



# safety focus

## Liquid Coolant Safety

One of our research laboratories recently experienced the powerful consequences of improper liquid nitrogen handling. An unacceptable container was used to transport and store the liquid nitrogen, and the container exploded.

Although no one was injured, we did find fragments of the container embedded in the ceiling and scattered throughout the entire laboratory. In addition, there were questions of temporary hearing loss among those in the lab.

### **Hazards arising from the use of liquid coolants generally include:**

- Bursting of closed vessels due to temperature increase (and hence, pressure) after coolant removal;
- Explosions caused by reactive materials coming into contact with the liquid coolant;
- Explosive “bumping” of liquid coolant; and
- Frostbite injuries resulting from skin/tissue exposures.

### **The following is a summary of safe coolant handling practices:**

- The only liquid coolant container endorsed by OHSU is a Dewar-style flask. Thermos©-style containers are NOT appropriate!
- Gloves and eye protection should **always** be worn when handling liquid coolants.
- Glassware should always be gradually cooled to prevent thermal fracture.
- Clean, dry containers should always be used.

If you have any questions about safe liquid coolant handling or proper containers, contact Environmental Health and Radiation Safety at 503 494-7795.

