



*One Team. One Culture.*

## **Administrative Procedure**

# **PRC-PRO-SH-40410**

## **Hazard Communication Program**

Revision 1, Change 0

Published: 10/14/2015

Effective: 10/14/2015

Program: Occupational Safety and Industrial Hygiene

Topic: Occupational Safety and Industrial Health

Technical Authority : Roblee, Richard

Functional Manager: Roueche, Kimberly

# **Use Type: Administrative**



**JHA: Administrative****Periodic Review Due Date: 10/14/2017**

Rev. 1, Chg. 0

USQ Screen Number:

- 100 K Facility : **Screening Determination Performed:**  
0092-2015  
**Screener:** Williams, James
- Canister Storage Building/Interim Storage Area : **Screening Determination Performed:**  
CSB-15-053  
**Screener:** Covey, Lori
- Central Plateau Surveillance and Maintenance : **Screening Determination Performed:**  
S&M-15-040  
**Screener:** Olsen, Ashley
- Less Than HazCat 3 : Excluded from USQ  
**Exclusion Reason:**  
Exempt from USQ Process per PRC-PRO-NS-062 section 1.3
- Plutonium Finishing Plant : **Categorical Exclusion:** GCX-7 (Minor Change)  
**Screener:** King, Jeffry
- Solid Waste Operations Complex : **Screening Determination Performed:**  
SWOC-15-041  
**Screener:** Olsen, Ashley
- Transportation : Excluded from USQ  
**Exclusion Reason:**  
N/A per Appendix B, Table B-2
- Waste Encapsulation Storage Facility : **Screening Determination Performed:**  
WESF-15-069  
**Screener:** Covey, Lori

**CHANGE SUMMARY****Description of Change**

The document was revised to incorporate GHS requirements.

Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

TABLE OF CONTENTS

1.0 INTRODUCTION ..... 2

    1.1 Purpose..... 2

    1.2 Scope ..... 2

    1.3 Applicability ..... 2

    1.4 Implementation ..... 3

2.0 RESPONSIBILITIES ..... 3

3.0 PROCESS..... 4

    3.1 Written Program ..... 4

    3.2 Hazard Identification/Determination ..... 4

    3.3 Chemical Inventories ..... 6

    3.4 Safety Data Sheets (SDSs)/ Material Safety Data Sheets (MSDSs) ..... 7

    3.5 Hazardous Chemical Container GHS Labeling..... 9

    3.6 Employee Training ..... 11

    3.7 Multi-employer Workplaces ..... 12

4.0 FORMS ..... 13

5.0 RECORD IDENTIFICATION ..... 13

6.0 SOURCES ..... 13

    6.1 Requirements..... 13

    6.2 References..... 13

List of Figures

Figure 1 – Hanford Hazard Label ..... 24

List of Appendixes

Appendix A - Glossary ..... 14

Appendix B - SDS/MSDS Guidelines ..... 21

Appendix C - Hanford Hazard Label..... 23

Appendix D - SDS Compliant Secondary Label ..... 25

Appendix E - Filling out SDS Secondary Container Labels ..... 26

Appendix F - Subcontractor/Vendor Pre Job Hazard Communication ..... 27

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

### 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 PRC-PRO-SH-40516, *Chemical Management Program*.

#### 1.2 Scope

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

#### 1.3 Applicability

This procedure applies to all CHPRC personnel and subcontractors.

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

**Hazard Communication Program**

**Published Date: 10/14/2015**

**Effective Date: 10/14/2015**

---

**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.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

### 3.0 PROCESS

#### 3.1 Written Program

Actionee	Step	Action
HAZ COM TA	1.	REVIEW <u>AND</u> 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&amp;IH professional performs a hazard assessment of all products suspected of being "hazardous chemicals."</p> <ul style="list-style-type: none"> <li>This hazard assessment is performed using the chemical screening process delineated in PRC-PRO-SH-40516.</li> <li>Previous documented hazard assessments may be used if they are representative of the current conditions and hazards.</li> </ul>

