

Administrative Procedure, Level 1 - Company Wide

CPCC-PRO-EP-40516

Chemical Management Program

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Program: Environmental Protection

Topic: Environmental Protection

Technical Authority: Aardal, Pamela K

Functional Manager: Garcia, Erika A

Use Type: Administrative



USQ Facility	USQ Review	Screener
105 KW Facility	(Screening/Determination Performed (no issues)) <i>105KW-25-0024</i>	Meyer, Matthew F
324 Building	(Screening/Determination Performed (no issues)) <i>324-25-032</i>	Garrett, Robert J
Below HazCat 3	Exclusion Reason: <i>N/A per 1.3</i>	
Canister Storage Building/Interim Storage Area	(Screening/Determination Performed (no issues)) <i>CSB-25-024</i>	Garrett, Robert J
Capsule Storage Area	(Screening/Determination Performed (no issues)) <i>CSA-25-045</i>	Garrett, Robert J
D4ES-Central Plateau	GCX-7 (Minor Change)	Griebel, Scott D
Solid Waste Operations Complex	(Screening/Determination Performed (no issues)) <i>SWOC-25-013</i>	Jacobs, Orvil M
Transportation	Exclusion Reason: <i>N/A per B-20</i>	
Waste Encapsulation Storage Facility	(Screening/Determination Performed (no issues)) <i>WESF-25-109</i>	Garrett, Robert J

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Change Summary

Description of Change

Updating program moving from Safety and Health to Environmental Program.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

TABLE OF CONTENTS

1.0 INTRODUCTION2

 1.1 Purpose.....2

 1.2 Scope.....2

 1.3 Applicability2

 1.4 Implementation2

2.0 RESPONSIBILITIES.....2

 2.1 Chemical Management Program Technical Authority (TA).....2

 2.2 Operations Line Management.....3

 2.3 Facility Chemical Custodian.....3

 2.4 Industrial Hygiene4

 2.5 Project Chemical Engineer4

 2.6 Emergency Preparedness4

 2.7 Fire Protection.....4

 2.8 Buyer Technical Representative4

3.0 PROCESS5

 3.1 Chemical Procurement5

 3.2 Receipt of Chemicals7

 3.3 Chemical Storage8

 3.4 Relocation Chemicals8

 3.5 Use of Chemicals Past Expiration Date9

 3.6 Final Disposition of Chemicals.....10

 3.7 Perform Quarterly and Annual Facility Chemical Inventory11

 3.8 Handling of Hazardous Chemicals by Subcontractors on the Hanford Site.....11

4.0 FORMS.....14

 4.1 Managed Forms.....14

5.0 RECORD IDENTIFICATION.....14

 5.1 Managed Records.....14

 5.2 Requirements.....14

 5.3 References.....14

List of Appendixes

Appendix A - Glossary16

Appendix B - Chemical Expiration Extension Guidance.....22

Chemical Management Program**Published Date: 03/17/2025****Effective Date: 03/17/2025****1.0 INTRODUCTION****1.1 Purpose**

This Procedure describes the process used to acquire, receive, store, track, and disposition chemical product(s). This procedure also describes the process to conduct chemical screenings.

1.2 Scope

This procedure applies to chemical products managed by CPCCo and its subcontractors at the Hanford Site.

1.3 Applicability

This procedure applies to all CPCCo personnel and subcontractors involved in the management of chemical products at CPCCo.

NOTE: *While consumer products are exempt from this procedure, project waste disposal requirements still apply.*

Personal use items are exempt from this procedure when stored in the same quantity, form, packaging, and concentration available for general consumer use, and used for their intended purpose. The workplace use must be the same as the normal consumer use and the duration and frequency of exposure must be in 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.

This procedure does not apply to waste or radioactive materials.

1.4 Implementation

This procedure is effective on the date published.

Facility Chemical Custodians complete the qualification card, 604001, *Facility Chemical Custodian*, and computer-based training course 530071, *CITS User Training*. Qualification card is to be completed with 6 months of being assigned as a facility chemical custodian.

2.0 RESPONSIBILITIES**2.1 Chemical Management Program Technical Authority (TA)**

- Serve as the subject matter expert for the chemical management program at CPCCo.
- Serve as the point of contact for the chemical management webpage.
- Provide and update the names of the designated facility chemical custodians (FCCs).
- Coordinate FCC meetings.

