









# LSRA 9 – eBIC

## User Lab Standard 9: Plunge freezing in eBIC Preparation lab

*You may reference this lab standard instead of completing the information in the ERA. The scope of the work must match that of the standard and you are expected to follow the controls set out below.*

**Scope:** This lab standard risk assessment covers the plunge freezing of samples using FEI vitrobot and Leica GP2 equipment. G-27 is a Containment Level 2 laboratory hence capable of safe handling of HG2 samples. Plunge freezing involves the use of both ethane (liquid and gas) and liquid nitrogen. Activities outside of the scope of this LSRA must be fully assessed in the experimental risk assessment.






### Hazards

<b>Substances</b> Various hazards – exposure by inhalation, skin and eye contact and ingestion.			
	Toxic effects	Irritant or Harmful	Biohazard
			
	Flammable	Long term irreversible health effects	Explosive
<b>Cryogenics</b> Oxygen Depletion and Extreme cold			

### Control Measures

Eliminate ignition sources	General ventilation	Suitable storage and labelling of samples, reagents and wastes	Secured storage of small ethane cylinder (up to 5L) in G27 only	Remove PPE and wash hands when leaving the lab
Your Diamond contact will train you in the lab standard and on equipment – you are expected to work to this training			An ethane monitor must be used – if alarms evacuate room immediately.	
PPE requirements – safety glasses, lab coat and disposable gloves. Use face shield and cryo-gloves when dispensing cryogen. Use face mask when preparing ethane for use in vitrobot and Leica.			Oxygen monitoring alarms – for any alarm, leave the area and call the EHCs	

**Personal Protective Equipment**

		
Safety glasses	Disposable gloves	Lab coat
		
Cryogloves	Face Shield/Mask	

**Risk - Medium**