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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. | | | | | |
| **Hazard Statements**  H290  H302  H315  H318  H400 | Causes serious eye damage  May be corrosive to metals | Causes skin irritation  Harmful 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. | | | | | |