



Administrative Procedure

PRC-PRO-SH-40410

Hazard Communication Program

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**Project: CH2M HILL Plateau Remediation Company
Topic: Safety Health Security & Quality**

Administrative Use

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Rev 0-0, Converted PRC-RD-SH-13299 into a level 1 procedure.

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1.0 INTRODUCTION

This procedure describes the processes that are used to communicate hazardous chemical information to all personnel who work with hazardous chemicals during any activity within the CH2M HILL Plateau Remediation Company (CHPRC) work scope on the Hanford Site.

1.1 Purpose

This procedure provides for timely, complete and accurate delivery of information to employees about the hazards of chemicals to which they may be exposed. It integrates with the CHPRC Chemical Management Program (PRC-MP-SH-40015, *Chemical Management Plan* and PRC-PRO-SH-10468, *Chemical Management Process*).

1.2 Scope

The procedure fulfills the requirements and criteria of 29 CFR 1910.1200, *Hazard Communication* and 29 CFR 1926.59, *Hazard Communication*.

1.3 Applicability

This procedure applies to all CHPRC personnel and subcontractors, except for personnel who work in laboratories that have a written safety program that complies with 29 CFR 1910.1450, *Occupational Exposure to Chemicals in Laboratories*.

This procedure does not apply to the following general categories of materials: [For additional clarification, consult project assigned Occupational Safety & Industrial Hygiene (OS& IH) or the CHPRC Hazard Communication Technical Authority (HAZ COM TA)].

- Hazardous wastes/substances regulated by the Environmental Protection Agency under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- Personal use items, when workplace use is the same as normal consumer use and when such use does not result in a duration and frequency of exposure greater than the range of exposures which would reasonably be experienced by consumers using the product as intended by the manufacturer. Such items may include food, beverages, consumer products, cosmetics, drugs and first aid supplies.
- Manufactured articles that will not release a hazardous chemical under normal or anticipated conditions of use [as defined in 29 CFR 1910.1200(c)].
- Tobacco or tobacco products.
- Wood or wood products, except wood dust and wood products that have been treated with hazardous chemicals.
- Ionizing and non-ionizing radiation hazards, unless the product also contains substances possessing toxic properties, in which case it will be regulated as a chemical substance.
- Biological hazards.
- Potable and non-potable water supplies.

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1.4 Implementation

This procedure will be implemented upon date of publication.

2.0 RESPONSIBILITIES

All responsibilities associated with this procedure are identified in the process steps.

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3.0 PROCESS

3.1 Written Program

Actionee	Step	Action
HAZ COM TA	1.	REVIEW and maintain the written hazard communication program procedure.
Line Management	2.	IMPLEMENT the hazard communication program procedure at the facility/project.

3.2 Hazard Identification/Determination

Actionee	Step	Action
Line Management	1.	<p>Prior to purchase, ENSURE that an assigned OS&IH professional performs a hazard assessment of all chemicals suspected of being "hazardous chemicals."</p> <ul style="list-style-type: none"> This hazard assessment is performed using the chemical screening process delineated in PRC-PRO-SH-10468. Previous documented hazard assessments may be used if they are representative of the current conditions and hazards.

NOTE: *The purposes of the hazard assessment are to fulfill Occupational Safety and Health Administration (OSHA) and U.S. Department of Energy (DOE) 10 CFR 851 requirements to:*

- Determine if the chemical is a hazardous chemical per 29 CFR 1910.1200 definitions*
- Determine if it is a carcinogen to be controlled per the CHPRC Occupational Carcinogen Control process*
- Determine if substitution with a less hazardous chemical is feasible*
- Assure that the hazards are communicated to affected employees*
- Plan for necessary industrial hygiene assessments and exposure monitoring*
- Determine appropriate administrative and engineering controls*
- Determine appropriate personal protective equipment needs*
- Ensure that the planned hazardous chemical use falls within the established "safety envelope" of the project/facility.*

