

Safety Alert

Jammed Cryogenic Sample Storage Rack

October 2020



Description of the Incident

During the routine inspection and servicing of a liquid nitrogen storage tank it was found that a sample storage rack was stuck inside and would not release from the tank. Further examination confirmed that a metal locking pin had fallen out of position and become jammed against the storage rack placing it under tension and preventing it from being easily released.

Once the locking pin was removed, a small number unlabelled snap-top microcentrifuge tubes were found to have fallen into the liquid nitrogen within the tank. Upon retrieval, one of the tubes over-pressurised and exploded as it warmed up spraying its contents onto the floor of the cryogenic storage area. Fortunately the engineer in attendance did not come into contact with the unknown material released from the vial and sought assistance.

A small number of unlabelled sample vials were removed from the tank but it was not possible to identify the owners of all of the samples or confirm their contents. Unlabelled and unclaimed samples were therefore earmarked for disposal as potentially hazardous clinical waste.

Learning Points

- If sample vials or pieces of equipment are accidentally dropped into liquid nitrogen tanks this should be reported straight away to a responsible person to ensure that they do not pose a hazard to other users.
- Samples must be stored in appropriate cryogenic vials. Snap top vials should not be used due to the risk of over-pressurising on warming to room temperature. All samples should be clearly labelled with the date, contents and the name of a responsible person to ensure they can be properly identified in the event of an accident.
- Care should be taken to ensure that all contractors working in laboratories and sample storage areas receive a suitable safety induction to ensure they are aware of any required safety precautions in specialist areas.