

# SAFETY ALERT

<b>Classification:</b>	IAQ, Equipment and Property Damage	<b>Incident Date:</b>	Nov 2022 – Apr 2023
<b>Equipment Type:</b>	Glovebox		

## Indoor Air Quality Issues During Glovebox Regeneration

### WHAT HAPPENED

Recently, HSE investigated three incidents with gloveboxes that released organic solvent substances during the regeneration process into the laboratory space. Gloveboxes are typically equipped with gas filters and solvent filters and when these filters are saturated they need to be regenerated or replaced. Gloveboxes can be purchased with solvent filters which are either non-regenerable or regenerable:

1. Non-regenerable solvent filter - after the filter is saturated, it needs manual refilling with fresh adsorbents.
2. Regenerable solvent filter: after the filter is saturated, a controlled regeneration of the filter must take place and involves a sequence of heating and purging of the filter.

Both incidents occurred in gloveboxes equipped with regenerable solvent filters. As the users started the glovebox regeneration process, hazardous organic solvents were released from the solvent filter into the laboratory space.

The main cause of these releases were inadequate or missing connections of the glovebox to the facility exhaust.

### HSE RECOMMENDATIONS AND CONTROL OF HAZARDS

- HSE has requested the assistance of LEM to do a visual check of all gloveboxes.
- Gloveboxes that are NOT connected to a facility exhaust must be assessed. LEM, PDEC and HSE will work with the laboratory to rectify these issues.
- New users must be trained by other lab members on the correct use of a glovebox and be aware of the risks.
- Lab users must also understand the regeneration process required for their gloveboxes and LEM can assist if the lab users have questions.
- HSE will be working with LEM to prepare a SOP for glovebox regeneration that will be available on the HSE website.

### OTHER PRECAUTIONS AND REMINDERS

- ✓ Report to LEM any other possible emergency situations coming from use of gloveboxes such as:
  - Loss of compressed gas or nitrogen
  - Loss of power,
  - The purge procedure is not working
  - Glove is perforated or removed from the glovebox
- ✓ Reminders:
  - Be prepared for emergencies, know the locations of first aid kits, spill kits and emergency exits.
  - Report incidents, near misses or hazards to HSE via [Salute Incident Report](#).
  - In case of an emergency, call immediately 911 or 012 808 0911.