1. Identification of the substance / preparation and company / undertaking

Product name          HARP® TRACER  
(5.0% Hydrogen in Nitrogen)  


Company                Harp International Ltd  
Gellihirion Industrial Estate  
Pontypridd  
Rhondda Cynon Taff  
CF37 5SX  
Tel: +44 (0) 1443 842255  
Fax: +44 (0) 1443 841805  
Email: harp@harpintl.com  

Emergency phone number  +44 (0) 1270 502891 (24 hour)  

Use                   Industrial  

2. Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008/EC (CLP/GHS)  
Gas under pressure. Compressed gas. Caution (H280).  

Classification according to Directive 67/548/EEC & 1999/45/EC  
Not classified as hazardous to health. Asphyxiant in high concentrations.  

Risk advice to man and the environment  
In high concentrations may cause asphyxiation. Compressed gas.  

Label elements

Labelling Pictograms

Signal word  
Caution.  

Hazard statements  
H280  
Contains gas under pressure; may explode if heated  
EIGA-As  
Asphyxiant in high concentrations  

Precautionary statements  
P403  
Store in a well-ventilated place  
P510  
Protect from sunlight.
3. Composition / information on ingredients

Substance / mixture: Mixture

<table>
<thead>
<tr>
<th>Substance name, component</th>
<th>Concentration</th>
<th>Index No.</th>
<th>EC no.</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>95%</td>
<td>231-783-9</td>
<td>7727-37-9</td>
<td></td>
</tr>
<tr>
<td>Hydrogen</td>
<td>5%</td>
<td>001-001-00-9</td>
<td>215-605-7</td>
<td>1333-74-0</td>
</tr>
</tbody>
</table>

Contains no other components or impurities which will influence the classification of the product.

4. First aid measures

Description of first aid measures

General advice
Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Inhalation
Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Skin contact
Adverse effects not expected from this product

Eye contact
Adverse effects not expected from this product

Ingestion
Ingestion is not considered a potential route of exposure

Most important symptoms and effects, both acute and delayed
In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation.

Indication of any immediate medical attention and special treatment needed
Apply artificial respiration if breathing has stopped.

5. Fire-fighting measures

Extinguishing media
Suitable extinguishing media
All known extinguishants can be used.

Special hazards arising from the substance or mixture
Specific hazards
Exposure to fire may cause containers to rupture or explode.
Hazardous combustion products
Incomplete combustion may cause Carbon monoxide

Advice for fire fighters
Specific methods
If possible, stop flow of product. Move container away or cool with water from a protected position.

Special protective equipment
In confined space use self-contained breathing apparatus.

Indication of any immediate medical attention and special treatment needed
Apply artificial respiration if breathing has stopped.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Prevent from entering sewers, basements and work pits, or any place where its accumulation can be dangerous.
Environmental precautions
Try to stop release.

Methods and materials for containment and cleaning up
Ventilate area.

Reference to other sections
See also sections 8 and 13.

7. Handling and storage

Precautions for safe handling
Suck back of water into the container must be prevented. Do not allow feedback into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to suppliers handling instructions. Only experienced and properly instructed persons should handle gases under pressure. Protect cylinders from physical damage; do not drag, roll, slide or drop. Never use direct flame or electrical heating devices to raise the pressure of the container. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Ensure the complete gas system has been (or is regularly) checked for leaks before use. If user experiences any difficulty operating cylinder valve discontinue use and contact cylinder supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Keep container valve outlets clean and free from contaminants, particularly oil and water. Never attempt to transfer gases from one cylinder/container to another. Do not smoke while handling product. The substance must be handled in accordance with good industrial hygiene and safety procedures.

Conditions for safe storage, including any incompatibilities
Keep container below 50°C in a well-ventilated place. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent falling over. Stored containers should be periodically checked for general conditions and leakage. Container valve guards or caps should be in place. Store containers in a location free from fire risk and away from sources of heat and ignition. Keep away from ignition sources (including static discharges). Keep away from combustible materials.