This analysis can be accomplished through judicious use of professional judgment combined with knowledge of the facility/operations and hazard controls. Where appropriate and when employee exposure is anticipated, the hazard assessment may be documented via such means as baseline hazard assessments, Job Hazard Analysis, etc.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Line Management	2.	ENSURE that a Material Safety Data Sheet (MSDS)/ Safety Data Sheet (SDS) is requested from the manufacturer for each chemical prior to purchase so that the chemical may be screened per PRC-PRO-SH-10468.
<p>NOTE: <i>The Global Harmonized System version of the MSDS is the SDS and provides 16 topical areas, which is a GHS requirement.</i></p> <ul style="list-style-type: none"> a. MSDSs/SDSs are to be requested for all hazardous chemicals and materials, including those products whose end use or decomposition will result in the liberation of dusts, fumes, or vapors (for example, MSDSs are required for lead blankets and welding and soldering rods and wires). b. SDSs are allowed only under the following circumstances: <ul style="list-style-type: none"> 1) All attempts to obtain a MSDS have been exhausted 2) An SDS watermark is clearly defined on the document 3) The SDS has been evaluated by project OS&IH to ensure that the document contains the required criteria as specified in 10 CFR 1910.1200 c. MSA is responsible for ensuring a watermark has been applied to all SDS's in the MSDS database. If a SDS is found without a watermark then it needs to be sent back to the MSA MSDS Administrator for placement of a watermark and should not be used until watermark has been applied. 		
OS&IH Professional	3.	PERFORM a hazard assessment as requested by Line Management using the chemical screening process.
	4.	DETERMINE if any additional controls are to be measured.
	5.	PROVIDE input into the hazard analysis documents.
Employees	6.	CONTACT project assigned OS&IH or the FCC with questions about chemicals, chemical mixtures, or chemical components.
	7.	For questions regarding, MSDSs/SDSs or secondary container labeling CONTACT either project assigned OS&IH or the FCC.
Line Management	8.	SUBSTITUTE hazardous chemicals or products with less hazardous chemicals or products whenever possible and: <ul style="list-style-type: none"> a. USE non-toxic, non-hazardous material whenever possible, and

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Actionee	Step	Action
Line Management	b.	CONTACT project assigned OS&IH or FCC for assistance in determining substitutes.
	9.	<u>IF</u> a chemical is a suspected or confirmed carcinogen, <u>THEN</u> ENSURE that it is identified as such on the purchase requisition in the "Notes" section.

NOTE: *A chemical is considered a carcinogen if it meets the definition of "carcinogen" contained in the CHPRC occupational carcinogen control process. Contact project assigned OS&IH with questions regarding the "carcinogenicity" of hazardous chemicals or the CHPRC TA for carcinogens. The project OS&IH may determine the hazardous chemicals constitute carcinogen hazards and are, therefore, subject to the CHPRC occupational carcinogen control process requirements, even if they contain less than 0.1% of the carcinogen component. Use of all identified carcinogens is controlled per this process.*

10. ENSURE that written justifications are provided in the "Notes" section of purchase requisitions for all carcinogens explaining why a non-carcinogenic material cannot be used and that the assigned OS&IH professional signs the justifications to indicate approval of the purchase.

3.3 Chemical Inventories

Actionee	Step	Action
FCC	1.	ENSURE that a comprehensive and current chemical inventory, listing all hazardous chemicals present in the work place, is compiled and maintained.
	2.	The chemical inventory shall INCLUDE the following information for each hazardous chemical in the inventory: <ul style="list-style-type: none"> • The identity, as referenced on the most recent MSDS/SDS for that specific hazardous chemical, • The manufacturer's name, • The current MSDS/SDS number, • The quantity, and • The storage location.
	3.	ENSURE the chemical inventory is posted in the location where the hazardous chemicals are stored/used or a location of the inventory is provided at the chemical storage area.

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Actionee	Step	Action
NOTE:		<i>Often CITS reports are printed and posted as the chemical inventory; CITS reports are marked "Official Use Only" and should be handled according to applicable procedures. They should be posted only in secure locations or kept on the inside of storage cabinets. For outdoor storage locations, a list of products only (no quantities or location information) can be posted at the site. Alternately, a posting stating the location of the inventory can be used.</i>
FCC	4.	ENSURE chemical inventories are updated in accordance with PRC-PRO-SH-10468.
	5.	STORE chemicals in accordance with PRC-PRO-SH-10468.

3.4 Material Safety Data Sheets (MSDSs)/Safety Data Sheets (SDS)

NOTE: *For guidelines on the use of electronic and hardcopy MSDS/SDS files, see Appendix B, MSDS/SDS Guidelines.*