Chemical Management Program**Published Date: 03/17/2025****Effective Date: 03/17/2025**

- Provide training topics as identified to the FCCs.
- Provide guidance and mentorship to the FCCs and line management.
- Complete the environmental screening for Emergency Planning and Community Right to Know Act (EPCRA) on the Chemical Product Screening (CPS) form.
- Coordinate the gathering of CPCCo's EPCRA Tier II and Toxic Release Inventory (TRI) reporting and certification of documents. Submit certified CPCCo report to HMIS annually.

2.2 Operations Line Management

- Ensure frequent program reviews are completed and documented in the facility operations log to assure the requirements of this procedure are being effectively implemented and followed at the project.
- Approve chemical for use at their projects/facilities.
- Ensure the FCC has completed the FCC qualification card within 6 months of being assigned FCC duties and has the appropriate amount of time to adequately manage the chemical inventory and all responsibilities required by the chemical management program at their facilities/projects that they are responsible for.
- Promote the selection and use of safe and environmentally friendly chemicals, whenever feasible.
- Ensure removal of chemicals for disposition or excess when they are no longer needed.
- Ensure proper storage and segregation of chemicals according to compatibility.
- Approve chemical purchases.

2.3 Facility Chemical Custodian

- Facilitate the completion of the Chemical Product Screening (CPS) form, including obtaining authorization /signatures from Emergency Preparedness, Industrial Hygiene, Fire Protection, Environment Protection and submit completed CPS to IDMS and Chemical Management Technical Authority
- Update and review the Chemical Inventory Tracking System (CITS) for available inventory for their facilities/projects.
- Complete quarterly chemical inventories and complete the annual facility chemical inventory/verification in CITS for EPCRA Tier II and Toxic Release Inventory (TRI) reporting.
- Ensure proper storage and segregation of chemicals according to compatibility.
- Ensure accuracy of chemical inventories.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

2.4 Industrial Hygiene

- Review SDS/MSDS and evaluate new chemicals for hazards, particularly for carcinogens, sensitizers, and highly hazardous characteristics.
- Inform project if a less hazardous chemical is available that performs that same function.
- Assist projects in determining if there are any quality and/or safety issues when contemplating the extension of the expiration date of chemical products.
- Complete IH portion of the CPS form.

2.5 Project Chemical Engineer

- Perform evaluation of chemicals for use after expiration.
- Complete CPS form.

2.6 Emergency Preparedness

- Complete EP section of the CPS form.

2.7 Fire Protection

- Enter fire protection hazard screening data on the CPS form.
- Determine if receipt/storage of the chemical products will exceed the Maximum Allowable Quantity (MAQ) and/or permit level.
- Determine if receipt/storage of the chemical products will exceed the Hanford Fire Marshal Permit.
- Determine if a National Fire Protection Association (NFPA) control zone has been assigned and assign if needed.
- Assign the NFPA Designation rationale for health, flammability, and reactivity.

2.8 Buyer Technical Representative

- Provide completed chemical inventory worksheet (site form A-6004-750) from subcontracted work involving the use of chemicals and the SDSs from the subcontractor to the FCC.
- Notify FCC of kickoff and closeout meetings with the subcontractors for each project.
- Provide updated chemical product inventory sheet, as needed, to the FCC.
- Provide the subcontractors chemical product usage information to the FCC.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

- Inform the FCC what chemical product(s) have been removed from the site.

3.0 PROCESS

All chemical products acquired by facilities and projects by purchase or transfer will be evaluated and approved by the FCC, emergency preparedness, industrial hygiene, fire protection and the chemical management TA to ensure that the planned acquisition and storage include controls that are protective of human health and the environment. This includes chemical products brought on site by subcontractors.

The use of a CPS form is required when:

- Purchasing individual chemical products for the first time at the facility or project.
- Chemical product has had a change in its constituents listed on the SDS.
- There is a significant increase in consumption or inventory quantities that may lead to exceeding the established MAQ storage limits. The Fire Protection Engineer will be able to address this when looking at the CPS form and during quarterly inspections and annual inspections.
- Chemical products are acquired through means other than standard purchasing procedures, such as from excess and transferred from other Hanford contractors (OHC) or facilities.

The CPS form completion is not required when the product:

- Is a reorder of a currently approved product, or a past product that has been previously approved for use.
- Is it a currently in storage at the facility in like quantities.
- Has been evaluated by all parties, is determined to be nonhazardous and is a routine office supply.

3.1 Chemical Procurement

Actionee	Step	Action
Employee/FCC/ Requestor	1.	INITIATE a material request within the Central Plateau Materials Service System (CPMSS) in accordance with CPCC-PRO-AC-40478, <i>Procurement of Materials</i> .
Material Coordinator	2.	ENSURE FCC and Industrial Hygiene are selected on the Electronic Bill of Material (eBOM) or otherwise selected as part of the approval process before ordering chemical products.

