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**Level 2 Administrative Procedure**

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7	Revision/Periodic Review; Revised Appendix numbers. Clarified labeling requirements in Appendix B for installed storage tanks per FBP-PR-FY21-1000. Added PSS Responsibilities to account for actions. Updated MSDS/SDS Subsection 6.3. Clarified appendix B primary and secondary label requirements. Added Appendix A, <i>Regulatory Requirements Flow Down</i> , and accompanying statement in Section 1.0. Removed exception in Section 2.0. Added Subsection 5.2.8. Revised Step 5.3.2 to complete FBP-BS-PRO-00133. Added reference to VTR. Added Step 6.2.3. Updated procedure formatting and template.	All

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## 1.0 PURPOSE

- 1.1 This procedure provides instructions to ensure that the potential hazards of chemicals used by Fluor-BWXT Portsmouth LLC (FBP) are communicated to management and employees.
- 1.2 This document implements applicable regulatory requirements. They are listed in Appendix A, *Regulatory Requirements Flow Down*.

## 2.0 SCOPE AND APPLICABILITY

- 2.1 This Level 2 procedure applies to the management of hazardous chemicals that are known to be present and used at the Portsmouth Gaseous Diffusion Plant (PORTS).
- 2.2 This procedure applies to all FBP employees and contract labor resource personnel working at all FBP-managed projects and facilities located at the Department of Energy (DOE) PORTS.
- 2.3 Criteria for management of Hazard Communication for subcontractor/vendor are included in contract specifications.
  - Specific exclusions from the Hazard Communication Program as defined by this procedure include:
    - Any consumer product labeled by the manufacturer where it can be shown that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure which is **NOT** greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended.
    - Articles as defined in Subsection 8.1.
    - Biological hazards
    - Hazardous materials regulated by the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, as the focus of removal and/or remediation
    - Hazardous waste regulated under the *Resource Conservation and Recovery Act of 1976*

### NOTE

If radioactive material presents hazards such as chemical toxicity or a physical hazard (corrosive, flammable, compressed gas, etc.), then the requirements of the Hazard Communication Program apply to the chemical hazards of the radioactive material. An example of a radioactive material that has chemical toxicity characteristics is uranium.

- Ionizing and non-ionizing radiation

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- Laboratory operations regulated under 29 CFR 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories* as addressed in *Portsmouth Laboratories Chemical Hygiene Plan, FBP-ER-PL-00002*.
- Non-occupational use of food, drugs (including medical services drugs and preparations), and cosmetics
- Samples of unknown composition taken for analysis
- Tobacco and tobacco products

**NOTE**

Wood or wood products which have been treated with a hazardous chemical and wood which may be subsequently sawed or cut, generating dust, are **NOT** exempted.

- Wood and wood products including lumber that will **NOT** be processed where the only hazard they pose to employees is the potential for flammability or combustibility
- The following chemicals are excluded from labeling when they are subject to the labeling requirements of their respective Acts as indicated:
  - Any food, food additive, color additive, drug, cosmetic, medical, or veterinary device or product as defined in the *Federal Food, Drug, and Cosmetic Act*, or the *Virus-Serum-Toxin Act*
  - Chemical substances or mixtures as defined in the *Toxic Substances Control Act*
  - Consumer products or hazardous substances, as defined in the *Consumer Product Safety Act* and the *Federal Hazardous Substances Act*
  - Pesticides as defined in the *Federal Insecticide, Fungicide, and Rodenticide Act*
  - Vegetables and agricultural seed treated with pesticides and labeled according to the *Federal Seed Act*
  - Wine, malt, or alcoholic beverage intended for non-industrial use as defined by the *Federal Alcohol Administration Act*

### **3.0 GENERAL INFORMATION**

- 3.1** All employees have the right to access any Material Safety Data Sheet (MSDS)/Safety Data Sheets (SDS) prior to commencement of work, anytime a new chemical is introduced and during any work shift. MSDS/SDSs are provided upon request during each work shift to employees.

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**3.2** Chemical hazards contained in work areas for routine or non-routine tasks including those associated with unlabeled pipes shall be conveyed to applicable personnel through various means such as:

- Pre-Job Briefings
- Safety Meetings
- Permit Systems
- Work Control
- Job Hazard Analyses
- Verbal Communications

#### **4.0 USE REFERENCES**

- A. FBP-BS-PRO-00039, *Request for Purchase*
- B. FBP-BS-PRO-00133, Item Code Creation, Edit and Deactivation in the Master Item Catalog
- C. FBP-IH-PRO-00022, *Job Hazard Analysis*

#### **5.0 RESPONSIBILITIES**

##### **5.1 Facility Manager**

- 5.1.1** Maintains subcontractor/vendor MSDS/SDSs for information in the event of an emergency until the hazardous material is removed from the facility.
- 5.1.2** Approves new hazardous materials brought into facility under their management.
- 5.1.3** Approves storage area and methods for hazardous materials in facility under their management.