Actionee	Step	Action
Line Management	1.	ENSURE that MSDSs/SDSs are obtained prior to procurement of all hazardous chemicals.
	2.	In the event that a chemical is produced onsite, ENSURE the manufacturer performs a hazard determination, <u>AND</u> ENSURE that the facility/project or subcontractor develop and provide an MSDS/SDS to the project OS&IH for evaluation and submittal to the MSA database.
	3.	<u>IF</u> MSDSs are obtained from a source other than the Hanford MSDS Administrator, e.g. the manufacturer or a subcontractor, <u>THEN</u> ENSURE a copy of the MSDS/SDS is sent to the MSDS Administrator for inclusion in the Hanford Site MSDS database. (Outlook e-mail address for Hanford MSDS Administrator: *MSDS Requests).
	4.	ENSURE that project/facility MSDS/SDS files are established, as necessary, to ensure MSDSs/SDSs are readily available to employees during each work shift.
	5.	<u>IF</u> the facility/project uses the Hanford online MSDS database as a full or partial means to meet MSDS/SDS accessibility requirements, <u>THEN</u> ENSURE that an adequate number of computer terminals with access to the Hanford online MSDS database are available during each shift during which exposure to hazardous chemicals may occur.
	6.	RETRIEVE an Electronic MSDS/SDS by using the directions in Appendix B.

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Actionee	Step	Action
Line Management	7.	<u>IF</u> hardcopy MSDS/SDS files are maintained, <u>THEN ENSURE</u> at an appropriate frequency that the most recent MSDS/SDS representing the product formulation(s) in use, as available through the Hanford online MSDS database or the Hanford MSDS Administrator, is available for each chemical or product in the project/facility chemical inventory list.
	8.	ENSURE MSDSs/SDSs for hazardous chemicals contained in project/facility hardcopy MSDS/SDS files contain identities that readily allow the user to match the MSDS/SDS with the identities on product container labels. <u>IF</u> difficulties are encountered meeting this requirement, <u>THEN CONTACT</u> the Hanford MSDS Administrator or the CHPRC Hazard Communication Technical Authority.
	9.	ENSURE that the location and availability of MSDSs/SDSs is communicated to any and all users of those hazardous chemicals prior to first use.
	10.	Upon request, ENSURE that MSDSs/SDSs are made readily available to employee representatives, official representatives of OSHA, DOE, Washington Industrial Safety and Health Administration (WISHA), or other CHPRC authorized health and safety inspectors.
Employees	11.	REVIEW the appropriate MSDS/SDS <u>AND FOLLOW</u> all control measures and safe handling methods when using chemicals.
	12.	<u>IF</u> an MSDS/SDS is not found, <u>THEN STOP</u> and contact project assigned OS&IH.

3.5 Hazardous Chemical Container Labeling

Actionee	Step	Action
Line Management	1.	ENSURE that each container of hazardous chemical used/stored in the project/facility has been labeled with a legible, prominently displayed label written in English.
	2.	ENSURE the original manufacturer/importer/distributor labels contain the following information, as a minimum: <ul style="list-style-type: none"> • The identity of the hazardous chemical, • The name and address of the manufacturer, importer or other responsible party, • Associated health and safety hazards, including target organ effects, and • Any additional information required by applicable OSHA substance-specific standards.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Line Management	3.	ENSURE that any original container labels that contain improper, inadequate, or illegible information are replaced with a fully and accurately completed Hanford Hazard Label and that Hanford Hazard Label information is verified each time that a new label is affixed.

NOTE: See Appendix C for an image of the Hanford Hazard label and details about the information it must contain.

4. CONTACT the Hanford MSDS Administrator for the following Hanford Hazard Label information:
 - Hazard ratings,
 - "Specific hazards" information,
 - "Target organ" information, and
 - Hazard rating date.

NOTE: All hazard rating information is provided by the Mission Support Contractor (MSC) Hazard Communication Technical Authority for consistency.

5. IF there is not adequate information to complete a Hanford Hazard Label, THEN TAKE the container out of service and:
 - RETURN to the vendor, OR
 - ANALYZE the contents to the extent necessary to ascertain all information necessary to prepare a Hanford Hazard label, OR
 - HANDLE as unknown waste.
6. CONTACT the assigned OS&IH professional for assistance regarding proper labeling should questions or issues occur.
7. ENSURE that if chemicals are transferred from the original container to a secondary container, a fully and accurately completed Hanford Hazard Label is affixed to the secondary container.
 - ENSURE Hanford Hazard Label information is verified each time a new label is affixed to the container.

