The Sheffield Biorepository

Standard Operating Procedure:
Filling Storage Vessels with Liquid Nitrogen

Document History	
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This SOP will outline how the tissue bank storage vessels are filled with Liquid nitrogen on a regular basis to maintain storage conditions.

1. Background

This is an SOP for the UOS for the refilling of the licensed tissue bank storage vessel with liquid nitrogen to maintain storage conditions.

2. Quality Assurance/ Control

The vessels storing banked material should be checked to ensure material remains at the appropriate temperature.
The pressurised master vessels should be filled on a weekly basis by BOC as per agreed procedures.
The Pressurized storage vessel should be checked annually by a qualified engineer (normally BOC)

3. Procedure

1. Daily, wearing suitable protective clothing (Lab coat, goggles, cryo gloves) the 80K storage vessel for the Human Tissue Bank is checked to ensure it is in good condition and LN auto filling is checked. A record is kept of the access and manual refilling of the vessel.
2. Manual emergency refill: Holding the hose from the master cylinder firmly, pointing to an empty area of the room, turn the nitrogen on slowly and allow the hose to vent.
3. Remove the lid from the storage vessel and then remove an empty stack (or if there is tissue in all the racks the one with the fewest specimens) and stand carefully on the remaining stacks.
4. Carefully place the vented hose well into the gap created by the missing stack and gently turn on the master cylinder allowing the nitrogen to flow slowly into the storage vessel.
5. Monitor the liquid nitrogen level in the vessel until it is level with the bottom of the storage stacks.
6. Turn off the supply of nitrogen from the master cylinder and carefully remove the hose, store it at the side of the master cylinder.
7. Gently replace the previously removed stack being careful not to let the liquid nitrogen splash out of the storage vessel as the stack descends. Replace the lid of the storage vessel.
8. Record the fill on the LN2 Tank Record

7. Associated Documents

	Document	Document Reference
1	LN2 Tank record	BIO:FORM:10
2	Liquid Nitrogen Risk assessment	BIO:RA:LN2
3	Filling of pressurized LN2 Tanks (BOC)	BIO:SOP:18
4		