##### **5.2 Occupational Safety and Health (OS&H) Professional**

- 5.2.1** Maintains the FBP Hazard Communication procedure.
- 5.2.2** Performs periodic reviews of the FBP Hazard Communication Program.
- 5.2.3** Provides technical guidance and regulatory interpretations to ensure consistent implementation of the Hazard Communication Program.

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- 5.2.4 Provides technical support with respect to hazard communication including chemical monitoring and information on any precautionary measures that need to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies.
- 5.2.5 Reviews subcontractor/vendor's Hazard Communication Program and MSDS/SDSs provided by the Contractor Technical Representative/Vendor Technical Representative (CTR/VTR).
- 5.2.6 Provides assistance and information, as requested, to maintain a list of FBP hazardous chemicals.
- 5.2.7 Evaluates potential improvements to processes and implements those which result in reduction of levels of required quantities of hazardous chemicals.
- 5.2.8 Approves requisitions for chemical purchases and assists with identifying less hazardous alternatives when necessary.

**5.3 Hazardous Materials Specialist (HMS)**

- 5.3.1 Maintains the FBP MSDS/SDS database with current MSDSs/SDSs and provides MSDS/SDSs to hazardous material users upon request.
- 5.3.2 Reviews and approves hazardous materials per FBP-BS-PRO-00133, *Item Code Creation, Edit and Deactivation in the Master Item Catalog, and purchase requisitions*, when requested.
- 5.3.3 Provides secondary hazardous materials container labels when requested.
- 5.3.4 Approves requisitions for chemical purchases and assists with identifying less hazardous alternatives when necessary.

**5.4 Supervisor**

- 5.4.1 Ensures assigned personnel under their supervision have received required FBP training prior to their initial assignment using hazardous chemicals.
- 5.4.2 Ensures hazardous materials stored in their areas are properly labeled, segregated, stored, and used.
- 5.4.3 Provides MSDS/SDSs to hazardous material users, as necessary. (For off-shifts, this may involve contacting the Plant Shift Superintendent (PSS) for assistance.)
- 5.4.4 Notifies OS&H of any hazardous materials or materials of unknown hazards that are not already identified.
- 5.4.5 Ensures employees are aware of hazardous materials of other site subcontractors/vendors that may be present in the work area.

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**5.4.6** Ensures assigned personnel under their supervision receive job-specific work area hazard communication training for all chemicals used during routine or non-routine tasks including those associated with unlabeled pipes in affected work areas.

**5.5 CTR/VTR**

**5.5.1** Ensures subcontractor/vendors comply with Occupational Safety and Health Administration (OSHA) Hazard Communication standard 29 CFR 1910.1200, *Hazard Communication* or 29 CFR 1926.59, *Hazard Communication*, as applicable.

**5.5.2** Ensures all subcontractor/vendors meet OSHA hazard communication training requirements.

**5.5.3** Ensures all subcontractor/vendors know how to obtain MSDS/SDSs for hazardous materials.

**5.5.4** Ensures all subcontractor/vendors know where the applicable Hazard Communication Program is located and how to obtain a copy.

**5.5.5** Obtains from general subcontractor/vendors and their lower-tier subcontractor/vendors a written Hazard Communication Program which includes a list of hazardous materials and the accompanying MSDS/SDSs to be used, and forwards copies to OS&H and the HMS.

**5.6 Procurement**

**5.6.1** Ensures MSDS/SDS is provided for hazardous materials upon request by Requisitioner or HMS/OS&H.

**5.6.2** Receives approval from HMS/OS&H when any substitutions for hazardous chemicals are made prior to purchase.

**5.6.3** Forwards MSDS/SDS for purchased hazardous product to HMS.

**5.7 Materials Management and Property Control (within the Business Services Division)**

**5.7.1** Maintains incoming and outgoing hazardous materials to ensure compliance with this program.

**5.7.2** Ensures incoming hazardous material is properly:

- Packaged
- Labeled
- Segregated
- Stored



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## **5.8 Requisitioner**

### **NOTE**

Assistance may be requested from Environmental Protection or OS&H to identify less hazardous alternatives when necessary.