NOTE: While this procedure refers only to Safety Data Sheets (SDS), Material Safety Data Sheets (MSDS) may continue to be used for those chemicals in inventory for which the manufacturer has not yet developed an SDS.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

Actionee	Step	Action
FCC	3.	REVIEW the Chemical Inventory Tracking System (CITS) database or other applicable resources (e.g., excess process), to determine available inventory of the chemical product onsite. a. <u>IF</u> the chemical product is available, <u>THEN</u> REQUEST a transfer from the organization where the material is located and return the eBOM to the material coordinator.
FCC/Requestor	4.	ENSURE the SDS is the latest revision from the manufacturer and has been indexed by the Hanford SDS/MSDS Database Administrator.
NOTE: Screenings are specific to the chemical product and facility in which it will be stored.		
	5.	<u>IF</u> the product is new to the ordering location on the eBOM specified or does not meet an exemption at the beginning of this section, <u>THEN</u> initiate a <i>Chemical Process Screening</i> form (site form A-6005-592).
	6.	<u>IF</u> product requires further analysis by Emergency Preparedness, <u>THEN</u> AWAIT the Emergency Planning Hazards Assessment (EPHA) screening determination prior to getting the other SME approvals and finalizing the CPS form.
OS&IH	7.	COMPLETE CPS form.
Fire protection (FP)	8.	COMPLETE CPS form.
Emergency Preparedness	9.	COMPLETE CPS form.
Chemical Management TA	10.	COMPLETE CPS form.
NOTE: Copies of the CPS form may be provided either electronically or in hard copy.		
FCC	11.	PROVIDE final signature/approval once all other actionees have completed the CPS form.
	12.	PROVIDE a completed copy of the CPS form to the Chemical Management TA and submit the completed form to IDMS.
	13.	APPROVE the eBOM/Material Request once all requirements have been met.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Material Coordinator	14.	ORDER chemical product(s) upon approval of the eBOM/Material request by the FCC. IF the product is not approved for purchase, inform the requestor.

3.2 Receipt of Chemicals

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Material Coordinator	1.	RECEIVE the chemical product(s) and verify that the chemical product(s) and manufacturer aligns with the packing slip. Forward a copy of the packing slip to the requestor.
	2.	NOTIFY the FCC that the chemical product(s) has arrived on site.
	3.	<u>IF</u> it is set to be delivered to the receiving organization, <u>THEN ENSURE</u> that the FCC is made aware of its delivery location and date.
FCC and/or Line management	4.	VERIFY manufacturer's label contains at a minimum: Product identifier, signal word, hazard statement(s) and contact information of the manufacturer/importer/responsible party in accordance with CPCC-PRO-SH-40410, <i>Hazard Communication Program</i> .
	5.	<u>IF</u> the manufacturer's label does not contain the required information, <u>THEN COMPLETE</u> a Hanford Hazard label, AND affix it to the container in accordance with CPCC-PRO-SH-40410, <i>Hazard Communication Program</i> .
FCC	6.	TRACK chemical product container(s) for inclusion into CITS.
	7.	TRACK total quantities ordered through the calendar year for inventory items.
	8.	TURN material over to requested organization OR place it in the appropriate storage location.
NOTE:		<i>Lists of Extremely Hazardous Substances are found in 40 CFR 355, Appendices A and B.</i>
	9.	UPDATE the CITS database: <ul style="list-style-type: none"> • Within 10 days for Extremely Hazardous Substances. • Within 30 days for materials that are NOT Extremely Hazardous Substances.
FCC	10.	UPDATE posted chemical product inventories at the storage location within 30 days.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

3.3 Chemical Storage

Actionee	Step	Action
Employee/FCC	1.	<p>PLACE the chemical product(s) within a storage area which is:</p> <ul style="list-style-type: none"> • Managed in accordance with project or facility-specific procedures, and/or consistent with the manufacturer's recommendations (e.g., temperature, moisture, and humidity control) and maintain storage area in a clean and orderly fashion. Able to accommodate the storage of the chemical product(s) by compatibility (sufficiently separated from other categories as needed), to prevent mixing in the event of a leak or spill.
	2.	Minimize the amount of chemical products that are placed in radiological areas.
	3.	USE/ISSUE older chemicals first.
	4.	<p>PROVIDE secondary containment if the chemical is:</p> <ul style="list-style-type: none"> ○ A liquid that is incompatible with other chemicals stored in proximity (including adjacent tanks). ○ In a container that is not in good condition.
FP	5.	<p>APPROVE for storage of flammable materials, e.g., meeting the requirements of CPCC-STD-FP-40404, <i>Fire Protection Program</i>, CPCC-PRO-FP-40422, <i>Hanford Fire Marshal Permit Interfaces</i>, CPCC-STD-FP-54135, <i>Controlled of Compressed and Flammable Gasses</i>, and CPCC-STD-FP-54137, <i>Control of Flammable and Combustible Liquids</i>, if the contents of the container are flammable, combustible, or otherwise governed by these requirements.</p>

