

Administrative Procedures

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Chemical Management Process

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Table of Contents

1.0	PURPOSE	3
2.0	SCOPE	3
3.0	RESPONSIBILITIES	4
3.1	Line Management	4
3.2	Facility Manager/Supervisor.....	4
3.3	Requestor/User.....	5
3.4	Environmental Compliance Officer.....	5
3.5	Industrial Hygienist.....	6
3.6	Fire Protection Engineer (FPE) / Deputy Fire Marshal (DFM).....	6
3.7	Emergency Preparedness Coordinator.....	7
3.8	Chemical Management Process (CMP) Lead.....	7
4.0	INSTRUCTIONS.....	8
4.1	Chemical Acquisition, Evaluation and Approval	8
4.1.1	EP Screening Criteria.....	11
4.1.2	Product Approval.....	12
4.1.3	Applying Existing CPS Form to New SDS	14
4.2	Pre-Approved or Previously Used Chemicals	14
4.3	Occupational Carcinogen Control Program.....	15
4.3.1	Chemical Containing Occupational Carcinogen Constituents.....	15
4.3.2	Occupational Carcinogen Lists	16
4.3.3	Determining the Presence of Occupational Carcinogens in Product	16
4.3.4	Using CaCHC report.....	16
4.4	Tracking and Inventories of Chemicals	17
4.4.1	New Product Tracking	18
4.5	Storage and Handling of Chemicals	20
4.5.1	General Storage.....	20
4.5.2	Chemical Storage for Prime Contractors	20
4.5.3	Storage and Handling of Flammable and Combustible Liquids.....	21
4.5.4	Storage of Aerosols.....	21
4.5.5	Storage and Handling of Compressed Gas	21
4.6	Disposition	22
4.6.1	General Disposition	22
4.6.2	Aerosol Disposition	22

5.0 RECORD IDENTIFICATION23

6.0 SOURCES23

 6.1 Source Requirements23

 6.2 References.....23

 6.3 Forms24

Appendix A. Glossary and Definition of Terms.....25

Appendix B. Acronyms27

List of Tables

Table 1. Records Capture Table.....23

Published Date: 04/23/2926

Effective Date: 04/23/2026

1.0 PURPOSE

This procedure establishes a process and general requirements for evaluating, procuring and storing potentially hazardous chemicals and chemical products within Hanford Mission Integration Solutions (HMIS) facilities and/or for products used by HMIS personnel and their subcontractors.

This procedure facilitates the achievement of the following chemical management objectives:

- Protect the worker, general public, HMIS facilities, and the environment.
- Assure compliance with applicable regulations and statutes.
- Implement a consistent approach to chemical management by HMIS Team employees.

This document meets selected ISMS core functions; (2) Identify and Analyze Hazards, (3) Develop and Implement Hazard and Environmental Controls, and (4) Perform Work within the controls set forth by HMIS-PLN-SP-003, *HMIS Integrated Environment, Safety, and Health Management System*. This procedure also addresses core element (3) Implementation and Authorization of the HMIS-PLN-EFS-42081, *HMIS Environmental Management System Description*.

2.0 SCOPE

This is a Level 1 Administrative Procedure applicable to all HMIS employees and HMIS subcontractor employees. This procedure establishes requirements and provides guidance for chemical management activities that involve evaluation, acquisition, tracking and storage, of such materials.

Tracking of radioactive materials and waste chemicals are excluded from the scope of this procedure.

Definitions of terms and acronyms specific to this document are provided in [Appendix A1](#) and [A2](#).

This entire document must be read, understood, and implemented in full as described herein, by all personnel involved in the Chemical Management Process (CMP) to meet the intent and requirements of the HMIS Chemical Management Process.

The HMIS Occupational Carcinogen Control Program is incorporated in this procedure under Section 4.3 “Occupational Carcinogen Control.”

HMIS-PRO-SP-48065, *Subcontractor Safety Processes*, gives direction as to how requirements are flowed down to subcontractors as specified in an approved Statement of Work (SOW). Information and requirements for subcontractors needing to bring chemicals onto the Hanford Site can be found in the Special Provisions of the Statement of Work(s) and from the required Chemical Inventory Worksheet (CIW).

This document provides a description of the Chemical Inventory Tracking System (CITS). CITS is a key tool for supporting the implementation of the CMP used by most Hanford site contractors.

To gain access to the CITS database the Requestor must complete the CITS training course and complete Site Form A-6008-943.

3.0 RESPONSIBILITIES

3.1 Line Management

- Provides periodic program reviews to ensure requirements of this procedure are effectively implemented and followed.
- Approves chemicals for use at their facilities.
- Promotes the selection and use of safe and environmentally friendly chemicals whenever feasible.
- Ensures the occupational carcinogen control evaluation and documentation are implemented.
- Establishes policies and work practices that minimize the acquisition, use, and associated release of toxic chemicals and hazardous materials, including hazardous substances, ozone-depleting substances, and other pollutants, that would otherwise require control, treatment, and/or create a potential for release to the environment.
- Ensures the emergency preparedness chemical screening criteria are implemented.
- Verifies the aggregate quantities for stored material at the facility will be within the *Hanford Fire Marshal Permits threshold limit as established by HMIS-RD-FP-8589*, and the maximum allowable quantities in NFPA 1, *Fire Code* or other applicable NFPA code or standard.

