

## Safety of nitrogen in CIG

### Safety when handling liquid nitrogen stored in cryogenic receptacles Liquid nitrogen

This gas has a boiling temperature of  $-196\text{ }^{\circ}\text{C}$ .

1 liter of liquid produces 691 liters of gas at  $15\text{ }^{\circ}\text{C}$ .

Liquid nitrogen and cold gaseous nitrogen are heavier than air and therefore tend to accumulate in the enclosed spaces. Storage rooms and vehicles used for the transport of filled cryogenic receptacles must be well ventilated.

Skin contact with very cold nitrogen can cause severe injury.

When handling liquid nitrogen, protective gloves, goggles, and closed shoes covered at the bottom of pants should be worn. If liquid nitrogen soaks into clothing, remove clothing immediately and rinse skin with plenty of water. If blistering occurs, or if loss of feeling occurs, seek medical attention immediately. The doctor must be made aware of the type of injury.

Nitrogen gas is colorless, odorless, tasteless and non-toxic. In too high a concentration in the ambient air, however, it can reduce the oxygen content and thus have an asphyxiating effect. For this reason, cryogenic receptacles shall not be placed in the driver's cab during carriage. –

Rules for the carriage of liquid nitrogen in CIG, do not carry liquid nitrogen on stairs because if there is a fall, the nitrogen may pass to a lower floor and burn people below. do not stand in the same lift as the Dewar containing the nitrogen; if the lift breaks down, there is a risk of asphyxiation. We have set up the following system on each floor, stored between the lifts, a Sagex (polystyrene) container is used for this transport, when you go to get liquid nitrogen you must use this container to put your Dewar in it, put the polystyrene container in the lift and take the other lift for you (or walk up) to get your nitrogen from your floor. If you see one of these containers alone in the lift, do not take the lift.

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