



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Argon, Liquid**

Chemical formula : Ar

Synonyms : Argon (cryogenic liquid)

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Argon	7440-37-1	99+%

3. Hazards Identification

Emergency Overview

Extremely cold liquid and gas under pressure.
Can cause rapid suffocation.
Can cause severe frostbite.
May cause dizziness and drowsiness.

Potential Health Effects

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

Eye contact : No harm expected from vapor. Cold gas or liquid may cause severe frostbite.

Skin contact : No harm expected from vapor. Cold gas or liquid may cause severe frostbite.

Ingestion : An unlikely route of exposure, but severe frostbite of the lips and mouth may result from contact with the liquid.

Chronic Health Hazard : No harm expected.

4. First Aid Measures

General advice : None.

Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure all surfaces are flushed thoroughly. See a physician, preferably an ophthalmologist, immediately.

Skin contact : For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105 F (41 C). In case of massive exposure, remove contaminated clothing while showering with warm water. Call a physician.

Ingestion : An unlikely route of exposure; this product is gas at normal temperature and pressure.

Inhalation : Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician.

5. Fire-Fighting Measures

Suitable extinguishing media : Argon cannot catch fire. Use media appropriate for surrounding fire.

Specific hazards : Heat of fire can build pressure in cylinder and cause it to rupture. No part of a cylinder should be subjected to a temperature higher than 125 F (52 C). Liquid argon cylinders are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT). Venting vapors may obscure visibility. Liquid causes severe frostbite, a burn-like injury.

Fire fighting : **WARNING!** Extremely cold liquid and gas under pressure. Evacuate all personnel from danger area. Immediately deluge cylinders with water from main distance until cool, taking care not to direct spray onto vents on top of container. Do not discharge sprays into liquid argon. Liquid argon will freeze water rapidly. When containers have cooled, move them away from fire area if without risk. Self-contained breathing apparatus may be required by rescue workers. On-site fire fighters must comply with OSHA 29 CFR 1910.156.

6. Accidental Release Measures

Personal precautions : Argon is an asphyxiant. Lack of oxygen can kill. Evacuate all personnel from danger area. Use self-contained breathing apparatus when needed. Extremely cold liquid and gas. Avoid contact with spilled liquid and allow it to evaporate. Liquid causes severe frostbite, a burn-like injury. Shut off leak if without risk. Ventilate area of leak or move container to a well-ventilated area. Test for sufficient oxygen, especially in confined spaces, before allowing reentry.

Environmental precautions : Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations. If necessary, call your local suppliers for assistance.

Methods for cleaning up : None.

Additional advice : None.

7. Handling and Storage

Handling

Never allow any unprotected part of your body to touch uninsulated pipes or vessels containing cryogenic fluids. Flesh will stick to the extremely cold metal and will tear when you try to pull free. Do not get liquid in eyes, on skin, or on clothing. For liquid withdrawal, wear face shield and gloves. Use a suitable hand truck to move containers. Cryogenic containers must be handled and stored in an upright position. Close container valve after each use; keep closed even when empty. Do not drop or tip containers, or roll them on their sides. If valve is hard to open, discontinue use and contact your supplier.

Storage

Store and use with adequate ventilation. Do not store at temperatures above 125 F (52 C). Do not store in a confined space. Cryogenic containers are each equipped with a pressure relief device and a pressure-controlling valve. Under normal conditions, these containers will periodically vent product. Use adequate pressure relief devices in system and piping to prevent pressure buildup; entrapped liquid can generate extremely high pressures when vaporized by warming.

8. Exposure Controls / Personal Protection

Engineering measures

Use a local exhaust system, if necessary, to prevent oxygen deficiency.

Personal protective equipment

Respiratory protection	:	Use air-purifying or air-supplied respirators, as appropriate, where local or general exhaust ventilation is inadequate. Adequate ventilation must keep worker exposure below applicable exposure limits for fumes, gases, and other by-products of welding with argon. An air-supplied respirator must be used in confined spaces.
Hand protection	:	Wear loose-fitting, cryogenic gloves.
Eye protection	:	Safety glasses and a full face shield are recommended.
Skin and body protection	:	Metatarsal shoes for container handling; high-top shoes are preferred. Protective clothing where needed. Cuffless trousers should be worn outside the shoes. Regardless of protective equipment, never touch live electrical parts.
Ventilation	:	None.
Remarks	:	None.

9. Physical and Chemical Properties

Form	:	Liquid.
Color	:	Colorless.
Odor	:	Odorless.
Molecular weight	:	39.95
Vapor pressure	:	Not applicable.
Vapor density	:	0.103 lb/ft ³ (1.654 kg/m ³) @ 70 F (21.1 C)
Specific gravity	:	1.38 @ 70 F (21.1 C) (air = 1)
Boiling point	:	-302.57 F (-185.87 C)
Melting point	:	-308.83 F (-189.35 C)
Water solubility	:	0.056 vol/vol @ 32 F (0 C)

10. Stability and Reactivity

Stability	:	Stable under normal conditions.
Conditions to avoid	:	None known.
Materials to avoid	:	None known. Argon is chemically inert.
Hazardous decomposition products	:	None known.

11. Toxicological Information

Argon is simple asphyxiant.
No known effects.

Acute Health Hazard

Ingestion	:	Not available.
Inhalation	:	Not available.
Skin	:	Not available.

12. Ecological Information

No known effects.

13. Disposal Considerations

Waste from residues : Do not attempt to dispose of residual or unused quantities. Return cylinder to

/ unused products supplier. For emergency disposal, secure container in a well-ventilated area or outdoors; then slowly discharge gas to the atmosphere.
Contaminated : Return cylinder to supplier.
packaging

14. Transport Information

DOT (US only)

Proper shipping : Argon, refrigerated liquid
name
Class : 2.2
UN/ID No. : UN1951
Labeling : Non-Flammable Gas

Further information

Cylinders should be transported in a secure upright position in a well ventilated truck.

15. Regulatory Information

OSHA Process Safety (29 CFR 1910.119) Hazard Class(es)

Argon is not listed in Appendix A as a highly hazardous chemical.

TCSA

Material is listed in TSCA inventory.

SARA Sections 302/304 (40 CFR 355)

Threshold Planning Quantity (TPQ): None
Extremely Hazardous Substances (EHS) RQ: None

SARA Sections 311/312

Immediate: No
Delayed: No
Pressure: Yes
Reactivity: No
Fire: No

SARA Section 313 (40 CFR 372.65)

Not regulated.

CERCLA (40 CFR Parts 117 and 302)

Reportable Quantity (RQ): None

16. Other Information

Prepared by : Specialty Gases of America, Inc.
For additional information, please visit our website at www.americangasgroup.com.