

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name COMPRESSED OXYGEN
Synonym(s) "GAS CODE 020, 024, 025, 027, 224, 226 • AVIATORS DRY BREATHING OXYGEN • MEDICAL OXYGEN EP GRADE • NZIG MEDICAL OXYGEN • OXYGEN • OXYGEN COMPRESSED

1.2 Uses and uses advised against

Use(s) CHEMICAL REAGENT • COMBUSTION AID • FUEL ADDITIVE • INDUSTRIAL APPLICATIONS • LASER APPLICATIONS

1.3 Details of the supplier of the safety data sheet

Supplier name A-GAS PTY LTD
Address 9-11 Oxford Rd, Laverton North, VIC, Australia, 3026
Telephone (03) 9368 9222
Fax (03) 9368 9233
Email sales@agas.com
Website http://www.agas.com

1.4 Emergency telephone number(s)

Emergency TOLL: (+61) 1800 024 973

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) Oxidizing Gases: Category 1
Gases Under Pressure: Compressed gas
Risk of explosion if heated under confinement

2.2 Label elements

Signal word

DANGER

Pictograms



Hazard statement(s)

H270 May cause or intensify fire; oxidizer.
H280 Contains gas under pressure; may explode if heated.
AUH044 Risk of explosion if heated under confinement

Prevention statement(s)

P220 Keep/Store away from clothing/incompatible materials/combustible materials.
P244 Keep reduction valves free from grease and oil.

Response statement(s)

P370 + P376 In case of fire: Stop leak if safe to do so.

Storage statement(s)

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

2.3 Other Hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

| Ingredient | CAS number | EC number | Content |
|------------|------------|-----------|---------|
| OXYGEN | 7782-44-7 | 231-956-9 | >99.5% |

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| Ingredient | CAS number | EC number | Content |
|------------|------------|-----------|---------------|
| ARGON | 7440-37-1 | 231-147-0 | <0.5% |
| HYDROGEN | 1333-74-0 | 215-605-7 | Not Available |
| NITROGEN | 7727-37-9 | 231-783-9 | Not Available |

4. FIRST AID MEASURES

4.1 Description of first aid measures

| | |
|-----------------------------|---|
| Eye | Adverse effects not expected from this product. |
| Inhalation | If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor. |
| Skin | Adverse effects not expected from this product. |
| Ingestion | Due to product form and application, ingestion is considered unlikely. |
| First aid facilities | No information provided. |

4.2 Most important symptoms and effects, both acute and delayed

Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulty and convulsion.

4.3 Immediate medical attention and special treatment needed

Treatment for hyperoxia.

5. FIREFIGHTING 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 - oxidising agent. Supports combustion and may cause fire/explosion in contact with incompatible substances, strong acids, reducing agents, combustibles and flammables. Materials which burn in air, will burn more vigorously in oxygen enriched atmospheres.

5.3 Advice for firefighters

Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being hot. Remove cool cylinders from the path of the fire if safe to do so. Ensure working area is well ventilated before re-use. Notify the manufacturer that you will be returning a faulty cylinder. Residual product will be disposed of when the cylinder is returned.

5.4 Hazchem code

2S

| | |
|---|--|
| 2 | Fine Water Spray. |
| S | Risk of violent reaction or explosion. 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.

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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

Do not store near sources of ignition or incompatible materials. 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

| Substance | Reference | TWA | | STEL | |
|-----------|-----------|------------|-------------------|------|-------------------|
| | | ppm | mg/m ³ | ppm | mg/m ³ |
| Argon | SWA (AUS) | Asphyxiant | | | |
| Hydrogen | SWA (AUS) | Asphyxiant | | | |
| Nitrogen | SWA (AUS) | Asphyxiant | | | |

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering Controls No special precautions are normally required when handling this product.