**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 product is a hazardous chemical per 29 CFR 1910.1200 definitions*
- Determine if it is a carcinogen or contains a carcinogen to be controlled per the CHPRC Occupational Carcinogen Control process PRC-PRO-SH-40469*
- 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 engineering and administrative 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.*

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

Actionee	Step	Action
Line Management	2.	ENSURE that a Safety Data Sheet (SDS)/Material Safety Data Sheet (MSDS) is requested from the manufacturer for each chemical prior to purchase so that the chemical may be screened per PRC-PRO-SH-40516.
<p><b>NOTE:</b> <i>The Globally Harmonized System (GHS) version of the MSDS is the SDS and provides 16 topical areas, which is a GHS requirement. SDSs are starting to be seen in the workplace and will become more commonplace in the near future.</i></p>		
	a.	SDSs/MSDSs 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, SDSs/MSDSs are required for lead blankets and welding and soldering rods and wires. Products such as these are considered articles and as such they may produce a hazard when they are used this is why the SDS/MSDS is needed)(after December 2015 request only SDSs).
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 Occupational Safety & Industrial Hygiene (OS&IH) or the Facility Chemical Custodian (FCC) with questions about chemicals, chemical mixtures, chemical components, SDSs/MSDSs or secondary container labeling.
Line Management	7.	SUBSTITUTE hazardous chemicals or products with less hazardous chemicals or products whenever possible and: <ul style="list-style-type: none"> <li>a. USE non-toxic, non-hazardous material whenever possible, and</li> <li>b. CONTACT project assigned OS&amp;IH or FCC for assistance in determining substitutes.</li> </ul>

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

<b>Actionee</b>	<b>Step</b>	<b>Action</b>
Line Management	8.	<u>IF</u> a chemical is or contains a suspected or confirmed carcinogen, <u>THEN ENSURE</u> 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 Technical Authority (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.*

9. 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

<b>Actionee</b>	<b>Step</b>	<b>Action</b>
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"> <li>• The identity, as referenced on the most recent SDS/MSDS for that specific hazardous chemical,</li> <li>• The manufacturer's name,</li> <li>• The current SDS/MSDS number,</li> <li>• The quantity, and</li> <li>• The storage location.</li> </ul>
	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.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

Actionee	Step	Action
<b>NOTE:</b>		<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-40516.
	5.	STORE chemicals in accordance with PRC-PRO-SH-40516.

### 3.4 Safety Data Sheets (SDSs)/ Material Safety Data Sheets (MSDSs)

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

Actionee	Step	Action
Line Management	1.	ENSURE that SDSs/MSDSs are obtained prior to procurement of all hazardous chemicals (After December, 2015 request only SDSs).
	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 a SDS/MSDS 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 SDS/MSDS Administrator, e.g. the manufacturer or a subcontractor, <u>THEN</u> ENSURE a copy of the SDS/MSDS is sent to the SDS/MSDS Administrator for inclusion in the Hanford Site SDS/MSDS database.
	4.	ENSURE that project/facility SDS/MSDS files are established, as necessary, to ensure SDSs/MSDSs are readily available to employees during each work shift.
	5.	<u>IF</u> the facility/project uses the Hanford online SDS/MSDS database as a full or partial means to meet SDS/MSDS accessibility requirements, <u>THEN</u> ENSURE that an adequate number of computer terminals with access to the Hanford online SDS/MSDS database are available during each shift during which exposure to hazardous chemicals may occur.
	6.	RETRIEVE an Electronic SDS/MSDS by using the directions in Appendix B.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

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

**NOTE:** *After December 2015 only SDSs will be accepted for products received by CHPRC. MSDSs will still be used until products are no longer needed or until the proper SDS can be obtained*

