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|  | SAFETY DATA SHEET | Version: 4 Revision date: 2025-04-24 |
| | Acetylene, Dissolved | PG-SDS-14 |



This SDS conforms to the Globally Harmonised System (GHS), South African Regulations on Hazardous Chemical Agents, and SANS 10234, SANS 11014 & SANS 10228.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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| Product name | Acetylene, Dissolved |
| Chemical Name | Acetylene |
| Other means of identification | Acetylene, ethine, ethyne, narylene, DA |
| Recommended Intended Purpose | This substance is used by consumers, professional workers (widespread uses), at industrial sites, and in manufacturing. |
| Company Information | Puregas (Pty) Ltd PO Box 123884, Alrode, 1451, Gauteng, South Africa Tel: (011) 903 9760 Fax: (011) 903 9766 Cellphone: 082 889 6946 (1 st) 082 885 7475 (2 nd) Email: info@puregas.co.za Website: www.puregas.co.za |
| Emergency Telephone | 0800 172 743 Rapid Spill Response - 24 hours, 7 days a week |

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance - GHS classification as published through ECHA

| Hazard Classification | | Category | Hazard Statement | |
|--------------------------|--|---|------------------|--|
| Flammable Gas | | 1 | H220 | Extremely flammable gas. |
| Flammable Gas (Diss) | | 1A,B | H231 | May react explosively even in the absence of air at elevated pressure and/or temperature |
| Gases under pressure | | 2.2 | H280 | Contains gas under pressure; may explode if heated |
| Hazard Pictograms | | <div></div> <div>GHS02GHS04</div> | | |
| Signal Word | | Danger | | |
| Precautionary Statements | | | | |
| General: | P101 P102 P103 | If medical advice is needed, have product container or label at hand Keep out of reach of children Read carefully and follow all instructions | | |
| Prevention | P202 P210 | Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking | | |
| Response | P377 P381 | Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources | | |
| Storage | P271 + P403 P405 | Use and store only outdoors or in a well-ventilated place. Store locked up. | | |
| Disposal | P501 | Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations. | | |
| Main Hazard | This substance is an extremely flammable gas. | | | |
| Other Hazards | May react explosively even in the absence of air contains gas under pressure and may explode if heated. For safety reasons, the acetylene is dissolved in acetone (CAS # 67-64-1; Flam. Liq. 2, Eye | | | |

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Irrit. 2, STOT SE 3) in the gas container. The vapor of the solvent is carried away as an impurity when the acetylene is extracted from the gas container. The concentration of the solvent vapor in the gas is lower than the concentration limits to change the classification of the acetylene.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

| CAS No | EC No | Name | % |
|-------------------|-----------|----------------------|-----|
| 74-86-2 | 200-816-9 | Acetylene, dissolved | 100 |
| UN Number: | 1001 | | |

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4. FIRST AID MEASURES

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| General information | Adhere to personal protective measures when giving first aid. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. |
| In the case of inhalation | Move the exposed person to fresh air. Keep the person warm and at rest. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. |
| In case of skin contact | Not applicable (gas). |
| In case of eye contact | Immediately flush your eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs. |
| In case of ingestion | Not applicable (gas). |
| Treatment (Advice to doctor) | No specific treatment. Treat symptomatically. Contact a poison treatment specialist immediately if large quantities have been ingested or inhaled. |

SECTION 5. FIRE-FIGHTING MEASURES

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| Suitable extinguishing media | Use dry chemicals or CO ₂ . |
| Unsuitable extinguishing media | None known |
| Special hazards arising from the substance | Contains gas under pressure. Extremely flammable gas. Explosive with or without contact with air. Heating may cause an explosion. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. |
| Special protective equipment for fire-fighters | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First, move people out of line-of-sight of the scene and away from windows. No action shall be taken involving any personal risk or without suitable training. Contact the supplier immediately for specialist advice. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in a fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from the area and allow the fire to burn. Fight fire from a protected |

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Internal OEL : Not available.

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| Exposure controls | <p>Occupational exposure limits: Oxygen Depletion [Asphyxiant]</p> <p>Exposure limit values; Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere, or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.</p> <p>Use only with adequate ventilation. Engineering controls may be required to control the primary or secondary risks associated with this product. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour, or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.</p> |
| Hygiene measures | <p>Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory, and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing it. Ensure that eyewash stations and safety showers are close to the workstation location.</p> |
| Respiratory protection | <p>Use a properly fitted, air-purifying, or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and the safe working limits of the selected respirator. Recommended: self-contained breathing apparatus (SCBA)</p> |
| Hand protection | <p>Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. <1 hour (breakthrough time): Insulated gloves suitable for low temperatures</p> |
| Eye protection | <p>Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, or dust.</p> |
| Skin and body protection | <p>Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.</p> |
| Environmental exposure controls | <p>Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters, or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.</p> |
| Engineering Controls | <p>Consider a work permit system e.g. for maintenance activities.</p> <p>Ensure adequate air ventilation. Provide adequate general and local exhaust ventilation.</p> |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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|----------------|---------------|
| Physical State | Gas |
| Colour | Colourless |
| Odour | Sweet odour |
| pH | Not available |

