

Worker Overcome in Nitrogen-Filled Vessel

Incident Date: April 27, 2016 / Location: Redwater, AB / Industry: Gas Processing



AI Teaching Illustration. Cutaway shows entry and internal obstructions. Red symbolizes atmospheric danger; nitrogen is invisible. No specific mask-failure mechanism is asserted.

What Happened

A tower mechanic was entering a fractionation vessel under a nitrogen blanket. The crew reviewed its permit, tested around the manway and checked breathing-air pressure. The mechanic entered wearing supplied-air equipment while a spotter fed the airline.

The spotter entered and found the mechanic unresponsive over an internal pipe, with the mask off. The emergency team extracted the worker to the platform, about 40 metres above ground. Rescuers provided first aid and lowered the worker for medical care. The worker died from nitrogen asphyxiation.

Why This Became Fatal

The nitrogen atmosphere could not support breathing. The worker was found with the mask off, but the report does not establish how it came off. Internal pipes, sharp edges and tray projections created snag hazards. Reliable respiratory protection and rescue capability were critical throughout entry, movement and exit.

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LET THEIR STORY PREVENT RECURRENCE.

What Safe Looks Like

Avoid hazardous-atmosphere entry where possible; verify the full protection system.



1 Challenge the Entry

Assess safer alternatives and authorize the complete entry plan.

2 Verify Breathing Protection

Check fit, supply, escape air and hose routing to specifications.

3 Prepare for Rescue

Control snags; monitor and communicate. Keep a trained rescue team ready for the actual route.

AI Teaching Illustration. Pre-entry hold point, not respiratory-system instructions. **LSR links:** Confined Space; Energy Isolation.

Investigation Outcome

On **February 4, 2019, Sulzer Chemtech Canada pleaded guilty** to failing to operate equipment to engineer/manufacture specifications. It received a **\$15,000 fine including surcharge**, enhanced regulatory supervision, and orders for **\$130,000 for confined-space training plus \$30,000 for an industry conference**. Other charges were withdrawn.

Talk It Through with Your Crew

- 1 Can our task be completed without entering a hazardous atmosphere?
- 2 What could snag, displace or interrupt our breathing equipment during movement?
- 3 Can our rescue team reach and remove an unresponsive worker along the actual route?
- 4 Would you stop or refuse entry if any protection or rescue requirement was uncertain?

SAFETY COMES FIRST.

Your Right to Refuse – Alberta. You may refuse work you reasonably believe presents an undue hazard: a serious and immediate threat. Promptly report the refusal and reasons to your employer or supervisor. They must investigate. Contact Alberta OHS if unresolved. Take reasonable care not to endanger others. You are protected from reprisal.

Sources: [Alberta OHS investigation Report No. F-OHS-102998-22C81](#), pp. 2-10; summary completed August 7, 2019. [Alberta refusal guidance](#). Prepared October 19, 2026. LSR links are learning associations, not findings of a breach.

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