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

### 3.5 Hazardous Chemical Container GHS Labeling

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Line Management	1.	ENSURE that each container of hazardous chemical used/stored in the project/facility after June 2016 has been labeled with a legible, prominently displayed GHS compliant label written in English.
	2.	ENSURE the original manufacturer/importer/distributor GHS labels contain the following information, as a minimum: <ul style="list-style-type: none"> <li>• Product Identifier,</li> <li>• Signal Word,</li> <li>• Hazard Statement(s),</li> <li>• Pictogram(s),</li> <li>• Precautionary Statement(s)</li> <li>• The name, address and telephone number of the manufacturer, importer or other responsible party.</li> </ul>
Line Management	3.	If the product label has been defaced and no longer legible; THEN ensure product is taken out of service and not used.
	4.	If the product container was obtained prior to December 2015 and has a valid MSDS then the original manufacturer/importer/distributor product label shall be legible, prominently displayed and written in English with the following information, as a minimum: <ul style="list-style-type: none"> <li>• The identity of the hazardous chemical,</li> <li>• The name and address of the manufacturer, importer, or other responsible party,</li> <li>• Associated health and safety hazards, including target organ effects, and</li> <li>• Any additional information required by applicable OSHA substance specific standards.</li> </ul>
	5.	Chemicals which do not have SDSs either because the manufacturer is no longer in business or the product has been discontinued will continue to use the MSDS until such time the remainder of the product has been used up or it is declared waste.
	6.	CONTACT the assigned OS&IH professional for assistance regarding proper labeling should questions or issues occur.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
	7.	<p>ENSURE that if a chemical is transferred from the original container to a secondary container and it is not to be used during that shift, a fully and accurately completed Secondary Container Label is affixed to the container. For chemicals which have a MSDS the current Hanford Hazard Label can be used. For chemicals which have a SDS a different label needs to be obtained. Information regarding the approved secondary label is included in Appendix D of this document. Instructions on how to fill out the SDS Secondary Container Label are found in Appendix E. The label must contain the following information:</p> <ul style="list-style-type: none"><li>• Product Identifier (including SDS number)</li><li>• Signal Word (Danger or Warning)</li><li>• Hazard Statement(s)</li><li>• Pictogram(s)</li><li>• Precautionary Statement(s)</li><li>• The individual who obtains the secondary container of chemical is responsible for handling it. They must ensure they control the container and secure it if they are leaving the work area.</li></ul>
	8.	<p>The other way to identify chemicals placed in a secondary container is to use product identifiers and words, pictures, symbols, or a combination thereof, which provide at least general information regarding the hazards of the chemicals, and which in conjunction with other information immediately available to employees will provide the specific information regarding the physical and health hazards of the chemical.</p>

An example of this type of secondary labeling may be a word label of diesel fuel on a five gallon container. The hazards of this material are well known and understood and the workers can easily look up the SDS/MSDS when necessary. The SDS/MSDS number could be included for additional information.

Additional information can be found in Appendix D of this document.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

### 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"> <li>• Details of the hazard communication program</li> <li>• Explanation of the Hanford labeling system</li> <li>• How to obtain SDSs/MSDSs</li> <li>• Operations in the facilities/projects where hazardous chemicals are present</li> <li>• 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</li> <li>• Facilities/project emergency and first aid procedures to address applicable hazardous chemical exposure</li> <li>• Location and availability of written Hazard Communication Program</li> <li>• Methods and observations which can be used to detect presence of or release of the hazardous chemicals present in the facility/project</li> <li>• Physical and health hazards of the hazardous chemicals present in the facilities/project</li> <li>• Measures employees can take to protect themselves from the hazards</li> <li>• Identities of and any special provisions for carcinogenic hazardous chemicals present in the facilities/project</li> </ul>

**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.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

<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 SDSs/MSDSs 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 SDSs/MSDSs 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 Rep. (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. <ol style="list-style-type: none"> <li>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.</li> </ol>
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 SDS/MSDS and Hanford SDS/MSDS number, an assessment of the hazards the chemical presents using the chemical screening process outlined in PRC-PRO-SH-40516, 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.

