

NITROGEN

A-Gas (Australia) Pty Ltd

Chemwatch Hazard Alert Code: 1

Chemwatch: 1066

Issue Date: 13/12/2017

Version No: 9.1.1.1

Print Date: 07/10/2019

Safety Data Sheet according to WHS and ADG requirements

S.GHS.AUS.EN

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

Product Identifier

Product name	NITROGEN
Chemical Name	nitrogen
Synonyms	N2; nitrogen gas Tyrgas; Nitrogen, Industrial Grade; Nitrogen, Food Grade; Nitrogen, EHP Industrial Grade; Nitrogen Accumulator Grade; Nitrogen, High Purity O.F.N.; Nitrogen, E.H.P., High Purity; Nitrogen, Ultra High Purity; Gas code 030, 032, 033, 034, 035, 036, 038, 234; Praxair; Soxal; Air Liquide; Aligal; Lasal; Nitrogen, Compressed; Aligal (refrigerated) 1; Calgaz N2
Proper shipping name	NITROGEN, COMPRESSED
Chemical formula	N2
Other means of identification	Not Available
CAS number	7727-37-9.

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

Relevant identified uses	A wide variety of applications including the manufacture of ammonia, nitric acid, nitrates, cyanides, etc.; in manufacture of explosives. Blanket gas to form an oxygen free, inert atmosphere for the preservation of materials, including food; metallurgy. Filling of incandescent bulbs. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.
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Details of the supplier of the safety data sheet

Registered company name	A-Gas (Australia) Pty Ltd
Address	9-11 Oxford Rd, Laverton North Victoria 3026 Australia
Telephone	93689208
Fax	Not Available
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	TOLL CHEMICAL LOGISTICS
Emergency telephone numbers	1800024973
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification ^[1]	Gas under Pressure (Compressed gas)
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
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SIGNAL WORD

WARNING

Hazard statement(s)	
H280	Contains gas under pressure; may explode if heated.
AUH044	Risk of explosion if heated under confinement.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

P410+P403	Protect from sunlight. Store in a well-ventilated place.
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Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

CAS No	%[weight]	Name
7727-37-9.	>=99.5	<u>nitrogen</u>
7782-44-7.	<10ppm^	<u>OXYGEN COMPRESSED</u>
74-82-8	<5ppm^	<u>Methane, 99.999%</u>

Mixtures

See section above for composition of Substances

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	▶ If product comes in contact with eyes remove the patient from gas source or contaminated area. ▶ Take the patient to the nearest eye wash, shower or other source of clean water. ▶ Open the eyelid(s) wide to allow the material to evaporate. ▶ 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. ▶ 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. ▶ 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) ▶ Transport to hospital or doctor. ▶ Even when no pain persists and vision is good, a doctor should examine the eye as delayed damage may occur. ▶ If the patient cannot tolerate light, protect the eyes with a clean, loosely tied bandage. ▶ Ensure verbal communication and physical contact with the patient. DO NOT allow the patient to rub the eyes DO NOT allow the patient to tightly shut the eyes DO NOT introduce oil or ointment into the eye(s) without medical advice DO NOT use hot or tepid water.
Skin Contact	If skin or hair contact occurs: ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	▶ Following exposure to gas, remove the patient from the gas source or contaminated area. ▶ NOTE: Personal Protective Equipment (PPE), including positive pressure self-contained breathing apparatus may be required to assure the safety of the rescuer. ▶ Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures. ▶ If the patient is not breathing spontaneously, administer rescue breathing. ▶ If the patient does not have a pulse, administer CPR. ▶ If medical oxygen and appropriately trained personnel are available, administer 100% oxygen. ▶ Summon an emergency ambulance. If an ambulance is not available, contact a physician, hospital, or Poison Control Centre for further instruction. ▶ Keep the patient warm, comfortable and at rest while awaiting medical care. ▶ MONITOR THE BREATHING AND PULSE, CONTINUOUSLY. ▶ Administer rescue breathing (preferably with a demand-valve resuscitator, bag-valve mask-device, or pocket mask as trained) or CPR if necessary.
Ingestion	Not considered a normal route of entry.

Indication of any immediate medical attention and special treatment needed

For gas exposures:

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- 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.

