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MATERIAL SAFETY DATA SHEET
 NO. 5

PRODUCT NAME Argon	CAS # 7440-37-1
TRADE NAME AND SYNONYMS Argon Gas	DOT I.D. No.: UN 1006
CHEMICAL NAME AND SYNONYMS Argon, compressed (D.O.T.)	DOT Hazard Class: Division 2.2
ISSUE DATE AND REVISIONS Revised January 1995	Formula: Ar
	Chemical Family: Rare Gas

HEALTH HAZARD DATA

TIME WEIGHTED AVERAGE EXPOSURE LIMIT
 Argon is defined as a simple asphyxiant (ACGIH 1994-1995). No PEL (8 Hr. TWA) is listed by OSHA (1993). (Continued on Page 4)

SYMPTOMS OF EXPOSURE
 Effects of exposure to high concentrations so as to displace the oxygen in air necessary for life may include any, all, or none of the following:

- Loss of balance or dizziness
- Tightness in the frontal area of the forehead

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TOXICOLOGICAL PROPERTIES
 Argon is nontoxic but the liberation of a large amount in a confined area could displace the amount of oxygen in air necessary to support life.
 Argon is not listed in the IARC, NTP or by OSHA as a carcinogen or potential carcinogen.
 Persons in ill health where such illness would be aggravated by exposure to argon should not be allowed to work with or handle this product.

RECOMMENDED FIRST AID TREATMENT
 PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO ARGON. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.
Inhalation: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted respiration and supplemental oxygen. Further treatment should be symptomatic and supportive.

Information contained in this material safety data sheet is offered without charge for use by technically qualified personnel at their discretion and risk. All statements, technical information and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and no warranty of any kind is made with respect thereto. This information is not intended as a license to operate under or a recommendation to practice or infringe any patent of this Company or others covering any process, composition of matter or use.
 Since the Company shall have no control of the use of the product described herein, the Company assumes no liability for loss or damage incurred from the proper or improper use of such product.

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

None

PHYSICAL DATA

BOILING POINT -302.6°F (-185.9°C)	LIQUID DENSITY AT BOILING POINT 87 lb/ft ³ (1393 kg/m ³)
VAPOR PRESSURE @ 70°F (21.1°C) = Above the critical temperature of -188.1°F (-122.3°C)	GAS DENSITY AT 70°F, 1 atm .1034 lb/ft ³ (1.656 kg/m ³)
SOLUBILITY IN WATER Very slightly	FREEZING POINT -308.9°F (-189.4°C)
EVAPORATION RATE N/A (Gas)	SPECIFIC GRAVITY (AIR=1) @ 70°F (21.1°C) = 1.38
APPEARANCE AND ODOR Colorless, odorless gas	

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) N/A	AUTO IGNITION TEMPERATURE N/A	FLAMMABLE LIMITS % BY VOLUME LEL N/A UEL N/A	
EXTINGUISHING MEDIA Nonflammable, inert gas		ELECTRICAL CLASSIFICATION Nonhazardous	
SPECIAL FIRE FIGHTING PROCEDURES None			
UNUSUAL FIRE AND EXPLOSION HAZARDS If cylinders are involved in a fire, safely relocate or keep cool with water spray.			

REACTIVITY DATA

STABILITY Unstable		CONDITIONS TO AVOID None
Stable	X	
INCOMPATIBILITY (Materials to avoid) None		
HAZARDOUS DECOMPOSITION PRODUCTS None		
HAZARDOUS POLYMERIZATION May Occur		CONDITIONS TO AVOID None
Will Not Occur	X	

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in container or container valve, contact your closest supplier location or call the emergency telephone number listed herein.

WASTE DISPOSAL METHOD Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to your supplier. For emergency disposal assistance, contact your closest supplier location or call the emergency telephone number listed herein.

RESPIRATORY PROTECTION (Specify type) Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.			
VENTILATION See Local Exhaust	LOCAL EXHAUST See Page 4	SPECIAL	N/A
	MECHANICAL (Gen.) N/A	OTHER	N/A
PROTECTIVE GLOVES Any material			
EYE PROTECTION Safety goggles or glasses			
OTHER PROTECTIVE EQUIPMENT Safety shoes			

SPECIAL PRECAUTIONS*

SPECIAL LABELING INFORMATION	
DOT Shipping Name: Argon, compressed	DOT Hazard Class: Division 2.2
DOT Shipping Label: Nonflammable Gas	I.D. No.: UN 1006
SPECIAL HANDLING RECOMMENDATIONS	
<p>Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3,000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.</p> <p>For additional recommendations, consult Compressed Gas Association's Pamphlets P-1, P-9, P-14, and Safety Bulletin SB-2.</p>	
SPECIAL STORAGE RECOMMENDATIONS	
<p>Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125F (52C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time.</p> <p>For additional recommendations, consult Compressed Gas Association's Pamphlets P-1, P-9, P-14, and Safety Bulletin SB-2.</p>	
SPECIAL PACKAGING RECOMMENDATIONS	
<p>Argon is noncorrosive and may be used with any common structural material.</p>	
OTHER RECOMMENDATIONS OR PRECAUTIONS	
<p>Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).</p>	

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*Various Government agencies (i.e., Department of Transportation, Occupational Safety and Health Administration, Food and Drug Administration, and others) may have specific regulations concerning the transportation, handling, storage or use of this product which will be included in the data sheet. The customer should review these regulations.

HEALTH HAZARD DATATIME WEIGHTED AVERAGE EXPOSURE LIMIT: (Continued)

Oxygen levels should be maintained at greater than 18 Molar percent at normal atmospheric pressure ($pO_2 > 135$ torr).

SYMPTOMS OF EXPOSURE: (Continued)

- Tingling in the tongue, fingertips or toes
- Weakened speech leading to the inability to utter sounds
- Rapid reduction in the ability to perform movements
- Reduced consciousness of the surroundings
- Loss of tactile sensations
- Heightened mental activity

It should be recognized that it is possible that none of the above symptoms may occur in argon asphyxia so that there are no definite warning symptoms.

SPECIAL PROTECTION INFORMATIONLOCAL EXHAUST:

To prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 18 molar percent.

SPECIAL PRECAUTIONSOTHER RECOMMENDATIONS OR PRECAUTIONS: (Continued)

Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

Reporting under SARA, Title III, Section 313 not required.

NFPA 704 No. for gaseous argon = 1 0 0 None