

Revision Date 04-May-2026

Version 4

1. Identification

Product identifier

Product Name ARGON, REFRIGERATED LIQUID

Other means of identification

Product Code LIND-P006

UN/ID no. UN1951

Synonyms Argon Liquid; Liquid Argon; LAR

Recommended use of the chemical and restrictions on use

Recommended Use Industrial and professional use

Restrictions on use Consumer use.

Details of the supplier of the safety data sheet

Supplier Address

Messer North America, Inc. - Messer LLC - Messer Merchant Production LLC
200 Somerset Corporate Blvd, Suite 7000
Bridgewater, NJ 08807
Phone: 908-464-8100
www.messer-us.com

Messer Gas Puerto Rico, Inc.
Road 869, Km 1.8
Barrio Palmas, Catano, PR 00962
Phone: 787-641-7445

* May include subsidiaries or affiliate companies/divisions.

For additional product information contact your local customer service.

Emergency telephone number

Company Phone Number +1 800-232-4726 (Messer National Operations Center, US)
+1 905-501-0802 (Canada)

1.4 Emergency telephone number CHEMTREC: 1-800-424-9300 (North America) +1-703-527-3887 (International)

2. Hazard(s) identification

Classification of the substance or mixture

Gases under pressure	Refrigerated liquefied gas
Simple asphyxiants	Yes

Hazards not otherwise classified (HNOC)

Not applicable.

Label elements

Warning

Hazard statements

Contains refrigerated gas; may cause cryogenic burns or injury.
May displace oxygen and cause rapid suffocation.

Precautionary Statements - Prevention

Do not handle until all safety precautions have been read and understood.
Use and store only outdoors or in a well ventilated place.
Wear cold insulating gloves and either face shield or eye protection.
Use a backflow preventive device in piping.
Do NOT change or force fit connections.
Always keep container in upright position.
Close valve after each use and when empty.

Precautionary Statements - Response

IF ON SKIN:.
Thaw frosted parts with lukewarm water. Do not rub affected area.
Get immediate medical attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Get medical attention/advice.

Precautionary Statements - Storage

Store in a well-ventilated place.

Hazards classified under paragraph (d)(1)(ii) of 1910.1200**Other Information**

No information available.

3. Composition/information on ingredients**Substance**

Synonyms Argon Liquid; Liquid Argon; LAR.

Chemical name	CAS No.	Weight-%	Trade secret
ARGON	7440-37-1	>99	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air and keep comfortable for breathing.
Eye contact	If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention.
Skin contact	In case of contact with liquefied gas, thaw frosted parts with lukewarm water. For dermal contact or suspected frostbite, remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if contact with the product has resulted in blistering of the dermal surface or in deep tissue freezing.
Ingestion	Not an expected route of exposure.
Self-protection of the first aider	RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

Most important symptoms and effects, both acute and delayed

Symptoms	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. Contact with evaporating liquid may cause cold burns/frostbite.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None. DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.
Specific extinguishing methods	Continue to cool fire exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.
Specific hazards arising from the chemical	Cylinders may rupture under extreme heat. Damaged cylinders should be handled only by specialists. Containers may explode when heated. Ruptured cylinders may rocket. Non-flammable gas. Cylinders may rupture under extreme heat.
Explosion data	
Sensitivity to mechanical impact	Yes.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	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, protective equipment and emergency procedures