**5.8.1** Ensures less hazardous alternatives are considered if the purchase involves a hazardous material

**5.8.2** Ensures an MSDS/SDS is provided with the purchase requisition if the purchase involves a hazardous material.

## **5.9 Qualified Worker**

**5.9.1** Observes recommended precautions and practices for safe handling, usage, and storage of hazardous chemicals.

**5.9.2** Completes applicable hazard communication training.

## **5.10 Training Professional**

**5.10.1** Develops, documents, and presents hazard communication training as directed by OS&H which includes General Employee Training (GET), Hazcom Chemical, Categories, and specific chemical training as applicable.

**5.10.2** Maintains training records related to the Hazard Communication Program.

## **5.11 Fire Protection Professional**

Assists in determining flammability hazard potential, as requested by OS&H.

## **5.12 Environmental Protection**

Approves requisitions for chemical purchases and assists with identifying less hazardous alternatives when necessary.

## **5.13 PSS**

Provides MSDS/SDS when requested as needed.

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## 6.0 ACTIONS

### 6.1 Training

#### Training Professional

- 6.1.1** Provide hazard communication training to employees covering the following topics as applicable:
- The details of the Hazard Communication Program developed by FBP including an explanation of the labeling system, the MSDS/SDSs, and how employees can obtain and use the appropriate hazard information
  - The location and availability of the FBP Hazard Communication Program and MSDS/SDS(s)
  - The use of MSDS/SDS(s)
  - Labeling requirements
  - Methods and observations used to detect the presence or release of hazardous chemicals in the work area such as:
    - Continuous monitoring devices
    - Visual appearance
    - Odor of hazardous chemicals in the work area
  - The physical health, simple asphyxiation, combustible dust, pyrophoric gas hazards, and hazards not otherwise classified of hazardous chemicals in the work area
  - The measures employees can take to protect themselves from these hazards including specific procedures that have been implemented to protect employees from exposure to hazardous chemicals such as:
    - Appropriate work practices
    - Emergency procedures
    - Personal Protective Equipment (PPE) to be used
  - Program oversight and responsibilities for implementation as specified in this procedure
  - Applicable hazard communication standards
  - Supervisor's responsibility for hazard communication

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- Documentation of work area hazard communication training
- Available resources for work area hazard communication training
- Procurement process for ordering hazardous materials

**6.1.2** Maintain documentation of hazard communication training.

**Qualified Worker**

**6.1.3** Complete applicable hazard communication training and job-specific work area hazard communication training, as required.

**Supervisor**

**6.1.4** Complete hazard communication training, as applicable.

**6.1.5** Determine which employees require additional hazard communication training beyond awareness GET Training with assistance of OS&H as needed based upon their potential for exposure to hazardous chemicals.

**6.1.6** Provide and document job-specific work area hazard communication information to employees.

**6.1.7** Ensure employee's job-specific work area hazard communication information includes the following:

- The location and availability of the written Hazard Communication Program
- The method and means to obtain MSDS/SDSs
- Hazards associated with job specific chemicals for both routine or non-routine tasks including those associated with unlabeled pipes in affected work areas
- Physical effects of the chemical(s) (e.g., flammability, corrosiveness)
- Short-term and long-term chemical effects including target organs
- Proper labeling for the chemicals and hazards
- Release detection capabilities such as visual smoke or deposits, odor, continuous monitoring devices, and/or monitoring to be performed by OS&H personnel
- General and specific work area control measures for handling the chemicals

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- General and specific PPE required when dealing with the chemicals (e.g., gloves, aprons, goggles)
- Emergency procedures for a spill or release of the chemical(s)

## 6.2 Hazardous Chemical Listing

### Supervisor

- 6.2.1 Coordinate work area evaluations to identify the hazardous chemicals (liquid, solid, or gas) to which a Qualified Worker may be exposed under normal conditions of use or in a foreseeable emergency according to FBP-IH-PRO-00022, *Job Hazard Analysis*.

### OS&H Professional

- 6.2.2 Provide assistance in the evaluation and identification of hazardous chemicals being handled, used, stored, and/or disposed.
- 6.2.3 Provide information on any precautionary and protective measures that need to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies.
- 6.2.4 Implement appropriate chemical specific program requirements and monitoring.
- 6.2.5 Review requisitions for all chemical purchases and assist with identifying less hazardous alternatives when requested.

### Requisitioner

#### NOTE

Assistance may be requested from Environmental Protection or OS&H to identify less hazardous alternatives when necessary.

- 6.2.6 Ensure less hazardous alternatives are considered when purchasing a hazardous material and an SDS is provided with any purchase requisition.

### Environmental Protection

- 6.2.7 Review requisitions for all chemical purchases and assist with identifying less hazardous alternatives when requested.

### Qualified Worker

- 6.2.8 Consult Supervisor for information about any hazardous materials in the work area.

