

# A-Gas 5% Hydrogen In Nitrogen

## A-Gas (A-Gas (Australia))

Chemwatch: 41-2250

Version No: 3.1.1.1

Material Safety Data Sheet according to NOHSC and ADG requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 13/03/2014

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Initial Date: Not Available

S.Local.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

Product name	A-Gas 5% Hydrogen In Nitrogen
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	COMPRESSED GAS, N.O.S. (contains nitrogen)
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Leak detection, fuel.
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### Details of the supplier of the safety data sheet

Registered company name	A-Gas (A-Gas (Australia))
Address	9-11 Oxford Road Laverton North 3026 VIC Australia
Telephone	+61 3 9368 9222
Fax	+61 3 9368 9233
Website	www.agas.com
Email	Not Available

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+61 1800 024 973 (TOLL)
Other emergency telephone numbers	+61 1800 024 973 (TOLL)

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

DANGEROUS GOODS. NON-HAZARDOUS SUBSTANCE. According to NOHSC Criteria, and ADG Code.

### Label elements

Relevant risk statements are found in section 2

Poisons Schedule	
Risk Phrases [1]	R44 Risk of explosion if heated under confinement.
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
Indication(s) of danger	Not Applicable

### SAFETY ADVICE

S15	Keep away from heat.
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**A-Gas 5% Hydrogen In Nitrogen**

**S56** Dispose of this material and its container at hazardous or special waste collection point.

**Other hazards**

	Inhalation may produce health damage*.
	Vapours potentially cause drowsiness and dizziness*.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
7727-37-9.	>94	<a href="#">nitrogen</a>
1333-74-0	<6	<a href="#">hydrogen</a>

**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures**

<b>Eye Contact</b>	<ul style="list-style-type: none"> <li>▶ If product comes in contact with eyes remove the patient from gas source or contaminated area.</li> <li>▶ Take the patient to the nearest eye wash, shower or other source of clean water.</li> <li>▶ Open the eyelid(s) wide to allow the material to evaporate.</li> <li>▶ Gently rinse the affected eye(s) with clean, cool water for at least 15 minutes. Have the patient lie or sit down and tilt the head back. Hold the eyelid(s) open and pour water slowly over the eyeball(s) at the inner corners, letting the water run out of the outer corners.</li> <li>▶ The patient may be in great pain and wish to keep the eyes closed. It is important that the material is rinsed from the eyes to prevent further damage.</li> <li>▶ Ensure that the patient looks up, and side to side as the eye is rinsed in order to better reach all parts of the eye(s)</li> <li>▶ Transport to hospital or doctor.</li> <li>▶ Even when no pain persists and vision is good, a doctor should examine the eye as delayed damage may occur.</li> <li>▶ If the patient cannot tolerate light, protect the eyes with a clean, loosely tied bandage.</li> <li>▶ Ensure verbal communication and physical contact with the patient.</li> </ul> <p><b>DO NOT</b> allow the patient to rub the eyes  <b>DO NOT</b> allow the patient to tightly shut the eyes  <b>DO NOT</b> introduce oil or ointment into the eye(s) without medical advice  <b>DO NOT</b> use hot or tepid water.</p>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ Following exposure to gas, remove the patient from the gas source or contaminated area.</li> <li>▶ NOTE: Personal Protective Equipment (PPE), including positive pressure self-contained breathing apparatus may be required to assure the safety of the rescuer.</li> <li>▶ Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ If the patient is not breathing spontaneously, administer rescue breathing.</li> <li>▶ If the patient does not have a pulse, administer CPR.</li> <li>▶ If medical oxygen and appropriately trained personnel are available, administer 100% oxygen.</li> <li>▶ Summon an emergency ambulance. If an ambulance is not available, contact a physician, hospital, or Poison Control Centre for further instruction.</li> <li>▶ Keep the patient warm, comfortable and at rest while awaiting medical care.</li> <li>▶ <b>MONITOR THE BREATHING AND PULSE, CONTINUOUSLY.</b></li> <li>▶ Administer rescue breathing (preferably with a demand-valve resuscitator, bag-valve mask-device, or pocket mask as trained) or CPR if necessary.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ Not considered a normal route of entry.</li> </ul>

**Indication of any immediate medical attention and special treatment needed**

	<p>for gas exposures:</p> <p>-----</p> <p>BASIC TREATMENT</p> <p>-----</p> <ul style="list-style-type: none"> <li>▶ Establish a patent airway with suction where necessary.</li> </ul>
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## A-Gas 5% Hydrogen In Nitrogen

- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema .
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.

