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Safety advice.

Compressed gases

Safety Data Sheet
VARIGON® He50
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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	VARIGON® He50
UN-Number	UN 1956
Recommended Use	Compressed Gas for Gas Tungsten Arc Welding

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

WARNING	EMERGENCY OVERVIEW	
	Simple asphyxiant - this product does not contain oxygen and may cause suffocation if released in confined area. Maintain oxygen levels above 19.5%.	
	Contents under pressure this line will be changed by High pressure compressed gas Keep at temperatures below 52°C / 125°F	
Appearance Colorless	Physical State compressed gas	Odor Odorless

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

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 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. Contact with rapidly expanding gas near the point of release may cause severe harm.

Skin None known.

Skin Absorption Hazard No known hazard by skin absorption.

Ingestion Not an expected route of exposure.

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	50	Ar
Helium	7440-59-7	50	He

Additional information: Composition listed covers broad ranges rather than exact percentages for specific products.

4. FIRST AID MEASURES

Eye Contact None known. Contact with rapidly expanding gas near the point of release may cause severe harm.

Skin Contact None known.

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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.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable. Does not support combustion.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

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 spreading of vapors through sewers, ventilation systems and confined areas.
Methods for Containment	Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in 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 Ltd.
Other Information	Ventilate the area.

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 trolley 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 a 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 Cylinders, Rules, 2016.
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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.

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 respiratory equipment is needed if workplace oxygen levels are kept above 19.5%.

Emergency Use Use positive pressure airline respirator with escape cylinder or self-contained breathing apparatus for oxygen-deficient atmospheres (<19.5%).

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless.	Odor	Odorless.
Odor Threshold	No information available.	Physical State	Compressed gas
Flash Point	Not applicable.	Autoignition Temperature	No Information available.
Flammability Limits in Air			
Upper	Not applicable.		
Lower	Not applicable.		

The following information is for the INERT components of this mixture:

Chemical Name	Boiling Point	Melting Point	Molecular Weight	Evaporation Rate	Water Solubility	Vapor Pressure	Vapor Density (Air=1)	Gas Density Kg/m ³ @20°C
Argon	-185.9°C	-189.4°C	39.94	-	0.056 (vol/vol @ 0°C and 1 atm)	Above critical temperature	1.38	1.65
Helium	-268.9°C	-272.0°C	4.00	-	0.0089 (vol/vol @ 20 °C and 1 atm)	Above critical temperature	0.14	0.17

10. STABILITY AND REACTIVITY

Stability Stable.

Incompatible Products None known.

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Conditions to Avoid	Non known.
Hazardous Decomposition Products	None known.
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

LD50 Oral:	No information available.
LD50 Dermal:	No information available.
LC50 Inhalation:	No information available.
Repeated Dose Toxicity	No information available.
Component Information	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 in 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 Ltd for proper disposal.
Contaminated Packaging	Do not re-use empty containers.

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14. TRANSPORT INFORMATION

Proper Shipping Name	Compressed gas, Non-flammable, n.o.s.
Hazard Class	2.2
Subsidiary Class	None
UN-No	UN1956
Description	UN1956, Compressed gas, Non- flammable, n.o.s. (Argon, Helium), 2.2

15. REGULATORY INFORMATION

Labeling of cylinders:	Label 2.2 : nonflammable non toxic gas.
Risk phrases:	RAs Asphyxiate in high concentrations.
Safety phrases:	S9 Keep container in 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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