



BORON TRIFLUORIDE ETHERATE SPILL LESSONS LEARNED

What Happened?

A researcher was searching for a reagent bottle in a flammable storage fridge when a bottle of boron trifluoride etherate fell from a lower shelf and broke. A small amount splashed onto the researcher's shoe and spread across the floor. A fellow researcher immediately directed them to a shower to rinse the affected area, and other lab members as well as EH&S and department personnel were informed. The spill was absorbed and cleaned up by the Hazardous Waste team, and the researcher was given calcium gluconate gel to apply and then received medical treatment. There were no injuries.

Lessons Learned and Action Items

The emergency response by the researchers during this incident was prompt and appropriate, prioritizing worker health and safety and evacuating the space where the spill occurred. However, there was a delay in the researchers receiving calcium gluconate gel as it was provided from a different research lab. Had the spill been more significant, this would have likely resulted in serious injury. The bottle was also being stored in a fridge without secondary containment, which allowed it to fall to the ground. Researchers and faculty members are reminded of the following best practices:

- **Secondary containment:** Compatible plastic secondary containers should be used in fridges and cabinets whenever possible, to prevent containers from falling and breaking on the floor.
- **First aid equipment:** Calcium gluconate should be kept in lab spaces where HF-releasing reagents are stored for prompt applications in the event of exposure.
- **Safety documentation:** All laboratories should confirm they have the appropriate SOPs for the hazard classes represented in their work, as well as any chemical-specific SOPs for particularly hazardous substances.
- **Contact information:** Researchers are encouraged to store emergency numbers for EH&S and any departmental safety representatives in their phones so assistance can be quickly requested.