3.2 Facility Manager/Supervisor

- Reviews and addresses comments for product use.
- Approves chemical product purchases.
- Ensures accuracy of chemical inventories.
- Ensures the occupational carcinogen control evaluation and documentation are implemented, and a current occupational carcinogen inventory list is available for the facility.
- Evaluates options for chemical disposition in consultation with the project ECO.

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Effective Date: 04/23/2026

- Ensures the requirements for EPCRA-TRI chemical usage record inventories are kept.
- Ensures no chemicals are purchased, obtained, acquired, or otherwise brought into the facility without proper review / approvals.

3.3 Requestor/User

- Initiates the CPS form.
- If SDS is new, provides SDS and initiates Site Form A-6008-941 or equivalent for completion by the Chemical Management team and for entry into the SDS/MSDS database to MSDS_REQUESTS@rl.gov.
 - **NOTE:** *Site Form A-6008-941 is a collaboration document and the requestor Initiates the form with readily available information to be further completed by the Fire Department and/or CMS.*
- Obtains from responsible facility/contractor Fire Protection Engineer / Deputy Fire Marshal or CMP Lead, the hazardous material classification(s) per the National Fire Protection Association (NFPA) codes or standards, when requesting new products and SDSs entered into the database.
- Initiates purchasing orders.
- Before ordering chemicals, checks with the CMS to ensure that the chemicals are not available at another HMIS facility.
- Contacts any of the facility designated chemical management team members (Chemical Management Specialist (CMS), Environmental Compliance Officer (ECO), Industrial Hygienist (IH), Fire Protection Engineer/Deputy Fire Marshal, Chemical Management Program (CMP) Lead, Facility Manager or Supervisor) for information on the use, storage, and disposal of the product.

3.4 Environmental Compliance Officer

- Completes the applicable ECO sections of the CPS and the CIW forms.
- Obtains waste designation for all chemical products that are purchased or requested for purchase.
- Chemical Management Specialist
- Reviews, evaluates, and approves all chemical product acquisitions.
- Verifies the current product SDS/MSDS is available in the Hanford MSDS system.

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Effective Date: 04/23/2026

- Upon request, identifies in the CITS database any excess chemicals at HMIS facilities that could still be usable by other facilities and assists requestors in acquiring such chemicals.
- Enters and updates chemical inventories.
- Assists assigned organization(s) with annual chemical inventory and routine inventory checks. This inventory must be completed during the calendar year prior to December 1st.
- In consultation with the applicable project IH, assists management with the appropriate labeling of chemical containers.
- Assists Facility Manager and EPCRA-SME in gathering inventory of information and associated data certifications.
- For new chemical products requiring a CPS form, compares the product's NFPA 1 material classification to the existing NFPA 1 aggregate quantities per the NFPA control area using the Maximum Aggregate Quantities (MAQ) report. Sends the information to the facility manager and FPE/Deputy Fire Marshal when thresholds are reached, expected to be reached or exceeded.
- As assigned, supports HMIS's subcontractor's chemical management process through use of the CIW form and associated instructions.
- CITS Administrator will host CITS user board meetings on an as needed basis.

3.5 Industrial Hygienist

- Reviews, evaluates, and approves chemical product acquisitions and documents on the CPS and CIW forms.
- Ensures occupational carcinogen evaluation and documentation to new and legacy chemicals is performed.
- Assists management with the appropriate labeling of chemical containers.
- Provides workers with technical information regarding chemical properties, hazards and safe work practices.

3.6 Fire Protection Engineer (FPE) / Deputy Fire Marshal (DFM)

- Evaluates facility aggregate quantities of chemical products stored at building, outdoor area, etc., to determine Maximum Allowable Quantity limits when a Permit limit has been reached or exceeded.
- DFM issues Hanford Fire Marshal permits.

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Effective Date: 04/23/2026

- Provides CMS with appropriate NFPA 704 Hazard Ratings and NFPA Storage Ratings (if not provided on the SDS/MSDS) and group categories for the chemical or product. Record on Site Form A-6008-941 as provided by the CMS.
 - **NOTE:** *The FPE or DFM may designate a qualified Individual to assign NFPA 704 and NFPA Storage Ratings.*

3.7 **Emergency Preparedness Coordinator**

- Assists the facility with screening chemicals for emergency preparedness.
- Uses CITS database containing current inventories of chemicals to assist with chemical screening.

