
Hazard Communication (WHMIS/GHS) Chemical Inventory Audit

1.0 Objective & Intent

The objective of this SOP is to establish a systematic process for conducting a chemical inventory audit in compliance with the Workplace Hazardous Materials Information System (WHMIS) as aligned with the Globally Harmonized System (GHS) and WorkSafeBC regulations. This procedure ensures that all hazardous chemicals present in the cabinet and millwork facility are accurately documented, that corresponding Safety Data Sheets (SDS) are current and accessible, and that all containers are properly labeled. The intent is to mitigate risks of chemical exposure, fire, explosion, and environmental release by maintaining a transparent and up-to-date chemical inventory, thereby protecting workers and supporting emergency response planning.

2.0 Operational Scope

This procedure applies to all areas of the cabinet and millwork manufacturing facility where hazardous chemicals are stored, used, or handled. This includes the main production floor, finishing and spray booth areas, adhesive and solvent storage rooms, maintenance workshops, janitorial closets, and any satellite storage locations. All personnel involved in chemical procurement, receiving, storage, use, and disposal are subject to this SOP, including production operators, maintenance technicians, finishing staff, supervisors, and the Joint Health and Safety Committee (JHSC) members. The audit must be conducted at least annually, or whenever new chemicals are introduced, processes change, or after an incident involving a chemical.

3.0 Hazard Identification & Mandatory PPE

- Chemical Exposure: Inhalation of vapours, mists, or dusts from adhesives, solvents, paints, stains, and cleaning agents.
- Skin Contact: Absorption of hazardous liquids through unprotected skin leading to dermatitis or systemic toxicity.
- Eye Contact: Splashes of corrosive or irritant chemicals into eyes.
- Fire and Explosion: Flammable solvents and combustible dusts present in finishing areas.
- Incompatible Storage: Mixing of oxidizers with flammables or acids with bases causing violent reactions.
- Slip/Trip Hazards: Spilled chemicals or cluttered storage areas.
- CSA-Approved Safety Glasses with side shields or chemical splash goggles
- Chemical-Resistant Gloves (e.g., nitrile, neoprene, or butyl rubber as per SDS)
- Lab Coat or Chemical-Resistant Apron
- CSA-Approved Steel Toed Boots with slip-resistant soles
- Long Pants and Long-Sleeved Shirt (no exposed skin)
- Respiratory Protection (if required by SDS or if vapours exceed exposure limits; use NIOSH-approved half-face or full-face respirator with appropriate cartridges)

4.0 Required Safety Equipment & Tools

- Chemical Inventory Master List (electronic or paper template)
- Safety Data Sheets (SDS) binder or digital access terminal

- WHMIS/GHS Labeling Guide and Compliance Checklist
- Personal Lockout/Tagout (LOTO) Kit (if auditing requires opening locked storage)
- Portable Spill Kit (absorbent pads, neutralizers, disposal bags)
- Flashlight or Portable Work Light
- Clipboard, Pen, and Audit Forms
- Camera or Smartphone for photo documentation of labeling issues
- Calibrated Four-Gas Monitor (if entering confined spaces or poorly ventilated storage)
- Fire Extinguisher (appropriate class for chemicals present, e.g., Class B for flammable liquids)

5.0 Step-by-Step Safety Procedure

1. Notify all department supervisors and affected personnel that a chemical inventory audit will be conducted. Post warning signs at entrances to storage areas and ensure no chemical handling or transfer operations occur during the audit unless absolutely necessary.
2. Don all required PPE as listed in Section 3.0. Verify that the four-gas monitor is calibrated and functioning, and that the spill kit is readily accessible. Conduct a pre-audit safety briefing with the audit team covering emergency procedures, evacuation routes, and communication protocols.
3. Begin the audit at the main chemical storage room. Using the Chemical Inventory Master List, physically verify the presence, quantity, and container condition of every chemical listed. Check that each container has a legible WHMIS/GHS supplier label or workplace label, including the product identifier, hazard pictograms, signal word, hazard statements, precautionary statements, and supplier identifier.
4. For any container found without a proper label, immediately affix a workplace label using the information from the corresponding SDS. If the SDS is missing or outdated, flag the chemical as non-compliant and isolate the container in a designated quarantine area until the correct SDS is obtained and the label is applied.
5. Cross-reference each chemical on the master list with its corresponding Safety Data Sheet. Verify that the SDS is the current version (within 3 years for most chemicals) and that it is readily accessible to workers in the area. Remove any outdated SDS and replace with the latest version from the supplier.
6. Inspect all storage areas for proper segregation of incompatible chemicals (e.g., oxidizers away from flammables, acids away from bases). Ensure that flammable storage cabinets are closed and grounded, that secondary containment is in place for liquid containers, and that no chemicals are stored on the floor or above eye level on unstable shelving.
7. Document all findings on the audit form, including the chemical name, location, container size, quantity, label condition, SDS currency, and any deficiencies observed. Take photographs of any labeling violations, damaged containers, or improper storage conditions for the audit report.
8. Upon completion of the physical audit, update the Chemical Inventory Master List to reflect any additions, deletions, or quantity changes. Ensure that the master list includes the chemical name, CAS number, hazard class, physical state, storage location, and maximum quantity on site. Submit the updated list to the Safety Officer and JHSC.
9. Generate a corrective action plan for all non-compliances identified during the audit. Assign responsibilities and target completion dates for each action item, such as ordering missing SDS, replacing damaged labels, or reorganizing storage areas. Review the plan with management and post it in the safety communication area.
10. Conduct a closing meeting with affected personnel to communicate audit results, corrective actions, and any changes to chemical handling procedures. Update the site-specific WHMIS training materials if new hazards were identified. File the completed audit report and corrective action plan in the safety records for a minimum of 5 years.

Regulatory Disclaimer: This document is a generic safety template provided for educational and informational purposes only. It does not constitute professional engineering, legal, or regulatory compliance advice. The end-user assumes all liability for validating all safety protocols against specific machinery manufacturer manuals and local occupational health and safety regulations (e.g., WorkSafeBC, CSA standards) before deployment.