

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH),
as amended according to the requirements of Regulation (EU) 2015/830

ARGON

Created: 02/03/2017

Revision No 02

Revised: 04/02/2019

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Name of the substance: Argon; CAS No.:
7440-37-1

EC number: 231-147-0

Identification number: not
applicable

REACH registration number: not registered due to the exemption according to Annex V of Regulation (EC) No 1907/2006.

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

1.2.1 Identified uses: used for welding and cutting of ferrous and non-ferrous metals

1.2.2 Uses advised against: none

1.3 Details of the supplier of the safety data sheet:

Manufacturer/supplier: UAB Gaschema

Address: Jonalaukio 1, Jonavos rajono savivaldybė, LT 55296

Country: The Republic of Lithuania

Phone: +370 349 56259

Website of the manufacturer/supplier: www.gaschema.lt.

Person responsible for the safety data sheet: Z. Andriulaitienė, z.andriulaitiene@gaschema.lt

1.4 Emergency telephone number

Please contact:

Office on Intoxication Control and Information in (24/7): +370 52362052, mobile: +370687 53378,
e-mail: aib@essc.sam.lt

Common emergency phone number: 112

Emergency services work: 24 hours a day, 365 days a year. Other remarks (language in which the aid is provided): the aid is provided in Lithuanian.

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008:

Pressurized gas, H280 (gas), refrigerated

liquefied gas H281 (liquid)

2.1.3 Supplemental information:

See Section 16 for the full text of the R-phrases and H-statements.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

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GHS04

Signal word: **Warning**

Hazard statements:

H 280 Contains gas under pressure; may explode if heated (for gas argon)

H281 Contains refrigerated gas, may cause cryogenic burns or injury (for liquefied argon)

The precautionary statements:

P282 Wear cold insulating gloves/use face shield/eye protection (for liquefied argon)

P315 Seek medical advice immediately (for liquefied argon)

P336 Thaw frosted parts with lukewarm water. Do not rub affected area (for liquefied argon)

P 250 Do not subject to shock (for liquefied and gas argon)

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

2.3 Other hazards

The assessment of the PBT and vPvB criteria is not performed for non-organic substances according to Annex XIII of Regulation (EC) No 1907/2006.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Argon according to Regulation (EC) No 1907/2006, the product is single substance.

CAS No.	EC No.	REACH registration No.	mass fraction %	Name	Classification according to the requirements of Regulation (EC) No 1272/2008
7440-37-1	231-147-0	Not registered due to the exemption according to Annex V of Regulation (EC) No 1907/2006.	99.996-99.999	Argon	Pressurized gas, H280 (gas), Refrigerated liquefied gas, H281 (liquid)

4. FIRST-AID MEASURES

4.1 Description of first aid measures

High concentrations may cause suffocation. Symptoms may include loss of mobility/consciousness. Victim may not feel suffocated. Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Seek medical advice. Apply artificial respiration if breathing stopped.

The route of exposure of the body by a chemistry substance:

Inhalation: Take a person exposed to gas to fresh air, give oxygen, seek medical advice.

Dermal: Not applicable for gas. Dress the frostbitten parts with a sterile bandage. Seek medical attention. (liquid)

Eye contact: Immediately/rinse thoroughly with water, after lifting/opening the eyelids (rinse for at least 15 minutes). Remove contact lenses, if present and easy to do, and continue to rinse eyes. Seek immediate medical advice even if there are no obvious symptoms.

Oral: not applicable for gas.

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4.2 Most important symptoms and effects (acute and delayed)

Delayed effect unknown.

4.3 Indication of any immediate medical attention and special treatment needed

No

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media: *non-flammable.*

Extinguishing media not to be used for safety reasons: *none.*

Unsuitable extinguishing media: *do not use flush for extinction*

5.2 Special hazards arising from the substance or mixture

Specific risk: *in a fire the container may burst/explode*

Hazardous combustion products: *none*

5.3 Advice for firefighters

Specific methods:

if possible, to stop product leakage; get away from the tank and cool with water from a safe place; remove containers from the fire area if this can be done without risk; use extinguishing agents suitable for extinguishing the surrounding fire; the effects of flames and heat radiation can cause the containers to burst;

Cool containers in the danger zone with water spray from a safe area; prevent the water from entering sewers and sewage systems in case of accidents.

Special protective equipment for firefighters:

use breathing apparatus (oxygen masks) indoors.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures.

For non-emergency personnel: wear personal protective equipment referred to in Item 8 and ensure proper ventilation.

For emergency responders: wear personal protective equipment referred to in Item 8 and ensure proper ventilation.