3.8 **Chemical Management Process (CMP) Lead**

- Serves as a Subject Matter Expert (SME) for the Chemical Management Program at HMIS.
- Serves as the Point of Contact (POC) for the CMP Website page and HMIS Chemical Management Process.
- Provides day-to-day guidance and direction to CMS, CITS Administrator, and SDS Administrator.
- Reviews and approves the completed CPS form and coordinate entering the completed form into the Integrated Data Management System (IDMS).
- Provides and updates Material Coordinator POC, with names of designated facility CMSs and IHs responsible for chemical product purchasing orders through eBOM, SOS, or Asset Suites contracts.
- Evaluates all new pure chemical entries into CITS database for physical properties and carcinogen listings.

NOTE: *These will be provided by the CMS to assist the Fire Protection Engineer in providing CMS with appropriate Hazard Ratings for chemical products if there are no NFPA ratings provided by the manufacturer on the product SDS/MSDS.*

- Reviews, approves, and enters into IDMS the occupational carcinogen hazard analysis forms and report.
- Evaluates aerosol products for acceptance at the Centralized Consolidation / Recycling Center (CCRC) facility.

4.0 INSTRUCTIONS

4.1 Chemical Acquisition, Evaluation and Approval

All new chemical products acquired by facilities and projects will be evaluated and approved by the designated facility Industrial Hygienist, Chemical Management Specialist, Environmental Compliance Officer, Facility Manager, and Chemical Management Program Lead to ensure that the planned acquisition, and storage include controls that are protective of human health and the environment. This evaluation and approval process will be conducted and documented by using a Chemical Procurement Screening (CPS) form, *Hanford Site Form A-6005-393*.

All HMIS chemical products shall be acquired through the current HMIS purchasing systems which include Electronic Bill of Material (eBOM) or Supply Ordering System (SOS). The use of P-Cards to purchase chemicals or chemical products without first obtaining the proper prior EH&S authorizations as dictated in sections 4.1 and 4.2 of this procedure is not permitted.

Chemical products obtained through unauthorized methods (e.g. retail purchase, personal residence, or other non-approved procurement processes) for operational use are prohibited and shall NOT be used or brought onsite for work activities.

In addition, the requestor of all new chemicals or chemical products will provide a copy of the Safety Data Sheet and Site Form A-6008-941 to MSDS_REQUESTS@rl.gov when obtaining a Hanford SDS number.

The use of the CPS form is required when:

- Purchasing individual chemical products used for the first time at the facility or project.
- There is a significant increase in consumption or inventory quantities that may lead to exceeding the established MAQ storage limits.
- Chemical products are acquired through means other than HMIS standard purchasing procedures, such as, from excess and transferred from another site contractor or facility.

CPS form completion is NOT required when the product:

- Has previously been used or stored at the facility in like quantities.
- A current CPS form is on file for a particular product.
- Product has been evaluated by IH and determined to be nonhazardous and is a routine office supply (e.g. white-out, scotch tape, etc.).

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Applying an existing and approved CPS form to a similar product with new SDS:

- CMP lead determines that the existing product CPS form can be applied to the newly received SDS. Detailed information about this process can be found in section 4.1.3.

Actionee	Step	Action
Requestor	1.	<p>INITIATE Approval Process using the following:</p> <ol style="list-style-type: none"> a) For a new product, OBTAIN the current Safety Data Sheet (SDS) from the manufacturer/supplier, or from the Hanford SDS/MSDS database. b) CONTACT the CMS via email address MSDS_REQUESTS@rl.gov. c) PROVIDE Site Form A-6008-941 with any readily available information to the CMS along with a copy of the SDS to obtain the Hanford SDS/MSDS numbers for products not already listed in the Hanford database or to update the Hanford SDS/MSDS database with the most current SDS number. d) VERIFY with the CMS if there is uncertainty as to whether the product requires evaluation. e) COMPLETE Section 1 of the CPS form using the form instruction sheet. f) FORWARD CPS form in PDF format by email to “or the CMS’s direct email address.”
CMS	2.	<p>PERFORM an initial review:</p> <ol style="list-style-type: none"> a) REVIEW chemical product SDS/MSDS AND VERIFY it is the most recent and relevant SDS/MSDS document. b) VERIFY SDS/MSDS contains complete and essential information. <p>NOTE: <i>With the full implementation of the revised GHS HAZCOM standard, SDSs should be available for all newly acquired products. Products with MSDS only will be accepted after being reviewed and approved by the designated facility IH.</i></p>

