted.
- d** Ventilation and monitoring of the area during the task.
- e** Special respiratory protection, if needed.
- f** Presence of a back up person.
- g** Emergency Procedures.
- h** First Aid.

Emergency contact numbers must be posted in a visible place where HazMat & Chemicals are used.

Train employees whenever a new HazMat and Chemicals are introduced into the work area.

Ensure that employees follow safe practices and procedures when working with HazMat and Chemicals.

If new HazMat & Chemicals are to be purchased, complete a New Product Review Form. Forward the form to Loss Prevention, Environmental, and Materials department for processing.

HazMat & Chemicals generated at the COMPANY, including hazardous substances and hazardous wastes, that need to be shipped by the COMPANY shall require prior to shipping:

- a A completed Request for Shipping Form
- b Assistance from the appropriate Environmental Representative.

If any equipment containing radioactive material is to be transported or used by the COMPANY, insure compliance in accordance with the COMPANY Handling of Radioactive Material Procedure.

- a Ensure that all HazMat & Chemicals are properly labeled before being stored, used, released, or transported.

### **General Guidelines**

No new HazMat or Chemicals (includes hazardous wastes) shall be bought, stored, or transported onto a site without an approved New Product Review Form.

HazMat or Chemicals, including hazardous substances and hazardous wastes, that need to be shipped offsite shall require prior to shipping:

- a A completed Request for Shipping Form.
- b Assistance from the appropriate Environmental Representative.

Personnel who use HazMat or Chemicals must wear the proper Personal Protective Equipment (PPE) in good condition.

MSDS sheets must be available and accessible to all personnel working with HazMat & Chemicals.

### **Inventory of Hazardous Materials and Chemicals**

An inventory of HazMat & Chemicals used at each COMPANY operation shall be maintained by HSLP and Materials Department. The inventory shall include at least the following:

- a Chemical and/or trade name.
- b Composition or major hazardous components with CAS numbers if the material can not be ascertained by the chemical name.
- c Hazard levels and HazMat classification.
- d The quantities and location of the HazMat and Chemicals on site.

## **Post-Emergency Activities**

Following every emergency response event and emergency response exercise a review shall be conducted to identify deficiencies and communicate these to the appropriate personnel.

Actions identified from the review shall be included in the facilities corrective action system.

## **Product Labeling for Handling & Storage Purposes**

The National Fire Protection Agency NFPA 704 Hazmat diamond or Hazardous Materials Identification System (HMIS) or equivalent label shall be used on any container that does not provide the proper information.

HMIS labeling system is intended to be used by employers and workers on a daily basis and provides information on acute and chronic health hazards, flammability, physical hazard, and personal protective equipment.

HMIS emphasizes the use of personal protective equipment and hazard communication and shall be used for labeling of daily use containers that do not have adequate labeling.

NFPA's labeling system is intended for use by emergency response personnel (fire fighters, hazardous materials workers, police, etc.) under emergency conditions.

NFPA labels contain information on acute health hazards, flammability, physical hazard and special characteristics that shall require special fire fighting techniques, such as reactivity with water.

NFPA shall be used for the labeling of buildings, bulk storage, tanks, bins, silos, etc.

Labeling shall:

- a** Identify the HazMat or Chemical.
- b** Warn, appropriately, about any specific danger.
- c** Provide basic controls, including PPE to be used when handling the HazMat or Chemicals.

Labeling and Placarding

- a** HazMat & Chemicals shall be appropriately labeled and placarded, following the criteria of the appropriate Government agencies, the US Department of Transport (DOT) and the National Fire Protection Association (NFPA).
- b** If any chemical is transferred to a secondary container, the secondary container must also have adequate labels and/or placards.
- c** Piping systems containing hazardous chemicals and compressed gases must be labeled using legends or color coding in accordance with the COMPANY Color Coding and Sign Markup SOP.

## **Purchasing or Shipment of HazMat & Chemicals**

Products must meet the following minimum requirements before being purchased, transported, shipped, stored and used:

- a** New Product Review Form completed and approved by appropriate Departments before purchased and before the HazMat or Chemicals are brought on site.
- b** The MSDS must be submitted in order to approve a New Product Review Form. MSDS must follow ANSI Z400.1 and should include the following information:

Product and Company ID

Hazards ID

Composition/Information on Ingredients

First Aid Measures

Accidental Release Measures

Handling and Storage

Exposure Control and Personal Protective Equipment

Physical and Chemical Properties

Stability and Reactivity Data

Toxicological Information

Ecological Information

Disposal Information

Transportation Information

Regulatory Information

Other Information

- c** For products, which are not already approved, an Approved HazMat and Chemical Review Form must be completed. MSDS's shall be evaluated by the Industrial Hygienist who shall make recommendations for product use.

All forms of packages and containers must be labeled by the company who manufactured the material, vendor (or supplier) and generator. Labels for transport and use must indicate the following:

- Identification of the Chemical
  - Identification of the Manufacturer
  - Hazard and Risk Indicators
  - Safety Precautions and PPE
  - Information Needed During Emergencies
- d** A risk evaluation must be completed for any new HazMat or Chemical introduced onsite. For products with NFPA hazard values of 3 and 4 that could represent a high risk, a product alternative must be reviewed and/or recommended prior to approving the purchase of such product.



