

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Name	: Argon (refrigerated liquid)
EC-No.	: 231-147-0
CAS-No.	: 7440-37-1
Formula	: Ar
REACH authorisation exemptions	: Exempted from REACH registration

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

OCI Nitrogen B.V.
Poststraat 1
P.O. Box 601
6135 KR Sittard - The Netherlands
T +31 (0) 46 7020111
info.agro@ocinitrogen.com - www.ocinitrogen.com

1.4. Emergency telephone number

Emergency number : Alert & Care Centre Chemelot (Geleen, The Netherlands): +31 (0) 46 4765555 (24/7)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Health Service (NHS)		111 999 (in life-threatening emergencies)	
Wales	National Health Service (NHS)		0845 46 47	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Gases under pressure : Refrigerated liquefied gas H281

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Contains refrigerated gas; may cause cryogenic burns or injury.

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Warning

Hazard statements (CLP) :

H281 - Contains refrigerated gas; may cause cryogenic burns or injury.

Precautionary statements (CLP) :

P282 - Wear cold insulating gloves and either face shield or eye protection.

P336+P315 - Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Argon	(CAS-No.) 7440-37-1	100	Not classified

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. Get immediate medical advice/attention.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact : Contact with the product may cause cold burns or frostbite.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

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5.2. Special hazards arising from the substance or mixture

- Fire hazard : Pressurised container: May burst if heated.
Explosion hazard : Contains gas under pressure; may explode if heated.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Use non-sparking tools.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Keep upwind.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Try to stop release. Act in accordance with local emergency plan.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Ventilate the area thoroughly.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a dry, cool and well-ventilated place. Protect against frost. Keep away from heat and direct sunlight. Secure gas cylinders.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Argon (refrigerated liquid) (7440-37-1)

Ireland - Occupational Exposure Limits

Local name	Argon
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Argon (refrigerated liquid) (7440-37-1)	
Remark	Asphx. (Gaseous chemical substances which may not produce significant physiological effects in the exposed employee, but when present in high concentrations will act as simple asphyxiants)
OEL chemical category (IE)	Simple asphyxiant
Regulatory reference	Chemical Agents Code of Practice 2021

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Automatic flow shutdown and alarms are recommended to alert personnel following releases.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:			
Wear goggles and a face shield when transfilling or breaking transfer connections.			
Type	Use	Characteristics	Standard
Safety goggles			EN 166

8.2.2.2. Skin protection

Skin and body protection:	
Wear suitable protective clothing	
Type	Standard
Safety shoes	

Hand protection:

Protective gloves					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Cold-insulating gloves	Leather				EN 511

8.2.2.3. Respiratory protection

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless
Appearance	: Colorless gas
Molecular mass	: 39.94 g/mol
Odour	: Odourless
Odour threshold	: Not available
Melting point	: -189.4 °C
Boiling point	: -185.9 °C
Flammability	: Non flammable.
Explosive limits	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Viscosity, dynamic	: 0.28 mPa.s
Solubility	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 0.94
Vapour pressure	: Not available
Critical pressure	: 36500 mm Hg
Density	: Not available
Relative density	: 1.65
Relative vapour density at 20 °C	: 1.38
Particle size	: Not available
Particle size distribution	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Critical temperature : -122 °C

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

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10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Keep away from heat, sparks and flames.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : Contains no substances identified as having endocrine disrupting properties

11.2.2 Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

12.2. Persistence and degradability

Argon (refrigerated liquid) (7440-37-1)

Persistence and degradability	Not applicable.
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12.3. Bioaccumulative potential

Argon (refrigerated liquid) (7440-37-1)

Partition coefficient n-octanol/water (Log Pow)	0.94
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Bioaccumulative potential	Not applicable.
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Argon (refrigerated liquid) (7440-37-1)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Contains no substances identified as having endocrine disrupting properties

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1951	UN 1951	UN 1951	UN 1951	UN 1951
14.2. UN proper shipping name				
ARGON, REFRIGERATED LIQUID	ARGON, REFRIGERATED LIQUID	Argon, refrigerated liquid	ARGON, REFRIGERATED LIQUID	ARGON, REFRIGERATED LIQUID
14.3. Transport hazard class(es)				
2.2	2.2	2.2	2.2	2.2
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

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14.6. Special precautions for user

Overland transport

Orange plates



EAC code

: 2T

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Argon (refrigerated liquid) is not on the REACH Candidate List

Argon (refrigerated liquid) is not on the REACH Annex XIV List

Argon (refrigerated liquid) is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Argon (refrigerated liquid) is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Full Layout. Details of the supplier of the safety data sheet.

Training advice

: Ensure staff are informed of and trained on the nature of exposure and basic actions to minimise exposure.

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DNEL	Derived-No Effect Level
EC50	Median effective concentration

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ICAO	International Civil Aviation Organization
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
OECD	Organisation for Economic Co-operation and Development
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
STEL	Short-term exposure limit
STP	Sewage treatment plant
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
EC-No.	European Community number
EN	European Standard
IARC	International Agency for Research on Cancer
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:

H281	Contains refrigerated gas; may cause cryogenic burns or injury.
Press. Gas (Ref. Liq.)	Gases under pressure : Refrigerated liquefied gas

Safety Data Sheet applicable for regions : IE - Ireland;GB - United Kingdom

SDS EU (REACH Annex II) - RHDHV

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.