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3.6 Employee Training

Actionee	Step	Action
Line Management	1.	<p>ENSURE that each employee who is or may be exposed to hazardous chemicals under normal conditions or in a foreseeable emergency is provided with documented Hazard Communication information and training. Training shall include:</p> <ul style="list-style-type: none"> • Details of the hazard communication program • Explanation of the Hanford labeling system • How to obtain MSDSs/SDSs • Operations in the facilities/projects where hazardous chemicals are present • Procedures or other measures implemented by the facilities/project to protect the employee from exposure to hazardous chemicals, including types and availability of personal protective equipment • Facilities/project emergency and first aid procedures to address applicable hazardous chemical exposure • Location and availability of written Hazard Communication Program • Methods and observations which can be used to detect presence of or release of the hazardous chemicals present in the facility/project • Physical and health hazards of the hazardous chemicals present in the facilities/project • Measures employees can take to protect themselves from the hazards • Identities of and any special provisions for carcinogenic hazardous chemicals present in the facilities/project

NOTE: *This training may be given through a combination of Hanford General Employee Training (HGET), Facility Emergency Hazards Identification Checklist (FEHIC), HAZWOPER, and safety or pre-job safety meetings.*

2. ENSURE that employees are provided with additional Hazard Communication information, as necessary, to ensure they are informed of the hazards of any new hazardous chemical prior to use or potential exposure.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Line Management	3.	ENSURE that CHPRC employees exposed to hazardous chemicals used/stored by subcontractor/vendor employees are informed of the hazards of such hazardous chemicals, including specific information as to where/how MSDSs/SDSs can be obtained.
	4.	ENSURE that subcontractors/vendor employees exposed to hazardous chemicals used/stored at CHPRC facilities are informed of the hazards of such hazardous chemicals, including specific information as to where/how MSDSs/SDSs can be obtained.
	5.	CONSULT and INVOLVE the assigned OS&IH professional when developing/delivering the project/facility-specific Hazard Communication information and training necessary to meet the training requirements outlined in step 1.

3.7 Multi-employer Workplaces

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Buyer's Technical Representative (BTR)	1.	REVIEW the written hazard communication program for subcontractors performing CHPRC scope of work at facilities under their control to ensure they have developed, implemented and maintained the program in accordance with 29 CFR 1910.1200 and 29 CFR 1926.59. <ol style="list-style-type: none"> a. <u>IF</u> subcontractors performing CHPRC scope of work do not develop their own hazard communication program, <u>THEN</u> INFORM them they shall use this procedure for their work operations.
Line Management	2.	ENSURE that subcontractor/vendor employers with employees working in or near CHPRC-controlled facilities are informed about the chemical and physical hazards of hazardous chemicals their employees may encounter.
	3.	ENSURE that prior to the subcontractor/vendor introducing chemicals or products to the work area, information from the subcontractor/vendor employer regarding the chemicals and the hazards associated with those chemicals is requested and procured. The information shall INCLUDE the MSDS/SDS and Hanford MSDS/SDS number, an assessment of the hazards the chemical presents using the chemical screening process outlined in PRC-PRO-SH-10468, as well as any occupancy permit checks that may be required.
BTR	4.	Prior to commencement of subcontractor/vendor work, ENSURE that all Hazard Communication information is exchanged with the subcontractor/vendor. Subcontractor/Vendor Pre-Job Hazard Communication, Appendix D, may be used for guidance.

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4.0 FORMS

N/A

5.0 RECORD IDENTIFICATION

N/A

6.0 SOURCES

6.1 Requirements

10 CFR 851 Subpart C, *Worker Safety and Health Programs, Specific Program Requirements*

10 CFR 851 Appendix A, *Worker Safety and Health Programs, Worker Safety and Health Functional Areas*

29 CFR 1910.1200, *Hazard Communication*

29 CFR 1926.59, *Hazard Communication*

6.2 References

29 CFR 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories*

10 CFR 851, *Worker Safety and Health Program*

PRC-MP-SH-40015, *Chemical Management Plan*

PRC-PRO-SH-10468, *Chemical Management Process*

PRC-RD-SH-10994, *Occupational Carcinogen Control*

7.0 APPENDIXES

Appendix A - Glossary

Appendix B - MSDS/SDS Guidelines

Appendix C - Hanford Hazard Label

Appendix D - Subcontractor/Vendor Pre-job Communication

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Appendix A - Glossary

This glossary is not intended to be a complete listing of all definitions necessary to understand and implement the CHPRC Hazard Communication program. Refer to 29 CFR 1910.1200, paragraph (c) and 29 CFR 1910.1200, Appendix B, for additional definitions and information.