3.4 Relocation Chemicals

Actionee	Step	Action
Employee	1.	<p>PROVIDE the chemical product container(s) information (chemical product name, previous location, barcode number – if applicable) and the intended new storage location of the relocated container(s) to the FCC.</p>
FCC	2.	<p><u>IF</u> the chemical product(s) is new to the facility location, <u>THEN</u> COMPLETE a CPS form (site form A-6005-592) in accordance with section 3.1.</p>
	3.	<p>NOTIFY the employee when the new storage location has been approved.</p>

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
	4.	UPDATE the CITS database: <ul style="list-style-type: none"> • Within 10 days for Extremely Hazardous Substances. • Withing 30 days for materials that are not Extremely Hazardous Substances.
Employee	5.	ENSURE all chemical product(s) moved to the new location are stored in accordance with project/facility specific procedures or manufacturer's recommendations.

3.5 Use of Chemicals Past Expiration Date

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
NOTE: <i>Chemical expiration extension guidance is provided in Appendix B.</i>		
FCC	1.	<u>IF</u> the facility/project wants to use a chemical/chemical product beyond the expiration date, <u>THEN</u> REQUEST the project chemical engineer to evaluate the chemical to determine if there are any quality and/or safety issues with doing so. Request to the project Chemical Engineer will be done using the <i>Chemical Product Screening</i> , site form A-6005-592.
Project Chemical Engineer	2.	DOCUMENT the final determination of whether the chemical product will be allowed to be used past the expiration date and will provide a new expiration date. Evaluation, approval/non-approval, and new expiration date will be done on <i>Chemical Product Screening</i> , site form A-6005-592.
Industrial Hygiene	3.	PERFORM review of the chemical evaluation completed by the chemical engineer. If agree or all comments are resolved. Sign the chemical evaluation and send it to the FCC.
FCC	4.	MAINTAIN the manufacturer-specified expiration date in CITS and ADD the revised expiration date if the decision is made to continue using the chemical product.
	5.	Once completed, SEND the form to the chemical management TA.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

3.6 Final Disposition of Chemicals

Actionee	Step	Action
Operations Management	1.	REMOVE chemicals from inventory when no longer needed or the product has exceeded its expiration date.
Employee	2.	PROVIDE the FCC with the following upon final disposition of any chemical product(s): <ul style="list-style-type: none"> • Chemical product container information (chemical product name, location, barcode number if available). • Disposition action (i.e., consumed, transferred to another CPCCo Project/FCC, disposed of as waste). • Date of disposition. • Project-specific disposition requirements or directions from the Waste Management Representative (WMR).
FCC	3.	USE CITS to identify useable but no longer needed chemical product(s) as excess, available for redistribution to other Hanford Site users.
	4.	<u>IF</u> an available chemical product(s) is requested by another organization or other CPCCo facility, <u>THEN ASSIST</u> in the transfer of ownership.
	5.	COORDINATE disposition of unneeded or expired chemical product(s).
WMR	6.	DISPOSE of waste.
	7.	NOTIFY FCC when chemical product(s) has been disposed.
FCC	8.	UPDATE CITS within 30 days after a chemical product is removed from the approved for use product list.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

3.7 Perform Quarterly and Annual Facility Chemical Inventory

Actionee	Step	Action
NOTE:		<i>Janitorial supplies used by Hanford Mission Integration Solutions (HMIS) Custodial Services are managed and inventoried by HMIS.</i>
FCC	1.	<p>ENSURE quarterly inventories are performed of chemical product container quantities, condition, and manufacturer-specified expiration dates (if provided).</p> <ul style="list-style-type: none"> • UPDATE the CITS database with all changes identified in the inventory. • <u>IF</u> inventory exceeds established Fire Protection permitting or MAQ, <u>THEN</u> CONTACT FP for guidance. • UPDATE (CHANGE) the last inventory date in CITS, even if no changes in the inventory are identified.
		NOTE: <i>This indicates an inventory was performed and when.</i>
	2.	ENSURE that the year-end inventory is not collected prior to October 1st as it will be considered inaccurate. Ensure the EPCRA Tier II inventory is verified by December 1st annually.
TA	3.	ENSURE that the CPCCo chemical inventory has been verified prior to the December call date.
	4.	SUBMIT CPCCo certified EPCRA Tier II data by the call date provided by HMIS.

