



Cannabis Cultivators: Reduce the Risks, Maximize the Profits

Cannabis production is an exciting new industry in Canada, but with new business opportunities come new risks. To help your operations run smoothly, we've uncovered cannabis facilities' most common risks and exposures, as well as strategies for how to avoid them.


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Polycarbonate panels



Greenhouses converted from other agricultural use are sometimes built with these lightweight, rigid plastic sheets. The rigid plastic paneling contains small air channels. Combined with petroleum-based plastics as fuel, these air channels create a perfect opportunity for uncontrollable fire hazards.

How to control these hazards:

- + Replace these panels with glass (diffused or laminated).
- + Relocate any stock or stored combustible materials away from these walls and avoid storing stock along them. Maintain a clearance distance of over 1 metre (3 feet).
- + Correctly install approved lighting fixtures in indoor growth rooms. Consult your Broker or Risk Control Specialist if you are unsure whether your facility contains these panels.

CBD/THC oil extraction processes



A common method to extract oils from cannabis uses carbon dioxide gasses under immense pressure. This requires cryogenic temperature controls in supply tanks, as well as safety checks of valves, fittings and holding tanks. Another method, solvent-based extraction, uses highly flammable liquids to draw the valuable oils from the cannabis flowers.

How to control these hazards:

- + Transfer and store liquids carefully.
- + Dispose of waste by-products regularly and compliantly.
- + Note: NFPA 1 dictates that, unless using carbon dioxide-based or nonhazardous extraction processes, cannabis extraction equipment and processes must be located in a dedicated room made of non-combustible materials. The room must not be used for any other purpose. NFPA 1 also provides further instruction for:
 - Systems, equipment and processes
 - Documentation requirements
 - Approval for systems and equipment with no listing
 - Documentation requirements
 - What to do with unlisted systems
 - Change of extraction medium

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Extraction room construction



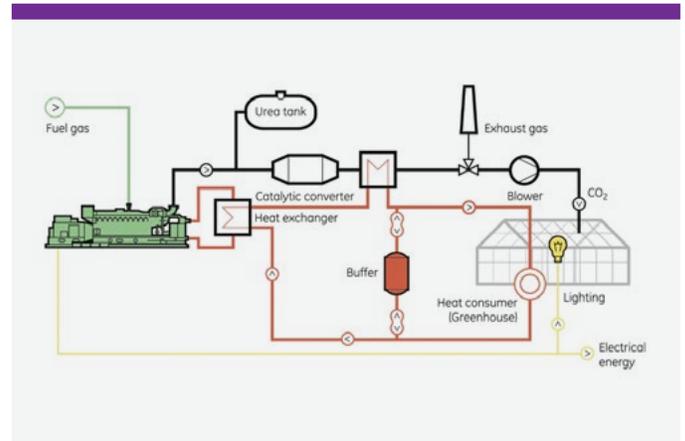
Regardless of the method used, extraction should only be performed in rooms specifically dedicated to the extraction process, with no unrelated equipment within the room. Additionally, the room must not have any penetrations that are inessential for the extraction process (e.g., gas lines, HVAC systems, plumbing).

What to consider when building an extraction room:

- + Rooms are to be of continuous, non-combustible and smooth construction. The room's finish should also meet Health Canada's cleaning requirements.
- + Booth construction must comply with flammable finish requirements.
- + Acoustic-type drop ceilings that could conflict with large liquefied petroleum gas (LPG) extraction exhaust systems will not be permitted.
- + Hand sinks and eyewash stations (if required by other codes) can be located in the room.
- + If extraction rooms are using hazardous materials (e.g., carbon dioxide, LPG or flammable liquids), doors must swing in the direction of egress, be self-closing/latching and be installed with panic hardware.
- + Post processing typically uses small volumes of flammable liquids and may be performed outside of a dedicated extraction room. This process can typically be performed under a bench-top chemical fume hood.
- + All hardware must be installed in accordance with manufacturer's instructions.

- + Rooms must comply with CAN/ULC-S588, Standard for Gas and Vapour Detectors and Sensors, Including Accessories, or CAN/CSA-C22.2 No. 60079-29-1:17, Explosive atmospheres—Part 29-1: Gas detectors—Performance requirements of detectors for flammable gases.
- + The room must indicate when gas levels reach 10% of the lower explosive limit (LEL). When the gas level reaches 25% of the LEL, a distinct audible or visual alarm must begin.

Combined heating and power (cogen)



Cogen uses highly specialized and sensitive machinery, which, in the event of a breakdown, can impact production volumes and destabilize growth cycles. Analyses show that two-thirds of all losses are due to faulty products, and one-third due to faulty operations (with faulty maintenance accounting for 80% of these losses).

How to prevent CHP breakdowns:

- + Engine operating hours and cycles must be recorded and tracked.
- + Remove critical life-limited parts from service before reaching the declared life limits, as serious engine damage can occur.
- + Regularly conduct thorough and consistent training.
- + Ensure that all start-up procedures are followed correctly by putting them in writing.
- + Monitoring devices for pressure, temperature and vibration must be in place and must be operated by personnel who know established safe parameters.

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Mother plants



If you house mother plants on-site, special precautions should be taken to avoid contamination and stock spoilage. A single mother plant room can contain the genetic material required for continual business operation. In the event this room becomes adversely affected, the business interruption could be catastrophic.

How to protect mother plants:

- + House mother plants off-site.
- + If the plants must be housed on-site, isolate the air vents from the main facility with automated dampers, which will close and prevent the spread of smoke or contaminants from other parts of the facility in the event of an emergency.
- + Protect the corridors and areas within the main facility that lead to the mother plant room with automatic sprinklers to reduce the risk of fire spreading.
- + Use a dedicated switch for the lighting and/or curtains, with back-up power generation capable of maintaining the environment until remediation efforts are complete.

Fire safety and hazard assessment plan



Buildings and facilities must have a fire safety plan that complies with provincial and territorial regulations, or, in the absence of those, the National Fire Code of Canada.

Where required, pre-incident planning must be included in the fire safety plan. All planning must be developed by a qualified individual or individuals in cooperation with the local fire department.

For more risk control resources,
contact your RSA GSL representative.