TERM	DEFINITION
Acute Effects	Effects usually occurring rapidly as a result of short-term exposures, and of short duration. Examples are: irritation, corrosiveness, sensitization, lethal dose, and narcosis.
Biological Agent	A material of biological origin. Infectious biological agents may be classified as (1) viral and rickettsial, (2) bacterial, (3) fungal, or (4) parasitic. Noninfectious biologic agents, including saliva and dander, are those capable of eliciting an allergic, sensitizing, or other similar response.
Carcinogen	A chemical is considered to be a carcinogen if: <ul style="list-style-type: none"> • It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a Group 1, Group 2A or Group 2B carcinogen; or • It is listed in the National Toxicology Program's (NTP) "Annual Report on Carcinogens" (most recent edition) in the "<i>Agents, Substances, Mixtures or Exposure Circumstances Known to be Human Carcinogens</i>" listing or in the "<i>Agents, Substances, Mixtures or Exposure Circumstances Reasonably Anticipated to be Human Carcinogens</i>" listing; or • It is regulated by OSHA as a carcinogen in 29 CFR 1910, subpart Z or 29 CFR 1926, subpart Z; or • It is classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as Group A1 (confirmed human carcinogen) or Group A2 (suspected human carcinogen) carcinogen
NOTE:	<i>See PRC-RD-SH-10994, Carcinogen Control, for further requirements and information regarding control of occupational exposure to carcinogens.</i>
Chronic Effects	Effects generally occurring as a result of long-term exposure, and are of long duration. Examples are: carcinogenicity, mutagenicity, teratogenicity, anemia, liver atrophy, etc.
Corrosive	A chemical that causes visible destruction of or irreversible alterations in, living tissue by chemical action at the site of contact.
Foreseeable Emergency	Any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

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TERM	DEFINITION
Global Harmonized System (GHS)	GHS stands for the "Globally Harmonized System of Classification and Labelling of Chemicals". GHS is a system that defines and classifies the hazards of chemical products, and communicates health and safety information on labels and material safety data sheets (called Safety Data Sheets, or SDSs, in GHS). The goal is that the same set of rules for classifying hazards, and the same format and content for labels and safety data sheets (SDS) will be adopted and used around the world. An international team of hazard communication experts developed GHS.
Hazard Warning	Any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s). (See the definitions for "physical hazard" and "health hazard" to determine the types of hazards which must be covered.)

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TERM	DEFINITION
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Hazardous Chemical Any chemical or mixture of chemicals that is a health hazard or a physical hazard, as those terms are defined in OSHA and in this Appendix. Definitions of some of the most commonly encountered types of hazards are defined in this Appendix. For additional definitions and information regarding how to whether or not a chemical is hazardous, see 29 CFR 1910.1200, *Hazard Communication*, Appendices A and B.

The following table lists some hazard indication terms often found on container labels and MSDSs/SDSs that serve as a positive indication that a chemical shall be considered as a "hazardous chemical." This table is not intended to be all-inclusive. The assigned OS&IH professional should be consulted regarding which chemicals are to be considered as hazardous.

• Acutely toxic	• Oxidizer
• Carcinogenic	• Peroxide or peroxide former
• Chronically toxic	• Poison
• Combustible liquid	• Polymerization can occur
• Compressed gas	• Reactive
• Corrosive	• Reproductive hazard
• Explosive	• Sensitize
• Flammable liquid	• Strong acid (low pH<2)
• Flammable solid	• Strong base (high pH>12)
• Hazardous decomposition products	• Target organ effect indicated
• Highly toxic	• Teratogenic
• Incompatible storage	• Toxic
• Irritant to eyes, skin or respiratory tract	• Unstable/reactive
• Low temperature storage	• Water reactive
• Mutagenic	

- NOTE:**
- *Chemicals listed in the following publications are considered to be hazardous:*
 - *ACGIH, "Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment" (latest edition).*
 - *29 CFR 1910, Subpart Z, "Toxic and Hazardous Substances."*
 - *If a chemical mixture has been tested as a whole to determine its hazards, the results of this testing should be used for work use evaluation. If a mixture has not been tested as a whole to determine its hazards, it can be assumed to present the same hazards as each component that comprises at least one percent (1%) of the volume or weight. The assigned OS&IH professional should be contacted with questions about mixtures or components.*

