

Ellenbarrie Industrial Gases Limited Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name:	Argon	Trade Name:	Argon
Product Use:	Metal industry		
Chemical Name:	Argon	Synonym:	Not available
Chemical Formula:	Ar	Chemical Family:	(Rare Gas) Noble Gas
Telephone:	Emergencies: *033-25828791 *033-27094398 *08924-205105	Supplier /Manufacture:	Ellenbarrie Industrial Gases Limited. 3A, Ripon Street, Kolkata-700016
		Phone:	033-22292441, 22291923, 2249 1922
		Fax:	033-22493396

**Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier or Ellenbarrie Industrial Gases Limited sales representative.*

2. Composition and Information on Ingredients

INGREDIENTS	% (VOL)	CAS NUMBER	LD ₅₀ (Species & Routes)	LC ₅₀ (Rat, 4 hrs.)	TLV-TWA (ACGIH)
Argon	100	7440-37-1	Not applicable.	Not available.	Simple asphyxiant.

3. Hazards Identification

Emergency Overview

CAUTION! High-pressure gas. Can cause rapid suffocation. May cause dizziness and drowsiness. Self-contained breathing apparatus may be required by rescue workers.

ROUTES OF EXPOSURE: Inhalation.

THRESHOLD LIMIT VALUE: TLV-TWA Data from 2004 Guide to Occupational Exposure Values (ACGIH).

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

INHALATION: Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headaches, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness. Lack of oxygen can kill.

SKIN CONTACT: No harm expected.

SKIN ABSORPTION: No harm expected.

SWALLOWING: This product is a gas at normal temperature and pressure.

EYE CONTACT: No harm expected.

EFFECTS OF REPEATED (CHRONIC) OVER-EXPOSURE:

May occur due to exposure to welding and cutting fumes. Get a Material Safety Data Sheet (MSDS) for every material used during welding and cutting.

A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

NOTES TO PHYSICIAN:

Acute: Gases, fumes and dusts may cause irritation to the eyes, lungs, nose, and throat. Some toxic gases associated with welding and related processes may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, difficulty breathing frequent coughing, or chest pains.

Chronic: Protracted inhalation of air contaminants may lead to their accumulation in the lungs, a condition which may be seen as dense areas on chest x-rays. The severity of change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on x-rays may be caused by non-work related factors such as smoking, etc.

OTHER EFFECTS OF OVER-EXPOSURE:

None known.

MEDICAL CONDITIONS AGGRAVATED BY OVER-EXPOSURE:

Repeated or prolonged exposure is not known to aggravate medical condition.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:

None currently known.

CARCINOGENICITY:

Not listed as carcinogen by OSHA, NTP or IARC.

4. First Aid Measures

INHALATION:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

SKIN CONTACT:

Flush with water.

SWALLOWING:

This product is a gas at normal temperature and pressure.

EYE CONTACT:

Flush with water.

NOTES TO PHYSICIAN:

This product is inert. There is no specific antidote. Treatment of over-exposure should be directed at the control of symptoms and the clinical condition.

5. Fire Fighting Measures

FLAMMABLE : No. **IF YES, UNDER WHAT CONDITIONS?** Not applicable.

FLASH POINT (test method) Not applicable. **AUTOIGNITION TEMPERATURE** Not applicable.

FLAMMABLE LIMITS IN AIR, % by volume: **LOWER:** Not applicable. **UPPER:** Not applicable.

EXTINGUISHING MEDIA:

This material cannot catch fire. Use media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:

CAUTION! High-pressure gas! Asphyxiant. Effects are due to lack of oxygen. Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool; then move them away from fire area if without risk. Shutoff leak if without risk. Arcs and sparks can ignite combustion. Self-contained breathing apparatus may be required by rescue workers.

UNUSUAL FIRE AND EXPLOSION HAZARD: Heat of fire can build pressure in cylinder and cause it to rupture.

HAZARDOUS COMBUSTION PRODUCTS: None.

SENSITIVITY TO IMPACT: Avoid impact against container.

SENSITIVITY TO STATIC DISCHARGE: Not applicable.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

CAUTION! High-pressure gas! Evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Shut off flow if you can do so without risk. Ventilate area or move cylinder to a well-ventilated area. Test for sufficient oxygen, especially in confined spaces, before allowing reentry.

WASTE DISPOSAL METHOD:

Slowly release into atmosphere. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, provincial, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN STORAGE:

Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store away from heat and direct sunlight. No part of a container should be subjected to a temperature higher than 52°C. Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

PRECAUTIONS TO BE TAKEN IN HANDLING:

Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, and pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier.