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### 6.3 Material Safety Data Sheets/Safety Data Sheets

#### OS&H Professional/HMS

- 6.3.1 Perform a review of the requisition of hazardous material or MSDS/SDS according to toxicity/health hazards.
- 6.3.2 Screen hazardous material requisitions to ensure a current MSDS/SDS is on file.
- 6.3.3 Verify a hazard classification has been completed for each item.
- 6.3.4 Obtain MSDS/SDS(s) from chemical manufacturers as needed.
- 6.3.5 Maintain MSDS/SDS system.
  - A. Purge outdated MSDS/SDS.
  - B. Add new MSDS/SDS.
- 6.3.6 Recommend protective measures as requested and when a new chemical hazard is introduced.

#### Supervisor

- 6.3.7 Verify MSDS/SDS for hazardous chemicals used, stored, and/or disposed in work areas are readily available to employees for review prior to working with such chemicals.
- 6.3.8 **IF** needed, **THEN** request a copy of MSDS/SDS
- 6.3.9 Ensure employee is trained on the applicable hazards on the MSDS/SDS and understands the MSDS/SDS system.

#### Qualified Worker

- 6.3.10 Obtain MSDS/SDSs from the FBP Intranet homepage under “*MSDS/SDS Lookup*”, the PSS, and/or OS&H.

#### OS&H Professional/HMS/PSS

- 6.3.11 Provide MSDS/SDS when requested.

### 6.4 Procurement of Hazardous Materials

#### Environmental Protection/OS&H/HMS

Review and approve requisitions for hazardous materials as detailed in FBP-BS-PRO-00039, *Request for Purchase*.

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## **6.5 Hazard Classification**

### **OS&H Professional/HMS**

**6.5.1** Conduct hazard classification with the assistance of Fire Protection if needed.

**6.5.2** Perform hazard determination for potentially hazardous material procurement.

### **Fire Protection Professional**

**6.5.3** Assist OS&H with classification of flammability hazard potential upon request.

## **6.6 Chemical Compatibility and Storage**

### **Materials Management (Receiving/Shipping and Stores Functions)**

**6.6.1** Perform the following with the assistance of the Qualified Worker:

- A.** Segregate hazardous materials according to chemical compatibility. See suggested methods in Appendix C, *Chemical Compatibility Table*. Contact HMS or OS&H personnel for assistance.
- B.** Inspect containers identified as hazardous chemicals to ensure they are in acceptable condition and properly labeled.
- C.** Store hazardous materials in specifically marked areas for hazardous materials.
- D.** Label hazardous chemical containers when they are not labeled by the manufacturer according to Appendix B, *Hazardous Material Labeling Guide*.
- E.** Contact HMS for the proper container label if needed.
- F.** Forward copies of MSDS/SDSs received with hazardous chemicals to the HMS.
- G.** Contact Waste Management to request disposal when materials are no longer required or exceed shelf life.

### **Supervisor**

**6.6.2** Segregate hazardous materials according to chemical compatibility. See suggested methods in Appendix C. Contact HMS or OS&H personnel for assistance.

### **Facility Manager**

**6.6.3** Approve new hazardous materials brought into facility.

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- 6.6.4 Approve hazardous material storage areas and methods established by Supervisors and/or Qualified Workers.

## **6.7 Labeling of Hazardous Materials**

### **Materials Management (Receiving/Shipping Function)**

- 6.7.1 IF a hazardous chemical container is received from the manufacturer without proper labeling, THEN contact HMS for appropriate label and properly label the hazardous material container.

### **Supervisors**

- 6.7.2 Ensure hazardous chemicals that are used by persons or in workplaces under their supervision are labeled according to Appendix B.
- 6.7.3 IF appropriate labels are not in place, THEN contact HMS for assistance.

### **Qualified Workers**

- 6.7.4 Ensure hazardous materials are properly labeled.
- 6.7.5 IF a hazardous chemical is transferred to a portable container, THEN contact HMS for approved secondary container label.

## **6.8 Subcontractor/Vendor Operations**

### **CTR/VTR**

- 6.8.1 Evaluate planned activities, identify potential chemical hazards, and identify safety and health requirements and controls to ensure potential hazards are included in contract specifications according to contract requirements.
- 6.8.2 Confirm the subcontractor/vendor's Hazard Communication Program is in place.
- 6.8.3 Provide information regarding hazardous chemicals originating from subcontractor/vendor activities to FBP OS&H prior to initiation of activities which may potentially expose employees to a hazard.
- 6.8.4 Get approval from Facility Manager for appropriate chemical storage area.

### **Facility Manager**

- 6.8.5 Provide MSDS/SDS to subcontractor/vendor in the event of an emergency as needed.
- 6.8.6 Approve hazardous material storage areas and methods as requested by the CTR/VTR.

