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Safety advice.

Compressed gases

Safety Data Sheet
ARGON 4.6 & ARGON
Issue Date: 01-Aug-2014
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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	ARGON 4.6
UN-Number	UN1006
Recommended Use	Gas Metal Arc Welding
Synonyms	Argon Gas, Compressed Argon

Manufacturer's Registered Office	Oxygen House, P-43 Taratala Road, Kolkata - 700 088, India www.linde.in
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Telephone Number	(+91 33) 66021600
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24 Hour Emergency Contact Number:	(+91) 9831851034
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2. HAZARDS IDENTIFICATION

<p>WARNING!</p> <p>Appearance Colorless</p>	<p>EMERGENCY OVERVIEW</p> <p>Simple asphyxiant - this product does not contain oxygen and may cause suffocation if released in confined area. Maintain oxygen levels above 19.5%</p> <p>High pressure compressed gas Keep at temperatures below 520C / 1250F</p> <p>Physical State Compressed gas Odor Odorless</p>
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Potential Health Effects

Principle Routes of Exposure Inhalation.

Acute Toxicity

Inhalation Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to an oxygen-deficient atmosphere (<19.5%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness, and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect themselves. Lack of sufficient oxygen may cause serious injury or death.

Eyes None known.

Skin None known

Skin Absorption Hazard No known hazard in contact with skin.

Ingestion None known

Chronic Effects None known

Aggravated Medical Conditions None known.

Environmental Hazard See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Volume %	Chemical Formula
Argon	7440-37-1	>99	Ar

4. FIRST AID MEASURES

Eye Contact None under normal use. Get medical attention if symptoms occur.

Skin Contact None under normal use. Get medical attention if symptoms occur.

Inhalation PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF INHALATION OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS(SCBA).
Conscious inhalation victims should be assisted to an uncontaminated area and inhale fresh air. If breathing is difficult, Administer oxygen under medical supervision / trained personnel supervision. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen. Treatment should be symptomatic and supportive.

Ingestion None under normal use. Get medical attention if symptoms occur.

Notes to Physician Treat symptomatically.

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5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable. Does not support combustion
Suitable Extinguishing Media	Use extinguishing measures appropriate to local circumstances and the surrounding environment.
<u>Explosion Data</u>	
Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	None
Specific Hazards Arising from the Chemical	Cylinders may rupture under extreme heat. Continue to cool fire-exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Ensure adequate ventilation. Evacuate personnel to safe areas. Use personal protective equipment. Monitor oxygen level.
Environmental Precautions	Prevent the spreading of vapors through sewers, ventilation systems, and confined areas.
Methods for Containment	Stop the flow of gas or remove the cylinder to outdoor location if this can be done without risk. If the leak is in the container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Linde location.
Methods for Cleaning Up	Return cylinder to Linde India Limited.

7. HANDLING AND STORAGE

Handling	Use only in ventilated areas. Never attempt to lift a cylinder by its valve protection cap.
	Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for a short distance, use a cart designed to transport cylinders. Use equipment rated for cylinder pressure. Use a backflow preventive device in the piping. Never insert an object (e.g., wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage the valve, causing a leak to occur.
	Close valve after each use and when empty. If the user experiences any difficulty operating the cylinder valve discontinue use and contact the supplier.
	Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to re-fill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.
	For additional recommendations consult rule number 20 of the Gas Cylinders, Rules, 2016.
Storage	Protect from physical damage. Cylinders should be stored upright with a valve protection cap in place and firmly secured to prevent falling. Store in a cool, dry, well-ventilated area of non-combustible construction away from high traffic areas and emergency exits. Keep at temperatures below 52°C / 125°F.
	Full and empty cylinders should be segregated. Use a "First-In-First-Out" (FIFO) inventory system to prevent full cylinders from being stored for excessive periods of time. Always store and handle compressed gas cylinders in accordance with rule number 21 of the Gas Cylinders, Rules, 2016.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.
Engineering Measures	Local exhaust ventilation to prevent accumulation of high concentrations and maintain air-oxygen levels at or above 19.5%.
Ventilation	Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection	Wear protective eyewear (safety glasses).
Skin and Body Protection	Work gloves and safety shoes are recommended when handling cylinders.
Respiratory Protection	
General Use	No special protective equipment required.
Emergency Use	Use positive pressure airline respirator with escape cylinder or self-contained breathing apparatus for oxygen-deficient atmospheres (<19.5%).
Hygiene Measures	Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless.	Odor	Odorless.
Odor Threshold	No information available.	Physical State	Compressed gas
Flash Point	Not flammable	Autoignition Temperature	No information available
Decomposition Temperature	No information available.	Boiling Point/Boiling Range	-189.9 °C / -309.8 °F
Freezing Point	-189.4 °C / -308.9 °F	Molecular Weight	39.95
Water Solubility	0.56 vol/vol@0°C	Evaporation Rate	No information available
Vapor Pressure	No data available.	Vapor Density	1.38(air = 1)
VOC Content (%)	Not applicable.	Flammability Limits in Air	
		Upper	Not applicable
		Lower	Not applicable

10. STABILITY AND REACTIVITY

Stability	Stable.
Incompatible Products	None known.
Conditions to Avoid	None known.
Hazardous Decomposition Products	None known based on information supplied.
Hazardous Polymerization	Hazardous polymerization does not occur.

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11. TOXICOLOGICAL INFORMATION

Acute Toxicity

LD50 Oral: No information available.

LD50 Dermal: No information available.

LC50 Inhalation: No information available.

Repeated Dose Toxicity No information available.

Toxicity

Chronic Toxicity None known.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Irritation No information available.

Sensitization No information available.

Reproductive Toxicity No information available.

Developmental Toxicity Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.

Synergistic Materials None known.

Target Organ Effects None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Ozone depletion potential; ODP; (R-11 = 1): Does not contain ozone depleting chemical.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Do not attempt to dispose of residual 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 Linde India Limited for proper disposal.

14. TRANSPORT INFORMATION

DOT

Proper shipping name Argon, compressed

Hazard Class 2.2

Subsidiary Class None

UN-Number UN1006

Description UN1006, Argon, compressed, 2.2

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15. REGULATORY INFORMATION

Labeling of cylinders	Label 2.2: non-flammable non-toxic gas.
Risk phrases	RAs Asphyxiate in high concentrations.
Safety phrases	S9 Keep container in a well-ventilated place. S23 Do not breathe gas.

16. OTHER INFORMATION



General:	Ensure all national/ local regulations are observed. The hazard of asphyxiation is often overlooked and must be stressed during operator training.
Document Information:	In preparing this document help has been taken from MSDS for Linde (US)

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End of Safety Data Sheet

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