SAFETY DATA SHEET

According to Safe Work Australia

Printing date 20.07.2016 Revision: 01.07.2019

1 . IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Name: ARGON / CARBON DIOXIDE
Part Number: 216023

Recommended Use of the Chemical and Restriction on Use: Industrial use (welding)

Details of Manufacturer or Importer:
Adventure Operations Australia Pty Ltd
15-19 Reid Way
Tullamarine VIC 3043

Phone Number: 1300 555 197

Emergency telephone number: National Poison Information Centre: 13 11 26

2 . HAZARDS IDENTIFICATION

Hazardous Nature:


gas cylinder

Press. Gas D H280 Contains gas under pressure; may explode if heated.

Signal Word Warning

Hazard Statements
H280 Contains gas under pressure; may explode if heated.

Precautionary Statements
P410+P403 Protect from sunlight. Store in a well-ventilated place.

3 . COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Characterization: Mixtures
Description: Mixture of substances listed below.

Hazardous Components:			
7440-37-1	argon	Press. Gas R, H281	80-98%
124-38-9	Carbon dioxide	Press. Gas L, H280	2-20%

4 . FIRST AID MEASURES

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

Skin Contact: Not expected to present a significant hazard.

Eye Contact: Not expected to present a significant hazard.

Ingestion: Ingestion is not considered a potential route of exposure.

Symptoms Caused by Exposure:

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High concentrations may cause asphyxiation. Symptoms may include loss of consciousness. Victim may not be aware of asphyxiation.
Low concentrations of CO2 cause increased respiration and headache.
High concentrations of CO2 cause rapid respiratory failure. Symptoms are headache, nausea, vomiting and loss of consciousness.

5 . FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use fire extinguishing methods suitable to surrounding conditions.

Specific Hazards Arising from the Chemical:
Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode. Use water spray to cool fire exposed containers. Remove victim to uncontaminated area wearing self contained breathing apparatus. Apply artificial respiration if breathing stopped.

Special Protective Equipment and Precautions for Fire Fighters:
When fighting a major fire wear self-contained breathing apparatus and protective equipment.

6 . ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:
Wear approved self-contained breathing apparatus and full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation.

Environmental Precautions:
In the event of a major spill, prevent spillage from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Methods and Materials for Containment and Cleaning Up:
Stop leak if safe to do so. If not, bring the cylinder outdoors, in a ventilated area, and after that empty it in the atmosphere.

7 . HANDLING AND STORAGE

Precautions for Safe Handling:
Use of safe work practices are recommended to avoid inhalation of vapours. Use only outdoors or in a well-ventilated area.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Only experienced and properly instructed persons should handle gases under pressure.
Open slowly the valve in order to avoid pressure shot. Do not allow backfeed into the container. Avoid the backfeed of water. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart. Leave valve protection caps in place until the ontainer has been secured against either a wall or bench or placed in a container stand and is ready or use. Close container valve after each use and when empty, even if still connected to equipment. Do not attempt to transfer gases from one cylinder/container to another. Do not use direct flame or electrical heating devices to raise the pressure of a container.
Food, beverages and tobacco products should not be stored or consumed where this material is in use. Do not smoke while handling product.

Conditions for Safe Storage:

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Store in a cool, dry and well ventilated area. Do not expose to the sun or temperatures exceeding 50 °C. Keep containers in upright position. Protect from heat, sparks, open flames and other sources of ignition. Keep away from combustible materials. Containers' valve guards or caps should be in place. Check periodically for damage or leaks.

8 . EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:	
7440-37-1 argon	
NES	Asphyxiant
124-38-9 Carbon dioxide	
NES	STEL: 54000 mg/m³, 30000 ppm TWA: 9000 mg/m³, 5000 ppm

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below occupational exposure standards.
Avoid under-oxygenated atmospheres (O2<18%). In high concentrations may cause asphyxiation.
Oxygen gas detectors should be used when asphyxiating gases may be released.

Respiratory Protection:
Wear approved self-contained breathing apparatus in case of insufficient ventilation or leaks. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:
Safety leather gloves, protective clothing and safety boots. See Australian Standards AS/NZS 2161, 2210.1 and 2210.2 for more information.

Eye and Face Protection:
Safety glasses with top and side shields or goggles. See Australian/New Zealand Standards AS/NZS 1336 and 1337 for more information.