ADVANCED TREATMENT

- 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.
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Advice for firefighters

Fire Fighting	GENERAL ‣ 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.
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. Decomposition may produce toxic fumes of: nitrogen oxides (NOx) Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.
HAZCHEM	2T

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	‣ Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be used. ‣ DO NOT enter confined spaces where gas may have accumulated. ‣ Increase ventilation.
Major Spills	‣ Clear area of all unprotected personnel and move upwind. ‣ Alert Emergency Authority and advise them of the location and nature of hazard. ‣ Wear breathing apparatus and protective gloves. ‣ Prevent by any means available, spillage from entering drains and water-courses. ‣ Remove leaking cylinders to a safe place. ‣ Fit vent pipes. Release pressure under safe, controlled conditions ‣ Burn issuing gas at vent pipes. ‣ DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	·Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature ·The tubing network design connecting gas cylinders to the delivery system should include appropriate pressure indicators and vacuum or suction lines. ·Fully-welded types of pressure gauges, where the bourdon tube sensing element is welded to the gauge body, are recommended. ·Before connecting gas cylinders, ensure manifold is mechanically secure and does not containing another gas. ▶ DO NOT transfer gas from one cylinder to another.
Other information	▶ Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open. ▶ Such compounds should be sited and built in accordance with statutory requirements. ▶ The storage compound should be kept clear and access restricted to authorised personnel only. ▶ Cylinders stored in the open should be protected against rust and extremes of weather.

Conditions for safe storage, including any incompatibilities

Suitable container	▶ Cylinder: ▶ Ensure the use of equipment rated for cylinder pressure. ▶ Ensure the use of compatible materials of construction. ▶ Valve protection cap to be in place until cylinder is secured, connected. ▶ Cylinder must be properly secured either in use or in storage.
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. ▶ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
nitrogen	Nitrogen	7.96E+05 ppm	8.32E+05 ppm	8.69E+05 ppm
Methane, 99.999%	Methane	65000 ppm	230000 ppm	400000 ppm

Ingredient	Original IDLH	Revised IDLH
nitrogen	Not Available	Not Available
OXYGEN COMPRESSED	Not Available	Not Available
Methane, 99.999%	Not Available	Not Available

Exposure controls

Appropriate engineering controls	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. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. 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.
Personal protection	
Eye and face protection	▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ 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.
Skin protection	See Hand protection below
Hands/feet protection	▶ When handling sealed and suitably insulated cylinders wear cloth or leather gloves.
Body protection	See Other protection below

Other protection	▶ Protective overalls, closely fitted at neck and wrist. ▶ Eye-wash unit. ▶ Ensure availability of lifeline in confined spaces. ▶ Staff should be trained in all aspects of rescue work.
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Respiratory protection

- Full face respirator with supplied air.
- ▶ Positive pressure, full face, air-supplied breathing apparatus should be used for work in enclosed spaces if a leak is suspected or the primary containment is to be opened (e.g. for a cylinder change)
 - ▶ Air-supplied breathing apparatus is required where release of gas from primary containment is either suspected or demonstrated.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Colourless, odourless compressed gas; sparingly soluble in water. Soluble in liquid ammonia, alcohol. Packed under pressure in pewter-coloured cylinders fitted with AS2473 Type 10 valve outlet. Sudden release of pressure or leakage may result in rapid generation of large volume of asphyxiant gas.		
Physical state	Compressed Gas	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature	Not Applicable
Melting point / freezing point (°C)	-209.9	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	-195.8	Molecular weight (g/mol)	28.02
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	100
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	0.967	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. 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. There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of non-toxic gases may cause: ▶ CNS effects: headache, confusion, dizziness, stupor, seizures and coma; ▶ respiratory: shortness of breath and rapid breathing; ▶ cardiovascular: collapse and irregular heart beats; ▶ gastrointestinal: mucous membrane irritation, nausea and vomiting.
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	Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. Nitrogen is non-toxic, but may replace oxygen in inhaled air, hence causing suffocation. As the concentration of inhaled oxygen is reduced from 21% to 14% by volume, pulse rate and volume of breathing increase. <
Ingestion	Overexposure is unlikely in this form. Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments
Skin Contact	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. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions 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.
Eye	Contact with cold gas may cause cryogenic (extreme low temperature) burns. 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). Not considered to be a risk because of the extreme volatility of the gas.
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Main route of exposure to the gas in the workplace is by inhalation.

nitrogen	TOXICITY	IRRITATION
	Not Available	Not Available
OXYGEN COMPRESSED	TOXICITY	IRRITATION
	Not Available	Not Available
Methane, 99.999%	TOXICITY	IRRITATION
	Inhalation (mouse) LC50: 163 mg/l/2H ^[2]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

OXYGEN COMPRESSED	Inhalation (human) TClO: 100pph (100%)/14hNil reported
NITROGEN & OXYGEN COMPRESSED & METHANE, 99.999%	No significant acute toxicological data identified in literature search.

