## Safe Work Procedure

**Process/Equipment:** Tests for Intergranular Corrosion  
**Location:** Materials Lab  
**Procedure Developed by:** Martin van Warmelo  
**Approved by:**  
**Date:** 15/06/2005  
**Referenced UOW Guidelines, legislation, codes of practice, Australian Standards etc:** ASTM A262-98, ASTM A763-93

### Personal Protective Equipment Required

*(Check the box for required PPE)*

| PPE Item | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

### Activity

*(Steps in the process/task)*

### Hazards Identified

*(What could cause an injury)*

### Risk Score

*(How harmful is it)*

### Controls

*(What can be done to minimise the risk of injury)*

#### Preparation of Fume Hood Area

- **Fire**  
- **Burns**  
- **Spills**  
- **Harmful Vapours**  

**Risk Score:** Medium  
**Controls:**  
- Ensure all users are familiar with the relevant chemical safety data and properties and have read the MSDS on sulphuric acid and nitric acid.  
- All preparation to be done in a fume cupboard which is functioning correctly.  
- Check that shower and eye wash facilities are working.  
- All combustible materials eg wood, paper must be removed from fume cupboard.  
- PPE – wear eye protection, lab coat and acid resistant gloves

#### Preparation and Mixing

- **Fire**  
- **Burns**  
- **Spills**  
- **Harmful Vapours**  

**Risk Score:** Medium  
**Controls:**  
- Ensure glassware and measuring cylinders are clean and dry.  
- Aqueous solution must be placed in Erlenmeyer flask before any acid is added.  
- Acid must be added slowly, stirring continuously to prevent boiling.  
- Ensure water and neutralising agent is available to neutralise any spills.  
- PPE – wear eye protection, lab coat and appropriate acid resistant gloves
<table>
<thead>
<tr>
<th>Clean Up</th>
<th>Burns</th>
<th>Low</th>
<th>Thoroughly wash glassware in running water and place in drying rack. Return acids to dedicated storage area. Thoroughly wash any spills with water. PPE – wear eye protection, lab coat and appropriate acid resistant gloves.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spills</td>
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<tr>
<td></td>
<td>Harmful Vapours</td>
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<tr>
<td>Test Procedure</td>
<td>Fire</td>
<td>Medium</td>
<td>Remove all combustible materials to prevent accidental contact with the hot plate. The hot plate must only be switched on after all the glassware has been secured in position. Water must be circulating through the condenser before the hot plate is switched on. All equipment must be considered as hot during the course of the test and should only be touched using heat resisting gloves. The hot plate must be thermostatically controlled and switch off automatically if overheating occurs. After completion of the test, all equipment and samples must be rinsed in cold running water to remove all traces of acid and to cool them down to room temperature. PPE – wear eye protection, lab coat and appropriate acid and heat resistant gloves.</td>
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<tr>
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<td>Burns</td>
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