**Hazard Communication Program**

Published Date: 10/14/2015

Effective Date: 10/14/2015

---

**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*

**6.2 References**

PRC-PRO-SH-40516, *Chemical Management Process*

PRC-PRO-SH-40469, *Occupational Carcinogen Control*

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

## 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
<b>Acute Effects</b>	Effects usually occurring rapidly as a result of short-term exposures, and of short duration. Examples are: irritation, corrosiveness, sensitization, lethal dose, and narcosis.
<b>Biological Agent</b>	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.
<b>Carcinogen</b>	<p>A chemical is considered to be a carcinogen if:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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</li> <li>• It is regulated by OSHA as a carcinogen in 29 CFR 1910, subpart Z or 29 CFR 1926, subpart Z; or</li> <li>• 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</li> </ul>
<b>NOTE:</b>	<i>See PRC-PRO-SH-40469, Carcinogen Control, for further requirements and information regarding control of occupational exposure to carcinogens.</i>
<b>Chronic Effects</b>	Effects generally occurring as a result of long-term exposure, and are of long duration. Examples are: carcinogenicity, mutagenicity, teratogenicity, anemia, liver atrophy, etc.
<b>Corrosive</b>	A chemical that causes visible destruction of or irreversible alterations in, living tissue by chemical action at the site of contact.
<b>Foreseeable Emergency</b>	Any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

TERM	DEFINITION
	uncontrolled release of a hazardous chemical into the workplace.
<b>Global Harmonized System (GHS)</b>	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.
<b>Hazard Warning</b>	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.)

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

TERM	DEFINITION																														
<b>Hazardous Chemical</b>	<p>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, <i>Hazard Communication</i>, Appendices A and B.</p> <p>The following table lists some hazard indication terms often found on container labels and SDSs/MSDSs 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&amp;IH professional should be consulted regarding which chemicals are to be considered as hazardous.</p> <table border="1" data-bbox="448 825 1433 1465"> <tbody> <tr><td>• Acutely toxic</td><td>• Oxidizer</td></tr> <tr><td>• Carcinogenic</td><td>• Peroxide or peroxide former</td></tr> <tr><td>• Chronically toxic</td><td>• Poison</td></tr> <tr><td>• Combustible liquid</td><td>• Polymerization can occur</td></tr> <tr><td>• Compressed gas</td><td>• Reactive</td></tr> <tr><td>• Corrosive</td><td>• Reproductive hazard</td></tr> <tr><td>• Explosive</td><td>• Sensitize</td></tr> <tr><td>• Flammable liquid</td><td>• Strong acid (low pH&lt;2)</td></tr> <tr><td>• Flammable solid</td><td>• Strong base (high pH&gt;12)</td></tr> <tr><td>• Hazardous decomposition products</td><td>• Target organ effect indicated</td></tr> <tr><td>• Highly toxic</td><td>• Teratogenic</td></tr> <tr><td>• Incompatible storage</td><td>• Toxic</td></tr> <tr><td>• Irritant to eyes, skin or respiratory tract</td><td>• Unstable/reactive</td></tr> <tr><td>• Low temperature storage</td><td>• Water reactive</td></tr> <tr><td>• Mutagenic</td><td></td></tr> </tbody> </table>	• 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	
• 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.*

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

TERM	DEFINITION
<b>Health Hazard</b>	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, hematopoietic toxins, and agents which damage the lungs, skin, eyes, or mucous membranes.
<b>Immediate Use</b>	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.
<b>Irritant</b>	A chemical which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.
<b>Material Safety Data Sheet (MSDS)</b>	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 the previous HAZCOM standard and are in the process of being phased out and replaced by SDSs.
<b>Permissible Exposure Limit (PEL)</b>	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).
<b>Physical Hazard</b>	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.
<b>Safety Data Sheet (SDS)</b>	The 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.
<b>Sensitizer</b>	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.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

TERM	DEFINITION
<b>Target Organ Effects</b>	<p>This information is for MSDS secondary labeling only. 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 complete the "target organ" portion of the Hanford hazard label (see Appendix B).</p> <ul style="list-style-type: none"> <li>• <b>Hepatotoxins:</b> 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: <b><i>causes (or can cause) liver damage.</i></b></li> <li>• <b>Nephrotoxins:</b> 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: <b><i>causes (or can cause) kidney damage.</i></b></li> <li>• <b>Neurotoxins:</b> 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: <b><i>causes (or can cause) nervous system damage.</i></b></li> <li>• <b>Hematopoietic toxins:</b> 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: <b><i>causes (or can cause) damage to blood-forming organs.</i></b></li> <li>• <b>Agents that damage the lung:</b> 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: <b><i>causes (or can cause) lung damage.</i></b></li> </ul> <p><b>Cutaneous Hazards:</b> 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.</p>

