香港科技大学(广州)
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (GUANGZHOU)

健康、安全及环境处
DEPARTMENT OF HEALTH SAFETY AND ENVIRONMENT
实验设施与安全管理办公室
OFFICE OF LAB FACILITIES AND SAFETY

GROUND DAMAGE INCIDENTS

CAUSED BY LIQUID NITROGEN OVERFLOW

Accident

On the morning of June 12, 2024, a staff member placed the 15L dewer liquid nitrogen tank on the tank cart and planed to fill liquid nitrogen. When he arrived at the lab, he found that another person was filling the tank, then he left the 15L tank behind and went out of the room for other matters.

About 2 minutes later, he returned to the lab , he find that the other person had connected the liquid nitrogen discharge pipe to his 15L liquid nitrogen tank (the tank was still on the cart) and that the person had left the scene. he decided from past experience that it would take some time to fill up, so he left the lab again to attend to other matters.

About 2 minutes later, when he returned to the lab again, he found that the liquid nitrogen had overflowed to the lab floor, he closed the discharge valve immediately and reported the case. It caused a small range of PVC floor rupture, no injuries, this case was identified as Near Miss.

Reason	Experience
No procedure indicates that the whole process of liquid nitrogen filling task should be under monitoring and the filling task should be carried out in a secondary container (leakage tray)	Update SOP
There is no training record for all personnel who would perform the liquid nitrogen filling task.	Organizing local training
Lack of communication for the handover and inade-quate on-site monitoring during liquid nitrogen filling.	Make Sure any handover task have a good communication and monitor the whole process of filling.
PVC floor is not protected against liquid nitrogen leakage.	Add carpet to liquid nitrogen handling area to protect PVC floor.

SAFETY ALERT