

Liquid Nitrogen Safety

Stock Liquid Nitrogen Containment

- ◆ Use only containers designed for holding low-temperature liquids.
- ◆ Use only the stopper supplied with the container.
- ◆ Where a special vented stopper/container is used, check the vent at regular intervals to make sure it is not plugged with ice.
- ◆ Do not move a container by "walking" or rolling on its lower rim.
- ◆ If a glass dewar flask is used as a container of small quantities of liquid nitrogen, the exposed glass part of the flask should be taped to minimize the flying glass hazards in case of implosion or explosion.
- ◆ If a domestic thermos flask is used as container of small quantities of liquid nitrogen, the integrity of the plastic sealing ring of the thermos should be checked regularly to ensure that no liquid nitrogen can get into the space between the thermos and the outside container.
- ◆ Never plug small containers of liquid - cover them with aluminum foil or cotton when not in use to prevent an accumulation of moisture and plugging of the outlet with ice.
- ◆ Make sure that there is no heat source near the container.

Precautions for Handling Liquid Nitrogen

- ◆ Always handle liquid nitrogen in well-ventilated areas to prevent excessive concentration of nitrogen which can cause asphyxiation.
- ◆ Avoid contact with the liquid nitrogen directly. Always wear gloves (leather or CRYO-GLOVES) when handling anything that is in contact with liquid nitrogen.
- ◆ Protect your eyes with safety glasses with side shields, safety goggles or face shield. Eyes can be damaged even by the cold gas issuing from liquid nitrogen.
- ◆ When charging a warm container or when inserting objects into the liquid, perform the operation slowly to minimize boiling and splashing.
- ◆ Use tongs to withdraw objects immersed in liquid.
- ◆ Do not expose liquid nitrogen to the air to minimize condensation of oxygen from air.

First Aid Procedure

- ◆ If any liquid nitrogen contacts the skin, remove any clothing that may constrict blood circulation to the frozen area. Immediately warm the areas affected by frostbite with water that is near normal body temperature.
- ◆ If the skin is blistered, or there is any chance that the eyes have been affected, get the affected person to a physician immediately for treatment.