

Safety data sheet

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BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

Date / Revised: 02.02.2024 Version: 5.0
Date / Previous version: 05.09.2023 Previous version: 4.0

Product: **Argon Liquid**

(ID no. 30042226/SDS_GEN_DE/EN)

Date of print 11.10.2025

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

1.1. Product identifier

Argon Liquid

Chemical name: Argon CAS Number: 7440-37-1

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

Relevant identified uses: Chemical Recommended use: Chemical

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Operating Division Petrochemicals

Telephone: +49 621 60-42151

E-mail address: sds-petrochemicals@basf.com

1.4. Emergency telephone number

International emergency number: Telephone: +49 180 2273-112

to Regulation (EC) No 1907/2006.

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SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Press. Gas Refrigerated H281 Contains refrigerated gas; may cause cryogenic burns or

liquefied gas injury.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:



Signal Word:

Warning

Hazard Statement:

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

Precautionary Statements (Prevention):

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

Precautionary Statements (Response):

P315 Get immediate medical advice/attention.

P336 Thaw frosted parts with lukewarm water. Do no rub affected area.

Precautionary Statements (Storage):

P410 + P403 Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

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SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

This product contains (a) substance(s) excluded from the obligation to register under REACH regulation:

Press. Gas Compr. Gas H280

Argon Hi

CAS Number: 7440-37-1 EC-Number: 231-147-0

Regulatory relevant ingredients

No particular hazards known.

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Immediately remove contaminated clothing. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). First aid personnel should pay attention to their own safety.

If inhaled:

If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:

Thaw out frostbites under cold liquid or water, do not rub affected parts of the body, apply sterile dressings, consult a skin specialist.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

frostbite, (Further) symptoms and / or effects are not known so far

Hazards: (Further) symptoms and / or effects are not known so far

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

Treatment: Symptomatic treatment (decontamination, vital functions). Artificial respiration with oxygen.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Additional information:

Product will not burn.

5.2. Special hazards arising from the substance or mixture

Advice: Shut off or stop released substance/product under safe conditions. Cool endangered containers with water-spray.

5.3. Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

Evacuate area of all unnecessary personnel.

SECTION 6: Accidental Release Measures

Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin, eyes and clothing. Ensure adequate ventilation.

Keep people away and stay on the upwind side.

Handle in accordance with good industrial hygiene and safety practice.

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6.2. Environmental precautions

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

Ensure adequate ventilation.

Suppress gases/vapours/mists with water spray jet.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:

The substance/product is non-combustible. Avoid influence of heat.

7.2. Conditions for safe storage, including any incompatibilities

No applicable information available.

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place.

Storage class according to TRGS 510 (originally VCI, Germany): (2A) Gases, compressed, liquefied or dissolved under pressure.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

No substance specific occupational exposure limits known.

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PNEC

No PNEC derived, substance is a gas

DNEL

No DNEL value available.

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Self-contained breathing apparatus.

Hand protection:

When there is a risk of frostbite from escaping gas, use thermally insulated gloves (EN 511).

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid contact with the skin, eyes and clothing. Ensure adequate ventilation. Avoid inhalation of vapour. Remove contaminated clothing immediately and dispose of safely.

Environmental exposure controls

Suitable risk management measures should be in place.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter: gaseous

Form: refrigerated liquified gas

Colour: colourless
Odour: odourless

Odour threshold:

not determined

Melting point: -189 °C Boiling point: -186 °C

(1.013 hPa)

Flammability: non-inflammable gas (other)

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Lower explosion limit:

As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with

the intended use.

Upper explosion limit:

As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with

the intended use.

Flash point:

not applicable, the product is a gas

Auto-ignition temperature:

not applicable

Thermal decomposition: Stable at ambient temperature.

SADT: No data available.

pH value:

not applicable

Viscosity, kinematic:

not applicable, the product is a gas

Viscosity, dynamic:

not applicable, the product is a gas

Thixotropy: not thixotropic

Solubility in water:

67 mg/l (20 °C)

Partitioning coefficient n-octanol/water (log Kow):

The value has not been determined because the substance is inorganic.

Vapour pressure: 48.980 hPa

(-122,4 °C)

critical pressure, Literature data.

Relative density: 1,39

Density: 1,669 kg/m3

(15 °C, 1.013 hPa) Literature data., gaseous

1,784 kg/m3 (0 °C, 1.013 hPa)

Literature data., gaseous

Relative vapour density (air):1,379

Heavier than air.

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular

form. -

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9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: Based on the chemical structure

there is no indication of explosive

properties.

Oxidizing properties

Fire promoting properties: Based on its structural properties

the product is not classified as

oxidizing.

Gases under pressure

Critical temperature/pressure: -122,4 °C

Literature data.

Pyrophoric properties

Self-ignition temperature: Test type: Spontaneous self-ignition at room-temperature.

ignition at room tempera

not self-igniting

Self-heating substances and mixtures

Self heating ability: not applicable

Substances and mixtures, which emit flammable gases in contact with water

Formation of flammable gases:

Forms no flammable gases in the presence of water.

Corrosion to metals

Corrosive effects to metal are not anticipated.

Other safety characteristics

Radioactivity:

not radioactive for transport

purposes

:

Study does not need to be

conducted.

Molar mass: 39,95 g/mol

Evaporation rate:

Value can be approximated from Henry's Law Constant or vapor

pressure.

