Model Assessment
CHEMICAL HAZARD AND RISK ASSESSMENT

School/Dept  Health and Safety Unit  Assessment Number  2
Assessor  Dr. F.J. Young  Date of Assessment  rev. 4.10.07

Note  Guidance on making an assessment is given in Making a Chemical Hazard and Risk Assessment. Guidance is also available from Guidance on Completing the Chemical Hazard and Risk Assessment Form. Use a continuation sheet to expand any section of this form. A Word document template for this form is available from the Health and Safety Unit.

1  LOCATION OF THE WORK ACTIVITY  Health and Safety Unit, Room S254, Metallurgy Building

2  PERSONS WHO MAY BE AT RISK
List names where possible  FJ Young D Ruston

3  ACTIVITY ASSESSED  Refill Portable GC Hydrogen tank

4  MATERIALS INVOLVED
Attach copies of data sheet(s)

<table>
<thead>
<tr>
<th>NAME and CAS NUMBER</th>
<th>AMOUNT and FORM</th>
<th>HAZARD</th>
<th>RISK PHRASES</th>
<th>REPORTABLE?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen 1333-74-0</td>
<td>2litre, Gas</td>
<td>Highly flammable</td>
<td>Extremely flammable</td>
<td>No</td>
</tr>
</tbody>
</table>

If substance is reportable, have you reported it to the Health and Safety Unit? YES/NO (see Note 4)

5  INTENDED USE and JUSTIFICATION (where appropriate)
Give brief details and attach protocol/instructions. Justification is needed for exceptionally hazardous substances (see Note 5)
Refilling portable GC hydrogen tank using manufacturer’s equipment - instructions attached

6  RISKS to HEALTH and SAFETY from INTENDED USE
From personal exposure or hazardous reactions. Refer to OELs, flash points, etc., as appropriate. Are pregnant women, breast-feeding mothers especially at risk?
Hydrogen is an extremely flammable gas, LEL 4%.
A significant release of hydrogen and its risk of ignition only likely in the event of equipment failure

7  CONCLUSIONS ABOUT RISKS
Is level of risk acceptable? Can risk be prevented or reduced by change of substance/procedure? Are control measures necessary?
The manufacturer’s system for filling adequately controls risks.
Model Assessment

8 CONTROL MEASURES
Additional to Good Chemical Practice, e.g., fume cupboard, etc. Any special requirements, e.g., glove type, etc.
Refilling to be performed in a fume cupboard or in the open air at least 6m from any source of ignition - in accordance with manufacturer’s instructions and the “Compressed Gas Safety Manual.”

9 INSTRUCTION/TRAINING
Specify course(s) and/or special arrangements.
Compressed gas and Laboratory Chemical Safety Courses

10 MONITORING
Performance of control measures,
Leak tightness of fittings before use.
Face velocity of fume cupboard.

<table>
<thead>
<tr>
<th>Personal exposure</th>
<th>Health Surveillance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

11 WASTE DISPOSAL PROCEDURE
Include name, 6-digit code and H numbers if to be sent away for disposal
Cylinder returned to supplier.

12 REVIEW
Enter the date or circumstances for review of assessment (maximum review interval 5 years)
Annual

13 EMERGENCY ACTION

TO CONTROL HAZARDS
Leaking gas: If possible, close cylinder valve, if not possible, close fume cupboard sash and contact supplier
Fire:
- Use a fire extinguisher
- call Fire Brigade
- Close cylinder valve as soon as possible
- If possible, keep cylinder cool if there is a danger of overheating

TO PROTECT PERSONNEL
Evacuation, protection for personnel involved in clean-up, Special First Aid
Keep people out of danger area

TO RENDER SITE OF EMERGENCY SAFE
Clean-up/decontamination
Thoroughly ventilate site of leak.

14 EMERGENCY CONTACT
NAME Dr F.J. Young
PHONE 45252