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Effective Date: 04/23/2026

Actionee	Step	Action
CMS	3.	<p>VERIFY product information in CITS:</p> <ol style="list-style-type: none"> a) REVIEW CITS database product entries described in Section 4.4 for completeness. b) Complete verification function in CITS for all chemicals for EPRCA Tier II reporting. c) CONTACT CMP Lead and/or the CMS when identifying any discrepancies of product information listed in the product SDS/MSDS. d) ASSIGN CPS form number(s) that consist of a combination of the facility's inventory control group code(s) (ICG) where the product will be used, and the SDS/MSDS number.
	4.	EVALUATE product and document evaluation in Section II of the CPS form.
	5.	<p>Evaluate the storage location assigned by the Requestor:</p> <ul style="list-style-type: none"> • Flammability, reactivity, health and chemical compatibility issues.
	6.	USE EP Screening Criteria (Section 4.1.1) to determine if the product requires Emergency Preparedness (EP) actions.
	7.	<u>WHEN</u> EP screening is complete, <u>THEN</u> RETURN to step 8 and continue with the procedure.
	8.	CONTACT Fire Protection Engineer, Deputy Fire Marshal or CMP Lead, to request any incomplete NFPA-704 hazard rating information, NFPA-1 material classification, or any of the physical product information and complete Site Form A-6008-941.
	9.	SEND completed form to CMP Lead for entry.

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4.1.1 EP Screening Criteria

Actionee	Step #	Action
CMS/IH	1.	<p><u>IF</u> performing EP Screening, <u>THEN CONSIDER</u> the following for general exemption:</p> <ul style="list-style-type: none"> • Chemicals assigned an NFPA 704 health hazard rating of 0, 1, or 2. • Any chemical assigned an NFPA 704 health hazard rating of 3 based solely on cryogenic properties and the resulting frostbite hazard may be excluded. • The substance is a liquid that exhibits a vapor pressure (or partial pressure) of less than 1 mmHg at about 25 degrees Celsius (°C). • Small quantities of materials such as those “easily and safely manipulated by one person,” defined as 5 gallons for liquids, 40 pounds for solids, or 10 pounds for compressed gases, unless the product could represent an extraordinary toxic hazard beyond the local event scene. • Materials that are commonly available to and used by the general public, provided that the product formulation and concentration is consistent with products that are distributed without significant public restrictions. Examples include cleaning products, bleach, motor oil, gasoline, and pesticides not designated with “restricted use” by the Environmental Protection Agency (EPA). • Materials that are NOT dispersible due to their physical form or other factors such as: <ul style="list-style-type: none"> ○ The substance is a solid at room temperatures and does NOT contain or include a significant fraction of small particles that can readily be suspended in air, and a plausible release mechanism by which a airborne exposure could occur.
CMS	2.	<p>CONTACT the CMP Lead and HMIS EP coordinator if the chemical does NOT screen out.</p>

Published Date: 04/23/2926

Effective Date: 04/23/2026

Actionee	Step #	Action
CMS	3.	<u>IF</u> the chemical products need further evaluation by EP, <u>THEN</u> obtain EP evaluation and document the steps taken in section II of the CPS form.
	4.	<u>WHEN</u> determining if a product is considered a powder for EP purposes, <u>THEN</u> USE the following in determining whether product is a powder: <ul style="list-style-type: none"> • <u>IF</u> the material has the consistency of salt, <u>THEN</u> CONFIRM that it is NOT a powder. • <u>IF</u> it has the consistency of flour, <u>THEN</u> DECLARE it a powder. • <u>IF</u> in doubt to the consistency of the product, <u>THEN</u> PLACE material on a 400-mesh sieve. • <u>IF</u> material passes through the screen, <u>THEN</u> DESIGNATE the substance as a powder.
	5.	CONSIDER chemical compatibility and reactivity during the EP screening process.

4.1.2 Product Approval

Actionee	Step #	Action
CMS/IH	1.	EVALUATE whether to accept or reject the request based on the product evaluation.
	2.	REPLACE CPS form number with the statement “CPS form in progress.”
	3.	SEND CPS form either by email or SharePoint to designated facility ECO and IH for their review and evaluation.
		NOTE: <i>Approval of eBOMs for rush orders on emergency jobs prior to completion of the CPS form may be approved by CMS and IH.</i>
ECO	4.	EVALUATE product and document evaluation in Section III of the CPS form.
	5.	SEND completed evaluation to the CMS via email.

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Effective Date: 04/23/2026

Actionee	Step #	Action	
IH	6.	EVALUATE product for the desired use and document evaluation in Section IV of the CPS form.	
	7.	<u>IF</u> products contain carcinogenic constituents, <u>THEN</u> : <ul style="list-style-type: none"> a) USE the SDS/MSDS to identify if the chemical product(s) contain occupational carcinogens at concentrations equal to or greater than 0.1%. b) UTILIZE the CPS form to document the evaluation. c) <u>IF</u> there is a non-carcinogenic product available, <u>THEN</u> WRITE a justification for using this carcinogen containing product. 	
	8.	<u>IF</u> seeking product approval, <u>THEN</u> RECOMMEND whether to accept the CPS form request based on safety and health concerns or assist to identify a suitable less hazardous alternative if the chemical purchase request is rejected.	
	9.	INFORM CMS that the IH portion of the CPS form is complete in email or via SharePoint.	
	Requestor Facility Manager	10.	REVIEW CPS form and address comments raised by the CMS, ECO and IH.
	Facility Manager	11.	VERIFY potential aggregate quantities do not exceed the amount identified in HMIS-RD-FP-8589, Hanford Fire Marshal Permits, Appendix A.
		12.	<u>IF</u> aggregate quantities do exceed the amount in Appendix A of HMIS-RD-FP-8589, <u>THEN</u> OBTAIN a Fire Marshal Permit.
	Requestor/CMS	13.	OBTAIN Facility Manager's review and approval signature.
		14.	SEND completed and approved CPS form to the CMP Lead.

