Hydrofluoric acid

**Acute toxicity:** Fatal if swallowed, in contact with skin or inhaled

**Corrosive:** Causes severe skin burns and eye damage.

In addition to being a highly corrosive liquid, hydrofluoric acid (HF) is also a powerful contact poison. Because of the ability of hydrofluoric acid to penetrate tissue, poisoning can occur readily through exposure of skin or eyes, or when inhaled or swallowed. HF interferes with nerve function, meaning that burns may not initially be painful. Accidental exposures can go unnoticed, delaying treatment and increasing the extent and seriousness of the injury.

Primary response AVOIDING DANGER: For the safety of the rescuers it is essential to prevent inhalation of HF and contact with HF during any rescue operation. First aiders involved in rescue or decontamination must use appropriate personal protective equipment (PPE).

**RESPONSE:** Assess for a response and breathing. If the casualty is unresponsive or breathing abnormally, commence Basic Life Support. Call for an ambulance immediately as high concentration HF exposures can be rapidly fatal.

**DECONTAMINATION:** is the immediate priority if the patient is responsive. This takes precedence over transfer to medical facilities, though an ambulance should be requested while decontamination is being undertaken.

**SKIN EXPOSURE**
- Immediately decontaminate with high flow water for a minimum of one minute.
- Ask others to ensure ample supplies of calcium gluconate gel are obtained.
  
  Note: If calcium gluconate gel is not available continue to flush with water until it is.
- Rapidly remove contaminated clothing, shoes and jewelry.

All HF exposure incidents should be sent to hospital as a precautionary measure.

- Apply calcium gluconate gel and massage into the burnt area wearing gloves appropriate to the level of decontamination. Continue to massage while repeatedly applying gel until 15 minutes after the pain in the burnt area is relieved, if necessary during the ambulance transfer to hospital.
- If skin contamination is extensive and clothing affected, be aware of the possibility of inhalation injury.
- All potentially contaminated equipment and clothing should be disposed of in line with the COSHH risk assessment.
Further Information

- Disposal of laboratory hazardous waste: http://www.hsd.qmul.ac.uk/a-z/hazardous-waste/
- Personal Protective Equipment: http://www.hsd.qmul.ac.uk/a-z/personal-protective-equipment-ppe--rpe-
- QMUL Laboratory Emergency Spill Protocol (Chemical, solvent, biological) http://www.hsd.qmul.ac.uk/a-z/biological/
- First Aid http://www.hsd.qmul.ac.uk/a-z/first-aid/

For Advice and Assistance at QMUL, contact the H&S Manager / Advisor for your Faculty / PS or the subject lead at http://www.hsd.qmul.ac.uk/contact-us/

All H&S staff can be contacted via the help desk at hs-helpdesk@qmul.ac.uk