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ADVANCED TREATMENT

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- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

## SECTION 5 FIREFIGHTING MEASURES

## Extinguishing media

**SMALL FIRE:** Use extinguishing agent suitable for type of surrounding fire.

**LARGE FIRE:** Cool cylinder.

**DO NOT** direct water at source of leak or venting safety devices as icing may occur.

## Special hazards arising from the substrate or mixture

## Fire Incompatibility

None known.

## Advice for firefighters

## Fire Fighting

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GENERAL

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- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ Wear breathing apparatus and protective gloves.
- ▶ Fight fire from a safe distance, with adequate cover.
- ▶ Use water delivered as a fine spray to control fire and cool adjacent area.
- ▶ **DO NOT** approach cylinders suspected to be hot.
- ▶ Cool fire exposed cylinders with water spray from a protected location.
- ▶ If safe to do so, remove cylinders from path of fire.

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SPECIAL REQUIREMENTS:

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- ▶ Excessive pressures may develop in a gas cylinder exposed in a fire; this may result in explosion.
- ▶ Cylinders with pressure relief devices may release their contents as a result of fire and the released gas may constitute a further source of hazard for the fire-fighter.
- ▶ Cylinders without pressure-relief valves have no provision for controlled release and are therefore more likely to explode if exposed to fire.

## Fire/Explosion Hazard

- ▶ Containers may explode when heated - Ruptured cylinders may rocket
- ▶ Fire exposed containers may vent contents through pressure relief devices.
- ▶ High concentrations of gas may cause asphyxiation without warning.
- ▶ May decompose explosively when heated or involved in fire.
- ▶ Contact with gas may cause burns, severe injury and/ or frostbite.
- ▶ Non combustible.
- ▶ Not considered a significant fire risk, however containers may burn.

Decomposition may produce toxic fumes of:  
nitrogen oxides (NOx)

## SECTION 6 ACCIDENTAL RELEASE MEASURES

## Personal precautions, protective equipment and emergency procedures

## Minor Spills

- ▶ Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be

## A-Gas 5% Hydrogen In Nitrogen

	<ul style="list-style-type: none"> <li>▶ used.</li> <li>▶ <b>DO NOT enter confined spaces where gas may have accumulated.</b></li> <li>▶ Increase ventilation.</li> <li>▶ Clear area of personnel.</li> <li>▶ Stop leak only if safe to do.</li> <li>▶ Remove leaking cylinders to safe place. Release pressure under safe controlled conditions by opening valve.</li> <li>▶ Do not exert excessive pressure on the valve; do not attempt to operate a damaged valve</li> <li>▶ Orientate cylinder so that the leak is gas, not liquid, to minimise rate of leakage</li> <li>▶ Keep area clear of personnel until gas has dispersed.</li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ Clear area of all unprotected personnel and move upwind.</li> <li>▶ Alert Emergency Authority and advise them of the location and nature of hazard.</li> <li>▶ Wear breathing apparatus and protective gloves.</li> <li>▶ Prevent by any means available, spillage from entering drains and water-courses.</li> <li>▶ Consider evacuation.</li> <li>▶ Increase ventilation.</li> <li>▶ No smoking or naked lights within area.</li> <li>▶ Stop leak only if safe to do.</li> <li>▶ Water spray or fog may be used to disperse vapour.</li> <li>▶ <b>DO NOT enter confined space where gas may have collected.</b></li> </ul>
	Personal Protective Equipment advice is contained in Section 8 of the MSDS.