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE:

High pressure gas!!! Use piping and equipment adequately designed to withstand pressures to be encountered. **Gas can cause rapid suffocation due to oxygen deficiency.** Store and use with adequate ventilation. Close valve after each use; keep closed even when empty. **Prevent reverse flow.** Reverse flow into cylinder may cause rupture. Use a check valve or other protective device in any line or piping from the cylinder. **Never work on a pressurized system.** If there is a leak, close the cylinder valve. Blow the system down in an environmentally safe manner in compliance with all federal, provincial, and local laws, and then repair the leak. **Never place a compressed gas cylinder where it may become part of an electrical circuit.**

Fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being worked and the process, procedure, equipment, and supplies used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being worked (such as paint, plating, or galvanizing), the number of workers and the volume of the work area, the quality and amount of ventilation, the position of the worker's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapours from cleaning and degreasing activities). One recommended way to determine the composition and quantity of fumes and gases to which the workers are exposed is to take an air sample from inside the worker's helmet if worn or in the worker's breathing zone.

8. Exposure Controls/Personal Protection

VENTILATION/ENGINEERING CONTROLS:

LOCAL EXHAUST: Use a local exhaust system, if necessary, to maintain an adequate supply of oxygen in the worker's breathing zone.

MECHANICAL (general): General exhaust ventilation may be acceptable if it can maintain an adequate supply of air.

SPECIAL: None.

OTHER: None.

PERSONAL PROTECTION:

RESPIRATORY PROTECTION: Use fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select in accordance with provincial regulations, local by-laws or guidelines. Respirators should also be approved by NIOSH and MSHA.

SKIN PROTECTION: Wear work gloves when handling cylinders.

EYE PROTECTION: Wear goggles with filter lens. Provide protective screens and goggles, if necessary to protect others. Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

OTHER PROTECTIVE EQUIPMENT: As needed, wear hand, head, and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the worker not to touch live electrical parts.

9. Physical and Chemical Properties

PHYSICAL STATE: Gas. (Compressed Gas)	FREEZING POINT: -189.2°C (-308.6°F)	pH:	Not available.
BOILING POINT PRESSURE: -185.9°C (-302.6°F)	VAPOUR: Not applicable	MOLECULAR WEIGHT:	39.95 g/mole
SPECIFIC GRAVITY: LIQUID (Water = 1) Not applicable.	SOLUBILITY IN WATER, Partially soluble in cold water.		
SPECIFIC GRAVITY: VAPOUR (air = 1) 1.38 @ 21.1C	EVAPORATION RATE (Butyl Acetate=1): Not available.	COEFFICIENT OF WATER/OIL DISTRIBUTION:	Not applicable.
VAPOUR DENSITY: 0.0016 g/ml @ 21.1C	% VOLATILES BY VOLUME: 100% (v/v).	ODOUR THRESHOLD:	Odourless.
APPEARANCE & ODOUR: Colourless.	Odourless.		

10. Stability and Reactivity

STABILITY:	The product is stable.
CONDITIONS OF CHEMICAL INSTABILITY:	None.
INCOMPATIBILITY (materials to avoid):	None currently known. Product is inert.
HAZARDOUS DECOMPOSITION PRODUCTS:	None.
HAZARDOUS POLYMERIZATION:	Will not occur.
CONDITIONS OF REACTIVITY:	None.

11. Toxicological Information

See section 3.

12. Ecological Information

No adverse ecological effects expected. This product does not contain any Class I or Class II ozone-depleting chemicals. The components of this mixture are not listed as marine pollutants by TDG Regulations.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

14. Transport Information

TDG/IMO SHIPPING NAME: Argon, Compressed**IDENTIFICATION#:** UN1006**HAZARD CLASS:** 2.2

Non-flammable, Non-corrosive and non-poisonous gas.

SHIPPING LABEL(s): Non-flammable, non-poisonous gas**PLACARD (when required):** Non-flammable, non-poisonous gas**SPECIAL SHIPPING INFORMATION:**

Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, non ventilated compartment of vehicle can present serious safety hazards.

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, provincial, and local regulations.

WHMIS(Canada) CLASS A: Compressed Gas**International Regulations****EINECS** Not available.**DSCL (EEC)** This product is not classified according to the EU regulations.**International Lists** No products were found.

16. Other Information

MIXTURES:

When two or more gases or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

HAZARD RATING SYSTEM:**HMIS RATINGS:**

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

CONNECTION:

Use the proper connections. Additional limited-standard connections may apply. Compressed gas cylinders shall not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with/her written consent is a violation of transportation regulations.

Disclaimer: The opinions expressed herein are those of qualified experts within Ellenbarrie Industrial Gases Limited. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Ellenbarrie Industrial Gases Limited it is the user's obligation to determine the conditions of safe use of the product.

Ellenbarrie Industrial Gases Limited requests the users of this product to study this Material Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

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