

Cryopreservation of Cell Lines

The aim of cryopreservation, or cell freezing, is to enable stocks of cells to be stored to prevent the need to have all cell lines in culture at all times. It is invaluable when dealing with cells of limited life span. The other main advantages of cryopreservation are:

- Reduced risk of microbial contamination
- Reduced risk of cross contamination with other cell lines
- Reduced risk of genetic drift and morphological changes
- Work conducted using cells at a consistent passage number
- (refer to section 8 'Good Cell Banking Practices')
- Reduced costs (consumables and staff time)



**LabTech
LNG10AC**

Liquid Nitrogen Safety Considerations

General Safety Issues

It is important that staff are trained in the use of liquid nitrogen and associated equipment including the storage vessels which need to be vented safely and containers which may need to be filled. As with all laboratory procedures personal protective equipment should be worn always whilst handling nitrogen, including a full-face visor and thermally insulated gloves in addition to a laboratory coat and preferably a splash proof plastic apron. Proper training and the use of protective equipment will minimize the risk of frostbite, burns and other adverse incidents.

Risk of Asphyxiation

The single most important safety consideration is the potential risk of asphyxiation when escaped nitrogen vaporizes and displaces atmospheric oxygen. This is critical since oxygen depletion can very rapidly cause loss of consciousness, without warning. Consequently, liquid nitrogen refrigerators should be placed in well-ventilated areas in order to minimize this risk and be subject to planned preventative maintenance. Large volume stores should have low oxygen alarm systems.