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### **OS&H Professional**

- 6.8.7 Provide assistance in evaluating subcontractor/vendor activities for health and safety requirements and controls.
- 6.8.8 Provide subcontract review to ensure implementation of the Hazard Communication Program.

### **Procurement**

- 6.8.9 Ensure the contract agreement requires subcontractor/vendors provide and maintain MSDS/SDS(s) for hazardous chemicals brought on site.

## **7.0 RECORDS**

### **7.1 Records Generated**

- A. Training records
- B. MSDS/SDSs

### **7.2 Requirements**

Records generated or received as a result of performing this procedure shall be managed according to FBP-BS-PRO-00062, *Records Management Process*.

## **8.0 DEFINITIONS/ACRONYMS**

### **8.1 Definitions**

- A. **Article** – A manufactured item that:
  - Is formed to a specific shape or design during manufacture
  - Has end use function(s) dependent in whole or in part upon its shape or design during end use
  - Does NOT release or otherwise result in exposure to a hazardous chemical under normal conditions of use (e.g., solid metal, pencils or pens)

**AND**

- Does **NOT** pose a physical hazard or health risk to Qualified Worker



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- B. Carcinogen** – For the purpose of this procedure, a carcinogen is defined as a substance that meets one of the following criteria:
- Identified as a carcinogen by the chemical manufacturer
  - A chemical substance regulated as a carcinogen in 29 CFR 1910 Subpart Z, *Toxic and Hazardous Substances*
  - Specified as confirmed human carcinogens (A1), or suspect human carcinogens (A2), by the ACGIH, *Threshold Limit Values (TLV)*, and *Biological Exposure Indices®*
  - Has been evaluated by the International Agency for Research on Cancer, and found to be a carcinogen or potential carcinogen
  - Listed in the National Toxicology Program's Annual Report on Carcinogens (latest edition)
- C. Consumer Product** – Any product or hazardous substance as defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively.
- D. Container** – Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. Pipes or piping systems, engines, fuel tanks, or other operating systems in a vehicle are **NOT** considered to be containers.
- Primary hazardous chemical containers are the original containers received from the manufacturer.
  - Secondary hazardous chemical containers are any containers that a hazardous chemical is transferred into from the primary container.
- E. Contractor Technical Representative** – The person assigned responsibility by FBP for site administration, coordination, and overall performance of the subcontractor/vendor for activities described in the statement of work or contract. This person may be the Construction Engineer, Facility Manager, Maintenance Manager, or other appropriate representative.
- F. Employee** – For the purposes of this procedure, an employee is an individual who may be potentially exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Employees such as office personnel who encounter hazardous chemicals only in non-routine, isolated instances are **NOT** covered by this procedure.
- G. Exposure** – An incident where an employee is subjected to a hazardous chemical in the course of employment through any route of entry and includes potential exposure.

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- H. Foreseeable Emergency** – Any potential occurrence such as but **NOT** limited to equipment failure, rupture of containers, or failure to control equipment that could result in an uncontrolled release of a hazardous chemical into the workplace.
- I. Hazard Not Otherwise Classified (HNOC)** – Adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazard classes addressed in this procedure.
- J. Hazard Statement** – Statement assigned to a hazard class and category that describes the nature of the hazard of a chemical including where appropriate the degree of the hazard.
- K. Hazardous Chemical** – (For the purposes of this procedure the terms “hazardous chemical” and “hazardous material” are used interchangeably.) A chemical is considered to be hazardous if it:
- Is listed in 29 CFR 1910, Subpart Z, *Toxic and Hazardous Substances*
  - Has a threshold limit value established by the ACGIH in the latest edition of their annual list
  - Is a physical hazard (flammable, combustible, compressed gas, explosive, organic peroxide, oxidizer, pyrophoric, unstable, or water reactive), as those terms are defined by 29 CFR 1910.1200, *Hazard Communication*
  - Is classified as a physical or health hazard, a simple asphyxiant, combustible dust, pyrophoric gas or hazard not otherwise classified
- L. Hazard Warning** – Any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which conveys the hazard(s) of the chemical(s) in the container(s), including target organ effects.
- M. Hazardous Waste** – A waste or combination of wastes, as defined in 40 CFR 261.3, United States Environmental Protection Agency, *Definition of Hazardous Waste*, or those substances defined as hazardous wastes in 49 CFR 171.8, United States Department of Transportation, *Definitions and Abbreviations*.
- N. Health Hazard** – A chemical which is classified as posing one of the following hazardous effects:
- Acute toxicity (any route of exposure)
  - Skin corrosion or irritation
  - Serious eye damage or eye irritation
  - Respiratory or skin sensitization
  - Germ cell mutagenicity