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

TERM	DEFINITION
	<p>Recommended statement for "Target Organ Affects" portion of Hanford Hazard Label:</p> <ul style="list-style-type: none"> <li>○ <b>For irritants:</b> causes (or can cause) (severe) skin irritation.</li> <li>○ <b>For corrosives:</b> causes (or can cause) irreversible skin/eye damage.</li> <li>○ <b>For sensitizers:</b> causes (or can cause) (severe) allergic reaction.</li> </ul> <ul style="list-style-type: none"> <li>● <b>Reproductive Toxins:</b> 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: <b>causes (or can cause) adverse effects on reproductive organs</b>, or, for teratogens <b>causes (or can cause) birth defects</b>.</li> <li>● <b>Eye Hazards:</b> 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: <b>causes (or can cause) eye damage</b>.</li> </ul>
<p><b>Threshold Limit Value (TLV)</b></p>	<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 <b>not</b> to be considered fine lines between safe and dangerous conditions, nor are they a relative index of toxicity. TLVs should <b>not</b> 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 contractually by DOE to use and observe them as occupational exposure limits.</p>
<p><b>NOTE:</b></p>	<p><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></p>

**Hazard Communication Program**

Published Date: 10/14/2015

Effective Date: 10/14/2015

<b>TERM</b>	<b>DEFINITION</b>
<b>Toxicity</b>	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.
<b>Work Area</b>	A room or defined space in a workplace where hazardous chemicals are produced or used and where employees are present.
<b>Workplace</b>	An establishment at one geographical location containing one or more work areas.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

### Appendix B - SDS/MSDS Guidelines

#### 1. Instructions for retrieving an Electronic SDS/MSDS:

Use this link - [http://www7.rl.gov/msds/msds\\_search.aspx](http://www7.rl.gov/msds/msds_search.aspx) to access the SDS/MSDS database.

Select "Search" in the upper left hand corner. This will take you to the MSDS Search screen.

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 SDS/MSDS 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.*

Click on "Find." This will prompt a search of the database for the information entered. A SDS/MSDS Search Results list will be displayed.

Select the appropriate product from the SDS/MSDS Search Results list by clicking on "Retrieve."

The electronic copy SDS/MSDS will be displayed and can be printed as needed.

A SDS/MSDS may also be obtained 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.

All hazardous materials on the Hanford Site must have an SDS/MSDS filed with the Mission Support Alliance (MSA) SDS/MSDS Administrators. Terms associated with this department include "Hanford SDS/MSDS Administration," "Hanford SDS/MSDS," "SDS/MSDS Administration," "MSA SDS/MSDS Administration," "SDS/MSDS System," etc. All SDSs/MSDSs that have processed through the SDS/MSDS Administration will have a five or six digit Hanford SDS/MSDS number stamped on it, generally in the upper right hand corner of the SDS/MSDS. If an SDS/MSDS is received or found missing this number, it should be considered unacceptable and SDS/MSDS Administration should be contacted and provided a copy of the unnumbered SDS/MSDS. With specific CHPRC OS&IH approval, on a case-by-case basis, unnumbered SDSs/MSDSs can be used temporarily.

SDSs/MSDSs shall be in English and contain as a minimum, all information required by 29 CFR 1910.1200(g) (2). If a SDS/MSDS is known or suspected to be lacking the required information, the assigned OS&IH professional should be contacted so additional data or a completed SDS/MSDS can be generated or obtained from the supplier.

"Other MSDS System-provided images" include distributor/supplier letters specifying that a product name has changed or the SDS/MSDS System "MSDS Product Data" page, which lists previous product name(s) and manufacturer(s).

**Hazard Communication Program**

**Published Date: 10/14/2015**

**Effective Date: 10/14/2015**

---

Every effort should be made to remove SDSs/MSDSs from hardcopy SDS/MSDS file collections for materials that are no longer used/stored in the workplace. This facilitates ease of finding relevant SDSs/MSDSs and reduces unnecessary paper. The Hanford SDS/MSDS Administrator maintains historical files of old SDS/MSDS sheets to meet the CHPRC recordkeeping requirements for SDSs/MSDSs.