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TERM	DEFINITION
Health Hazard	A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term health hazard includes chemicals which are carcinogens, toxic or highly-toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.
NOTE:	<i>For additional explanation and criteria regarding hazard determination, see 29 CFR 1910.1200, Hazard Communication, Appendices A and B.</i>
Immediate Use	Means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.
Irritant	A chemical which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.
Material Safety Data Sheet (MSDS)	Written or printed material concerning a hazardous chemical, which describes health, safety and environmental guidance for its use. MSDSs for hazardous chemicals used by CHPRC are prepared according to and containing all the information specified in 29 CFR 1910.1200(g).
Permissible Exposure Limit (PEL)	An exposure limit published and enforced by OSHA as a legal standard. The PEL may be either a time-weighted-average (TWA) 8-hour exposure limit, a 15-minute short-term exposure limit (STEL), or a ceiling (C). The PELs are found in 29 CFR 1910.1000, "Air Contaminants", Tables Z-1, Z-2, or Z-3 (see definition for threshold limit value).
Physical Hazard	A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive), or water reactive, as those reactivity terms are defined in 29 CFR 1910.1200.
Sensitizer	A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.
Safety Data Sheet (SDS)	The (Material) Safety Data Sheet (SDS) provides comprehensive information for use in workplace chemical management. Employers and workers use the SDS as sources of information about hazards and to obtain advice on safety precautions.

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TERM	DEFINITION
Target Organ Effects	<p>The following is a target organ categorization of effects that may occur, including examples of chemicals known to cause the target organ affects and signs and symptoms of exposure to those types of chemicals. The examples and signs/symptoms are presented to illustrate the range and diversity of effects and hazards found in the workplace, and the broad scope employers must consider in this area, but are not intended to be all-inclusive.</p> <p>Following each target organ category description are suggested statement(s) to be used, as appropriate, to completed the "target organ" portion of the Hanford hazard label (see Appendix B).</p> <ul style="list-style-type: none"> • Hepatotoxins: chemicals that produce liver damage. Signs and symptoms are jaundice and liver enlargement. Chemicals are carbon tetrachloride and nitrosamines. Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label: <i>causes (or can cause) liver damage.</i> • Nephrotoxins: chemicals that produce kidney damage. Signs and symptoms are edema and proteinuria. Chemicals are halogenated hydrocarbons and uranium. Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label: <i>causes (or can cause) kidney damage.</i> • Neurotoxins: chemicals that produce their primary toxic effects on the nervous system. Signs and symptoms are narcosis, behavioral changes and decreased motor functions. Chemicals are mercury and carbon disulfide. Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label: <i>causes (or can cause) nervous system damage.</i> • Agents that act on the blood or hematopoietic system, decrease hemoglobin function, deprive the body tissues of oxygen. Signs and symptoms are cyanosis and loss of consciousness. Chemicals are carbon monoxide and cyanides. Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label: <i>causes (or can cause) damage to blood-forming organs.</i> • Agents that damage the lung: chemicals that irritate or damage the pulmonary tissue. Signs and symptoms are cough, tightness in chest and shortness of breath. Chemicals are silica and asbestos. Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label: <i>causes (or can cause) lung damage.</i>

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TERM	DEFINITION
	<ul style="list-style-type: none"> • Cutaneous Hazards: chemicals that affect the dermal layer of the body. Signs and symptoms are defatting of the skin, rashes and irritation. Chemicals are ketones and chlorinated compounds. Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label: <ul style="list-style-type: none"> ○ For irritants: causes (or can cause) (severe) skin irritation. ○ For corrosives: causes (or can cause) irreversible skin/eye damage. ○ For sensitizers: causes (or can cause) (severe) allergic reaction. • Reproductive Toxins: chemicals that affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis). Signs and symptoms are birth defects and sterility. Chemicals are lead and DBCP. Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label: cause (or can cause) adverse effects on reproductive organs, or, for teratogens causes (or can cause) birth defects. • Eye Hazards: chemicals that affect the eye or visual capacity. Signs and symptoms are conjunctivitis and corneal damage. Chemicals are organic solvents, acids, and caustics. Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label: causes (or can cause) eye damage.
Threshold Limit Value (TLV)	<p>Devised by the American Conference of Governmental Industrial Hygienists (ACGIH), threshold limit values (TLVs) are airborne concentrations of substances that represent conditions under which it is believed that nearly all workers may be exposed day after day with no adverse effect. The TLV is an advisory exposure guideline based on evidence from industrial experience, animal studies, and human studies (when they exist). The basis upon which the values are established may differ from substance to substance. They are not to be considered fine lines between safe and dangerous conditions, nor are they a relative index of toxicity. TLVs should not be used by anyone untrained in the discipline of industrial hygiene.</p> <p>There are three different types of TLVs: time- weighted-average (TLV-TWA), short term exposure limit (TLV-STEL), and ceiling (TLV-C).</p> <p>Though TLVs do not, as opposed to OSHA PELs, have the force of law, CHPRC is required, by contractually imposed DOE orders, to use and observe them as occupational exposure limits.</p>

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TERM	DEFINITION
NOTE:	<i>CHPRC is not required to use or observe the Recommended Exposure Limit (RELs) established by the National Institute for Occupational Safety and Health (NIOSH).</i>
Toxicity	The potential of a substance to exert a harmful effect on humans or animals and a description of the effect and the conditions or concentration under which the effect takes place.
Work Area	A room or defined space in a workplace where hazardous chemicals are produced or used and where employees are present.
Workplace	An establishment at one geographical location containing one or more work areas.

