

# What to do when: Using Liquid Nitrogen

## Hazards Associated with Liquid Nitrogen

- Thermal burns (frost bite)
- Pressure buildup in closed containers
- Suffocation (nitrogen displaces the air in the room)

Note: for more detailed information on cryogenic material safety, please see:

<https://www.uregina.ca/hr/hsw/>



## How to protect yourself:

When working with small amounts of liquid nitrogen (<5L flasks):

- Never close the container tightly– pressure buildup will cause the stopper to blow off, or worse, the container may crack/shatter/explode!
- Only use dewars/flasks specifically designed for cryogenic materials. Not all insulated containers are created equal. A Thermos bottle is not suitable, as they commonly crack and break when filling!
- Use a loose fitting lid to minimize boil-off and loss of liquid nitrogen, but still allowing for venting of liquid nitrogen gas to avoid over-pressurizing the container
- Only use in a well ventilated area

## Pouring Liquid Nitrogen

- Standard lab PPE is required to protect against thermal burns:
  - Lab coat
  - Safety glasses
  - Enclosed shoes
  - Long pants (no cuffs)
- In addition to the above, thermally insulated gloves that are easy to remove quickly should be worn



- This ensures that if some liquid gets underneath the glove, it can be removed quickly before prolonged exposure to your skin results in thermal burns

Questions? Email us!  
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