

C₃F₈ Handling Procedure

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This procedure applies to filling or removing C₃F₈ from the COUPP-0.1kg inner vessel. C₃F₈ handling is intended to be a closed system operation. A C₃F₈ spill can be prevented by careful handling and thorough leak checking. Because the C₃F₈ after the spill remains in contact with only the inner vessel walls, a leak is highly unlikely after filling is complete.

The operational goal of C₃F₈ handling is to fill the inner vessel with a radioclean active medium, or to remove C₃F₈ during system decommissioning.

For all C₃F₈ handling, prior to handling,

- 1) Consult the appropriate C₃F₈ handling procedure. If working at SNOLAB, review the [Emergency Procedure](#).
- 2) Ensure that any external ports to the C₃F₈ system are closed. Check for leaks in the plumbing by pumping it down then checking for a rate of rise. Once you are assured that any significant leak would have been spotted, C₃F₈ filling may proceed.

During C₃F₈ handling,

- 3) If liquid C₃F₈ is spilled, or more than 300mL of C₃F₈ at atmospheric pressure escapes, close valves if safe and evacuate upwind while the C₃F₈ evaporates and disperses. 5 minutes after the C₃F₈ has finished evaporating, the area should be safe to reenter.

After handling C₃F₈,

- 4) Isolate the warm containers of C₃F₈ first. Wait 5 minutes, or until the line pressure has minimized, then isolate the cold container.
- 5) Vent the plumbing to air. Stand away from the stream of ejected gas.
- 6) Continue cleaning up the work area.