6.2 Environmental precautions *try to stop the gas leak. Prevent the gas from entering drains, wells, cellars, mines or other places where accumulation of oxygen would be dangerous.*

6.3 Methods and material for containment and cleaning up: *cylinders with gas contain pressure, therefore, valves and flaps shall be released slowly.*

Stop the leakage, mark the place with warning signs, fence, ventilate. Gas accumulates on the floor or ground of the premises and, depending on the direction of the wind, moves on its surface.

6.4 Reference to other sections

Section 8 identifies personal protective equipment; Section 13 identifies waste management methods.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Only experienced and properly trained persons allowed to handle compressed gas. Use only appropriate

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equipment that meets this product, its supply pressure and temperature. Read the supplier's instructions for use. The substance must be handled according to good industrial hygiene and safety procedures. Keep containers away from mechanical damage; do not drag, pan, prevent from slipping or throwing. Do not remove or disassemble the supplier's labels designed to identify the contents of the container. Use appropriate equipment such as a stroller, a hand-held lift, a forklift, etc. for moving containers even at short distances. Always keep the cylinders straight when not in use. Close all valves. Ensure adequate ventilation. It is necessary to ensure that water is not pumped back into the tank. Prevent gas flow from returning to the container. Avoid water, acid and alkali intake. Keep container below 50 ° C in a well-ventilated place. Comply with all regulations and local requirements for container storage. When using do not eat or drink, do not smoke. Comply with local/regional/national/international legislation. Never use direct flame or electric heaters for pressure generation. Do not remove the valve cover until the container is protected from wall or stand and is not placed in the storage rack and is not ready for use. The faulty valves must be reported immediately to the supplier. Close the capacity valve after each use and when empty even if it is still connected to the equipment. Never attempt to repair or modify container valves and safety relief devices. Attach the valves guards or caps and container covers (when supplied) as soon as the capacity is disconnected from the equipment. The cylinder valves must be clean and free of contamination, especially oil and water. If the user encounters any difficulty in using the cylinder's valve, discontinue use and contact the supplier. Never try to pump gas out of one cylinder to another. Cylinder valve covers and caps must be secured.

Usage requirements and recommendations: Loosen the cylinder valve slowly to prevent pressure shock. Fire-resistant, cool rooms with smooth floor coverings. Keep the cylinders out of the reach of heating devices, keep the cylinders at temperatures below 50 ° C. Keep moisture inside the cylinder. Prevent from gas flow back into the cylinder. Use equipment that meets pressure and temperature requirements for this product. In case of doubt contact the gas supplier.

Storage requirements: argon is stored in cylinders. Cylinders are stored in special storerooms or sheds under the roof, protecting the balloons from atmospheric precipitation and direct sunlight.

7.2 Conditions for safe storage, including any incompatibilities.

Unsuitable (incompatible) substances to be stored separately: none.

Requirements for the package of the substance/preparation: cylinders, shall be in compliance with the requirements of the Pressure Vessel Code.

7.3 Specific end use(s).

Used for welding and cutting of ferrous and non-ferrous metals.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values: none

8.2 Exposure controls

Consider a work permit system, e.g. for maintenance activities. Ensure adequate ventilation. Ensure that ventilation, including proper local extraction, is adequate to avoid exceeding the occupational exposure limit. Use gas detectors when exhaust gas may be discharged. Regularly check pressure-containing systems for leaks. Prefer continuous sealing connections (e.g. pipe welding) Do not eat, drink or smoke while using the product.

8.2.1 Appropriate engineering controls: inlet and exhaust ventilation.

8.2.2 Individual protection measures:

Eye/face protection: Use eye protection according to EN 166 when using gas.

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Recommendation: EN 166 Personal eye protection. safety goggles, protective visors.

Skin protection: *work clothes*

Hand protection *wear work gloves when handling vessels. Recommendation: EN 388 Protective gloves against mechanical hazards*

Other: *wear work shoes when handling vessels. Recommendation: ISO 20345 Personal protective equipment - Safety footwear. dense cotton suit (jacket, trousers), special footwear.*

Respiratory protection: *not obligatory*

Thermal hazard protection: *not obligatory*

8.2.3 Environmental exposure controls: *not obligatory*

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information about physical and chemical properties

Appearance: *Colourless, odourless gas*

pH *not applicable for gas*

Melting/freezing temperature, *-78,5 °C/ -57 °C*

Initial boiling temperature and boiling temperature range: *-186°C*

Flash point: *non-flammable.*

Flammability (gas): *non-flammable.*

Explosivity: *non-explosive*

Oxidising properties: *non-oxidising*

Vapour density: *569 mmHg*

Relative density: *1,38 kg/m*

Solubility in water: *61 mg/l*

Distribution coefficient: n-octanol/water: *not determined for inorganic gas substances*

Viscosity: *not applicable for gas.*

Vapour density: *Not determined for non-flammable gas*

Evaporation rate: *not determined for non-flammable gas*

Viscosity: *not determined for gas*

9.2 Other information

No

10. STABILITY AND REACTIVITY

10.1 Reactivity

Liquid argon turns into gas by evaporation.

