1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name
ARGON, COMPRESSED

Synonym(s)
004 - SDS NUMBER ● ARGON ● PRODUCT CODES: 061, 062, 091, 262, 264

1.2 Uses and uses advised against

Use(s)
ANALYTICAL CHEMISTRY ● FOOD APPLICATION(S) ● INDUSTRIAL APPLICATIONS ● SHIELDING GAS FOR WELDING

1.3 Details of the supplier of the product

Supplier name
BOC LIMITED (AUSTRALIA)

Address
10 Julius Avenue, North Ryde, NSW, 2113, AUSTRALIA

Telephone
131 262, (02) 8874 4400

Fax
132 427 (24 hours)

Website
http://www.boc.com.au

1.4 Emergency telephone number(s)

Emergency
1800 653 572 (24/7) (Australia only)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS (GHS ONLY) ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

GHS classification(s)
Gases Under Pressure: Compressed gas

2.2 Label elements

Signal word
WARNING

Pictogram(s)

2.3 Other hazards

Asphyxiant. Effects are proportional to oxygen displacement.

Hazard statement(s)
H280 Contains gas under pressure; may explode if heated.

Prevention statement(s)
None allocated.

Response statement(s)
None allocated.

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

Disposal statement(s)
None allocated.
ARGON, COMPRESSED

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EC Number</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARGON</td>
<td>7440-37-1</td>
<td>231-147-0</td>
<td>&gt;99.995%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1 Description of first aid measures

**Eye**  
None required.

**Inhalation**  
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. For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.

**Skin**  
None required.

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

**First aid facilities**  
None allocated.

4.2 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.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use water fog to cool containers from protected area.

5.2 Special hazards arising from the substance or mixture

Non flammable.

5.3 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.

5.4 Hazchem code

2T  
Fine Water Spray.  
T  
Wear full fire kit and breathing apparatus. Dilute spill and run-off.

6. ACCIDENTAL RELEASE MEASURES

6.1 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.

6.2 Environmental precautions

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.3 Methods of cleaning up

Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.
7. HANDLING AND STORAGE

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities
Cylinders should be stored below 45°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.

7.3 Specific end use(s)
No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Exposure standards

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Reference</th>
<th>TWA ppm</th>
<th>TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argon</td>
<td>SWA (AUS)</td>
<td>Asphyxiant</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

8.2 Exposure controls
Engineering controls
Provide suitable ventilation to minimise or eliminate exposure. Confined areas (e.g. tanks) should be adequately ventilated or gas tested.

PPE
- **Eye / Face**
  Wear safety glasses.
- **Hands**
  Wear leather gloves.
- **Body**
  Wear coveralls and safety boots.
- **Respiratory**
  Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>COLOURLESS GAS</td>
</tr>
<tr>
<td>Odour</td>
<td>ODOURLESS</td>
</tr>
<tr>
<td>Flammability</td>
<td>NON FLAMMABLE</td>
</tr>
<tr>
<td>Flash point</td>
<td>NOT RELEVANT</td>
</tr>
<tr>
<td>Boiling point</td>
<td>-185.9°C</td>
</tr>
<tr>
<td>Melting point</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>NOT APPLICABLE</td>
</tr>
<tr>
<td>pH</td>
<td>NOT APPLICABLE</td>
</tr>
<tr>
<td>Vapour density</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>NOT APPLICABLE</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>0.0337 cm³/g</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>NOT RELEVANT</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>NOT RELEVANT</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>NOT AVAILABLE</td>
</tr>
</tbody>
</table>
9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>NOT AVAILABLE</td>
</tr>
</tbody>
</table>

9.2 Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Volatiles</td>
<td>100 %</td>
</tr>
<tr>
<td>Critical pressure</td>
<td>4864 kPa</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>-122.4°C (Permanent gas)</td>
</tr>
<tr>
<td>Cylinder pressure (when full)</td>
<td>13000 kPa to 30000 kPa @ 15°C</td>
</tr>
<tr>
<td>Density</td>
<td>1.38 (Air = 1)</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

10.1 Reactivity
Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability
Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions
Polymerization will not occur.