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- Carcinogenicity
  - Reproductive toxicity
  - Specific target organ toxicity (single or repeated exposure)
  - Aspiration hazard
- O. Label** - Any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.
- P. Legacy Hazardous Material Container** – Primary or secondary container labeled in accordance with OSHA Hazard Communication Standard 1994.
- Q. Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS)** - A technical bulletin prepared according to 29 CFR 1910.1200, *Hazard Communication*, which contains information about a hazardous chemical such as chemical composition, chemical and physical hazard, and precautions for safe handling and use.
- R. Physical Hazard** - A chemical that is classified as posing one of the following hazardous effects:
- Self-reactive
  - Self-heating
  - Corrosive to metal
  - Flammable (gases, aerosols, liquids, or solids)
  - Organic peroxide
  - Oxidizer (liquid, solid, or gas)
  - Pyrophoric (liquid or solid)
  - Gas under pressure
- OR**
- In contact with water emits flammable gas
- S. Pictogram** – A composition that may include a symbol plus the other graphic elements such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under 29 CFR 1910.1200 for application to a hazard category.

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- T. Precautionary Statement** – A phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage/handling.
- U. Product Identifier** – The name or number used for a hazardous chemical on a label or in the MSDS/SDS. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written Hazard Communication Program, the label, and the MSDS/SDS.
- V. Qualified Worker** - One who, by possession of a recognized degree, certificate, or professional standing; or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project. Qualified Worker is an employee who has successfully completed hazard communication training.
- W. Signal Word** – A word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in 29 CFR 1910.1200 are “Danger” and “Warning”. “Danger” is used for more severe hazards, while “Warning” is used for less severe.
- X. Threshold Limit Value (TLV)** - Refers to airborne concentrations of substances and represents conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects.
- Y. Vendor Technical Representative (VTR)** – The trained and qualified person (per FBP requirements) assigned as the technical liaison between FBP and vendor personnel.
- Z. Work Area** - Any room or defined space in a workplace where employees are present and performing work.
- AA. Workplace** - A job site or project at one geographical location containing one or more work areas.

## 8.2 Acronyms

- A. ACGIH** - American Conference of Governmental Industrial Hygienists
- B. HAZCOM** - Hazardous Communication
- C. HMS** - Hazardous Materials Specialist
- D. MSDS/SDS** - Material Safety Data Sheet/Safety Data Sheet
- E. TLV** - Threshold Limit Value

## 9.0 SOURCE REFERENCES

- A.** 10 CFR 851, *Worker Safety and Health Program*

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- B.** 29 CFR 1910, Subpart I, *Personal Protective Equipment*
- C.** 29 CFR 1910, Subpart Z, *Toxic and Hazardous Substances*
- D.** 29 CFR 1910.1200, *Hazard Communication*
- E.** 29 CFR 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories*
- F.** 29 CFR 1926.59, *Hazard Communication*
- G.** 29 CFR 1926, Subpart E, *Personal Protective and Life Saving Equipment*
- H.** 49 CFR 171.8, United States Department of Transportation, *Definitions and Abbreviations*
- I.** American Conference of Governmental Industrial Hygienists (ACGIH®), *Threshold Limit Values for Chemical Substances and Physical Agents/Biological Exposure Indices®* (latest edition)
- J.** Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- K.** Consumer Product Safety Act (15 U.S.C. 2051 et seq.)
- L.** DOE Acquisition Regulation (DEAR) Clause Title 48 CFR 970.5223-1, *Integration of Environment, Safety, and Health Into Work Planning and Execution*
- M.** FBP-BS-PRO-00113, *Control of Contractors*
- N.** FBP-BS-PRO-00133, *Item Code Creation, Edit and Deactivation in the Master Item Catalog*
- O.** FBP-BOP-PRO-00002, *Control of Construction Support Contractor Work*
- P.** FBP-IH-PRO-00022, *Job Hazard Analysis*
- Q.** FBP-NSE-PRO-00002, *Pre-Job Briefing and Post-Job Review*
- R.** FBP-OS-PDD-00001, *Worker Safety and Health Program*
- S.** FBP-PM-PDD-00001, *Integrated Safety Management System*
- T.** *Federal Hazardous Substances Act* (15 U.S.C. 1261 et seq.)
- U.** IARC Monographs, Volumes 1-102, Groups 1, 2A, and 2B
- V.** National Fire Protection Association, National Fire Code, Section 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response*
- W.** National Toxicology Program's *Annual Report on Carcinogens* (latest edition)

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**X.**    *Resource Conservation and Recovery Act of 1976* (Public Law 94-580)

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**Appendix A**  
**REGULATORY REQUIREMENTS FLOW DOWN**

1. 29 CFR 1910.1200, *Hazard Communication*
2. 29 CFR 1910.1450, *Occupational Exposure to Chemicals in Laboratories*
3. 29 CFR 1926.59, *Hazard Communication*

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**Appendix B**  
**HAZARDOUS MATERIAL LABELING GUIDE**  
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The purpose of this Appendix is to establish a system for labeling containers of hazardous material.