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Appendix B - MSDS/SDS Guidelines

1. Instructions for retrieving an Electronic MSDS/SDS:
 - a. Use this link - http://www7.rl.gov/msds/msds_search.aspx to access the MSDS database.
 - b. Select "Search" in the upper left hand corner. This will take you to the MSDS Search screen.
 - c. On the lower part of the screen, type in any of the following information in the appropriate field:
 - The name of the product, and
 - The manufacturer of the product, and
 - The MSDS/SDS number. Some numbers have a letter at the end; this letter is placed in the "Suffix" box.
- NOTE:** *Placing a "%" sign before and after the word being searched will widen the search and increase the number of results.*
- d. Click on "Find." This will prompt a search of the database for the information entered. An MSDS/SDS Search Results list will be displayed.
 - e. Select the appropriate product from the MSDS Search Results list by clicking on "Retrieve."
 - f. The electronic copy MSDS/SDS will be displayed and can be printed as needed.
2. An MSDS/SDS may also be obtained, through e-mail (address *MSDS Requests) or via FAX from the Hanford MSDS Administrator, or by contacting the assigned OS&IH professional or Facility Chemical Custodian (FCC) with access to Chemical Inventory Tracking System [CITS]) or by requesting one from the chemical manufacturer/distributor.
 3. All hazardous materials on the Hanford Site must have an MSDS/SDS filed with the Mission Support Alliance (MSA) MSDS Administrators. Terms associated with this department include "Hanford MSDS Administration," "Hanford MSDS," "MSDS Administration," "MSA MSDS Administration," "MSDS System," etc. All MSDSs/SDSs that have processed through the MSDS Administration will have a five or six digit Hanford MSDS/SDS number stamped on it, generally in the upper right hand corner of the MSDS/SDS. If an MSDS/SDS is received or found missing this number, it should be considered unacceptable and MSDS Administration should be contacted and provided a copy of the unnumbered MSDS/SDS. With specific CHPRC OS&IH approval, on a case-by-case basis, unnumbered MSDSs/SDSs can be used temporarily.
 4. If a SDS is received or found missing the watermark, it should be sent back to the MSDS Administrator and should not be used until a watermark has been applied.

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5. MSDSs/SDSs should be in English and contain as a minimum, all information required by 29 CFR 1910.1200(g)(2). If an MSDS/SDS is known or suspected to be lacking necessary information, the assigned OS&IH professional should be contacted so additional data or a completed MSDS/SDS can be generated or requested from the supplier.
6. "Other MSDS System-provided images" include distributor/supplier letters specifying that a product name has changed or the MSDS System "MSDS Product Data" page, which lists previous product name(s) and manufacturer(s).
7. Every effort should be made to remove MSDSs/SDSs from hardcopy MSDS/SDS file collections for materials that are no longer used/stored in the workplace. This facilitates ease of finding relevant MSDSs/SDSs and reduces unnecessary paper. The Hanford MSDS Administrator maintains historical files of old MSDS/SDS sheets to meet the CHPRC recordkeeping requirements for MSDSs/SDSs.
8. MSDSs/SDSs may be kept in more than one format or may be selected and formatted to cover groups of chemicals in a work area where it may be more appropriate to address the hazards of a process rather than individual chemicals. The employer should ensure, in all cases, the required hazard information is provided for each chemical and is readily accessible to employees in their work area(s) during each work shift.

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This label is designed for use with an MSDS using the NFPA labeling system. If an SDS is being used for chemical labeling, then it is imperative that the project IH be consulted for labeling accuracy prior to label use.

The Hanford Hazard label has fields for identifying the product name, product manufacturer, hazard rating date and the Hanford MSDS number. Both the product name and Hanford MSDS number must match those on the corresponding MSDS for that chemical/product. The label also has color-coded fields for numerical ratings which depict the severity of hazard imposed by the hazardous chemical as follows:

- Health Hazard – Blue.
- Flammability Hazard – Red.
- Reactivity Hazard – Yellow.