10.4 Conditions to avoid
Avoid shock, friction, heavy impact and heat.

10.5 Incompatible materials
Compatible with most commonly used materials. Hazardous by-products may be produced when this gas/gas mixture is used in welding, cutting and associated processes.

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

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Skin</td>
<td>Not classified as a skin irritant.</td>
</tr>
<tr>
<td>Eye</td>
<td>Not classified as an eye irritant.</td>
</tr>
<tr>
<td>Sensitisation</td>
<td>Not classified as causing skin or respiratory sensitisation.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Not classified as a mutagen.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified as a carcinogen.</td>
</tr>
<tr>
<td>Reproductive</td>
<td>Not classified as a reproductive toxin.</td>
</tr>
<tr>
<td>STOT - single exposure</td>
<td>Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.</td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td>Not classified as causing organ damage from repeated exposure.</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Not applicable to gases and gas mixtures.</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No ecological damage caused by this product.

12.2 Persistence and degradability
The product is expected to biodegrade and is not expected to persist for long periods in an aquatic environment.

12.3 Bioaccumulative potential
This product does not bioaccumulate.
12.4 Mobility in soil
The substance is a gas, not applicable.

12.5 Other adverse effects
Fume from fabrication processes which use this gas/gas mixture may be harmful to the environment.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

<table>
<thead>
<tr>
<th></th>
<th>LAND TRANSPORT (ADG)</th>
<th>SEA TRANSPORT (IMDG / IMO)</th>
<th>AIR TRANSPORT (IATA / ICAO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN Number</td>
<td>1006</td>
<td>1006</td>
<td>1006</td>
</tr>
<tr>
<td>14.2 Proper Shipping Name</td>
<td>ARGON, COMPRESSED</td>
<td>ARGON, COMPRESSED</td>
<td>ARGON, COMPRESSED</td>
</tr>
<tr>
<td>14.3 Transport hazard class</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>14.4 Packing Group</td>
<td>None allocated.</td>
<td>None allocated.</td>
<td>None allocated.</td>
</tr>
</tbody>
</table>

14.5 Environmental hazards
No information provided.

14.6 Special precautions for user
Hazchem code
2T
GTEPG
2C1
EMS
F-C, S-V
Other information
Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.

15. REGULATORY INFORMATION

15.1 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.
The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
Hazard codes
None allocated.
Risk phrases
None allocated.
Safety phrases
None allocated.
Inventory listing(s)
AUSTRALIA: AICS (Australian Inventory of Chemical Substances)
All components are listed on AICS, or are exempt.
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. When using this gas/gas mixture for welding, cutting and associated processes, additional hazards may be generated by the process such as radiation, noise and fume. Risk assessments should be made for each activity to identify and quantify the individual hazards involved. Please refer to the BOC document "Welding Hazards and Risk Management" available from www.boc.com and refer to the relevant Safety Data Sheets for the welding consumables being used or, if available, the materials being welded.

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 form of product, 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: form of product; 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

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>CAS #</td>
<td>Chemical Abstract Service number - used to uniquely identify chemical compounds</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>EC No.</td>
<td>EC No - European Community Number</td>
</tr>
<tr>
<td>EMS</td>
<td>Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>GTEPG</td>
<td>Group Text Emergency Procedure Guide</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration, 50% / Median Lethal Concentration</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose, 50% / Median Lethal Dose</td>
</tr>
<tr>
<td>mg/m³</td>
<td>Milligrams per Cubic Metre</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
<tr>
<td>pH</td>
<td>relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).</td>
</tr>
<tr>
<td>ppm</td>
<td>Parts Per Million</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-Term Exposure Limit</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>Specific target organ toxicity (repeated exposure)</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>Specific target organ toxicity (single exposure)</td>
</tr>
<tr>
<td>SUSMP</td>
<td>Standard for the Uniform Scheduling of Medicines and Poisons</td>
</tr>
<tr>
<td>SWA</td>
<td>Safe Work Australia</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
</tbody>
</table>

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ("SDS"). It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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[ End of SDS ]