9 . PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	
Form:	Gas
Colour:	Colourless
Odour:	Odourless
Odour Threshold:	Odour threshold is subjective and inadequate to warn for overexposure.
pH-Value:	Not applicable
Melting point/Melting range:	Argon: -189.34 °C Carbon dioxide: Sublimation -78.5 °C
Initial Boiling Point/Boiling Range:	Argon: -186 °C (1.013 bar) Carbon dioxide: Sublimation -78.5 °C
Flash Point:	Not applicable
Flammability:	Product is not flammable.
Auto-ignition Temperature:	
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	Not applicable
Upper:	Not applicable

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Vapour Pressure:	5.7722 kg/m3 (1.013 bar at boiling poin)
Density at 20 °C:	0.00181 g/cm³
Relative Density:	Argon: 1.38 Carbon dioxide: 1.52
Vapour Density:	Argon: 1.6903 kg/m3 (1.013 bar at 15 °C) Carbon dioxide: 1.8714 kg/m3 (1.013 bar at 15 °C)
Evaporation Rate:	Not applicable
Solubility in Water:	Argon: 67 mg/L (15 °C; 1.013 bar) Carbon dioxide: 1.7163 vol/vol (0 °C; 1.013 bar)
Partition Coefficient (n-octanol/water):	No information available
Viscosity:	Argon: 2.1017E-04 Poise (1.013 bar at 0 °C) Carbon dioxide: 1.3711E-04 Poise (1.013 bar at 0 °C)
Additional Information:	Critical temperature (°C): Argon -122.46, Carbon dioxide 30.98 Critical pressure: Argon 48.63, Carbon dioxide 73.77 Critical density: Argon 535.6, Carbon dioxide 467.6 Triple point (temperature): Argon -189.34 °C, Carbon dioxide -56.56 °C Triple point (pressure): Argon 0.687 bar, Carbon dioxide 5.187 bar

10 . STABILITY AND REACTIVITY

Possibility of Hazardous Reactions: Inert gas

Chemical Stability: Stable at ambient temperature and under normal conditions of use.

Conditions to Avoid: Heat, sparks, open flames and other sources of ignition.

Incompatible Materials: None

Hazardous Decomposition Products:
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . TOXICOLOGICAL INFORMATION

Toxicity:

Acute Health Effects
Inhalation:
High concentrations may cause asphyxiation. Symptoms may include loss of consciousness. Victim may not be aware of asphyxiation. Low concentrations of carbon dioxide cause increased respiration and headache. High concentrations of carbon dioxide cause rapid respiratory failure. Symptoms are headache, nausea, vomiting and loss of consciousness.
Skin: No adverse health effects expected.
Eye: No adverse health effects expected.
Ingestion: Ingestion is not considered a potential route of exposure.

Skin Corrosion / Irritation: Based on classification principles, the classification criteria are not met.

Serious Eye Damage / Irritation: Based on classification principles, the classification criteria are not met.

Respiratory or Skin Sensitisation: No sensitising effects known.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity: This product does NOT contain any IARC listed chemicals.

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Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Single Exposure:
Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:
Based on classification principles, the classification criteria are not met.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

Chronic Health Effects: No information available

Existing Conditions Aggravated by Exposure: No information available

12 . ECOLOGICAL INFORMATION

Ecotoxicity: No information available

Aquatic toxicity: No information available

Persistence and Degradability: No information available

Bioaccumulative Potential: No information available

Mobility in Soil: No information available

13 . DISPOSAL CONSIDERATIONS

Disposal Methods and Containers:
Do not discharge into any place where its accumulation could be dangerous, but in atmosphere or well ventilated area.
Dispose according to applicable local and state government regulations.

Special Precautions for Landfill or Incineration:
Please consult your state Land Waste Management Authority for more information.

14 . TRANSPORT INFORMATION

UN Number	1956
Proper Shipping Name	COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide)
IATA	Cargo: Pkg Inst: 200 Max Net Qty/Pkg: 150kg Passenger: Pkg Inst: 200 Max Net Qty/Pkg: 75kg ERG Code: 2L
Dangerous Goods Class	2.2
Packing Group:	Not applicable
Marine pollutant:	No
EMS Number:	F-C,S-V

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Hazchem Code: 2TE

Special Provisions: 274, 292

Limited Quantities: 120 mL

Packagings & IBCs - Packing Instruction: P200

15 . REGULATORY INFORMATION

Australian Inventory of Chemical Substances:	
7440-37-1	argon
124-38-9	Carbon dioxide

16 . OTHER INFORMATION

Date of Preparation or Last Revision: 01.07.2019

Prepared by: MSDS.COM.AU Pty Ltd www.msds.com.au

Abbreviations and acronyms:
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)
IARC: International Agency for Research on Cancer
STEL: Short Term Exposure Limit
TWA: Time Weighted Average
NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)
Press. Gas D: Gases under pressure: Dissolved gas
Press. Gas L: Gases under pressure: Liquefied gas
Press. Gas R: Gases under pressure: Refrigerated liquefied gas

Disclaimer
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