## SECTION 7 HANDLING AND STORAGE

## Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal.</li> <li>▶ The tubing network design connecting gas cylinders to the delivery system should include appropriate pressure indicators and vacuum or suction lines.</li> <li>▶ Fully-welded types of pressure gauges, where the bourdon tube sensing element is welded to the gauge body, are recommended.</li> <li>▶ Before connecting gas cylinders, ensure manifold is mechanically secure and does not contain another gas. Before disconnecting gas cylinder, isolate supply line segment proximal to cylinder, remove trapped gas in supply line with aid of vacuum pump</li> <li>▶ When connecting or replacing cylinders take care to avoid airborne particulates violently ejected when system pressurises.</li> <li>▶ Consider the use of doubly-contained piping; diaphragm or bellows sealed, soft seat valves; backflow prevention devices; flash arrestors; and flow monitoring or limiting devices. Gas cabinets, with appropriate exhaust treatment, are recommended, as is automatic monitoring of the secondary enclosures and work areas for release.</li> <li>▶ Use a pressure reducing regulator when connecting cylinder to lower pressure (&lt;100 psig) piping or systems</li> <li>▶ Use a check valve or trap in the discharge line to prevent hazardous back-flow into the cylinder</li> <li>▶ Check regularly for spills or leaks. Keep valves tightly closed but do not apply extra leverage to hand wheels or cylinder keys.</li> <li>▶ Open valve slowly.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open.</li> <li>▶ Such compounds should be sited and built in accordance with statutory requirements.</li> <li>▶ The storage compound should be kept clear and access restricted to authorised personnel only.</li> <li>▶ Cylinders stored in the open should be protected against rust and extremes of weather.</li> <li>▶ Cylinders in storage should be properly secured to prevent toppling or rolling.</li> <li>▶ Cylinder valves should be closed when not in use.</li> <li>▶ Where cylinders are fitted with valve protection this should be in place and properly secured.</li> <li>▶ Gas cylinders should be segregated according to the requirements of the Dangerous Goods Act.</li> <li>▶ Preferably store full and empty cylinders separately.</li> <li>▶ Check storage areas for hazardous concentrations of gases prior to entry.</li> </ul>

## Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Cylinder:</li> <li>▶ Ensure the use of equipment rated for cylinder pressure.</li> <li>▶ Ensure the use of compatible materials of construction.</li> <li>▶ Valve protection cap to be in place until cylinder is secured, connected.</li> <li>▶ Cylinder must be properly secured either in use or in storage.</li> <li>▶ Cylinder valve must be closed when not in use or when empty.</li> <li>▶ Segregate full from empty cylinders.</li> </ul> <p><b>WARNING:</b> Suckback into cylinder may result in rupture. Use back-flow preventive device in piping.</p>
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## A-Gas 5% Hydrogen In Nitrogen

## Storage incompatibility

For nitrogen:

- ▶ Avoid reaction with alkalis, barium oxide, lithium, silicon, calcium, strontium, barium, ozone, titanium and beryllium.
- ▶ Stable when temperature protected and kept isolated as a compressed gas in cylinders equipped with pressure relief safety devices.
- ▶ Forms cyanides when heated with carbon in the presence of alkalis or barium oxide. It can form nitrides with lithium, silicon, calcium, strontium, and barium when at red heat.
- ▶ May be oxidised explosively with ozone.
- ▶ At high temperatures nitrogen can combine with oxygen to form toxic oxides

## PACKAGE MATERIAL INCOMPATIBILITIES

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	nitrogen	Nitrogen	Not Available	Not Available	Not Available	Asphyxiant (see Chapter 10)

## EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
nitrogen	65000(ppm)	65000(ppm)	230000(ppm)	400000(ppm)
hydrogen	65000(ppm)	65000(ppm)	230000(ppm)	400000(ppm)

Ingredient	Original IDLH	Revised IDLH
A-Gas 5% Hydrogen In Nitrogen	Not Available	Not Available

## Exposure controls

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <ul style="list-style-type: none"> <li>▶ Areas where cylinders are stored require good ventilation and, if enclosed, need discrete/controlled exhaust ventilation.</li> <li>▶ Secondary containment and exhaust gas treatment may be required by certain jurisdictions.</li> <li>▶ Local exhaust ventilation may be required in work areas.</li> </ul>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hand protection</b>	▶ When handling sealed and suitably insulated cylinders wear cloth or leather gloves.
<b>Body protection</b>	See Other protection below