3.8 Handling of Hazardous Chemicals by Subcontractors on the Hanford Site

This section applies to facilities that manage or work with CPCCo subcontractors on the Hanford site. Vendors who service previously installed equipment that provide, use, and remove chemical product(s) as part of their service are exempt from the requirements of this section. Procedures related to subcontractors include:

- CPCC-PRO-AC-40478, *Procurement of Materials*
- CPCC-PRO-PM-24889, *Project Initiation and Execution*
- CPCC-PRO-SH-40078, *Subcontractor Safety Process*
- CPCC-PRO-SH-40410, *Hazard Communication Process*
- CPCC-PRO-FP-40422, *Hanford Fire Marshal Permit*
- CPCC-STD-FP-40404, *Fire Protection Program*

Chemical Management Program**Published Date: 03/17/2025****Effective Date: 03/17/2025**

- CPCC-STD-FP-54135, *Control of Compressed and Flammable Gases*
- CPCC-STD-FP-54137, *Control of Flammable and Combustible Liquids*

Actionee	Step	Action
BTR	1.	PROVIDE Chemical Inventory Worksheet f (site form A-6004-750) and SDSs to FCC as soon as possible upon subcontractor selection.
FCC	2.	REVIEW subcontractor provided Chemical Inventory Worksheet (Chemical Inventory Worksheet) for completeness. <ul style="list-style-type: none"> a. VERIFY all chemical products to be used or stored onsite are listed on the worksheet.
	3.	For each chemical product(s) listed on the Chemical Inventory Worksheet: <ul style="list-style-type: none"> • ENSURE the subcontractor -provided SDS is entered into the Hanford SDS-MSDS system. • ENSURE the subcontractors receive a Hanford registered (stamped) copy of the SDSs.
	4.	REVIEW the Chemical Inventory Worksheet and complete chemical product screening.
BTR	5.	Upon mobilization, VERIFY chemical inventory and ensure the amount of chemicals brought onsite is documented on the Chemical inventory worksheet
	6.	PROVIDE completed chemical inventory worksheet to the FCC.
FCC	7.	ENTER Subcontractor chemical inventory into CITS within: <ul style="list-style-type: none"> • 10 days for products containing Extremely Hazardous Substances. • 30 days for products NOT containing extremely hazardous substances.
BTR	8.	ENSURE that during the performance of the work: <ul style="list-style-type: none"> • FCC is notified of kickoff and closeout meetings • FCC is notified prior to any new chemical products that will be brought onsite.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
BTR	9.	<p>ENSURE the CPCCo subcontractor:</p> <ul style="list-style-type: none"> • Maintains SDSs for chemical products approved on the chemical inventory worksheet as long as the subcontractor is performing work or until the contract is closed. • Maintains a copy of the chemical inventory worksheet at the work location, and that chemical product inventory quantities are updated as appropriate.
FCC	10.	UPDATE CITS with appropriate information.
BTR	11.	UPDATE information (quarterly) on the chemical inventory worksheet as long as the subcontractor is performing work or until the contract is closed.
	12.	ENSURE subcontractor tracks usage of chemical product(s) (including weld rod, structural steel) and provide activities that used the chemical product(s) and amounts on a quarterly basis.
	13.	ENSURE subcontractor removes all unused chemical products from the work site.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

4.0 FORMS**4.1 Managed Forms**A-6004-750, *Chemical Inventory Worksheet*A-6005-592, *Chemical Product Screening Form (CPS)***5.0 RECORD IDENTIFICATION****5.1 Managed Records**

All records are required to be managed in accordance with CPCC-PRO-IRM-10588, *Records Management Processes*.