Specific end uses
None

8. Exposure controls / personal protection

Control parameters

Exposure controls
No occupational exposure limit.

Exposure controls
Appropriate engineering controls
Product to be handled in a closed system. The substance must be handled in accordance with good industrial hygiene and safety procedures. Consider work permit system e.g. for maintenance activities. Systems under pressure should be regularly checked for leaks. Provide adequate general or local ventilation. Oxygen detectors should be used when asphyxiating gases may be released.

Personal protective equipment
Eye and face protection
Wear eye protection to EN166 when using gases.
Skin and hand protection
Wear leather safety gloves when handling cylinders.

Other protection
Wear safety shoes when handling cylinders.

Respiratory protection
Not required.

Thermal hazards
Not required

Environmental Exposure Controls
Specific risk management measures are not required beyond good industrial hygiene and safety procedures. Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Gas</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>None</td>
</tr>
<tr>
<td>Melting point</td>
<td>-</td>
</tr>
<tr>
<td>Boiling point</td>
<td>-</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>-</td>
</tr>
<tr>
<td>Vapour pressure 20°C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density, gas</td>
<td>Density similar to air</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Nitrogen = 20 mg/l; Hydrogen = 1.6 mg/l</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>None</td>
</tr>
<tr>
<td>Flammability range</td>
<td>None</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>-</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>Unreactive under normal temperature and pressure conditions</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable under normal temperature and pressure conditions</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>None</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>None</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>No reaction with any common materials in dry or wet conditions</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>None.</td>
</tr>
</tbody>
</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Information on toxicological effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No known toxicological effects from this product</td>
<td>No known toxicological effects from this product</td>
</tr>
</tbody>
</table>

12. Ecological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>This product has no known toxicological effects.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>No data available.</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available.</td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No data available.</td>
</tr>
<tr>
<td>Results of PBT and vPvB assessment</td>
<td>No data available.</td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>No data available.</td>
</tr>
</tbody>
</table>
13. Disposal considerations

Waste treatment methods
Prevent runoff into sewerage systems, cellars, working pits and similar places where accumulation of the gas could be dangerous. Contact supplier if guidance is required.

Treatment of contaminated packaging
Contact supplier for special recommendations. Recycling: 15 01 04 metallic packaging.

EWC No. 16 05 05

14. Transport information

ADR/RID
Class 2
Classification code 1A
UN number 1956
Labelling no. 2.2
Proper shipping name COMPRESSED GAS, N.O.S
Packing group P200
Hazard number 20
Emergency Action Code 2T
Tunnel restriction code (D/E)
Environmental hazards None
Special precautions for user None

IATA
Class 2.2
UN number 1956
Labelling number 2.2
Proper shipping name COMPRESSED GAS, N.O.S
Packing group P200
Environmental hazards None
Special precautions for user None

IMDG
Class 2.2
UN number 1956
Labelling no. 2.2
Proper shipping name COMPRESSED GAS, N.O.S
Packing group P200
EmS FC, SV.
Environmental hazards None
Special precautions for user None

Transport in bulk according to Annex II of MARPOL73/78 and the IBC code
Not applicable

Other transport information
Avoid transport on vehicles where the load space is not separated from the driver’s compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or emergency. Before transporting product containers ensure that they are firmly secured. Ensure that the cylinder valve is closed and not leaking. Ensure that the valve outlet cap nut or plug (where provided) is correctly fitted. Ensure that the valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.
15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Seveso Directive 96/82/EC: Not covered

Chemical Safety Assessment
A Chemical Safety Assessment does not need to be carried out for this substance.

16. Other information

Ensure all national/local regulations are observed. The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Note
When using this document care should be taken as the decimal sign and its position complies with rules for the structure and drafting of international standards and is a comma on the line. As an example 2,000 is two (to three decimal places) and not two thousand, whilst 1.000 is one thousand and not one (to three decimal places).

This datasheet was prepared in accordance with Regulation (EC) No. 1907/2006.

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