## **Storage**

HazMat and Chemicals shall be stored in accordance with relevant legislative requirements and industry standard.

The Materials Department is responsible for inspecting and maintenance of storage areas including permanent and temporary storage facilities.

Materials department is responsible for inspecting offsite shipping and warehousing facilities.

All other COMPANY Departments such as the Projects, Process and Exploration etc., shall be in charge of monitoring and/or maintenance of HazMat and Chemicals storage areas at the site including permanent and temporary storage facilities of their contractors and its subcontractors and must follow all standards of this procedure.

Storage practices shall properly address the following:

- a** Develop an inventory system to control all HazMat & Chemicals in storage at the site. This include its location, quantity, where and when a material is used.
- b** All stored HazMat & Chemicals must be clearly labeled following NFPA, HMIS or equivalent system and must have their corresponding MSDS sheets in a visible or accessible place.

All storage areas shall be marked with appropriate signs and when practicable clearly delineated.

All HazMat and Chemicals must be stored according to their compatibility features and physical requirements (i.e., isolation, ventilation, climate conditions, spacing). Incompatible materials must be separated.

Before any HazMat or Chemicals are accepted for storage, the integrity of packaging must be checked. Any damaged container compromising the integrity of the material, safety of employees and potential spills/leaks must be addressed with the shipper and distributor.

Storage areas shall protect HazMat and Chemicals from weather, heat, or any other agent that could affect their integrity.

Storage areas must be accessible for emergency response, well ventilated, and clearly placarded using NFPA placards.

NFPA placards shall be posted on two exterior walls of storage facilities, main entry access, and other visible areas as needed. The number and locations of placards shall be based on NFPA 704 guidelines of emergency response.

Used and empty containers shall be properly recycled or disposed of in accordance with the COMPANY Hazardous Waste Management Plan. Containers for recycling shall be labeled as "empty". All used containers shall be properly stored in previously designated areas until final disposal or recycling. Care shall be taken not to mixed incompatible materials even though they are considered "empty".

HazMat and Chemicals stored for long periods of time (i.e. 2 to 3 years) without being used must be evaluated by Department Management (i.e. Materials, Exploration, Projects etc.). If no justification is found to keep the HazMat or Chemicals in storage, then they shall, be either, returned to manufacturer/distributor (if possible), recycled, discarded or disposed in accordance with the COMPANY Hazardous Waste Management Plan.

## **Training**

Each area shall ensure employees who could be exposed to HazMat and Chemicals shall receive Hazard Communication Training in the following:

- a** Hazard recognition.
- b** How to protect themselves and handle hazardous materials.
- c** How to access and read a MSDS for the HazMat and Chemicals they are handling.
- d** How to read a label and placard.
- e** How to use the Chemical Inventory Register.
- f** Safe disposal of HazMat and Chemicals. (Refer to environmental procedures).
- g** Proper storage and transport of HazMat and Chemicals.
- h** Spill and Emergency response procedures.
  - 1** Limits of exposure.
  - 2** Personal Protective Equipment to be used.
  - 3** Symptoms of exposure.
  - 4** First aid treatment for exposure.

Employee training shall be assessed as competent by internal audit interviews and field compliance checks.

This training shall be held for all HazMat and Chemicals used on site and shall include re-training at intervals not greater than 12 months.

Hazard Communication training is also included as part of new hire induction programs, annual refresher training and specialty courses.

## **Transport**

Verification of the compliance for the transport of HazMat and Chemicals by the COMPANY, its contractors and subcontractors, must be carried out by someone who is 49 CFR certified, the Supply Change department, and be in full compliance with the:

- a** Relevant legislative requirements, US DOT, UN, IATA and IMO guidelines. If DOT regulations might not be applicable to certain HazMat and Chemicals, then UN transport regulations of Dangerous Goods can be applied.

Any equipment used for transporting hazardous material & chemicals shall be regularly inspected and maintained in good working order and state of readiness.

All transport of HazMat or Chemicals shall be carried out following US DOT 49 CFR regulations.

Employees who ship HazMat or Chemicals must be properly trained to DOT 49 CFR Part 172 standards.

All drivers of vehicles who transport HazMat or Chemicals must be properly trained.

All bill of lading and manifests shall be kept and maintained for a period of three (3) years.

All vehicles that deliver or receive HazMat shall have the proper permits, certificates and placards in or on the transport vehicle.

All HazMat and Chemicals must be shipped in proper containers (new or like new condition).

Transportation of material that is defined in the nine DOT hazards classes shall strictly follow DOT guidelines.

The shipper shall be capable for responding to spills of HazMat and Chemicals.

The shipper must have proper spill containment and emergency response material in the transport vehicle.

The shipper must classify and segregate HazMat and Chemicals and shipped them according their compatibility features.

Transport of equipment containing radioactive materials shall be compliant with DOT 49 CFR.

The Materials Management Department, contractors, and subcontractors are responsible to safely deliver all HazMat and Chemicals in good condition. They are responsible for monitoring and evaluating their own transportation service providers to ensure they comply with the requirements of this standard.