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

nitrogen	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
OXYGEN COMPRESSED	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
Methane, 99.999%	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	24.11mg/L	2
	EC50	96	Algae or other aquatic plants	7.71mg/L	2

Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data
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DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
Methane, 99.999%	LOW (LogKOW = 1.09)

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	- Evaporate residue at an approved site. - Return empty containers to supplier. If containers are marked non-returnable establish means of disposal with manufacturer prior to purchase. - Ensure damaged or non-returnable cylinders are gas-free before disposal.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO
HAZCHEM	2T

Land transport (ADG)

UN number	1066				
UN proper shipping name	NITROGEN, COMPRESSED				
Transport hazard class(es)	<table><tr><td>Class</td><td>2.2</td></tr><tr><td>Subrisk</td><td>Not Applicable</td></tr></table>	Class	2.2	Subrisk	Not Applicable
Class	2.2				
Subrisk	Not Applicable				
Packing group	Not Applicable				
Environmental hazard	Not Applicable				
Special precautions for user	<table><tr><td>Special provisions</td><td>378</td></tr><tr><td>Limited quantity</td><td>120 ml</td></tr></table>	Special provisions	378	Limited quantity	120 ml
Special provisions	378				
Limited quantity	120 ml				

Air transport (ICAO-IATA / DGR)

UN number	1066						
UN proper shipping name	Nitrogen, compressed						
Transport hazard class(es)	<table><tr><td>ICAO/IATA Class</td><td>2.2</td></tr><tr><td>ICAO / IATA Subrisk</td><td>Not Applicable</td></tr><tr><td>ERG Code</td><td>2L</td></tr></table>	ICAO/IATA Class	2.2	ICAO / IATA Subrisk	Not Applicable	ERG Code	2L
ICAO/IATA Class	2.2						
ICAO / IATA Subrisk	Not Applicable						
ERG Code	2L						
Packing group	Not Applicable						
Environmental hazard	Not Applicable						

Special precautions for user	Special provisions	A69 A202
	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 Limited Maximum Qty / Pack	Forbidden

Sea transport (IMDG-Code / GGVSee)

UN number	1066		
UN proper shipping name	NITROGEN, COMPRESSED		
Transport hazard class(es)	IMDG Class	2.2	
	IMDG Subrisk	Not Applicable	
Packing group	Not Applicable		
Environmental hazard	Not Applicable		
Special precautions for user	EMS Number	F-C , S-V	
	Special provisions	378	
	Limited Quantities	120 mL	

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

NITROGEN IS FOUND ON THE FOLLOWING REGULATORY LISTS			
Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List		International Air Transport Association (IATA) Dangerous Goods Regulations	
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes		International Maritime Dangerous Goods Requirements (IMDG Code)	
Australia Dangerous Goods Code (ADG Code) - Packing Instruction - Compressed Gases		United Nations Recommendations on the Transport of Dangerous Goods Model Regulations	
Australia Inventory of Chemical Substances (AICS)			
OXYGEN COMPRESSED IS FOUND ON THE FOLLOWING REGULATORY LISTS			
Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List		Australia Inventory of Chemical Substances (AICS)	
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes		International Air Transport Association (IATA) Dangerous Goods Regulations	
Australia Dangerous Goods Code (ADG Code) - Packing Instruction - Compressed Gases		International Maritime Dangerous Goods Requirements (IMDG Code)	
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals		United Nations Recommendations on the Transport of Dangerous Goods Model Regulations	
METHANE, 99.999% IS FOUND ON THE FOLLOWING REGULATORY LISTS			
Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List		Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5	
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes		International Air Transport Association (IATA) Dangerous Goods Regulations	
Australia Dangerous Goods Code (ADG Code) - Packing Instruction - Compressed Gases		International Maritime Dangerous Goods Requirements (IMDG Code)	
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals		United Nations Recommendations on the Transport of Dangerous Goods Model Regulations	
Australia Inventory of Chemical Substances (AICS)			

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (nitrogen; OXYGEN COMPRESSED; Methane, 99.999%)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (nitrogen; OXYGEN COMPRESSED)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	No (nitrogen)

USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	<i>Yes = All CAS declared ingredients are on the inventory</i> <i>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i>

SECTION 16 OTHER INFORMATION

Revision Date	13/12/2017
Initial Date	16/09/2006

SDS Version Summary

Version	Issue Date	Sections Updated
8.1.1.1	28/07/2015	Acute Health (inhaled), Classification, Exposure Standard, Fire Fighter (fire/explosion hazard), Personal Protection (eye), Supplier Information, Use
9.1.1.1	13/12/2017	Exposure Standard, Physical Properties, Synonyms

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.

The 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.

Definitions and abbreviations

PC — TWA: Permissible Concentration-Time Weighted Average
PC — STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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