



# SAFETY & HEALTH

## WORK ENDS IN EXPLOSIONS!

An employee was dismantling a hydraulic cylinder. He was using a blowtorch to cut the cylinder when an explosion occurred.

The cylinder, which contained nitrogen and hydraulic oil, was supposed to be empty and depressurized. The force of the explosion separated the two ends of the 800-pound cylinder 30 to 40 feet apart and ignited a fireball that mushroomed off the warehouse ceiling 25 to 30 feet in the air.

The employee was wearing a long-sleeved shirt and long pants at the time of the accident, but was not wearing any flame-retardant gear. He suffered third-degree burns over 84 percent of his body. The employee has undergone extensive skin-graft surgery to cover his wounds and is scheduled for more operations. Doctors indicated that he will be kept in a medically induced coma for at least three months and has a 40 percent chance of surviving.

Co-workers indicated that employees received no training on how to tell if a cylinder has been properly emptied and depressurized. They also indicated that the company did not provide fire protection gear.

This tragic accident could have been prevented by making sure the cylinder was properly discharged and vapor-freed. The employer should also have provided all employees with proper training and education on hydraulic cylinder safety.

### Another accident reported is:

Two warehouse workers were changing propane tanks used to power a forklift. Before the first worker finished replacing the tanks, the second worker prematurely turned on the ignition. The ignition sparked

and the propane tank exploded, severely burning the worker performing the installation. To avoid this type of incident, the following procedures should be followed when changing propane (LPG) cylinders on forklifts:

1. Wear eye protection and insulated, loose fitting gloves such as leather (dry) or insulated neoprene.
2. Close the valve on the cylinder.
3. Run the engine until it stops. This ensures that the connection hose is empty.
4. Shut off the engine.
5. Open the connecting nut and inspect valves for leaking. Do NOT use metal tools.
6. Disconnect the hose.
7. Disconnect the holding straps.
8. Remove the empty cylinder.
9. Replace with a full cylinder in the proper position.
10. Connect the holding straps.
11. Tighten the connecting nut (wiggle hose).
12. Open the valve on the cylinder slowly and check for leaks. Use solution of soap and water. Smell-listen-look.
13. If the valve leaks:  
1st time - Tighten the nut and continue.  
2nd time - Change the cylinder.  
3rd time - Change the hose.
14. Open the valve fully (slowly).
15. Check that the hose is turned inward.
16. Secure the hose downward.
17. Secure the cylinder.
18. Start the engine and resume operation.

Source: PEI Safety Letter

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