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Effective Date: 04/23/2026

Actionee	Step #	Action
CMP Lead	15.	REVIEW CPS form for completeness.
	16.	APPROVE AND ENTER completed form into the Safety and Health Reference Information (SHRI) database, which automatically enters the CPS form into the Integrated Document Management System (IDMS).

4.1.3 Applying Existing CPS Form to New SDS

Actionee	Step #	Action
CMP Lead	1.	APPLY existing CPS form to the SDS only when there are: <ul style="list-style-type: none"> • Minor changes to the constituents, • No new or additional health and physical hazards, • No changes to the product physical state flash point and specific gravity, • Minor changes in the product name.
	2.	DOCUMENT changes in SHRI and inform the Requestor, CMS, ECO, and IH, by email, with the changes.

4.2 Pre-Approved or Previously Used Chemicals

This section describes the process of obtaining chemical products that have been previously approved or chemicals that have been previously used at HMIS facilities.

Actionee	Step #	Action
Requestor	1.	<p><u>IF</u> chemical products have been previously used at the facility, <u>THEN</u> proceed with eBOM or SOS process adding IH and CMS approvals.</p> <p>NOTE: <i>Under no circumstances shall HMIS personnel acquire any chemical products without IH and CMS approval.</i></p>

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Effective Date: 04/23/2026

4.3 Occupational Carcinogen Control Program

An occupational carcinogen is defined as any chemical used in the workplace, which contains a concentration of 0.1 % or more of a known or potential carcinogen as defined by one or more of the agencies listed under the Occupational Carcinogen definition in Appendix A.1.

The elements of the occupational carcinogen program include:

- Evaluation and documentation of all chemicals containing carcinogen constituents greater than 0.1%.
- Utilizing CITS database to identify chemicals containing carcinogens by showing the carcinogenic constituents and providing relevant reports.
- Establishing periodic evaluation process in conjunction with IHBHA (Industrial Hygiene Baseline Hazard Assessment) and CUA (Chemical Use Attachment) review (see SP-PRO-SP-17916) by Project Industrial Hygienist for all carcinogens which could be considered in use at each facility for potential reduction and substitution.
- Designating “Carcinogen Specific Hazard” on Hanford secondary container labels as required by HMIS-PRO-SP-13299, *Hazard Communication*.

4.3.1 Chemical Containing Occupational Carcinogen Constituents

Actionee	Step #	Action
IH	1.	<p>EVALUATE chemicals by using at least one of the following forms or reports:</p> <ul style="list-style-type: none"> • Chemical Procurement Screening (Form A-6005-393). • A Carcinogen Constituent Hazard Categorization (CaCHC) report for multiple products containing carcinogens, typically for legacy chemicals.

NOTE: *CITS is programmed to identify chemical product(s) containing known occupational carcinogen constituents at or above 0.1%.*

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4.3.2 Occupational Carcinogen Lists

Actionee	Step #	Action
Facility Manager/Supervisor	1.	<p>ENSURE that facilities using occupational carcinogens are keeping a current carcinogen inventory. The inventory shall include the following:</p> <ul style="list-style-type: none"> • Product name (as referenced on the SDS/MSDS and/or on the chemical container). • SDS/MSDS number. • Chemical Abstract Services (CAS) number carcinogen listing and categorization. • Location of use.

4.3.3 Determining the Presence of Occupational Carcinogens in Product

Actionee	Step #	Action
IH	1.	USE product SDS/MSDS's section identifying carcinogens and document the occupational carcinogen hazard analysis.

4.3.4 Using CaCHC report

Actionee	Step #	Action
IH	1.	USE CaCHC report to document multiple products containing the same or similar legacy carcinogen constituents for each facility/project.
	2.	PERFORM the following to obtain the report: <ol style="list-style-type: none"> 1. OPEN SHRI. 2. SELECT dropdown next to Carcinogen Control Program. 3. SELECT the appropriate option. 4. LOCATE your facility. 5. SELECT the CaCHC Report.

NOTE: *CITS can provide product information to help complete the CACHA report*

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Effective Date: 04/23/2026

Actionee	Step #	Action
IH	3.	REVIEW completed report to ensure Carcinogen Control Program requirements are met.

