# Condensation Dripping Response And Overhead Contamination Control

## 1.0 Objective & Intent

This SOP establishes mandatory safety protocols for identifying, containing, and cleaning condensation drips from overhead structures (pipes, ducts, ceilings) and preventing contamination of work surfaces, materials, and equipment in cabinet and millwork manufacturing environments. The primary goal is to eliminate slip hazards, prevent chemical or biological contamination, and protect workers from exposure to potentially hazardous condensate (e.g., from HVAC systems, compressed air lines, or process exhaust). Compliance with WorkSafeBC regulations (OHS Regulation, Part 4 – General Conditions, Part 5 – Chemical Agents, and Part 8 – Personal Protective Equipment) is mandatory.

## 2.0 Operational Scope

This procedure applies to all maintenance personnel, production workers, and supervisors in areas where condensation may form on overhead surfaces, including but not limited to: finishing booths, sanding rooms, assembly lines, material storage areas, and utility corridors. It covers all overhead piping (water, steam, compressed air, dust collection), HVAC ducts, roof structures, and ceiling panels. This SOP does not apply to active leaks from pressurized systems (e.g., steam line rupture) which require immediate emergency shutdown and separate procedures.

## 3.0 Hazard Identification & Mandatory PPE

- Slip/Trip Hazards: Water or chemical-laden drips on floors create immediate slip risks. Keep area dry and post wet floor signs.
- Chemical Exposure: Condensate may contain biocides, lubricants, or corrosive residues from HVAC or compressed air systems. Assume all condensate is hazardous until tested.
- Biological Contamination: Stagnant condensate can harbor mold, bacteria, or legionella. Avoid direct skin contact and aerosolization.
- Electrical Hazards: Water dripping near electrical panels, motors, or outlets poses electrocution risk. De-energize and lockout affected equipment before cleanup.
- Falling Objects: Dislodged ceiling tiles or loose insulation may fall during response. Use caution and barricade area.
- CSA-Approved Safety Glasses with side shields or full-face shield (if splash risk)
- CSA-Approved Steel Toed Rubber Boots (slip-resistant)
- Chemical-Resistant Gloves (nitrile or neoprene, minimum 14 mil thickness)
- Disposable Coveralls (Tyvek or equivalent) if contamination is suspected
- Hard Hat (if working near overhead structures or dislodging panels)
- N95 Respirator (minimum) if mold or chemical vapors are present; upgrade to half-face elastomeric with organic vapor cartridge if solvents detected

## 4.0 Required Safety Equipment & Tools

- Lockout/Tagout (LOTO) Kit with personal lock and hasp (for electrical panels and equipment in affected zone)
- Spill Containment Kit (absorbent pads, socks, and disposal bags)

- Wet Floor Signs and barricade tape
- Non-Contact Voltage Tester (to verify de-energization before water contact)
- Flashlight or portable work light (for inspecting overhead areas)
- Extension pole with absorbent pad attachment (for reaching overhead drips safely)
- Bucket, mop, and absorbent floor dry (e.g., oil-dry or kitty litter)
- Plastic sheeting and tape (to cover materials/equipment below drip zone)
- Disinfectant cleaner (e.g., bleach solution or commercial biocide) for biological contamination
- pH test strips (to determine if condensate is acidic or caustic)

## 5.0 Step-by-Step Safety Procedure

1. Identify and isolate the affected area. Post warning signs and barricade the zone to prevent unauthorized entry. If condensation is dripping near electrical equipment, immediately notify the supervisor and proceed to step 2.
2. De-energize and lockout all electrical equipment within the drip zone. Use a non-contact voltage tester to confirm zero voltage before any water contact. Apply personal LOTO lock and tag per plant LOTO procedure.
3. Don all required PPE as listed in Section 3.0. Verify gloves are intact and respirator is fit-tested if required. Ensure coveralls are worn if contamination is suspected.
4. Assess the condensate source. Use a flashlight to inspect overhead pipes, ducts, or ceiling panels. Determine if the drip is from a known process (e.g., compressed air dryer) or unknown source. If unknown, treat as hazardous.
5. Contain the drip immediately. Place a bucket or absorbent pad directly under the drip to catch falling liquid. If the drip is widespread, deploy plastic sheeting over machinery or materials below. Use extension pole with absorbent pad to gently wipe overhead surfaces if safe to do so.
6. Test the condensate for pH and visual contamination. Use pH test strips. If pH is below 5 or above 9, or if visible oil, rust, or biological growth is present, treat as hazardous waste. Do not flush down drains. Collect with absorbent pads and dispose in sealed hazardous waste bags.
7. Clean the affected floor area. Apply absorbent floor dry to any standing liquid, sweep up, and dispose in appropriate waste container. Then mop with disinfectant cleaner if biological contamination is suspected. Allow floor to dry completely before removing barricades.
8. Inspect and address the root cause. Check for insulation gaps, missing pipe wraps, or HVAC condensation issues. Report findings to maintenance supervisor for corrective action (e.g., re-insulate pipes, repair HVAC, install drip pans). Do not leave area until temporary containment is in place.
9. Remove LOTO and restore power only after the area is dry and all equipment is verified safe. Remove barricades and wet floor signs. Document the incident in the SafeDesk digital log, including location, source, pH test results, and corrective actions taken.
10. Conduct a post-incident debrief with affected workers. Review if additional controls (e.g., drip trays, insulation, dehumidifiers) are needed to prevent recurrence. Update the SOP if new hazards are identified.