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SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effects to metal are not anticipated.

Formation of Remarks: Forms no flammable gases in the

flammable gases: presence of water.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Peroxides: The product does not contain peroxides.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to avoid

Avoid extreme heat. Avoid direct sunlight.

10.5. Incompatible materials

Substances to avoid:

None known during use and storage if used according to instructions.

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

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

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic by inhalation. The substance is inert. At very high air concentrations, the gas may cause dyspnoe or asphyxia by displacing oxygen.

Experimental/calculated data:

(oral):Study not necessary due to exposure considerations.

(by inhalation): No data available concerning acute toxicity.

(dermal):Study not necessary due to exposure considerations.

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Irritation

Assessment of irritating effects:

No data available concerning irritating effects. The substance is gaseous at room temperature and pressure. Testing for this particular endpoint is technically not feasible and/or this endpoint does not represent a relevant exposure scenario. Contact with liquid may cause frostbite.

Experimental/calculated data:

Skin corrosion/irritation

: No data available concerning skin-irritating effects.

Serious eye damage/irritation

: No data available concerning irritating effects.

Respiratory/Skin sensitization

Assessment of sensitization:

The chemical structure does not suggest a sensitizing effect. The substance is gaseous at room temperature and pressure. Testing for this particular endpoint is technically not feasible and/or this endpoint does not represent a relevant exposure scenario.

Experimental/calculated data:

No data available.

Germ cell mutagenicity

Assessment of mutagenicity:

Based on available data, the classification criteria are not met. The chemical structure does not suggest a specific alert for such an effect.

Carcinogenicity

Assessment of carcinogenicity:

Based on available data, the classification criteria are not met. The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity

Assessment of reproduction toxicity:

Based on available data, the classification criteria are not met. The chemical structure does not suggest a specific alert for such an effect.

Developmental toxicity

Assessment of teratogenicity:

Based on available data, the classification criteria are not met. The chemical structure does not suggest a specific alert for such an effect.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

not applicable

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Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Based on available data, the classification criteria are not met. The substance is inert.

Aspiration hazard

not applicable

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

Other information

Other relevant toxicity information

The substance is a gas that has virtually no physiologic effect.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

At the present state of knowledge, no negative ecological effects are expected. Due to the product characteristics the test is impossible.

Toxicity to fish: not applicable

Aquatic invertebrates:

not applicable

Aquatic plants: not applicable

Microorganisms/Effect on activated sludge: not applicable

Chronic toxicity to fish:

to Regulation (EC) No 1907/2006.

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not applicable

Chronic toxicity to aquatic invertebrates: not applicable

Assessment of terrestrial toxicity:

No data available concerning terrestrial toxicity.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O): Not applicable for inorganic substances.

Elimination information:

Study does not need to be conducted.

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):

Study does not need to be conducted.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

No data available.

Bioaccumulation potential:

Study does not need to be conducted.

12.4. Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will rapidly evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): PBT assessment does not apply. Not applicable for inorganic substances.

12.6. Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of

to Regulation (EC) No 1907/2006.

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substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

12.7. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.8. Additional information

Other ecotoxicological advice:

The material has no harmful effect on the environment.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Dispose of in accordance with national, state and local regulations.

Contaminated packaging:

Disposal must be made according to official regulations.

SECTION 14: Transport Information

Land transport

ADR

UN number or ID number: UN1951

UN proper shipping name: ARGON, REFRIGERATED LIQUID

Transport hazard class(es): 2.2

Packing group: Not applicable

Environmental hazards: no

Special precautions for Tunnel code: C/E

user:

RID

UN number or ID number: UN1951

UN proper shipping name: ARGON, REFRIGERATED LIQUID

Transport hazard class(es): 2.2, 13
Packing group: Not appli

Packing group: Not applicable Environmental hazards: no

to Regulation (EC) No 1907/2006.

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Special precautions for

user:

Shunting label: 13

Inland waterway transport

ADN

UN number or ID number: UN1951

UN proper shipping name: ARGON, REFRIGERATED LIQUID

Transport hazard class(es): 2.2

Packing group: Not applicable

Environmental hazards: no

Special precautions for None known

user:

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number or ID number: UN 1951

UN proper shipping name: ARGON, REFRIGERATED LIQUID

Transport hazard class(es): 2.2

Packing group: Not applicable

Environmental hazards: no

Marine pollutant: NO

Special precautions for

user:

EmS: F-C; S-V

Air transport

IATA/ICAO

UN number or ID number: UN 1951

UN proper shipping name: ARGON, REFRIGERATED LIQUID

Transport hazard class(es): 2.2

Packing group: Not applicable

Environmental hazards: No Mark as dangerous for the environment is needed

Special precautions for

user:

None known

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14.1. UN number or ID number

See corresponding entries for "UN number or ID number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

SECTION 15: Regulatory Information

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

Hazardous Incident Ordinance (Germany):

Listed in above regulation: no

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU): Listed in above regulation: no

Water hazard class (§6 AwSV para.4 (Legal binding announcement of the substance in the Federal Gazette)): (nwg) Not water polluting. ID-No.: 1348

German Regulation TA Luft (Technical Instruction on Air Quality Control, i.e. first Directive to the Federal Immission Control Ordinance)
Law on the Protection of Working Youth

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

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SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Press. Gas Compressed gas

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned

in section 2 or 3:

Press. Gas Gases under pressure

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

Abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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