Records Capture Table

Name of Record	Submittal Responsibility	Retention Responsibility
Chemical Product Screening Form (CPS), A-6005-592	Facility Chemical Custodian	IRM Service Provider
Chemical Inventory Worksheet, A-6004-750	BTR/Subcontractor	Project Files

5.2 Requirements10 CFR 851, *Worker Safety and Health Program*20 CFR 1910.1200, *Hazard Communication*40 CFR 370, *Hazardous Chemical Reporting Community Right to Know*42 USC 11000 et seq., *Emergency Planning and Community Right-To-Know Act (EPCRA)***5.3 References**16 CFR 1500, *Hazardous Substances and Articles*29 CFR 1910, *Occupational Safety and Health Standards*40 CFR 355, *Emergency Planning and Notification*40 CFR 370, *Hazardous Chemical Reporting*40 CFR 372, *Toxic Chemical Release Reporting*CPCC-PRO-AC-40478, *Procurement of Materials*

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

CPCC-PRO-FP-40422, *Hanford Fire Marshal Permit Interfaces*

CPCC-PRO-IRM-10588, *Records Management Processes*

CPCC-PRO-PM-24889, *Project Initiation and Execution*

CPCC-PRO-SH-409, *Industrial Hygiene Monitoring, Reporting and Records Management.*

CPCC-PRO-SH-40788, *Contractor Safety Processes*

CPCC-PRO-SH-40410, *Hazard Communication Program*

CPCC-STD-FP-40404, *Fire Protection Program*

CPCC-STD-FP-54135, *Control of Compressed and Flammable Gases*

CPCC-STD-FP-54137, *Control of Flammable and Combustible Liquids*

HMIS-RD-FP-8589, *Hanford Fire Marshal Permits*

NFPA 1-2018, *National Fire Protection Association Fire Code*

NFPA 30-2015, *Flammable and Combustible Liquids Code*

NFPA 400-2015, *Hazardous Materials Code*

RCW 70.136.020(1), Chapter 70.136, *Hazardous Materials Incidents*

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

Appendix A - Glossary**ACGIH** – American Conference of Governmental Industrial Hygienists**Carcinogen** – A chemical is considered to be a carcinogen if:

- It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a human carcinogen or potential human carcinogen; or
- It is listed as a human carcinogen or potential human carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP); or
- It is regulated by OSHA as a carcinogen. The thirteen OSHA-regulated carcinogens are listed in 29 CFR 1910.1003(a)(1).
- It is listed as a carcinogen or potential carcinogen by the America Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents (groups A1 and A2).

[OSHA Hazard Communication, 29 CFR 1910.1200(c) and DOE G440.1-3]

Chemical – Any element, chemical compound, or mixture of elements or compounds. [OSHA Hazard Communication, 29 CFR 1910.1200(c)]**Compressed gas:**

- A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70° F (21.1° C); or
- A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130° F (54.4° C) regardless of pressure at 70° F (21.1° C); or
- A liquid having a vapor pressure exceeding 40 psi at 100° F (37.8° C) as determined by ASTM D 323-72

[OSHA Hazard Communication, 20CFR 1910.1200(c)]

Consumer product – Any article, or component part thereof, produced or distributed:

- For sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or;
- For the personal use, consumption, or enjoyment of consumer in or around a permanent or temporary household or residence, a school, in reaction, or otherwise.

For the purpose of the Consumer Product Safety Act, such term does not include:

- Any article which is not customarily produced or distributed for sale to, or use or consumption by, or enjoyment of, a consumer;
- Tobacco and tobacco products;

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

Appendix A - (Cont.) Glossary

- Motor vehicles or motor vehicle equipment (as defined by section 30102(a)(6)&(7) or title 49);
- Pesticides (as defined by FIFRA [7USC 136 et seq.]);
- Any article (firearms, including pistols or revolvers, shells, cartridges, or any component of any such article) which, if sold by the manufacturer, producer, or importer, would be subject to the tax imposed by section 4181 of the internal Revenue Code of 1986 [26 USC 4181];
- Aircraft, aircraft engines, propellers, or appliances (as defined in section 40102(a) of title 49);
- Boats which could be subjected to safety regulations under chapter 43 of title 46; vessels, and appurtenances to vessels (other than such boats), which could be subject to safety regulation under title 52 of the Revised statutes or other marine safety statutes administered by the department in which the Coast Guard is operating; and equipment (including associated equipment, as defined in section 2101(1) of title 46) to the extent that a risk of injury associated with the use of such equipment on boats or vessels could be eliminated or reduced by actions taken under any statute referred to in this subparagraph;
- Drugs, devices, or cosmetics (as such terms are defined in sections 201(g), (h), and (i) of the Federal Food Drug, and Cosmetic Act [21 USC 321 (g), (h), and (i)]); or
- Food.

[Consumer Product Safety Act, 15 USC 2052(a)(1)]

EPCRA – Emergency Planning and Community Right-To-Know Act of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act (SARA).