**1.0 LABELING REQUIREMENTS**

- 1.1** All containers (primary and secondary) must be labeled according to this appendix.
- 1.2** Secondary containers should use the same labeling system as the hazardous material's original primary container.
- 1.3** Signs, placards, process sheets, batch tickets, operating procedures, or other such written materials may be used in lieu of affixing labels to individual stationary process containers (i.e., installed storage tanks) as long as the alternative method identifies the containers and the information in Subsection 1.4 of this appendix is conveyed.
- 1.4** Chemical manufacturers, importers, or distributors are responsible for ensuring each container of hazardous materials they produce is properly labeled and contains the following information according to 29 CFR 1910.1200(f):
  - Signal Word
  - Hazard Statement(s)
  - Pictograms
  - Precautionary Statement(s)
  - Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
- 1.5** **IF** the container label is defaced, removed, or illegible, **THEN** a new label shall be attached with the appropriate information from the manufacturers' MSDS/SDS. Contact HMS to obtain appropriate label.
- 1.6** **IF** the user suspects that the information on the label or in the MSDS/SDS is inaccurate, **THEN** contact your Supervisor or HMS for guidance.

**2.0 LEGACY HAZARDOUS MATERIAL CONTAINER LABELING REQUIREMENTS**

- 2.1** Legacy hazardous material containers may continue to be labeled under the previous guidelines and contain the information listed below:
  - Material name/content information**AND**
  - Appropriate hazard warning (including target organ effects)
- 2.2** A numerical rating scheme has been adopted to provide the chemical user with the appropriate hazard warning:
  - Ratings are provided on a four-segment label color coded to represent the different hazard categories (see Figure 1 below).
  - Label segments represent the different hazard categories as designated in Figure 1.
  - Each class of hazard is rated on a scale of 0 to 4, with 4 being the most serious.



TITLE:

Hazard Communication

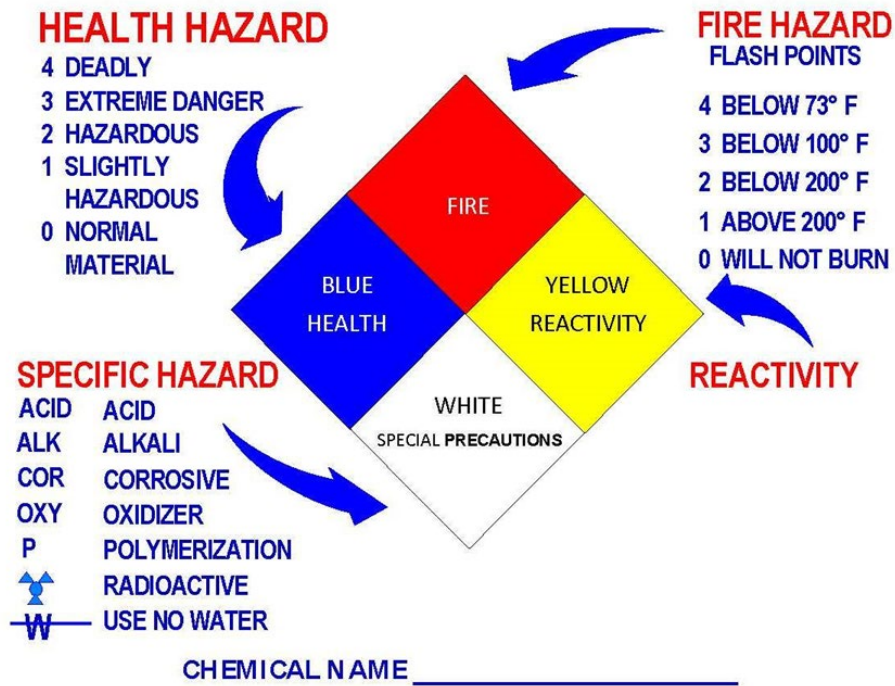
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**FIGURE 1** Legacy Container Label Example



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**3.0 NEW (GHS COMPLIANT) LABELING REQUIREMENTS**