PPE

| | |
|--------------------|----------------------|
| Eye/Face | Wear safety glasses. |
| Hand | Wear leather gloves. |
| Body | Wear safety boots. |
| Respiratory | No PPE specified. |



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|---------------------------|------------------|
| Appearance | COLOURLESS GAS |
| Odour | ODOURLESS |
| Odour Threshold | NOT AVAILABLE |
| Flammability | NON FLAMMABLE |
| Flash Point | NOT RELEVANT |
| Boiling Point | -183°C |
| Melting Point | NOT AVAILABLE |
| Evaporation Rate | NOT APPLICABLE |
| pH | NOT APPLICABLE |
| Specific Gravity | NOT APPLICABLE |
| Solubility (water) | SLIGHTLY SOLUBLE |
| Vapour Density | 1.105 (Air = 1) |
| Vapour Pressure | NOT AVAILABLE |

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| | |
|---------------------------|---------------|
| Upper Explosion Limit | NOT RELEVANT |
| Lower Explosion Limit | NOT RELEVANT |
| Partition Coefficient | NOT AVAILABLE |
| Autoignition Temperature | NOT AVAILABLE |
| Decomposition Temperature | NOT AVAILABLE |
| Viscosity | NOT AVAILABLE |
| Explosive Properties | NOT AVAILABLE |
| Oxidising Properties | OXIDISING GAS |

9.2 Other information

No information provided.

10. STABILITY AND REACTIVITY

10.1 Reactivity

Unreactive under normal conditions.

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 heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Combustible materials such as oil and grease can spontaneously ignite at low temperatures in oxygen enriched atmospheres. Materials which burn in air, will burn more vigorously in oxygen enriched atmospheres. Metals can be ignited and will continue to burn in pure oxygen atmospheres under specific conditions of temperature and pressure.

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

| | |
|----------------------|--|
| Health Hazard | No information provided. |
| Summary | No information provided. |
| | No information provided. |
| | No information provided. |
| | No information provided. |
| | No LD50 data available for this product. |

Product name **COMPRESSED OXYGEN****12. ECOLOGICAL INFORMATION****12.1 Toxicity**

No ecological damage caused by this product.

12.2 Persistence and degradability

No information provided.

12.3 Bioaccumulative potential

No information provided.

12.4 Mobility in soil

No information provided.

12.5 Results of PBT and vPvB assessment

No information provided.

12.6 Other adverse effects

No information provided.

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



| | Land Transport (ADG) | Sea Transport (IMDG/IMO) | Air Transport (IATA/ICAO) |
|--|-------------------------|-----------------------------|------------------------------|
| 14.1 UN number | 1072 | 1072 | 1072 |
| 14.2 UN proper shipping name | | OXYGEN, COMPRESSED | |
| 14.3 Transport hazard classes | | | |
| DG division | 2.2 | 2.2 | 2.2 |
| Subsidiary risk(s) | 5.1 | 5.1 | 5.1 |
| 14.4 Packing group | None Allocated | - | - |
| 14.5 Environmental hazards | | None Allocated | |
| 14.6 Special precautions for user | | | |
| Hazchem Code | 2S | | |
| EMS | | F-C, S-W | |

Other information Ensure cylinder is separated from driver and foodstuffs. Refer to Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport.**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** None allocated

| | |
|-----------------------------|---|
| Product name | COMPRESSED OXYGEN |
| 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. |

15.2 Chemical safety assessment

No information provided.

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.

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 ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

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.

| | | |
|----------------------|-------------------|---|
| 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 Harmonized 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 (high 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 |

Report Status This ChemAlert report has been independently compiled by RMT's scientific department utilising the original Safety Data Sheet ('SDS') for the product provided to RMT by the manufacturer. The information is based on the latest chemical and toxicological research and is believed to represent the current state of knowledge as

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to the appropriate safety and handling precautions for the product at the time of issue. It is an independent collation by RMT of information obtained from the original SDS for this product. Its content has not been authorised or verified by the manufacturer / distributor of the chemical to which it relates.

This ChemAlert report does not constitute the manufacturer's original SDS and is not intended to be a replacement for same. It is provided to subscribers of ChemAlert as a reference tool only, is not all-inclusive and does not represent any guarantee as to the properties of the product. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this ChemAlert report, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this ChemAlert report.

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End of Report