SAFETY OFFICE RECOMMENDATIONS FOR HYDROFLUORIC ACID (HF) SPILL STATION

Hydrogen fluoride (HF) is used at the University of Waterloo in various forms. In liquid form it is clear, colourless, resembles water and is available in various concentrations. Anhydrous hydrogen fluoride is a gas at Standard Temperature and Pressure. Regardless of its physical state or concentration, it is a highly toxic and corrosive substance with an irritating pungent odour.

Therefore there is **SIGNIFICANT RISK** associated with the use of hydrogen fluoride at **ANY CONCENTRATION. AT NO TIME SHOULD ANYONE BE WORKING WITH HYDROFLUORIC ACID WITHOUT A SECOND PERSON PRESENT IN CASE OF AN INCIDENT.**

**NO CONCENTRATION** is **SAFE TO HANDLE** without appropriate precautions.

To this end, the Safety Office recommends that anyone who uses HF have access to an HF specific spill kit and specific first aid kit. This is especially important for individuals who use HF:

- In excessive quantities > 10 mL at a time
- For excessive durations > 10 min per use
- Frequently > more than 1 / week

An HF specific Spill Kit will contain the following items:

- Granular Neutralizer – specifically Trivorex*
- Disposal container (x2)
- Disposal bags (x2)
- HF resistant gauntlets and gloves (x2)
- HF resistant apron (x2)
- Broom and dustpan made both made of plastic
- Faceshield
- Chemical resistant splash proof goggles

An HF specific First Aid kit will contain the following items:
- Hexafluorine** in a combined kit (includes an eyewash and 5 L portable shower system).

*Trivorex – is a granular absorbent that encapsulates the chemical it is applied to. It is specifically used for both acids and bases, as it also changes colour to indicate when the material has been neutralized. Furthermore, because it encapsulates the material, it will not release fumes to individuals nearby.

http://www.prevor.com/us
http://www.prevor.com/en/trivorex

**Hexafluorine - is a product that aggressively draws out HF and chelates the fluoride ions making it unavailable for further reaction in the body. It immediately acts to neutralize the acid’s pH to minimize damage.

http://mags.levitt-safety.com/publication/2bc59169#/2bc59169/484
To reduce costs, one method of allowing labs to have access to these spill and first aid kits is to have departmental ones available on a sign out basis. Each Laboratory could sign out a kit when they anticipate using HF. Once the experiments or processes using HF have concluded, the kits could be returned. This will minimize cost and resources, and hopefully improve uptake of this recommendation.