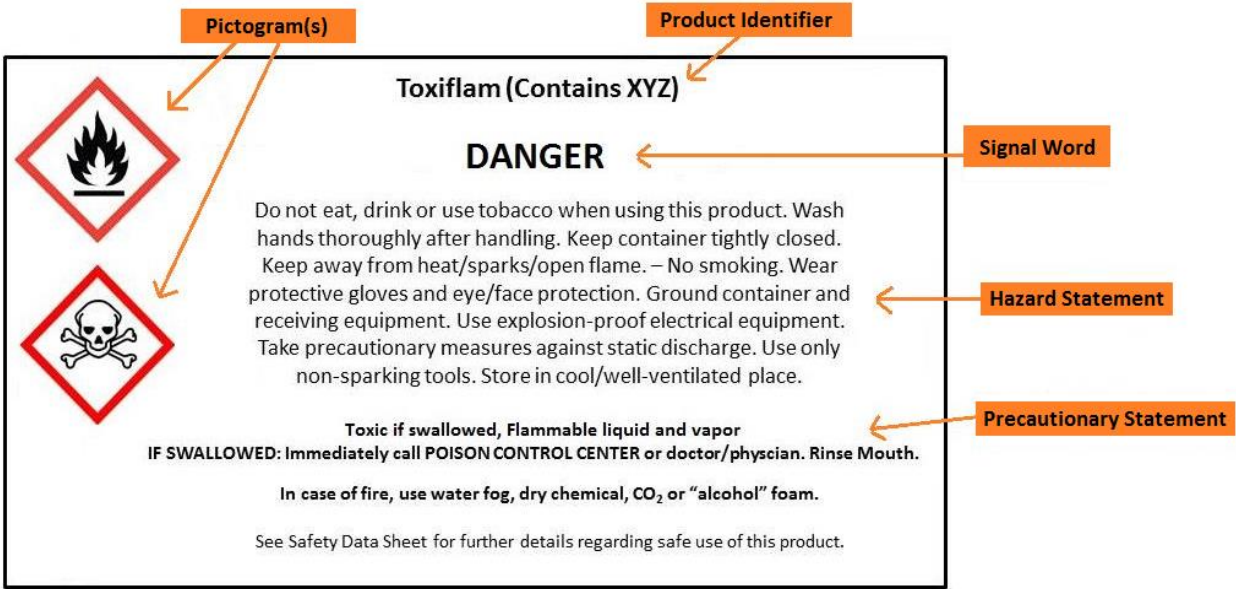
**3.1** Primary and secondary hazardous material containers, other than those defined as Legacy hazardous material containers, shall be labeled, tagged, or marked using one of the following methods:

- All the information specified under 29 CFR 1910.1200(f)(1)(i) through (vi):
  - Product identifier
  - Signal word
  - Hazard statement(s)
  - Pictograms(s)
  - Precautionary statement(s)
  - Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
- For secondary labels product identifier's, words, pictures, symbols or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under this procedure, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

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**FIGURE 2 New (GHS Compliant) Label Example**



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**Appendix C**  
**CHEMICAL COMPATIBILITY TABLE**

<b>NUMBER</b>	<b>CHEMICAL GROUP</b>	<b>DO NOT STORE WITH GROUP NUMBER</b>
1	Inorganic acids	2-8, 10, 11, 13, 14, 16-19, 21, 22, 23
2	Organic acids	1, 3, 4, 7, 14, 16, 17-19, 22
3	Caustics	1, 2, 6, 7, 8, 13-18, 20, 22, 23
4	Amines and alkanolamines	1, 2, 5, 7, 8, 13-18, 23
5	Halogenated compounds	1, 3, 4, 11, 14, 17
6	Alcohols, glycols, glycol ethers	1, 7, 14, 16, 20, 23
7	Aldehydes	1-4, 6, 8, 15-17, 19, 20, 23
8	Ketones	1, 3, 4, 7, 19, 20
9	Saturated hydrocarbons	20
10	Aromatic hydrocarbons	1, 20
11	Olefins	1, 5, 20
12	Petroleum oils	20
13	Esters	1, 3, 4, 19, 20
14	Monomers, polymerizable esters	1-6, 15, 16, 19-21, 23
15	Phenols	3, 4, 7, 14, 16, 19, 20
16	Alkylene oxides	1-4, 6, 7, 14, 15, 17-19, 23
17	Cyanohydrins	1-5, 7, 16, 19, 23
18	Nitriles	1-4, 16, 23
19	Ammonia	1, 2, 7, 8, 13-17, 20, 23
20	Halogens	3, 6-15, 19, 21, 22
21	Ethers	1, 14, 20
22	Elemental phosphorus	1-3, 20
23	Acid anhydrides	1, 3, 4, 6, 7, 14, 16-19