Safe Disposal of Empty Aerosol Cans

1.0 Objective & Intent

This SOP defines the safety protocols for the disposal of empty aerosol cans (e.g., spray paint, adhesive, lubricant) used in cabinet and millwork manufacturing. The primary objective is to eliminate the risk of fire, explosion, and toxic exposure during the disposal process, ensuring full compliance with WorkSafeBC regulations (OHS Regulation Part 5: Chemical Agents and Biological Agents) and the BC Environmental Management Act. This procedure mitigates the specific hazard of residual propellant or flammable contents igniting during compaction or disposal.

2.0 Operational Scope

This procedure applies to all maintenance personnel, production workers, and waste handlers responsible for disposing of empty aerosol cans within the cabinet and millwork facility. It covers all aerosol cans used in finishing, assembly, and maintenance operations, including but not limited to spray paints, contact adhesives, lubricants, and cleaning solvents. This SOP does not apply to partially full or full aerosol cans, which must be managed as hazardous waste through a licensed contractor.

3.0 Hazard Identification & Mandatory PPE

- Fire and Explosion: Residual propellant (e.g., propane, butane) or flammable contents can ignite if cans are punctured, crushed, or exposed to heat sources.
- Toxic Inhalation: Inhalation of residual solvent vapors or propellant gases during handling or disposal.
- Skin Contact: Contact with residual chemicals can cause dermatitis or chemical burns.
- Eye Injury: Splash of residual liquid or propellant into eyes.
- Pinch Points: Hands and fingers can be caught in compaction or puncturing equipment.
- CSA-Approved Safety Glasses with side shields
- CSA-Approved Steel Toed Boots
- Nitrile or neoprene chemical-resistant gloves (minimum 0.4 mm thickness)
- Long-sleeve flame-resistant coveralls or work shirt
- Hearing protection (if using mechanical compaction equipment)

4.0 Required Safety Equipment & Tools

- Approved aerosol can disposal unit or puncturing device (e.g., Aerosolv or equivalent) with integrated carbon filter
- Grounding wire and clamp for the disposal unit
- Fire extinguisher (Class B rated, minimum 10 lb) located within 10 meters of the disposal area
- Spill containment pallet or drip tray rated for flammable liquids
- Approved hazardous waste container (metal or plastic, UN-rated) for collected residual liquid
- Heavy-duty plastic drum or metal bin for punctured, empty cans
- Lockout/Tagout (LOTO) kit with personal lock and hasp (if using powered compaction equipment)
- Ventilation system or portable explosion-proof fan to ensure air exchange in the disposal area
- Safety data sheets (SDS) for all aerosol products in use

5.0 Step-by-Step Safety Procedure

1. Verify that the disposal area is well-ventilated, free of ignition sources (e.g., open flames, sparks, hot surfaces), and equipped with a functioning Class B fire extinguisher. Confirm that the grounding wire is securely attached to the disposal unit and to a verified earth ground.
2. Don all required PPE as listed in Section 3.0. Ensure chemical-resistant gloves are free of tears and safety glasses are clean and properly fitted.
3. Inspect each aerosol can to confirm it is empty. Shake the can gently; if any liquid sloshes or if the can feels pressurized, do not proceed. Set aside partially full cans for hazardous waste collection by a licensed contractor.
4. Place the empty aerosol can into the approved disposal unit, ensuring the can is oriented according to the manufacturer's instructions (typically nozzle down). Engage the puncturing mechanism to pierce the can and release residual propellant and liquid into the carbon filter and collection container.
5. Allow the disposal unit to complete its cycle (typically 10–30 seconds) until all residual gas has been vented through the carbon filter and no further hissing is heard. Do not remove the can prematurely.
6. Once the cycle is complete, remove the punctured can from the disposal unit and place it into the designated metal or plastic bin for empty cans. Ensure the bin is labeled 'Empty Aerosol Cans – For Recycling' and is kept away from heat sources.
7. If the disposal unit has a collection container for residual liquid, check the fill level. When the container is full, transfer the liquid to a UN-rated hazardous waste container, following the manufacturer's instructions. Label the container with the contents and date.
8. Clean the disposal unit and surrounding area after each use. Wipe down the unit with a damp cloth to remove any chemical residue. Dispose of used cloths as hazardous waste in a designated container.
9. Record the disposal activity in the facility's hazardous waste log, including the number of cans disposed, the date, and the name of the person performing the task. Report any leaks, spills, or equipment malfunctions immediately to the safety supervisor.
10. Arrange for regular maintenance of the disposal unit per the manufacturer's schedule, including replacement of the carbon filter and inspection of the puncturing mechanism. Document all maintenance in the equipment log.