10.2 Chemical stability

Liquid argon turns into gas by evaporation.

Need for stabilizers: *not required.*

10.3 Hazardous reactions possibility

Stable under normal conditions.

10.4 Conditions to be avoided

Keep away from sunlight, keep in a well-ventilated place, do not subject into shock.

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<p>10.5 Incompatible substances None.</p> <p>10.6 Dangerous decomposition products None.</p>
<p>11. TOXICOLOGICAL INFORMATION</p> <p>11.1. Information on toxicological effects (of the substance): non-toxic. 11.1.1. Acute toxicity: non-toxic. 11.1.2. Skin corrosion and (or) irritation: does not irritate 11.1.3. Respiratory or skin sensitisation: none 11.1.4. Germ cell mutagenicity: none 11.1.5. Carcinogenicity: none 11.1.6. Toxicity for reproduction: non-toxic. 11.1.7. Specific target organ toxicity (STOT) (single exposure): non-toxic. 11.1.8. Specific target organ toxicity (STOT) (repeated exposure): non-toxic. 11.1.9. Aspiration hazard: none</p>
<p>12. ECOLOGICAL INFORMATION</p> <p>12.1 Toxicity: <i>Non-toxic.</i></p> <p>12.2 Stability and degradability. <i>Natural substance does not decompose.</i></p> <p>12.3 Bioaccumulative potential. <i>Has no bioaccumulative effect.</i></p> <p>12.4 Mobility in soil. <i>Not determined</i></p> <p>12.5 Results of PBT and vPvB assessment: The assessment of the PBT and vPvB criteria is not performed for non-organic substances according to Annex XIII of Regulation (EC) No 1907/2006.</p> <p>12.6 Other adverse effects. None.</p>
<p>13. DISPOSAL CONSIDERATIONS</p> <p>13.1. Waste residues: Argon waste is classified as hazardous waste by attributing the code HP 15 ‘Waste capable by any means, after disposal, of yielding another substance, e.g. a leachate, which possesses any of the characteristics listed above’, the hazard statement EUH044 ‘Risk of explosion if heated under confinement’, the hazard statement code H280 ‘Contains gas under pressure; may explode if heated’. Can only be released in a well-ventilated area. When discharging into the environment, adjust the discharge speed. Do not dispose of in a place where substance accumulation can be dangerous. Follow the EIGA Practice Code Doc.30 ‘Disposal of Gases’, download from http://www.eiga.org for recommendations on appropriate disposal methods. If in doubt, contact the supplier. When using cylinders, it is forbidden to fully use the gas contained therein, the pressure in the cylinder must be at least 0.5 bar. Argon waste in Lithuania must be handled in accordance with the Law on Waste Management of the Republic of Lithuania, in other countries – in accordance with the requirements of national legislation.</p> <p>13.2 Packaging waste: Argon waste of inner packaging/cylinders, tanks, containers according to Regulation (EU)</p>

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No 1357/2014 are classified as hazardous waste. The codes assigned are code HP 15 'Waste capable by any means, after disposal, of yielding another substance, e.g. a leachate, which possesses any of the characteristics listed above', the hazard statement EUH044 'Risk of explosion if heated under confinement', the hazard statement code H280 'Contains gas under pressure; may explode if heated'.

Empty cylinders with faulty taps (valves) must be returned to the BPS filling station. It is necessary to follow the manual approved by the company manager when discharging gas from such cylinders. Users of gas supplied in cylinders must protect the cylinders against temperature exposure, mechanical, chemical and other damage. When the cylinder is completely emptied, there is no compressed gas left in the cylinder when the valve is turned off. According to Regulation (EU) No 1357/2014 a cylinder is classified as non-hazardous waste.

Packaging waste must be handed over to waste management companies. Waste gas mixtures in Lithuania must be handled in accordance with the Law on Packaging and Packaging Waste Management of the Republic of Lithuania, applicable waste management regulations; in other countries - in accordance with the requirements of national legislation.

The labelling according to Regulation (EC) No 1272/2008 must not be removed until packages are completely emptied.

14. TRANSPORT INFORMATION

14.1 UN number

1006 (for gas argon)

1951 (for liquid argon)

14.2 UN proper shipping name

Argon, compressed argon,
 refrigerated, liquid

14.3 Transport hazard class (-es)

2

14.4 Package group

Not applicable.

