

MATERIAL SAFETY DATA SHEET

Argon (Refrigerated Liquid)

PRODUCT AND COMPANY IDENTIFICATION

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| Product name | Argon (refrigerated liquid) |
| Chemical name | Argon |
| Chemical formula | Ar |
| Components | Formed from atom argon |
| Impurities | Contains no other impurities which will influence the classification of the product |
| Company identification | CryoExpress Singapore Pte Ltd 1 Bukit Batok Crescent #05-15 WCEGA Plaza Singapore 658064 |
| Telephone number | (65) 6561 5282 |

Product Information / Ingredients

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|-------------------------|----------------------------------------------------------------------------------------------------|
| Substance / Preparation | Substance |
| Components Impurities | Contain no other components or impurities, which will influence the classification of the product. |
| CAS No | 7440-37-1 |

HAZARDS IDENTIFICATION

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| Hazards identification | Contact with product might cause frostbite. High concentration of Ar might cause asphyxiation. |
| Inhalation | Asphyxiant. Symptoms include dizziness, headache, vomiting, and unconsciousness. |
| Skin / Eye contact | Contact with rapidly expanding gases may cause frostbite. |
| Ingestion | Ingestion is unlikely to happen. |

FIRST AID MEASURES

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| Inhalation | Remove victim to uncontaminated area wearing self-contained breathing apparatus. Obtain medical assistance. |
| Skin/Eye contact | Flush eyes immediately and thoroughly with water. Spray with water for at least 15 minutes if frostbite occurs. Obtain medical assistance. |
| Ingestion | Ingestion is unlikely to happen. Obtain medical assistance if frostbite occurs due to contact with liquid. |

FIRE FIGHTING MEASURES

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| Specific hazards | Non-flammable. Exposure to fire might cause containers to rupture or explode due to rapid increase of pressure. |
| Hazardous combustion products | None. |
| Suitable extinguishing media | All known extinguishers could be used. |

ACCIDENTAL RELEASE MEASURES

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| Personal precautions | Evacuate all personnel from affected area. Wear protective clothing and self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. |
| Environmental precautions | Stop flow if atmosphere is proved to be unsafe. Do not enter any place (e.g. basements, workpits) where its accumulation could be dangerous. |
| Clean up methods | Ventilate area. |

HANDLING AND STORAGE

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| Handling and storage | Suck back of water into container and backfeed must be prevented. Use only properly specified equipment, supply pressure and temperature for this product. Contact supplier if in doubt. Keep container below 50°C in a well-ventilated place. |
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EXPOSURE CONTROLS / PERSONAL PROTECTION

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| Exposure limit value (PEL-OSHA) | None. |
| Personal protection | Ensure adequate ventilation. Protect eye, face and skin from liquid splashes. |

PHYSICAL AND CHEMICAL PROPERTIES

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| Molecular weight | 40 |
| Freezing point | -189 °C |
| Boiling point | -186 °C |
| Critical temperature | -122 °C |
| Relative density, gas | 1.38 (air = 1) |
| Relative density, liquid | Not applicable |
| Vapour pressure 20 °C | Not applicable |
| Solubility mg/l water | 67 mg/l |
| Odour and appearance | Colourless liquid which evaporates to colourless, odourless gas. |
| Other data | Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level. |

STABILITY AND REACTIVITY

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| Stability and reactivity | Stable under normal conditions. Liquid spillages can cause embrittlement of structural materials. |
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TOXICOLOGICAL INFORMATION

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| General | No known toxicological effects. |
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ECOLOGICAL INFORMATION

General Can cause frost damage to vegetation.

DISPOSAL CONSIDERATIONS

General Do not discharge into any place where its accumulation could be dangerous.
Contact supplier if guidance is required.

TRANSPORT INFORMATION

Proper shipping name Argon, refrigerated liquid
UN Nr 1951
Hazard class 2.2
Shipping label Label 2: Non flammable liquid.
Other transport information Avoid transport on vehicles where load space is not separated from driver's compartment. Ensure vehicle driver is aware of the potential hazards and knows what to do in event of an accident or an emergency.

REGULATORY INFORMATION

General Proposed by the industry, not classified as dangerous substance
Risk and Safety Phrases Ras – Asphyxiant in high concentration
RFb – May cause frostbite
S36A – Use suitable protective equipment
S9 – Keep container in well ventilated place
S23 – Do not breathe the gas

OTHER INFORMATION

Ensure all national/local regulations are observed.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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