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| Boiling Point | Not available |
| Evaporation Rate | Not available |
| Melting/Freezing Point | Not available |
| LEL | 2.5% |
| UEL | 100% |
| Henry's Law Constant | 0.00277024 atm-m ³ /mol |
| Density | 1.1747 g/L @ 0 °C |
| Vapor Pressure | 760 mmHg @ -84 °C |
| Vapor Density (air = 1) | 0.9 |
| Water Solubility | 0.94 % @ 25 °C |
| KOW | 2691.53 estimated from water |
| KOC | solubility, estimated from water |
| Auto Ignition | 305 °C |
| Sublimation Point | -84 °C |
| Viscosity | 0.010 cP @ 20 °C |
| Molecular Weight | 26.04 |
| Solvent Solubility | acetone, benzene, |
| Soluble | chloroform, ether |

SECTION 10. STABILITY AND REACTIVITY

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| Reactivity | No reactivity hazard other than the effects described in sub-sections below |
| Chemical Stability | The product is stable. |
| Possibility of Hazardous reactions | Hazardous reactions or instability may occur under certain conditions of storage or use. Conditions may include the following: high temperature, instability at ambient temperatures Reactions may include the following: risk of explosion with or without contact with air |
| Conditions to avoid | Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers to heat or sources of ignition. |
| Incompatible materials | Oxidising material. |
| Hazardous decomposition products. | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

SECTION 11. TOXICOLOGICAL INFORMATION

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| Information on toxicological effects | |
| Acute inhalation toxicity: | Not classified |
| Germ cell mutagenicity: | Not classified |
| Carcinogenicity: | Not classified |
| Reproductive toxicity: | Not classified |

SECTION 12. ECOLOGICAL INFORMATION

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|--------------------------------------|---|
| Toxicity | No known ecological damage caused by this product. |
| Persistence and degradability | Will rapidly degrade by indirect photolysis in air. Will not undergo hydrolysis. |
| Bioaccumulative potential | 0.37 Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9. |
| Mobility in soil | the product is unlikely to cause ground or water pollution. |

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SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions, and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Do not puncture or incinerate the container. Empty pressure vessels should be returned to the supplier.

Hazardous waste: The classification of the product may meet the criteria for hazardous waste.

Packaging: The disposal of cylinders must only be handled by the gas supplier

SECTION 14. TRANSPORT INFORMATION

UN Pictogram



Land and inland navigation transport ADR/RID

UN No. 1001, Shipping Name Acetylene, dissolved, Class 2.1, Flammable Gas 1, Hazchem Warning: Flammable gas.

Marine transport IMDG

MDG 1001, Shipping Name Acetylene, dissolved, Class 2.1, Flammable Gas 1, Hazchem Warning: Flammable gas.

Air transport ICAO/IATA-DGR

ICAO/IATA Code 1001, Class 2.1, Flam gas 1

Special precautions for user

The protective measures listed in Sections 6, 7, and 8 of the Safety Data Sheet have to be considered.

SECTION 15. REGULATORY INFORMATION

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

Occupational Health and Safety Act, Hazardous Chemical Agents Regulations

SANS 11014:2010 Edition 1

SANS 10228:2012 Edition 6

SANS 10234:2019 Edition 2

SUPPLEMENT TO SANS 10234 Edition 1


National Road Traffic Act

Dangerous Goods Regulations

SECTION 16. OTHER INFORMATION

SELECTED BIBLIOGRAPHY

1. Data sheets as supplied by various Suppliers and Manufacturers
2. Emergency Response Handbook - Annex A of SABS 0232-3
3. GHS Purple booklet
4. Handling Chemicals Safety, 2nd. Ed. Dutch Association of Safety Experts, Dutch Chemical Industry Association, Dutch Safety Institute, 1980
5. NIOSH Pocket Guide to Chemical Hazards, NIOSH, June 1990
6. ECHA
7. Occupational Health and Safety Act, Hazardous Chemical Agents Regulations
8. SANS 11014:2010 Edition 1
9. SANS 10228:2012 Edition 6
10. SANS 10234:2019 Edition 2
11. SUPPLEMENT TO SANS 10234 Edition 1
12. National Road Traffic Act

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13. Dangerous Goods Regulations

Disclaimer:

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety, and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.