

## Laboratory Safety Information Sheet 8

# Use and Handling of Cryogenics Instructions for Students

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This document details procedures that you must follow when handling cryogenic materials such as liquid nitrogen. More extensive documentation is contained in the School Policy on The Handling and Use of Cryogenic Fluids. A copy of this policy is available on request. Note that SMAHS has a liquid nitrogen storage facility; please contact the Research Laboratory Manager for more information.

By understanding the properties of cryogenics we can greatly reduce the hazards associated with these materials.

1. Do not handle cryogenics unless you are under the direct supervision of a qualified staff member.
2. Only use cryogenics in specially designed and labelled containers. Containers should be open to the atmosphere or protected by a vent or other pressure releasing device to prevent pressure build up as the cryogen warms. Do not overfill cryogen containers.
3. Wear appropriate personal protective equipment, especially when pouring cryogenics. Safety glasses and/or a full-face visor, low-temperature protective gloves, enclosed-toe shoes are mandatory. Note that sports shoes are also inappropriate, as they are generally porous to cryogenic liquids.
4. Transport cryogenics carefully in a suitable designed container, use carry handles and a splash guard. **Do not ride in a lift being used to transport cryogenics.**
5. Do not handle cryogenics in isolation. There must be another person close at hand, and they must be informed of any activities that are being performed.
6. Stand clear of boiling or splashing liquid. Transfer cryogenics carefully, especially when pouring from one container to another. Use a funnel and splash guard, and pour the fluid slowly to prevent bubbling and spillage.
7. Do not allow bare (or thinly protected) skin to touch uninsulated vessels containing cryogenic fluids. Always use tongs/forceps to remove material immersed in cryogenic fluids. If appropriate, pre-cool the tongs/forceps to minimise cryogen boiling.
8. Always work in well-ventilated areas to prevent excessive concentration of gas. Oxygen level monitors may be required.
9. Never mix different cryogenic fluids.
10. Never dispose of cryogenics down the drain.
11. Never use hollow tubes or rods as “dipsticks”