EPRCA Hazardous Chemical Report Requirements apply to hazardous chemicals present at or above the associated minimum threshold levels, except for the following substances:

- Any food, food additive, color additive, drug, or cosmetic regulated by the FDA;
- Any substance present as a solid in a manufactured item to the extent exposure to the substance does not occur under normal conditions of use;
- Any substance to the extent it is used for personal, family, or household purposes, or is present in the same form and concentration as a product packaged for distribution and use by the general public;
- Any substance to the extent it is used in a research laboratory or a hospital or other medical facility under the direct supervision of a technically qualified individual;

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

Appendix A - (Cont.) Glossary

- Any substance to the extent it is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the ultimate customer.

[EPCRA Hazardous Chemical Reporting, 40 CFR 355.20, 370.2, 370.21(a) or (b) and 370.25(a) or (b)]

EHS – Extremely Hazardous Substance – A substance listed in 40 CFR 355, Append. A and B [EPCRA Emergency Planning and Notification, 40 CFR 355.20]

FDA – Food and Drug Administration

FIFRA – Federal Insecticide, Fungicide and Rodenticide Act

Final Disposition – Includes consumption, re-distribution, recycling, and waste disposal.

Fixed Inventory – An inventory established to be set at a minimum/maximum and kept within those limits.

Flammable – A chemical that falls under one of the following categories:

- A flammable aerosol, which yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening, when tested by the method described in 16 CFR 1500.45.
- A flammable gas, which at ambient temperature and pressure (A) forms a flammable mixture with air at a concentration of 1% by volume or less; or (B) forms a range of flammable mixtures with air at a concentration wider than 12% by volume, regardless of the lower limit.
- A flammable liquid, which is any liquid having a flash point below 100° F (37.8° C), except any mixture having components with flash point of 100° F (37.8° C) or higher, the total of which make up 99% or more of the total volume of the mixture.
- A flammable solid, which is a solid other than a blasting agent or explosive, that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited, burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered flammable if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis. [OSHA Hazard Communication, 20 CFR 1910.1200(c)]

For the purpose of the National Fire Protection Association:

Flammable gas – a material that is a gas at 68° F (20° C) or less at an absolute pressure of 14.7 psi (101.325 kPa), that is ignitable at an absolute pressure of 14.7 psia (101.325 kPa) when in a mixture of 13% or less by volume with air, or that has a flammable range at an absolute pressure of 14.7 psia (101.325 kPa) with air of at least 12% regardless of the lower limit.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

Appendix A - (Cont.) Glossary

Flammable solid – A solid substance, other than a substance defined as a blasting agent or explosive, that is liable to cause fire resulting from friction or retained heat from manufacture, that as an ignition temperature below 212° F (100° C), or which burns so vigorously or persistently when ignited that it creates a serious hazard. [*NFPA 1, 2009, 3.3.126.3, 3.3.220.2*]

Flammable liquid – Any liquid that has a closed-cup flash point below 100° F (37.8° C) as determined by the test procedures and apparatus set forth in section 4.4 of NFPA 30, *Flammable and Combustible Liquids Code*.

- Class 1A liquid – flash point below 73° F (22.8° C) and boiling point below 100° F (37.8° C)
- Class 1B liquid – flash point below 73° F (22.8° C) and boiling point at or above 100° F (37.8° C)
- Class 1C liquid – flash point at or above 73° F (22.8° C) but below 100° F (37.8° C)

[*NFPA 30 4.3.1*]

Flash point – The minimum temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air.

Hazardous chemical – Any chemical which is a physical hazard or a health hazard [*OSHA Hazard Communication, 29 CFR 1910.1200(c)*]

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 effects may occur in exposed employees. The term health hazard includes chemicals which are hepatoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. [*OSHA Hazard Communication, 29 CFR 1910.1200(c)*]

[*NFPA 1, 2009, 3.3.161.5*]

Liquid – Any material that has a fluidity greater than that of 300 penetration asphalt when tested in accordance with ASTM D5, Test for penetration for Bituminous Materials [*NFPA 30 4.2.5*]

Minimum Threshold Levels (EPCRA) – 10,000 pounds for hazardous chemicals, 500 pounds or the listed TPQ, whichever is lower, for Extremely Hazardous Substances (EHS).

MSDS – Material Safety Data Sheet. Under the OSHA Hazard Communication Standard, MSDS/SDSs must be readily available in the workplace for each hazardous chemical which is used. [*OSHA Hazard Communication, 29 CFR 1910.1200(c)*]

New chemicals – A chemical that has not been used in the facility within the last three years, newly increased concentrations of existing chemicals. A new application or use of an existing chemical. NOTE: Lower concentrations or a new manufacturer of an existing chemical are not “new” chemicals.