Personal precautions	Contents under pressure. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Monitor oxygen level. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Use personal protection recommended in Section 8.
Other information	Liquid spill will vaporize and expand rapidly to a large volume of gas creating risk of oxygen deficient atmosphere. A fog cloud of condensed moisture in the air may obscure visibility. When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Gas/vapor is heavier than air. Prevent from entering sewers, basements and workpits, or any place where accumulation may be dangerous.
Environmental precautions	Prevent spreading of vapors through sewers, ventilation systems and confined areas.
<u>Methods and material for containment and cleaning up</u>	
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 Messer location.
Methods for cleaning up	Return Portable Cryogenic Container to Messer or an authorized distributor.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	Cryogenic liquids must be handled and stored only in containers, systems and piping specifically designed for them and constructed of compatible materials for the product. Containers, systems, and piping must be equipped with pressure relief devices to prevent excessive pressure buildup due to vaporization of the liquid as it warms. System vents should be piped to a safe location exterior of the building. Liquid product is delivered into stationary vacuum jacketed vessels at the customer's location or in portable vacuum-jacketed "liquid" cylinders requiring special handling methods. Consult manufacturer's instructions. Under normal conditions, portable cryogenic containers will periodically vent product to limit pressure buildup. Ensure that the container is in a well-ventilated area. Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cold fluids. The extremely cold metal will cause moist flesh to stick fast and tear when one attempts to withdraw from it. Do NOT change or force fit connections. See container manufacturer's operating instructions to avoid freezing air in vent lines. Contents under pressure. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never attempt to lift a cylinder by its valve protection cap. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Use only with adequate ventilation. Use a backflow preventive device in piping. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve discontinue use and
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contact supplier. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill 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.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association publication CGA-P1, Safe Handling of Compressed Gases in Containers.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin, or on clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from sunlight. Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Keep at temperatures below 52°C / 125°F. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Full and empty cylinders should be segregated. Stored containers should be periodically checked for general condition and leakage.

Incompatible materials None known.

8. Exposure controls/personal protection

Control Parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
ARGON 7440-37-1	: See Appendix F: Minimal Oxygen Content	-	-

Note See section 16 for terms and abbreviations.

Biological occupational exposure limits This product, as supplied, contains materials that do not have reportable biological exposure limits or are not subject to the reporting requirements of the local jurisdiction.

Appropriate engineering controls

Engineering controls Provide general ventilation, local exhaust ventilation, process enclosure or other engineering controls to maintain airborne levels below recommended exposure limits and to maintain oxygen levels above 19.5%. Oxygen detectors should be used when asphyxiating gases may be released.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Wear safety glasses with side shields (or goggles). If there is potential for exposure to liquid, wear. Goggles. face-shield over either safety glasses with side shields or safety goggles.

Hand protection Wear cold insulating gloves.

Skin and body protection Work gloves and safety shoes are recommended when handling cylinders. Wear loose fitting, cold insulating gloves and suitable clothing to prevent skin contact with liquid, cold gas and cold equipment or piping.

Respiratory protection Use positive pressure airline respirator with escape cylinder or self contained breathing

apparatus for oxygen-deficient atmospheres (<19.5%).

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Colorless
Physical state	No information available Refrigerated liquefied gas
Color	Not available
Odor (includes odor threshold)	Odorless

Property	Values	Remarks • Method
Melting/freezing point	No data available	None known
Boiling point (or initial boiling point or boiling range)	-185.9 °C / -302.62 °F	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Flash point	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
SADT (°C)	No data available	None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	Not available	None known
Solubility	Not available	None known
Water solubility	No data available Very slight	
Partition coefficient n-octanol/water (log value)	Not available	None known
Vapor pressure (includes evaporation rate)	Not available	
Evaporation rate		None known
Density and/or relative density	No information available.	None known
Bulk density	Not available	
Density	Not available	
Vapor density (air =1)	1.38	
Particle characteristics		None known
Particle Size	No data available	
Particle Size Distribution	No data available	

Other information

Molecular weight 39.95

Sensitivity to mechanical impact Yes

10. Stability and reactivity

Reactivity	Not reactive under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Excessive heat.
Incompatible materials	None known.
Hazardous decomposition products	None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Product is a simple asphyxiant.
Eye contact	Direct contact with extremely cold liquid will cause severe and immediate burns to unprotected eyes. Contact with evaporating liquid may cause cold burns/frostbite.
Skin contact	Direct contact with extremely cold liquid will cause severe and immediate burns to unprotected skin. Contact with evaporating liquid may cause cold burns/frostbite.
Ingestion	Not an expected route of exposure.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere ($\leq 19.5\%$) 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.
Acute toxicity	No information available.
<u>Numerical measures of toxicity</u>	No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Other adverse effects	Not available.
Interactive effects	Messer Canada Inc. 5860 Chedworth Way Mississauga, Ontario L5R 0A2 Phone: 905-501-2500

Email: service@messer-ca.com
Website: www.messer-ca.com

Customer Service: 888-256-7359.