14.5 Hazardous shipment code:

20 (Argon, compressed)

22 (Argon refrigerated, liquid)

14.6 Special precautions for users

Packing instruction: P200

Road / Rail Transport (ADR / RID): P200 Air
 transport (ICAO-TI / JATA-DGR)

Transportation by Passenger and Cargo Aircraft: Allowed (allowed)

Packing instruction: Passenger and Cargo Aircrafts: 200.

Special precautions for users

Avoid transport in vehicles means where the cargo compartment is not separated from the cab. Ensure that the driver of the vehicle is aware of the potential dangers of the cargo and knows what to do in the event of an accident. Before shipment of product containers:

- Ensure adequate ventilation. – Ensure that the containers are properly secured.
- Ensure that the container valve is closed and there is no leakage.
- Ensure that the drain valve cover or plug (if fitted) is properly secured.
- Ensure that the valve safety device (if fitted) is properly secured.

Other transportation information: Avoid transport in vehicles where the cargo compartment is not separated from the cab. Ensure that the driver of the vehicle is aware of the potential dangers of the cargo and knows what to do

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in the event of an accident. Before shipment of product containers:

- Ensure that the containers are properly secured.
- Ensure that the container valve is closed and there is no leakage.
- Ensure that the drain valve cover or plug (if fitted) is properly secured.
- Ensure that the valve safety device (if fitted) is properly secured.
- Ensure adequate ventilation. - Follow applicable rules

Argon shall be transported in cylinders with covers. The cylinders shall be transported in vertical position in containers or in horizontal position placing between cylinders wooden or rope inserts.

When the quantity of the buyable argon acid gas does not exceed 1000 kg for a transport unit, the ADR requirements stipulated in subsection 1.1.3.6.3 of the restructured ADR edition as of 2001 shall be applied partially.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code.

Not applicable.

15. REGULATORY INFORMATION

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

Legal acts regulating the classification and labelling of the substance/preparation, restriction on its usage, requirements on personnel safety and health, limit values in work area, waste handling, etc.:

- *According to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;*
 - *According to Commission Regulation (EU) No 1357/2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives;*
 - *Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);*
 - *Commission Regulation (EU) No 453/2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);*
 - *Hygiene Norm HN 23. Limit Values of Professional Exposure for Substances/Preparations. General Requirements for Measurement and Exposure Assessment;*
 - *Applicable “Regulations on Personnel Protection Against Chemical Factors at Work” and “Regulations on Personnel Protection Against Carcinogenic Effects at Work”;*
 - *Hygiene Norm HN 2002. Forbidden and Restricted Substances/Preparations;*
 - *Applicable Law on Waste Handling of the Republic of Lithuania;*
 - *Applicable Waste Management Rules;*
 - *Applicable Regulations for Labelling and Price Indication of the Items (Goods) Sold of the Republic of Lithuania;*
 - *Applicable Rules for temporary use of seamless cylinders;*
 - *European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR);*
 - *European Agreement Concerning the International Carriage of Dangerous Goods by Rail (RID);*
 - *International Maritime Dangerous Goods (IMDG) code;*
- Additional information indicated on the label of the substance/preparation package (container):
- Visual symbol No. 4 ‘Keep away from sunlight’, as per LST EN ISO 780;

15.2 Chemical safety assessment Since argon is not registered due to the exemption according to Annex V of Regulation (EC) No 1907/2006, therefore its chemical safety assessment was not performed.

16. OTHER INFORMATION

Abbreviations:

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Hazard statements:

H280 - Contains gas under pressure; may explode if heated;

H281 Contains refrigerated gas, may cause cryogenic burns or injury; Safety phrases

P282 - Wear cold insulating gloves/use face shield / eye protection P336 - Defrost affected parts with lukewarm water. Do not rub affected areas

P315 - Seek medical advice;

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

P250 - Do not subject to shock;

ADR - Agreement on the Transportation of Dangerous Goods by Road;

RID – European Agreement Concerning the International Carriage of Dangerous Goods by Rail.

Information contained in this Material Safety Data Sheet shall be available for all persons work whereof is relevant to the substance/preparation. Data provided herein is in line with knowledge available for us and is intended to define the substance/preparation in terms of safety and health protection at work as well as in terms of environmental issues. Information contained in this Material Safety Data Sheet will be supplemented in case new data about the effect of the substance/preparation on health and environment as well as new data about prevention measures in order to decrease risk or to eliminate risk completely become available. Information contained herein reveals no other features of the substance/preparation.

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The end of the Safety Data Sheet.

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