SDSs/MSDSs 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.

**Hazard Communication Program****Published Date: 10/14/2015****Effective Date: 10/14/2015****Appendix C - Hanford Hazard Label**

This label is designed for use with an MSDS using the NFPA labeling system. It is important to remember that only a chemical with a current MSDS can be used to fill out this label. Refer to Appendix D if you are using a chemical with a SDS. When MSDSs are phased out (after June 2016) this label will no longer be used.

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.        |

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

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				
<b>HAZARD SEVERITY</b>				
<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
MINIMAL	SLIGHT	MODERATE	SERIOUS	SEVERE
<b>OX</b>	<b>A</b>	<b>B</b>	<b>W</b>	<b>CA</b>
OXIDIZER	ACID	BASE	USE NO WATER	CARCINOGEN
<small>SWM Sign Shop 373-6316</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.

**Hazard Communication Program**

Published Date: 10/14/2015

Effective Date: 10/14/2015

**Appendix D - SDS Compliant Secondary Label**

GHS requires secondary containers to be properly labeled if the contents is not used in the same work shift. The container must be identified one two ways. The specifics of this can be found in Sections 3.5.7 and 3.5.8 of this document.

The primary way to properly label a secondary container is to fill out a pre-printed Warning or Danger Label shown below and fill out the proper information found on the SDS. It is important to remember that only a GHS compliant SDS can be used when completing this label.

The five areas of information which must be filled out are the Product Identifier and SDS number, the Signal Word (Dangerous or Warning), The Pictograms (as found on the SDS), the Hazard Statements (as found on the SDS) and the Precautionary Statements (as found on the SDS).

All areas on the Label must be filled out. Contact your OS/IH representative or your FCC for assistance.

**DANGER**

PRODUCT IDENTIFIER

PRECAUTIONARY STATEMENT

HAZARD STATEMENT

Three diamond-shaped pictogram boxes at the bottom.

**WARNING**

PRODUCT IDENTIFIER

PRECAUTIONARY STATEMENT

HAZARD STATEMENT

Three diamond-shaped pictogram boxes at the bottom.

**Hazard Communication Program****Published Date: 10/14/2015****Effective Date: 10/14/2015****Appendix E - Filling out SDS Secondary Container Labels**

When chemicals will be transferred into a secondary container and the chemical will not be used up in the same shift, a secondary label will need to be developed and completed for the chemical prior to the dispensing of the chemical.

The first step is to obtain a current Safety Data Sheet (SDS) for the product to be dispensed. This can be obtained by going on the SDS-MSDS System website. This will give you the necessary information to properly fill out the secondary chemical label. Only individuals who have completed Course # 170701, GHS/HAZCOM Advanced Course are allowed to complete the Secondary Container Label.

Review the SDS to determine if a Danger or Warning Label is required. Obtain a permanent marking pen to fill in the needed information. It is important to write as precisely and legibly as possible since others will need to be able to read and understand the information.

Fill out the Product Identifier (name) and include the SDS number.

Review the Hazard Statements and Precautionary Statements on the SDS and transfer them to the proper area of the label. Apply the proper pictogram stickers on the Secondary Container Label. The specific pictograms can be found on the chemical's SDS.

If there is not enough room for hazard statements, precautionary statements or pictograms, then two labels can be combined to make one complete label.

Questions about secondary chemical labeling should be directed to the HAZCOM TA.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

### Appendix F - 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 an actual/potential exposure to hazardous chemicals used/controlled by CHPRC or CHPRC employees have an 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 HAZCOM 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 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 SDSs/MSDSs 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.
6	Explain the Hanford hazard labeling system, as discussed in Section 3.5 and Appendix C and Appendix D and that the subcontractor must follow this system.

## Hazard Communication Program

Published Date: 10/14/2015

Effective Date: 10/14/2015

## Subcontractor/Vendor Responsibilities

	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 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-40516, 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 SDSs/MSDSs for each subcontractor/vendor owned/controlled chemical product. Have SDSs/MSDSs 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.