NFPA – National Fire Protection Association

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

Appendix A - (Cont.) Glossary

OSHA – Occupational Safety and Health Act

Pesticide – (1) Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant. [*FIFRA, 7 USC 136, section 2(u)*]

RCRA – Resource Conservation and Recovery Act

Sensitizer – A solid, liquid, or gaseous 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. [*OSHA Hazard Communication, 29 CFR 1910.1200 (c)*]

Toxic – A chemical falling within any of the following categories:

- A chemical that has an LD₅₀ of 50-500 mg/kg of body weight when administered orally to albino rats weighing 200-300 grams each.
- A chemical that has an LD₅₀ of 200-1000 mg/kg of body weight when administered by continuous contact for 24 hours with the bare skin of albino rabbits weighing 2-3 kg each.
- A chemical that has an LC₅₀ in air of 200-2000ppm by volume of gas or vapor, or 2-20 mg/L of mist, fume, or dust, when administered by continuous inhalation for one hour to albino rats weighing 200-300 grams each.

[*OSHA Hazard Communication, 29 CFR 1910.1200(c)*]

For the purposes of the NFPA, the term includes:

- **Toxic gases** – Gases with a median lethal concentration (LC₅₀) in air more than 200 ppm but not more than 2000 ppm by volume of gas or vapor, or more than 2 mg/L, but not more than 20 mg/L or mist, or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 0.44 lb. and 0.66 lb. (200g and 300g) each.
- **Toxic material** – A material that produces a lethal dose or a lethal concentration within any of the following categories:
 - A chemical or substance that has a median lethal dose (LD₅₀) of more than 50 mg/kg but not more than 500 mg/kg of body weight when administered orally to albino rats weighing between 200g and 300 g each.
 - A chemical or substance that has a median lethal dose (LD₅₀) of more than 200 mg/kg but not more than 1000 mg/kg of body weight when administered by continuous contact for 24 hours, or less if death occurs within 24 hours, with the bare skin of albino rabbits weighing between 2 kg and 3 kg each, or albino rats weighing 200g to 300g each.

Chemical Management Program

Published Date: 03/17/2025

Effective Date: 03/17/2025

Appendix A - (Cont.) Glossary

- A chemical or substance that has a median lethal concentration (LC₅₀) in air of more than 200 ppm but not more than 2000 ppm by volume of gas or vapor, or more than 2mg/L, but not more than 20 mg/L of mist, fumes, or dust when administered by continuous inhalation for 1 hour, or less if death occurs within 1 hour, to albino rats weighing between 200g and 300g each.

[NFPA 1, 2009, 3.3.161.11]

Toxic chemical (EPCRA) – A chemical or chemical category listed in 40 CFR 372.65. [EPCRA Toxic Chemical Release Reporting, 40 CFR 372.3]

TPQ – Threshold planning quantity for EHS. TPQs for EHSs are listed in 40 CFR 355, Appendix A & B.

Waste – Materials which are no longer usable, or which are the remains from a process, or which are beyond their shelf life and need to be properly disposed. A Waste Management Representative (WMR) should be contacted to properly dispose of this material.

Chemical Management Program**Published Date: 03/17/2025****Effective Date: 03/17/2025****Appendix B - Chemical Expiration Extension Guidance**

Review the intended use of the chemical to be extended. If the intended use is something that affects quality, safety or the environment it should not be considered for extension. If the chemical is to be used in any nuclear safety credited systems, use an operability evaluation or technical evaluation using CPCC-PRO-EN-52742, *Engineering Support to Operations*.

In all cases the Chemical Engineer/Chemist should review Safety Data Sheets (SDS), manufacturer's technical data sheets, and perform additional research as necessary. Contact the manufacturer for any questions/information (e.g., efficacy, degradation products, things to look for). Physically inspect the product as needed to look for visible degradation (e.g., coagulation, separation, color change etc.) and container integrity. Consider whether the container has been previously opened or is sealed. Consider storage conditions including exposure to light, air, relative humidity, climate etc. Determine if the chemical has had previous extensions. Consider whether a degraded chemical could cause damage to equipment it is being used in or on. If degradation of the chemical could lead to chemical incompatibilities with its use, the expiration date should not be extended. If a degraded chemical could lead to hazardous degradation products, it should not be extended. Consider consulting other disciplines if needed (e.g., Fire Protection, Environmental, etc.)

When providing expiration extension, be as specific as possible for any restrictions. Consider restrictions for storage, potential uses and tracking if needed. Use Engineering judgement on the length of the extension but lean conservative. If increased quantity of chemical is required due to decreased efficacy note that as a restriction (e.g., use of 2 chlorine tabs instead of 1).