4.4 Tracking and Inventories of Chemicals

Currently CITS is used as a tracking tool for **most** HMIS chemicals. In CITS, a chemical or chemical product may be tracked by giving each individual container a unique identifier (non-fixed) or by tracking the quantity of a group of like containers at a specific location (fixed inventory). A facility may use a combination of both methods to track their inventory. The associated record in the CITS database includes not only product information, such as product name, manufacturer, container type/size, but also container-specific information, such as lot number or expiration date. The container(s) is tracked from the time it is purchased until it is no longer part of active inventory.

A container is generally assumed to be full, with the inventory quantity in the CITS record defaulting to the container size. The facility has the option of adjusting the inventory quantity to reflect partially filled containers. The CITS record is updated to reflect the current location of the container if it is moved or transferred to another facility.

Containers should be individually tracked in CITS in any of these circumstances:

- Chemical has an expiration date or limited shelf life.
- Facility wants to track quantified use information through CITS.

Fixed inventories are associated with a storage location, not a specific container. The unique identification number assigned to the record in CITS applies to all like containers of a certain chemical product stored at a specific location. Locations with 'fixed' inventories do not require additional documentation for each addition or removal within the quantity limits defined in the CITS database, although fluctuations in quantity can be tracked by periodically adjusting the actual quantity and/or recording the fluctuations under the "inspections" tab on the container record. The fixed inventory tracking method should be used only when the same products are consistently stored at the same location.

A fixed inventory record is established in CITS and given a unique identification number. The CITS record contains product-specific information, such as product name, manufacturer, and container type/size. Fixed quantity information is recorded by either entering a maximum quantity that is expected to be present, which is left unchanged regardless of fluctuation below that quantity, or periodically assessing the amount of the chemical present and updating the inventory quantity as necessary. When the chemical product(s) is reordered, the new containers are placed with the remaining stock in the storage location, and the inventory quantity is adjusted or verified by the CMS in CITS as being at or below the established maximum quantity.

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The fixed inventory tracking method may be used in the following circumstances:

- Closed building systems.
- Bulk chemical storage.
- Process vessels.
- Inventories which are stable with respect to the identity of chemicals, container type and the storage location.

Facility Managers may obtain useful reports from CITS on chemical products in their facilities inventory including:

- List of chemical products containing occupational carcinogen constituents.
- List of chemical products with SDS/MSDS number and storage locations to meet the hazard communication program requirements.
- Amounts of constituents used or stored for EPA/EPCRA reporting.
- Availability of excess chemical products that can be used by other facility/contractor users.
- Amounts of chemical products stored at facilities and surrounding facilities that are listed according to the material classification NFPA-1 fire code and for emergency preparedness screening.
- Chemical products hazard classifications according to NFPA-704 and the Globally Harmonized System (GHS) of classification and labelling of chemicals.

4.4.1 New Product Tracking

Actionee	Step	Action
CMS	1.	For new products tracked in CITS, DETERMINE whether the product has an existing CITS product identification number, and ENTER product under that number.
Facility Manager	2.	NOTIFY CMS when chemical products are moved from one storage location to another.
CMS	3.	For products requiring new CITS product ID numbers, ENTER product information into CITS temporary inventory AND PROVIDE following: <ul style="list-style-type: none"> • Product name and known as name, if there is one. • Container number. • Manufacturer name. • Hanford SDS/MSDS number. • Container concentration, type, and quantity.

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Effective Date: 04/23/2026

Actionee	Step	Action
		<ul style="list-style-type: none"> • Storage location. • Responsible person. • That the maximum inventory quantities at the assigned location obtained from the CITS database will be based on the allowable baseline aggregate quantities of chemicals stored at the facility.
CMS	4.	Per the facility practice, TRACK all new products as a fixed or non-fixed inventory item.
	5.	TRACK new chemicals to the facility (or other chemical storage unit) building level.
	6.	<p><u>WHEN</u> acquiring existing products, <u>THEN</u> UPDATE the inventory as follows:</p> <ul style="list-style-type: none"> • For Non-fixed inventory users: <ul style="list-style-type: none"> ○ ENTER a new inventory item with a link to a new CITS container ID. • For Fixed Inventory users: <ul style="list-style-type: none"> ○ Using the existing CITS container ID, ENSURE that the aggregate chemical inventory quantity will remain within the fixed inventory maximum limit.
	7.	For all products, and upon receipt, ENTER chemical inventory information into CITS within 14 days for products containing EHS constituents in concentrations > 1%, or within 45 days for all other products, or before product use.
	8.	ASSIST Facility Manager or designee, with annual validation of inventory records including annual physical wall-to-wall chemical inventories.

