



Only use custom designed cryogenic dewars and flasks to store and handle liquid nitrogen. Travel mugs and drink bottles are not an appropriate vessel to store or transport cryogenic products.



Ensure the dewar storing and transporting liquid nitrogen products is clearly labelled with appropriate dangerous goods information.



Secure dewars in an upright position while transporting in a suitable vehicle to prevent movement.



Always ensure there is adequate ventilation when dewars are being filled, used, stored or transported.



For safety reasons and to prevent unnecessary loss, unload the dewar from the suitable vehicle used for transport as soon as you reach your destination.



Always read the Safety Data Sheet (SDS) before use, and use appropriate protective clothing such as gloves, face shield, apron/lab coat, long pants and enclosed shoes.

Further information

We supply suitable labelling and a range of protective equipment for handling liquid nitrogen. Contact your local Gas & Gear or call our Customer Service team below for more information and advice.

Australia

Call 131 262 or
visit www.boc.com.au



[Australian website](http://www.boc.com.au)

New Zealand

Call 0800 111 333 or
visit www.boc.co.nz



[New Zealand website](http://www.boc.co.nz)

Secure it. Ventilate it. Respect it.

Taking care with liquid nitrogen



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BOC Limited ABN 95 000 029 729
10 Julius Avenue, North Ryde NSW 2113, Australia

BOC Limited NZBN 9429040953946
970-988 Great South Road, Penrose, Auckland, New Zealand

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Staying safe

Cryogenic materials, like liquid nitrogen (LN2) are stored at extremely low temperatures, requiring specialised containers to prevent the creation of a potentially unsafe environment.

Liquid Nitrogen boils when exposed to temperatures above -196°C . Boiling will happen rapidly if the container holding it is not designed to insulate at those temperatures, or the liquid comes into contact with a warmer object or environment. Even a small liquid nitrogen spill will generate a very large volume of gas, which could create an oxygen deficient and life-threatening situation. Liquid nitrogen can also create a severe pressure hazard if its container isn't specifically designed to safely release the excess pressure created when the liquid boils.

The extreme cold can also damage materials that are not specifically designed to suit cryogenic temperatures. This could cause an uncontrolled release and an unsafe situation. To reduce risk in supply, cryogenic equipment (such as purpose-built open neck dewars) must be used to handle such substances.



Secure it

Ensure liquid nitrogen is stored and labelled correctly in an appropriate container. Only custom-designed cryogenic equipment should be used to handle liquid nitrogen. Flasks used for domestic purposes, for example aluminium travel mugs and water bottles, are not suitable for use with cryogenic liquids and could result in a fatal injury if mistaken for a drinking vessel.

BOC supplies a range of open-neck dewars which have been specifically designed to safely store liquid nitrogen. These dewars come supplied with suitable labelling. During transport, dewars need to be secured in an upright position to prevent movement and in a way to avoid vibrations under all transport conditions.

Ventilate it

Always ensure that adequate ventilation is provided in areas where dewars are filled, used, stored or transported. Use open vehicles or trailers to transport liquid nitrogen. Transporting in passenger vehicles is not permitted. Ventilation is essential when transporting liquid nitrogen. In the event of a leak, the surrounding air may become oxygen deficient, leading to a potential life-threatening asphyxiation risk.

If dewars are stored in a confined space, oxygen monitoring is essential. When decanting liquid nitrogen, do so in an open outdoor space.

Respect it

There are several potential hazards when filling, handling and storing liquid nitrogen. Nitrogen becomes a liquid at -196°C . It is important that all people who work with cryogenic gases are trained on the risks. Where necessary, use mechanical lifting devices and trolleys to move dewars. If you don't have an appropriate vehicle or equipment to transport liquid nitrogen safely, BOC delivers.

FAQs

Why do I need a special container/dewar?

Cryogenic materials including liquid nitrogen are stored at extremely low temperatures, requiring specialised containers to prevent the creation of a potentially unsafe environment. Vacuum flasks used for domestic purposes are not designed for cryogenic liquids and must not be used to store cryogenic liquids as they could result in fatal injury.

What if I don't have a suitable vehicle to transport liquid nitrogen?

Gas suppliers may refuse to load certain vehicles based on their assessment of the risk associated with the product to be loaded, the particular vehicle and the method of loading and restraining the product. If you do not have an appropriate vehicle or an ability to restrain a dewar, we recommend using transport services provided by BOC.

What are the potential hazards when filling, handling and storing liquid nitrogen?

It is important that all people who work with cryogenics understand the requirements listed on the SDS (safety data sheet), and are adequately trained on the risks of asphyxiation, cold burns, frostbite, and hypothermia. In the event of the emergency, call 000 (AU) or 111 (NZ).

Where can I purchase suitable dewars, protective clothing and labelling?

BOC supplies a range of open-neck dewars suitable for use with liquid nitrogen, protective clothing as well as labelling.

