

Safety Instructions when Working with Liquid Nitrogen

1. Nitrogen, a colorless, odorless and tasteless inert gas, which constitutes four fifths of the air that we breathe.
2. Nitrogen, in a liquid state, is obtained by cooling air until it liquefies and thereafter, removing the oxygen, which constitutes the other one fifth of the air.
3. Liquid nitrogen boils at (minus 196°C).
4. Make sure that the gas system suits the working pressure stipulated on the tank, and that the means required to regulate the pressure are in place at the work points along the gas lines.

Extreme cold - cover the eyes and exposed skin

1. Random contact of the skin or the eyes with liquid nitrogen or with the cold gas exiting the tank, is liable to cause cold burns. Therefore, these gases are to be handled in such a manner as to refrain from spillage or splatter.
2. Cover the skin in those places that are susceptible to contact with the liquid nitrogen, with pipelines and with cold equipment or the environment of the cold gas.

Use **protective goggles or a face mask** if there is a danger of spillage or splattering or the risk if a burst of cold gas from the equipment.

3. Use insulating cryogenic gloves, that can be easily removed, to protect the hands and arms, as well as wearing clothing with long sleeves.
4. Wear work boots.

The area in which the equipment is stored is to be well ventilated

1. Nitrogen, while not toxic nor flammable, may cause suffocation in closed rooms without proper ventilation.
2. Any environment that does not contain a sufficient quantity of oxygen for breathing is liable to cause dizziness, loss of consciousness or even death.
3. Liquid nitrogen is a colorless, odorless and tasteless gas and human senses cannot detect it. A person may inhale liquid nitrogen into his lungs as air. In the absence of sufficient air, the propagation of nitrogen will "drive out" the "regular" air and will generate an oxygen free environment.

4. Therefore, tanks containing liquid nitrogen are to be stored outside of a building or in well ventilated areas.