

Material Safety Data Sheet

Printing date 11/04/2014

Version 12

Reviewed on 11/04/2014

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1 Identification of substance

- **Product details**
- **Trade name:** Argon (Refrigerated Liquid)
- **Article number:** 015-01-0004
- **Creation date:** 08/09/2006

- **Manufacturer/Supplier:**

Linde Canada Limited	Linde
5860 Chedworth Way	575 Mountain Avenue
Mississauga, Ontario L5R 0A2	Murray Hill, NJ 07974
Telephone (905) 501-1700	Telephone (908) 464-8100
24-HOUR EMERGENCY TELEPHONE NUMBER:	24-HOUR EMERGENCY TELEPHONE NUMBER
(905) 501-0802	CHEMTREC (800) 424-9300 OR

Linde National Operations Center (800) 232-4726

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ensure that this MSDS is received by the appropriate person.

- **Information department:** Customer Service Centre: 1-866-385-5349

2 Composition/Data on components

- **Chemical characterization:**
- **CAS No. Description**
7440-37-1 Argon
- **Identification number(s)**
- **EINECS Number:** 231-147-0

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3 Hazards identification

- **Hazard description:**

- **WHMIS-symbols:**

Refrigerated liquid

A - Compressed gas

- **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	0	Fire = 0
REACTIVITY	2	Reactivity = 2

- **NFPA ratings (scale 0 - 4)**

3	0	Health = 3
		Fire = 0
		Reactivity = 0

- **Information pertaining to particular dangers for man and environment:** Not applicable.

- **Classification system:**

The classification is in line with internationally approved calculation standards. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

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. GHS label elements Void

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* 4 First aid measures

. After inhalation:

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

. After skin contact:

None required for gas. 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.

. After eye contact:

None required for gas. If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention.

. After swallowing: Not applicable.

* 5 Fire fighting measures

. Suitable extinguishing agents: Use fire fighting measures that suit the environment.

. Protective equipment: Wear self-contained respiratory protective device.

* 6 Accidental release measures

. Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Stop leak - ONLY if possible to do so without risk.

. Measures for environmental protection: Prevent seepage into sewage system, workpits and/or cellars.

. Measures for cleaning/collecting: Ensure adequate ventilation.

. Additional information: No dangerous substances are released.

* 7 Handling and storage

. Handling:

. Information for safe handling:

Handle with care. Avoid jolting, friction, and impact.

Use only in well ventilated areas.

Store container in a secured area. Limit access to authorized personnel only. Report any incidents involving thefts, misuse, or inventory shortages to law enforcement and the supplier. Security shall be provided in accordance with all local, state (provincial) and federal regulations.

. Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

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- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Do not expose cylinder to temperatures higher than 50°C (122 °F)
Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F (52°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time.
- **Information about storage in one common storage facility:**
Sources of ignition should be removed from storage area.
- **Further information about storage conditions:** Keep cylinder valve tightly closed.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:**
Adequate local ventilation.
Safety showers and eyewash stations should be nearby.
- **Components with limit values that require monitoring at the workplace:**

7440-37-1 Argon (60 - 100%)
EL Simple asphyxiant

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Protective clothing and PPE should be kept free of oil and grease, generally in clean condition
PPE should be inspected and maintained regularly to retain effectiveness.
- **Breathing equipment:**
Use atmosphere-supplying respirators (e.g. supplied-air: demand, pressure-demand, or continuous-flow or self-contained breathing apparatus: demand or pressure-demand or combination supplied-air with auxiliary self-contained air supply atmosphere-supplying respirator) in case of insufficient ventilation.
- **Protection of hands:**



Protective gloves.

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Eye protection:** Safety glasses
- **Body protection:** Leather safety shoes/boots
- **Skin Protection:** Long sleeve shirt and long trousers/overalls (should not be tucked in)

9 Physical and chemical properties

- **General Information**

Form:	Gaseous.
Color:	Colorless
Odor:	Odorless

- **Change in condition**
Melting point/Melting range: -189.2°C

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Boiling point/Boiling range: -185°C

- Flash point:** Not applicable.
- Danger of explosion:** Product does not present an explosion hazard.
- Solubility in / Miscibility with Water:** Not miscible or difficult to mix.

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10 Stability and reactivity

- Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- Materials to be avoided:**
- Dangerous reactions** No dangerous reactions known.
- Dangerous products of decomposition:** No dangerous decomposition products known.

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11 Toxicological information

- Acute toxicity:**
- LD/LC50 values that are relevant for classification:** LC50 - None available
- Primary irritant effect:**
- on the skin:** No irritating effect.
- on the eye:** No irritating effect.
- Sensitization:** No sensitizing effects known.
- Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
The substance is not subject to classification.

12 Ecological information

- Additional ecological information:**
- General notes:** Generally not hazardous for water

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13 Disposal considerations

- Product:**
- Recommendation:** Unused product should be returned to vendor.
- Uncleaned packagings:**
- Recommendation:**
Cylinder and unused product should be returned to vendor. Disposable cylinder must be disposed of in accordance with local regulations.
- Recommended cleansing agent:** None applicable.

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* 14 Transport information

· TDG and DOT regulations:



- Hazard class: 2.2
- Identification number: UN1951
- Packing group: -
- Proper shipping name (technical name): ARGON, REFRIGERATED LIQUID
- Label 2.2
- Packaging group: -

· Maritime transport IMDG:



- IMDG Class: 2.2
- UN Number: 1951
- Label 2.2
- Packaging group: -
- Marine pollutant: No
- Proper shipping name: ARGON, REFRIGERATED LIQUID

· Air transport ICAO-TI and IATA-DGR:



- ICAO/IATA Class: 2.2
- UN/ID Number: 1951
- Label 2.2
- Packaging group: -
- Proper shipping name: ARGON, REFRIGERATED LIQUID

· UN "Model Regulation": UN1951, ARGON, REFRIGERATED LIQUID, 2.2

* 15 Regulations

· Sara

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

Substance is listed.

· Proposition 65

· Chemicals known to cause cancer:

Substance is not listed.

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· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

· TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

Substance is listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

Substance is not listed.

· Canadian Ingredient Disclosure list (limit 1%)

Substance is not listed.

· Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The substance is not subject to classification according to the sources of literature known to us.

The product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

· Safety phrases:

Keep container tightly closed in a cool place.

16 Other information

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This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Please refer to the section 3 for NFPA and HMIS Hazard Codes.

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GENERAL DISCLAIMER

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Linde Inc. (or any of its affiliates and subsidiaries) and the purchaser.

Department issuing MSDS: Customer Service Centre: 1-866-385-5349

Abbreviations and Acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstract Service (Division of the American Chemical Society)

DOT: US Department of Transportation

EINECS: European Inventory of Existing Commercial Chemical Substances

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

HMIS: Hazardous Material Identification System

IATA: International Air Transportation Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transportation Association"

ICAO: International Civil Aviation Association

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization (ICAO)"

IMDG: International Marine Code for Dangerous Goods

WHIMS: Workplace Hazardous Material Information System

LC50: Lethal Concentration, 50 Percent

LD50: Lethal Dose, 50 Percent

EL: Exposure Limit per ACGIH TLV

EV: Permissible Exposure Limit per OSHA

N/A: Not Applicable

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