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| **Activity / Use** | **Etching of printed circuit boards** | **University Hazard Classification** | **Medium** |
| **Substances used in activity** | Ferric Chloride solution, 40 %(contains <2.5% Hydrochloric acid) | **UN No: 2582****Transport Cat: 8** |
| **Handling Requirements e.g. fume cupboard, MSC, glove type etc.** | The etching activity should be carried out in a lidded tank. The etching solution must be handled wearing nitrile gloves, eye protection suitable for chemical splash and a lab coat.  |
| **Laboratory Info** | Appropriate to the department (state lab number and containment level where appropriate) |
| **Additional Information** | **Exposure limits must not be exceeded*** Hydrochloric acid (CAS7647-01-0) 8 hr TWA 2 mgm-3/ STEL: 9 mgm-3
* Users should regularly check their skin condition to ensure no noticeable changes have occurred;
* Any change in health status you think may be related to using these products must be reported to your supervisor/line manager and an Occupational Health referral made.
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| **Hazard Statements**H290 H302 H315 H318H400 | Causes serious eye damageMay be corrosive to metals | Causes skin irritationHarmful if swallowed. | Very toxic to aquatic life |  |
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| **Handling Precautions** | Wear impervious chemical resistant gloves to EN 374 -nitrile gloves | Wear close fitting eye protection (EN 166) | Wear a fastened lab coat |  |
| **Storage & Transport** | Store product in original container, ideally at 15-25°C. Open container with care. Transport using a correctly sized bottle carrier. |
| **Spillage and Waste Disposal** | **For a small spillage (< 50 mL)** : * Wear nitrile gloves
* Absorb with an inert dry material and place in an appropriate waste disposal container.

**For a large spillage (up to 2.5 L) :** * Wear all required PPE as listed above
* Neutralise the liquid using sodium bicarbonate
* Absorb with an inert dry material and place in an appropriate waste disposal container.

**For all waste material,** label bag/container as “Inert solids contaminated with < 10% Ferric chloride solution”. Dispose of in accordance with departmental hazardous waste procedure. |
| **First Aid** | **EYES**: Flush with water for 10-15 minutes, holding the eyelids open. Consult an ophthalmologist. |
| **SKIN:** Rinse thoroughly with water for 5 minutes. If skin irritation occurs, consult a doctor. |
| **INHALATION:** Remove exposed person to fresh air. |
| **INGESTION:** Rinse mouth immediately and drink plenty of water. Call a doctor. |