

MATERIAL SAFETY DATA SHEET (MSDS)

ARGON 16/3

SECTION 1: IDENTIFICATION (MATERIAL & SUPPLIER)

GHS Product	Argon, Oxygen, Carbon Dioxide
Identifier: Product	Argon 16/3
Name: Chemical	Argon 81%, Carbon Dioxide 16%, Oxygen 3%
Name: Synonym(s):	16 ARGON / ARGON/OXYGEN/CARBON DIOXIDE MIXTURE
Uses:	Welding Applications, Welding Gas.
Supplier Name:	Puregas Aust Pty Ltd
Address:	262 Rex Road, Campbellfield VIC 3061
Telephone:	1300 733 097
Fax:	03 9464 4977
Emergency:	DIAL 000
Emergency:	24hr EMERGENCY TELEPHONE (Australia Only) 1300 994 556
Website:	www.puregas.com.au
MSDS Date:	30/5/2022

SECTION 2: HAZARD(S) IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF THE ADG CODE

Physical Hazards:	Gases Under Pressure: Compressed Gas
Health Hazards:	Not classified as a Health Hazard.
Environmental Hazards:	Not classified as an Environmental Hazard.
Label Elements:	
Signal Word:	WARNING



Pictogram(s):	
Hazard Statements:	H280 – Contains gas under pressure; May explode if heated.
Prevention Statements:	None allocated
Response Statements:	None allocated
Storage Statements:	P410 + P403 Protect from sunlight. Store in a well-ventilated place.
Disposal Statements:	None allocated
Other Hazards:	Asphyxiant. Effects are proportional to oxygen displacement.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
ARGON	7440-37-1	231-147-0	Remainder
CARBON DIOXIDE	124-38-9	204-363-9	16%
OXYGEN	7782-44-7	231-956-9	3%

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

Eyes:	None required.
Inhaled:	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if available.
Skin:	Not required.
Ingestion:	Ingestion is not considered a potential route of exposure.
First Aid Facilities	None allocated.
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. Low concentrations of CO2 cause increased respiration and headache.
Immediate medical attention and special treatment needed.	Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media:	Use water fog to cool containers from protected area.
Special hazards arising from the substance or mixture:	Non-Flammable.
Advice for Firefighters:	Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot.
Hazchem Code:	2TE T - Fine Water Spray T - Wear full fire kit and breathing apparatus. Dilute spill and run off. E - Evacuation of people in and around the immediate vicinity of the incident should be considered.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures.	If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use Personal Protective Equipment (PPE) as detailed in Section 8 of the SDS.
Environmental Precautions:	Prevent from entering sewers, basements and work pits, or any place where its accumulation can be dangerous.
Methods of cleaning up:	Carefully move to a well-ventilated area. Allow gas to escape to atmosphere, preferably in an open remote location. Do not attempt to repair leaking valve or cylinder safety devices.
Reference to other sections:	See Section 8 for Exposure Controls and Section 13 for disposal considerations

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling.	Use of safe work practices are recommended to avoid inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.
Conditions for safe storage, including any incompatibilities.	Do not store near incompatible materials. Cylinders should be stored below 65°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.
Specific end use(s):	No information provided.

MATERIAL SAFETY DATA SHEET (MSDS)

ARGON 16/3 *continued*

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters.

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ²	ppm	mg/m ²
Argon	SWA (Aus)	Asphyxiant			
Carbon dioxide	SWA (Aus)	5000	9000	30000	54000
Carbon dioxide in coal mines	SWA (Aus)	12500	22500	30000	54000
Carbon dioxide in coal mines	SWA (Proposed)	500	9000	30000	54000

Biological limits: No biological limit values have been entered for this product.

Exposure Controls.
Engineering Controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

PPE
Eye/Face Wear Safety Glasses
Hands Wear leather gloves.
Body Wear Safety Boots
Respiratory Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties.

Appearance: Colourless gas
Odour: Odourless
Flammability: Not Flammable.
Flash Point: Not relevant
Boiling Point: Not available.
Melting Point: Not available.
Evaporation Rate: Not available.
pH: Not available.
Vapour pressure: Not available.
Specific gravity: Not available.
Solubility in Water Slightly soluble.
Vapour Pressure: Not available
Upper explosion limit: Not Relevant
Lower explosion limit: Not Relevant
Partition Coefficient: Not available
Auto-Ignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity Not available
Explosive Properties Not available
Oxidising Properties Not available
Odour Threshold Not available
Volatiles: 100%

SECTION 10: STABILITY AND REACTIVITY

Reactivity. No specific test data related to reactivity available for this product or its ingredients. Carefully review all information provided in sections below.

Chemical Stability. Stable under recommended conditions of storage.

Possibility of Hazardous Reactions.

Polymerization will not occur.
Conditions to Avoid. Avoid contact with incompatible substances.
Incompatible Materials. Moist carbon dioxide is corrosive, hence acid resistant materials are required (e.g. stainless steel). Certain properties of some plastics and rubbers may be affected by carbon dioxide (i.e. embrittlement, leaching of plasticisers, etc).

Hazardous Decomposition Products.

This material will not decompose to form hazardous products other than that already present.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects.

Acute Toxicity: Based on available data the classification criteria are not met. Low concentrations of carbon dioxide cause increased respiration and headache.
Skin: Not irritating to the skin.
Eyes: Not irritating to the eye.
Sensitisation: Not classified as causing skin or respiratory sensitisation.
Mutagenicity: Not classified as a mutagen.
Carcinogenicity: Not classified as a carcinogen.
Reproductive: Not classified as a reproductive toxin.
STOT Single Exposure: Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.
STOT Repeated Exposure: Not classified as causing organ damage from repeated exposure.
Aspiration: Not classified as causing aspiration.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity. No information provided.
Persistence and Degradability. No information provided.
Bioaccumulative Potential. No information provided
Mobility in Soil No information provided
Other Adverse Effects When discharged to the atmosphere, carbon dioxide may contribute to the greenhouse effect.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Waste disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents.
Legislation Disposal of in accordance with relevant local legislation..

SECTION 14: TRANSPORT INFORMATION

CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN Number	1956	1956	1956
Proper Shipping Name	COMPRESSED GAS, N.O.S. (contains Argon)	COMPRESSED GAS, N.O.S. (contains Argon)	COMPRESSED GAS, N.O.S. (contains Argon)
Transport Hazard Class	2.2	2.2	2.2
Packing Group	None Allocated	None Allocated	None Allocated

Environmental Hazards Not a Marine Pollutant.
Special Precautions for User Hazchem Code 2TE
 GTEPG 2C1
 EMS F-C, S-V

Other Information: Ensure cylinder is separated from driver and that outlet relief device is not obstructed.

SECTION 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Legislation Specific for the Substance or Mixture.

Poison Schedule: A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications: Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.
Inventory Listing(s): AUSTRALIA: AICS (Australian Inventory of Chemical Substances)
 All components are listed on AICS, or are exempt.

MATERIAL SAFETY DATA SHEET (MSDS)

ARGON 16/3 *continued*

SECTION 16: OTHER INFORMATION

Additional Information	The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders.
APPLICATION METHOD	Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment.
PERSONAL PROTECTIVE EQUIPMENT GUIDELINES	The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.
HEALTH EFFECTS FROM EXPOSURE	It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

ABBREVIATIONS:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No. EC No -	European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonised System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (highly acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average