The hazard severity ratings are indicated in the white box within the color-coded field according to the following scheme:

- | | |
|---|-----------------------|
| 0 | Minimal or no hazard. |
| 1 | Slight hazard. |
| 2 | Moderate hazard. |
| 3 | Serious hazard. |
| 4 | Severe hazard. |

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Figure 1 – Hanford Hazard Label

Product Name:				
MFG:				
Hazard Rating Date:				
MSDS NO.:			NFPA 704	
HEALTH				<input type="checkbox"/>
FLAMMABILITY				<input type="checkbox"/>
REACTIVITY				<input type="checkbox"/>
Specific Hazard				
Target Organ				
HAZARD SEVERITY				
0	1	2	3	4
MINIMAL	SLIGHT	MODERATE	SERIOUS	SEVERE
OX	A	B	W	CA
OXIDIZER	ACID	BASE	USE NO WATER	CARCINOGEN
<small>SWM Sign Shop 373-6318</small>			<small>Reorder No. 2W101010.1b</small>	

- Blank Hanford Hazard Labels can be obtained by contacting the MSA Sign Shop at 373-5682.
- All fields in the Hanford Hazard Label are mandatory. Any labels with missing information are considered non-compliant.
- The chemical manufacturer, importer, distributor or employer need not affix new labels to comply with this section if existing labels already convey the required information.

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Appendix D - SUBCONTRACTOR/VENDOR PRE-JOB HAZARD COMMUNICATION

Step 4 of Section 3.7 states that the subcontractor and CHPRC representative will communicate pre-job hazards prior to commencement of any work where subcontractor/vendor employees have actual/potential exposure to hazardous chemicals used/controlled by CHPRC or CHPRC employees have actual/potential exposure to hazardous chemicals used/controlled by subcontractors/vendors.

This appendix provides a list of the items that should be considered when exchanging HAZ COM information between CHPRC and the subcontractor. The subcontractor's/vendor's representative and the CHPRC Buyer Technical Representative (BTR) for the Project requesting the job, with the Facility Chemical Custodian (FCC), should jointly review the items listed in this form and share all information required with all affected employees.

CHPRC Project/Facility Responsibilities	
	Task
1	Inform the subcontractor/vendor of any potential chemical hazards to which the subcontractor's/vendor's employees could be exposed while performing work at the facility/project.
2	Inform the subcontractor/vendor of the identity(ies) of any CHPRC used/controlled hazardous chemical(s) to which the subcontractor's/vendor's employees have potential for exposure while performing work at the facility/project. Provide copies of MSDSs/SDSs with Hanford MSDS/SDS numbers, or specify where they may be readily obtained and how, for any CHPRC used/controlled hazardous chemicals the subcontractor's/vendor's employees may be exposed to while performing work at the facility/project.
3	Ensure the subcontractor/vendor has a copy of any procedure(s) to be followed and protective measures to be used, including personal protective equipment, to minimize exposure to CHPRC used/controlled chemical hazards to which the subcontractor's/vendor's employees could be exposed while performing work at the facility/project.
4	Give the subcontractor/vendor a copy of (or specify the location of) the written <i>Hazard Communication Program</i> .
5	Inform the subcontractor/vendor of the locations of the facility chemical inventory(ies).
6	Explain the Hanford hazard labeling system, as discussed in Section 3.5 and Appendix B and that the subcontractor must follow this system.

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	Task
1	Inform the CHPRC BTR of any potential hazards to which CHPRC employees could be exposed as a result of the subcontractor's/vendor's work at the facility/project.
2	Inform the CHPRC facility/project representative of the identity(ies) of any subcontractor/vendor owned/controlled hazardous chemical(s) to which CHPRC employees have potential for exposure while the subcontractor/vendor is performing work at the facility/project.
3	Provide a copy of the subcontractor/vendor written Hazard Communication Program, as applicable, to the CHPRC facility/project representative.
4	Request approval from the CHPRC Facility Chemical Custodian before bringing chemical products on site (PRC-PRO-SH-10468, Chemical Management Process). Update chemical inventory worksheet(s) upon restocking chemicals, and request approval for any new chemical products brought on site after initial approval.
5	Provide the CHPRC facility/project with MSDSs/SDSs for each subcontractor/vendor owned/controlled chemical product. Have MSDSs/SDSs for all chemical products and hazardous materials readily accessible to his/her own employees, affected CHPRC employees, and any other subcontractor's/vendor's employees at the work site.
6	Ensure that all affected employees have been or will be trained in accordance with 29 CFR 1910.1200 and on the information provided by the CHPRC facility/project BTR (the information listed in parts 1 through 6 above and verify the means used to certify that employees received the information.