## A-Gas 5% Hydrogen In Nitrogen

<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Protective overalls, closely fitted at neck and wrist.</li> <li>▶ Eye-wash unit.</li> <li>▶ Ensure availability of lifeline in confined spaces.</li> <li>▶ Staff should be trained in all aspects of rescue work.</li> <li>▶ Rescue gear: Two sets of SCUBA breathing apparatus Rescue Harness, lines etc.</li> </ul>
<b>Thermal hazards</b>	

**Recommended material(s)****Respiratory protection****GLOVE SELECTION INDEX**

Not Applicable

Glove selection is based on a modified presentation of the:

**"Forsberg Clothing Performance Index".**The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

A-Gas 5% Hydrogen In Nitrogen Not Available

Material	CPI

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Appearance</b>	Colourless odourless gas.		
<b>Physical state</b>	Compressed Gas	<b>Relative density (Water = 1)</b>	Not Available
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	Not Applicable	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	5.7 (hydrogen in nitrogen)	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Not Available	<b>pH as a solution(1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	<1	<b>VOC g/L</b>	

**SECTION 10 STABILITY AND REACTIVITY**

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>

## A-Gas 5% Hydrogen In Nitrogen

<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

## Information on toxicological effects

<b>Inhaled</b>	<p>The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation, of the material, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.</p> <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>Common, generalised symptoms associated with non-toxic gas inhalation include :</p> <ul style="list-style-type: none"> <li>▶ central nervous system effects such as headache, confusion, dizziness, progressive stupor, coma and seizures;</li> <li>▶ respiratory system complications may include tachypnoea and dyspnoea;</li> <li>▶ cardiovascular effects may include circulatory collapse and arrhythmias;</li> <li>▶ gastrointestinal effects may also be present and may include mucous membrane irritation and nausea and vomiting.</li> </ul> <p>Nitrogen is non-toxic but may replace oxygen in the inhaled air producing asphyxiation.</p> <p>As the amount of inhaled oxygen is reduced from 21% to 14% (by volume), pulse rate and volume of breathing, increase.</p> <p>Nitrogen inhaled under increased atmospheric pressure (&gt;1.5 atmospheres), may dissolve in fat-containing brain-cells producing anaesthesia and causing narcosis. Individuals exposed to increased pressures for some time and who are suddenly released from the pressure may develop decompression sickness.</p>
<b>Ingestion</b>	<p>Overexposure is unlikely in this form.</p> <p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p>
<b>Skin Contact</b>	<p>The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
<b>Eye</b>	<p>Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).</p> <p>Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures..</p>
<b>Chronic</b>	<p>Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.</p> <p>Principal route of occupational exposure to the gas is by inhalation.</p>

<b>A-Gas 5% Hydrogen In Nitrogen</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>nitrogen</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>hydrogen</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available

\* Value obtained from manufacturer's msds

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

<b>A-Gas 5% Hydrogen In Nitrogen, NITROGEN, HYDROGEN</b>	No significant acute toxicological data identified in literature search.		
<b>Acute Toxicity</b>	⊘	<b>Carcinogenicity</b>	⊘
<b>Skin Irritation/Corrosion</b>	⊘	<b>Reproductivity</b>	⊘
<b>Serious Eye Damage/Irritation</b>	⊘	<b>STOT - Single Exposure</b>	⊘
<b>Respiratory or Skin sensitisation</b>	⊘	<b>STOT - Repeated Exposure</b>	⊘
<b>Mutagenicity</b>	⊘	<b>Aspiration Hazard</b>	⊘

**CMR STATUS****SECTION 12 ECOLOGICAL INFORMATION****Toxicity**

**DO NOT** discharge into sewer or waterways.

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

**Bioaccumulative potential**

Ingredient	Bioaccumulation
Not Available	Not Available

**Mobility in soil**

Ingredient	Mobility
Not Available	Not Available

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Evaporate residue at an approved site.</li> <li>▶ Return empty containers to supplier. If containers are marked non-returnable establish means of disposal with manufacturer prior to purchase.</li> <li>▶ Ensure damaged or non-returnable cylinders are gas-free before disposal.</li> </ul>
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**SECTION 14 TRANSPORT INFORMATION****Labels Required**