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4.5 Storage and Handling of Chemicals

4.5.1 General Storage

Actionee	Step	Action
Facility Manager/ User	1.	<p>ENSURE chemicals and chemical products stored and use at the facility are:</p> <ul style="list-style-type: none"> • Maintained in proper and pre-identified storage areas and/or cabinets. • Kept in a clean and orderly fashion, with chemical or product containers closed when not in use. • Stored according to compatibility and regulatory/other guidance information. • Rotated so that newly received chemical products with existing stock, so that the oldest stock is available first.
User	2.	<p>VERIFY before use that each chemical is within its expiration date; expired chemicals must NOT be used.</p>

4.5.2 Chemical Storage for Prime Contractors

Actionee	Step	Action
Warehouse Facility Manager	1.	RECEIVE chemical product storage request via Enterprise Service Platform (ESP).
	2.	SEND evaluation request with chemical expiration date to IH and Chemical Management for chemical storage approval via email.
CMS	3.	<u>WHEN</u> approved by IH and Chemical Management, <u>THEN</u> ASSIGN a Catalog ID number and chemical expiration date to each chemical product.
	4.	SEND notification to CMS through Asset Suites when chemicals for Prime Contractor are received and placed into warehouse storage.
	5.	ENTER the chemical product information, catalog ID number, and ICG code OHC into CITS to establish tracking for chemical stored Prime Contractors.

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4.5.3 Storage and Handling of Flammable and Combustible Liquids

Actionee	Step	Action
Facility Manager/ Supervisor	1.	ENSURE storage locations are approved for the storage of flammable materials per the applicable NFPA code(s).
	2.	MAINTAIN cabinets securely closed, except when adding or removing products.
<p>NOTE: <i>Additional information can be found on the Chemical Management Website:</i></p> <div style="background-color: black; width: 100%; height: 20px;"></div>		

4.5.4 Storage of Aerosols

Actionee	Step	Action
Facility Manager / Supervisor	1.	CONTACT the FPE/DFM or designated safety representative / IH and/or the CMS on the proper storage of aerosol products.
		<p>NOTE: <i>Additional information can be found on the Chemical Management Website:</i></p> <div style="background-color: black; width: 100%; height: 20px;"></div>

4.5.5 Storage and Handling of Compressed Gas

Actionee	Step #	Action
Facility Manager / Supervisor	1.	REFER TO HMIS-RD-SP-11198, <i>Storage, Use and Handling of Compressed Gases.</i>

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4.6 Disposition

4.6.1 General Disposition

This section covers chemical products that are no longer needed, expired, or have become a potential waste.

Actionee	Step	Action
Facility Manager/CMS	1.	<p>EVALUATE chemical products that are no longer needed, expired, or have become a potential waste for dispositioning. Chemicals that are expired shall NOT be used and must be properly dispositioned.</p> <p>Dispositioning options may include:</p> <ul style="list-style-type: none"> • RETURN to the vendor. • RE-DEPLOY within HMIS facilities. • EXCESS onsite or offsite. • DECLARE as waste.
Facility Manager/ECO	2.	WORK with CMS if the chemical product is still usable at other facilities.
	3.	<u>IF</u> a chemical product is determined to be waste, <u>THEN</u> CONTACT the ECO.
	4.	NOTIFY CMS to update CITS database to reflect the inventory change.
CMS	5.	ENTER the method of disposition of the chemical product into CITS.

4.6.2 Aerosol Disposition

This subsection covers the screening/evaluation of aerosol products for disposition at the Centralized Consolidation/Recycling Center (CCRC). The screening evaluation criteria was described in MSC-59663, *Evaluation of Aerosol Products at the Hanford Site for Chemical Compatibility and Regulatory Requirements*.

Actionee	Step	Action
CCRC Personnel	1.	UTILIZE the CITS database, CITS generated reports to identify aerosol products that are Accepted or Rejected from being shipped to the CCRC. Contact CMP Lead with any questions.

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5.0 RECORD IDENTIFICATION

All records are generated, processed, and maintained in accordance with HMIS PRO RM 10588, *Records Management Processes*, or HMIS PRO RM 32281, *Electronic Records Management*, as applicable.

Table 1. Records Capture Table

Name of Document	Submittal Responsibility	Retention Responsibility
<i>Chemical Procurement Screening (CPS) Form</i> (Site Form A-6005-393)	Requestor	CMP Lead/SHRI/IDMS
<i>Carcinogen Control Program Documentation</i> (Site Form A-6003-389)	Industrial Hygienist	CMP Lead/SHRI/IDMS

6.0 SOURCES

6.1 Source Requirements

None

6.2 References

ENV-PRO-OP--60620, *Aerosol Can Puncturing and Compatibility*
 HMIS-PLN-EFS-42081, *HMIS Environmental Management System Description*
 HMIS-PLN-SP-003, *Integrated Environment, Safety, and Health Management System Description*
 HMIS-POL-EFS-5054, *HMIS Environmental Policy*
 HMIS-POL-SP-5053, *Policy for Environment, Safety, Health & Quality*
 HMIS-PRO-EFS-15333, *Environmental Protection Processes*
 HMIS-PRO-EIS-60825, *Emergency Planning and Community Right-To-Know Act Reports and Notifications*
 HMIS-PRO-RM-10588, *Records Management Processes*
 HMIS-PRO-RM-32281, *Electronic Records Management*
 HMIS-PRO-SC-123, *Procurement of Subcontractor Services*
 HMIS-PRO-SP-13299, *Hazard Communication*
 HMIS-PRO-SP-48065, *Subcontractor Safety Processes*
 HMIS-RD-FP-8589, *Hanford Fire Marshal Permits*
 HMIS-RD-SP-11198, *Storing, Handling and Using Compressed Gases*
 NFPA, *National Fire Protection Association 1*, “Fire Code”
 NFPA, *National Fire Protection Association, 30*, “Flammable and Combustible Liquids Code”
 NFPA, *National Fire Protection Association, 30 B*, “Codes for the Manufacture and Storage of Aerosol Products”

