

Environmental Loss Control

General Manufacturing Facilities

June 2026

Manufacturing can produce a variety of emissions and wastes that pose environmental risk. This applies not just to the original manufacturer of a product, but also to fabricators, assemblers, or any other manipulation of a pre-made good, including repackaging.

Manufacturers should be knowledgeable of the risks as emissions and hazardous waste are regulated across Canada at federal and provincial levels. Carefully following municipal disposal requirements is also important since even non-hazardous wastes in the right concentration but in the wrong place at the wrong time can be deemed a pollutant.

ENVIRONMENTAL LOSS CONTROL FEATURES TO LOOK FOR

Common Emissions and Potential Pollutants

Emissions can be varied in their amounts and in their potential to impact air, water and soil. There are a variety of controls that can be used to minimize the likelihood of a pollution event.

- Regular preventive maintenance of all machinery and equipment, not just reacting to problems.
- Impermeable floors, containment of any liquid vessels, and sealed drainage systems.
- Limit outdoor operations to activity that does not involve potential liquid pollutants. Storage of liquid chemicals in the yard may be deemed “safer” from a fire protection or employee health perspective, but such storage then needs properly designed vessels, containment, and monitoring to address environmental concerns.
- Avoid underground storage tanks unless no other option exists. If underground storage is necessary, monitoring systems with continuous leak detection are preferred. Staff should be familiar with the system to ensure proper operation.
- Leak detection, secondary containment systems and physical barriers for all storage tanks.
- Effective air quality controls can include: dust collection, carbon filters and/or air scrubbers for VOC and stack emissions, and monitoring systems that allow quick identification and shut-down of problems.
- A formal dust hazard analysis can be done to discover potential environmental impacts, if one has been done consider the results and what can be mitigated.
- Wastewater controls can include use of closed loop water systems to reduce discharge and potential contaminated water release. On-site effluent treatment may be necessary for oil separation, filtration and/or sludge removal.
- Internal waste handling and external waste disposal guidelines should be comprehensive and clear, and should address:
 - Scrap products and waste materials.
 - Use of licensed recyclers and qualified disposal options.
 - Used/waste oils and other fluids resulting from routine maintenance and repairs.
 - Periodic lab tests to measure the extent of pollutants is especially important in wastewater or effluent releases.
 - Continuous monitoring systems for air emissions.

- Look for exposures that do not frequently result in losses but are common sources of environmental pollutants, such as noise, light emissions, odours (all are more relevant near residential areas).
- Common risks, that are not always thought of as a potential source of pollution include:
 - Inadvertent effluent release. Is containment of wastewater and/or effluents sufficient to withstand severe storms or common natural events?
 - Hydraulically operated equipment. Are there leaks and is waste oil disposed of properly?
 - Spray painting booths. Are there adequate filters and ducts for collection?
 - Different types of dip tanks. Whether coating paints, cleaning solutions, acids, anti-corrosives, zinc plating, etc., do the processes account for potential spills, dripping while items dry? Small amounts of residual drops can accumulate over time to be significant.
 - Heavy metals are highly toxic. If they are present, is extra care being taken in collection and disposal of shavings, fines, dusts?

Hazardous Waste Handling and Collection

Hazardous waste includes materials that are toxic, corrosive, flammable and/or reactive. Hazardous waste requires proper collection and disposal to avoid harm to persons, property or the environment.

- Common hazardous waste products include; oily solids, waste/used oil, antifreeze, spent solvents, acids and bases, heavy metals, and gases.
- Collection must use suitable containers (non-reactive, no leaks), fire rated containment as necessary, proper ventilation, and a location (covered or indoors) where run-off can be prevented if leaks occur.
- All such materials should be clearly and accurately labelled and storage should be organized and readily identifiable.
- Standard procedures should be developed for all loading and unloading. Recording quantities and maintaining accurate inventory levels can help identify gradual losses that can amount to a substantial pollution event.
- Properly equipped spill kits should be present at sources of hazardous waste and in collections areas.

Training and Compliance

Well trained employees have knowledge and experience that can reduce the possibility of a pollution event and/or the severity of an event. Recording of training and certification can help businesses stay compliant.

- Managing a Health & Safety department should always include Environmental exposures as well.
- Employee training logs should be kept and reviewed periodically for renewal and obsolescence.
- Standardized training programs, such as Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods (TDG) and forklift or equipment licensing, are required by law for employees. Workplaces should also consider specific training related to their tasks and exposures.
- Emergency response plans should not only deal with spills and leaks, but be coordinated with other scenarios, such as fires, flooding, wind and ice storms, etc. Regular drills help reduce response time and improve mitigation efforts which can significantly reduce resulting pollution and/or damages.
- Management must be familiar with local regulations. There are requirements for recording and reporting emissions and for hazardous waste collection and disposal.
- For companies that operate in several jurisdictions, ensure they are aware of variations between provincial requirements, which may also exceed federal guidelines.