

Material Safety Data Sheet

Printing date 11/03/2009

Version 10

Reviewed on 11/03/2009

1 Identification of substance

· **Product details**

· **Trade name: MISON Argon (Refrigerated Liquid)**

· **Article number: 500-02-0004**

· **Creation date: 11/02/2009**

· **Manufacturer/Supplier:**

Linde Canada Limited

5860 Chedworth Way

Mississauga, Ontario L5R 0A2

Telephone (905) 501-1700

24-HOUR EMERGENCY TELEPHONE NUMBER:

(905) 501-0802

Linde

575 Mountain Avenue

Murray Hill, NJ 07974

Telephone (908) 464-8100

24-HOUR EMERGENCY TELEPHONE NUMBER :

CHEMTREC (800) 424-9300 OR

Linde National Operations Center (800) 232-4726





Pse 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**

· **Dangerous components:**

10102-43-9	Nitric Oxide	Danger:  2.4/1;  3.1.1/2;  3.2/1A	<0.05%
		Warning:  2.5/C	

· **Chemical components**

7440-37-1	Argon	23 - 100%
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3 Hazards identification

· **Hazard description:**



Irritant

· **WHMIS-symbols:**

A - Compressed gas

D2B - Toxic material causing other toxic effects



· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

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



Health = 1
Fire = 0
Reactivity = 0

- **Information pertaining to particular dangers for man and environment:**

The product has to be labelled due to the calculation procedure of international guidelines.

Irritating to eyes and skin.

- **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.

- **GHS label elements**



Warning

3.2/2 - Causes skin irritation.

3.3/2A - Causes serious eye irritation.

- **Prevention:**

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

- **Response:**

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

* 4 First aid measures

- **After inhalation:** In case of unconsciousness place patient stably on the body side position.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly for at least 15 minutes.
- **After eye contact:** Rinse opened eye for at least 15 minutes under running water. Then consult a doctor.
- **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.

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* **7 Handling and storage**· **Handling:**· **Information for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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.

· **Storage:**· **Requirements to be met by storerooms and receptacles:**

Do not expose cylinder to temperatures higher than 50°C (122 °F)

· **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 ventillation.

Safety showers and eyewash stations should be nearby.

· **Components with limit values that require monitoring at the workplace:**

7440-37-1 Argon (23 - 100%)

EL	Simple asphyxiant
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10102-43-9 Nitric Oxide (<0.05%)

EL	25 ppm
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EV	31 mg/m ³ , 25 ppm
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· **Additional information:** The lists that were valid during the creation were used as basis.· **Personal protective equipment:**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

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.

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- **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:**



Tightly sealed goggles

9 Physical and chemical properties

- **General Information**

Form:	Gaseous.
Color:	Colorless
Odor:	Odorless

- **Change in condition**

Melting point/Melting range:	-189.2°C
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.
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous products of decomposition:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** LC50 > 5000ppm
- **Primary irritant effect:**
- **on the skin:** Irritant to skin.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

12 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.

* 14 Transport information

· TDG and DOT regulations:



- **Hazard class:** 2.2
- **Identification number:** UN3158
- **Packing group:** -
- **Proper shipping name (technical name):** GAS, REFRIGERATED LIQUID, N.O.S. (ARGON, REFRIGERATED LIQUID, NITRIC OXIDE, COMPRESSED)
- **Label:** 2.2
- **Packaging group:** -

· Maritime transport IMDG:



- **IMDG Class:** 2.2
- **UN Number:** 3158
- **Label:** 2.2
- **Packaging group:** -
- **EMS Number:** F-C,S-V
- **Marine pollutant:** No
- **Proper shipping name:** GAS, REFRIGERATED LIQUID, N.O.S. (ARGON, REFRIGERATED LIQUID, NITRIC OXIDE, COMPRESSED)

· Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 2.2
- **UN/ID Number:** 3158
- **Label:** 2.2
- **Packaging group:** -
- **Propper shipping name:** GAS, REFRIGERATED LIQUID, N.O.S. (ARGON, REFRIGERATED LIQUID, NITRIC OXIDE, COMPRESSED)

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· UN "Model Regulation": UN3158, GAS, REFRIGERATED LIQUID, N.O.S., 2.2

15 Regulations

· Sara

· Section 355 (extremely hazardous substances):

10102-43-9 Nitric Oxide

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

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

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· Product related hazard informations:

Observe the general safety regulations when handling chemicals.

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.

· Hazard symbols:

Irritant

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· **Risk phrases:**

Irritating to eyes and skin.

· **Safety phrases:**

Keep container tightly closed in a cool place.

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable gloves.

This material and its container must be disposed of as hazardous waste.

* 16 Other information

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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· **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

N/A: Not Applicable