NFPA, *National Fire Protection Association, 400*, “Hazardous Materials Code”
NFPA, *National Fire Protection Association, 704*, “Standard System for the Identification of
the Hazards of Material for Emergency Response”

6.3 Forms

Chemical Procurement Screening Form (Site Form A-6005-393)

CITS Access Request (Site Form A-6008-943)

HMIS Electronic Bill of Material (eBOM)

SDS Request (Site Form A-6008-941)

Appendix A. Glossary and Definition of Terms

TERM	DEFINITION
Actionee	The actionee is the individual responsible for an action called for in the procedure.
Aerosol Products	For the purposes of this procedure, an aerosol is defined as a substance enclosed under pressure and able to be released as a fine spray, typically by means of a propellant gas.
Chemical Product	For purposes of this procedure, a general term referring to pure chemicals, mixtures of chemicals, and chemical products.
Chemical Inventory Tracking System (CITS)	A Web-based system for use by Hanford facilities for tracking and management of chemical inventories.
CITS Data Administrator	A HMIS employee who administers the CITS database for HMIS and other Hanford contractors using the database.
CITS Users Group	A team comprised of HMIS and other Hanford contractor's representatives that are charged with advising and providing input to the use, development, maintenance, and needs of the CITS database tool.
Chemical Management Process Lead	The HMIS Chemical Management Process Lead serves as the SME for the overall administration, management, and maintenance of the HMIS's CMP.
Chemical Management Specialist (CMS)	A professional that supports and helps implement the HMIS chemical management process.
Craft Specific Hazard Analysis (CSHA)	A documentation technique to establish the control measures for hazards that are common/routine to the core activities of specific craft workers' assigned job position.
Emergency Preparedness Coordinator	An individual responsible for coordinating the emergency preparedness planning activities for a project or facility.
Environmental Compliance Officer (ECO)	A professional who provides opinions and solutions for a variety of environmental technical problems including, but not limited to, air emissions, permit compliance, environmental management, waste minimization, and pollution prevention.

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TERM	DEFINITION
EPCRA-SME	Emergency Planning Community Right to Know Act Subject Matter Expert.
Fire Protection Engineer/ Deputy Fire Marshal	The Professional responsible for oversight of fire protection for a project or facility.
Hazardous Chemical	Any chemical which is classified as a physical or health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.
Legacy Chemical	A chemical that has aged and/or been diluted and/or been contaminated and/or been evaporated to the point where it has little to no usefulness and has not been declared a waste.
Material Coordinator	An individual responsible for chemical products procurement.
Occupational Carcinogen	A chemical product is considered to be an Occupational Carcinogen if: <ul style="list-style-type: none"> • It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a carcinogen or potential carcinogen (IARC Groups 1, 2A and 2B); or • It is listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP-R and NTP-K); or • It is regulated by the Occupational Safety and Health Administration (OSHA 2012) as a carcinogen. The 13 OSHA regulated carcinogens are listed in 29 CFR 1910.1003(a) (1), and other 12 substances with respective specific standards.
Requestor	The chemical requestor is the person who initiates the acquisition of the chemical product to his facility.
Subject Matter Expert (SME)	An individual from a project, facility, or function who has substantial knowledge and/or experience with chemical management requirements and/or processes.
Waste Chemical	A chemical that has reached its expiration date, usefulness and cannot be redeployed or excessed.

Appendix B. Acronyms

CaCHC	Carcinogen Constituents Hazard Categorization
CAS	Chemical Abstract Service
CCRC	Hanford Centralized Consolidation/Recycling Center
CFR	Code of Federal Regulations
CITS	Chemical Inventory Tracking System Database
CIW	Chemical Inventory Worksheet
CMP	Chemical Management Process
CMS	Chemical Management Specialist
CPS	Chemical Procurement Screening
CSHA	Craft Specific Hazard Analysis
eBOM	Electronic Bill of Material
ECO	Environmental Compliance Officer
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
IARC	International Agency for Research on Cancer
ICG	Inventory Control Group
IDMS	Integrated Document Management System
MAQ	Maximum Aggregate Quantities
MSDS	Material Safety Data Sheet
NFPA	National Fire Protection Association
NTP	National Toxicology Program

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PPE	Personal Protective Equipment
SDS	Safety Data Sheet
SME	Subject Matter Expert
SOW	Statement of Work