12. Ecological information

Ecotoxicity No information available.

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products 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 Messer for proper disposal.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT

UN/ID no.	UN1951
Proper shipping name	Argon, refrigerated liquid
Hazard Class	2.2
Special Provisions	T75, TP5
DOT Marine Pollutant	NP
Description	UN1951, Argon, refrigerated liquid, 2.2
Emergency Response Guide Number	120

TDG

Notes	Forbidden for transport by passenger vessel.
UN/ID no.	UN1951
Proper shipping name	Argon, refrigerated liquid
Hazard Class	2.2
Description	UN1951, Argon, refrigerated liquid, 2.2

MEX

UN/ID no.	UN1951
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Proper shipping name Argon, refrigerated liquid
Hazard Class 2.2
Description UN1951, Argon, refrigerated liquid, 2.2

ICAO (air)

UN/ID no. UN1951
Proper shipping name Argon, refrigerated liquid
Hazard Class 2.2
Description UN1951, Argon, refrigerated liquid, 2.2

IATA

UN number or ID number UN1951
Proper shipping name Argon, refrigerated liquid
Transport hazard class(es) 2.2
Environmental hazard No
ERG Code 2L
Description UN1951, Argon, refrigerated liquid, 2.2

IMDG

UN number or ID number UN1951
Proper shipping name Argon, refrigerated liquid
Hazard Class 2.2
Marine pollutant indicator NP
EmS-No. F-C, S-V
Description UN1951, Argon, refrigerated liquid, 2.2

15. Regulatory information

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

INTERNATIONAL INVENTORIES

Chemical name	CAS No.	Inventory Listing Status	Commercial Activity Designation
ARGON CAS: 7440-37-1 ID: AR >99 %	7440-37-1	-	Unknown *

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements.

DSL/NDL Contact supplier for inventory compliance status.
EINECS/ELINCS Contact supplier for inventory compliance status.
ENCS Contact supplier for inventory compliance status.
IECSC Regulated.
KECL Contact supplier for inventory compliance status.
PICCS Contact supplier for inventory compliance status.
AICS Contact supplier for inventory compliance status.
NZIoC Contact supplier for inventory compliance status.
TCSI Contact supplier for inventory compliance status.

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals**TCSI** - Taiwan Chemical Substance Inventory**US FEDERAL REGULATIONS****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CAA (Clean Air Act)

This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
ARGON CAS: 7440-37-1 ID: AR >99 %	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Special hazards SA
HMIS	Health hazards 3	Flammability 0	Physical hazards 2	Personal protection -

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	U.S. Environmental Protection Agency
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
KECI	Korean Existing Chemicals Inventory
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NTP	National Toxicology Program (United States)
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SARA	Superfund Amendments and Reauthorization Act

SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
As	Allergenic substance
DS	Dermal Sensitizer
Ot	Ototoxicant
pOt	Ototoxicant - potential to cause hearing disorders
PS	Photosensitizer
RS	Respiratory Sensitizer
S	Sensitizer
poS	Sensitizer - capable of causing occupational asthma
Sa	Simple asphyxiant
Sd	Skin designation
pSd	Skin designation - potential for cutaneous absorption
Sdv	Skin designation - vacated
Sk	Skin notation
dSk	Skin notation - danger of cutaneous absorption
pSk	Skin notation - potential for cutaneous absorption

Key literature references and sources for data used to compile the SDS

U.S. Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 U.S. Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 U.S. National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications
 International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program
 International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set
 United Nations World Health Organization (WHO)

Revision Date 04-May-2026

Revision Note SDS sections updated. 1. 4. 5. 6. 7. 8.

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. or Messer Canada Inc. (or any of their affiliates and subsidiaries) and the purchaser.