	
<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	2TE

**Land transport (ADG)**

<b>UN number</b>	1956				
<b>Packing group</b>	Not Available				
<b>UN proper shipping name</b>	COMPRESSED GAS, N.O.S. (contains nitrogen)				
<b>Environmental hazard</b>	No relevant data				
<b>Transport hazard class(es)</b>	<table style="border: none;"> <tr> <td style="border-right: 1px dashed black;">Class</td> <td>2.2</td> </tr> <tr> <td style="border-right: 1px dashed black;">Subrisk</td> <td></td> </tr> </table>	Class	2.2	Subrisk	
Class	2.2				
Subrisk					



## A-Gas 5% Hydrogen In Nitrogen

<b>Special precautions for user</b>	Special provisions	274 292
	limited quantity	120 ml

## Air transport (ICAO-IATA / DGR)

<b>UN number</b>	1956	
<b>Packing group</b>	Not Available	
<b>UN proper shipping name</b>	Compressed gas, n.o.s. * (contains nitrogen)	
<b>Environmental hazard</b>	No relevant data	
<b>Transport hazard class(es)</b>	ICAO/IATA Class	2.2
	ICAO / IATA Subrisk	
	ERG Code	2L
<b>Special precautions for user</b>	Special provisions	
	Cargo Only Packing Instructions	200
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	200
	Passenger and Cargo Maximum Qty / Pack	75 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Maximum Qty / Pack	Forbidden

## Sea transport (IMDG-Code / GGVSee)

<b>UN number</b>	1956	
<b>Packing group</b>	Not Available	
<b>UN proper shipping name</b>	COMPRESSED GAS, N.O.S. (contains nitrogen)	
<b>Environmental hazard</b>	No relevant data	
<b>Transport hazard class(es)</b>	IMDG Class	2.2
	IMDG Subrisk	
<b>Special precautions for user</b>	EMS Number	F-C,S-V
	Special provisions	274
	Limited Quantities	120 ml

## SECTION 15 REGULATORY INFORMATION

## Safety, health and environmental regulations / legislation specific for the substance or mixture

<b>nitrogen(7727-37-9.) is found on the following regulatory lists</b>	"OECD List of High Production Volume (HPV) Chemicals","International Numbering System for Food Additives","Sigma-AldrichTransport Information","FisherTransport Information","CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP","UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II","Australia Inventory of Chemical Substances (AICS)","Australia Exposure Standards","International Maritime Dangerous Goods Requirements (IMDG Code)","International Air Transport Association (IATA) Dangerous Goods Regulations","International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index","Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List","Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)","Australia Dangerous Goods Code (ADG Code) - Packing Instruction - Compressed Gases","Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes"
<b>hydrogen(1333-74-0) is found on the following regulatory lists</b>	"Australia - Queensland Work Health and Safety Regulation - Hazardous chemicals at major hazard facilities (and their threshold quantity)","Australia - Victoria Drugs, Poisons and Controlled Substances (Precursor Chemicals) Regs 2007 - Schedule 1 - Precursor Chemicals and Quantities","Australia Hazardous Substances Information System - Consolidated Lists","OECD List of High Production Volume (HPV) Chemicals","International Council of Chemical Associations (ICCA) - High Production Volume List","International Numbering System for Food Additives","Sigma-AldrichTransport Information","FisherTransport Information","Australia - Tasmania - Work Health and Safety Regulations 2012 - Hazardous Chemicals at Major Hazard Facilities (and their Threshold Quantity) - Table 15.1","Australia Work Health and Safety Regulations 2011 - Hazardous chemicals at major hazard facilities and their threshold quantity","Australia Inventory of Chemical Substances (AICS)","International Air Transport

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Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "International Maritime Dangerous Goods Requirements (IMDG Code)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 1", "Australia - New South Wales - Work Health and Safety Regulation 2011 - Hazardous chemicals at major hazard facilities (and their threshold quantity) - Table 15.1", "Australia - South Australia - Work Health and Safety Regulations 2012 - Schedule 15—Hazardous chemicals at major hazard facilities (and their threshold quantity) Table 15.1", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "Australia Dangerous Goods Code (ADG Code) - Packing Instruction - Compressed Gases", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes"

**SECTION 16 OTHER INFORMATION****Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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