


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

1.1. Product identifier	
Trade name	Argon
Registration-No.	Listed in Annex IV / V REACH, exempted from registration.
Chemical formula	Ar
1.2. Relevant identified uses of the substance or mixture and uses advised against	
Relevant identified uses	Industrial and professional. Perform risk assessment prior to use. Test gas/Calibration gas. Laboratory use. Purging. Shield gas for welding processes. Use for manufacture of electronic/photovoltaic components. Contact supplier for more information on uses.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture	
Hazard Class and Category Code Regulation CE 1272/2008 (CLP)	<ul style="list-style-type: none"> • Physical hazards: <ul style="list-style-type: none"> □ Gases under pressure - Compressed gas - Warning - (CLP : Press. Gas) - H280
2.2. Label elements - Labelling Regulation EC : 1272/2008 (CLP)	
Hazard pictograms	 GHS04
Hazard statements	H280 : Contains gas under pressure; may explode if heated.
Precautionary statements	<ul style="list-style-type: none"> • Storage <ul style="list-style-type: none"> ○ P403 : Store in a well-ventilated place.
Other hazards	Asphyxiant in high concentrations.

SECTION 3: Composition/information on ingredients

3.1. Substance / Mixture	
Substance name	Argon
CAS N°	7440-37-1
EC N°	231-147-0

Classification	Not classified (DSD) Press. Gas Compressed (H280)
Other information	Contains no other components or impurities which will influence the classification of the product. Full text of R-phrases see section 16. Full text of H-statements see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

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| General information | <ul style="list-style-type: none"> • Inhalation: Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. • Skin contact: Adverse effects not expected from this product. • Eye contact: Adverse effects not expected from this product. • Ingestion: Ingestion is not considered a potential route of exposure. |
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4.2. Most important symptoms and effects, both acute and delayed

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| General information | In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. |
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4.3. Indication of any immediate medical attention and special treatment needed

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| General information | None. |
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SECTION 5: Firefighting measures

5.1. Extinguishing media

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| Suitable extinguishing media | Water spray or fog. |
| Unsuitable extinguishing media | Do not use water jet to extinguish. |

5.2. Special hazards arising from the substance or mixture

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| Specific hazards | Exposure to fire may cause containers to rupture/explode. |
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5.3. Advice for fire-fighters

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| Specific methods | If possible, stop flow of product.
Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.
Use water spray or fog to knock down fire fumes if possible. |
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| Special protective equipment for fire fighters | Use self-contained breathing apparatus.
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters. |
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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| General information | <ol style="list-style-type: none"> 1. Try to stop release. 2. Evacuate area. 3. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. 4. Ensure adequate air ventilation. |
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6.2. Environmental precautions

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| General information | Try to stop release. |
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6.3. Methods and material for containment and cleaning up

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| General information | See also sections 8 and 13. |
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

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| Safe use of the product | <ul style="list-style-type: none"> • Only experienced and properly instructed persons should handle gases under pressure. • The substance must be handled in accordance with good industrial hygiene and safety procedures. • Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. • Do not smoke while handling product. • Ensure the complete gas system was (or is regularly) checked for leaks before use. • Consider pressure relief device(s) in gas installations. |
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| Safe handling of the gas receptacle | <ul style="list-style-type: none"> • Refer to supplier's container handling instructions. • Suck back of water into the container must be prevented. • Do not allow backfeed into the container. • Protect cylinders from physical damage; do not drag, roll, slide or drop. • When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. • If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. • Never attempt to repair or modify container valves or safety relief devices. • Damaged valves should be reported immediately to the supplier. • Keep container valve outlets clean and free from contaminants particularly oil and water. • Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. • Close container valve after each use and when empty, even if still connected to equipment. • Never attempt to transfer gases from one cylinder/container to another. • Never use direct flame or electrical heating devices to raise the pressure of a container. • Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. |
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7.2. Conditions for safe storage, including any incompatibilities

General information

- Keep container below 50°C in a well ventilated place.
- Observe all regulations and local requirements regarding storage of containers.
- Containers should be stored in the vertical position and properly secured to prevent toppling. Stored containers should be periodically checked for general condition and leakage. Container valve guards or caps should be in place.
- Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.
- Containers should not be stored in conditions likely to encourage corrosion.

7.3. Specific end use(s)

General information

None.

SECTION 8: Exposure controls/personal protection

8.1. Exposure controls

Appropriate engineering controls

Oxygen detectors should be used when asphyxiating gases may be released.
Consider work permit system e.g. for maintenance activities.
Systems under pressure should be regularly checked for leakages.
Provide adequate general and local exhaust ventilation.

Individual protection measures, e.g. personal protective equipment

A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected.

- Eye/face protection
 - Wear safety glasses with side shields. **Standard EN 166 - Personal eye-protection.**
- Skin protection
 - Hand protection: Wear working gloves when handling gas containers. **Standard EN 388 - Protective gloves** against mechanical risk.
 - Others: Wear safety shoes while handling containers. **Standard EN ISO 20345 - Personal protective equipment** - Safety footwear.
- Respiratory protection: Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres. **Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.**
- Thermal hazards : None necessary.
- Environmental exposure controls: None necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General information

- Appearance: Gas.
- Physical state at 20°C / 101.3kPa: Gas.
- Colour: Colourless.
- Odour : No odour warning properties.
- Odour threshold: Odour threshold is subjective and inadequate to warn for overexposure.
- pH value: Not applicable.
- Molar mass [g/mol]: 40
- Melting point [°C]: -189
- Boiling point [°C]: -186
- Critical temperature [°C]: -122
- Flash point [°C]: Not applicable for gases and gas-mixtures.
- Evaporation rate (ether=1): Not applicable for gases and gas-mixtures.
- Flammability range [vol% in air]: Non flammable.
- Vapour pressure [20°C]: Not applicable.
- Relative density, gas (air=1): 1,38
- Relative density, liquid (water=1): Not applicable.
- Solubility in water [mg/l]: 67
- Partition coefficient n-octanol/water [log Kow]: Not applicable for inorganic gases.
- Other data: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

SECTION 10: Stability and reactivity

10.1. Reactivity

General information No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

General information Stable under normal conditions.

10.3. Possibility of hazardous reactions

General information None.

10.4. Conditions to avoid

General information None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

General information For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition products

General information None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicity No known toxicological effects from this product.

SECTION 12: Ecological information

12.1. Toxicity

General information No ecological damage caused by this product.

12.2. Results of PBT and vPvB assessment

General information Not classified as PBT or vPvB.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

- Do not discharge into any place where its accumulation could be dangerous.
- May be vented to atmosphere in a well ventilated place.
- List of hazardous wastes: 16 05 05: Gases in pressure containers other than those mentioned in 16 05 04.

SECTION 14: Transport information

14.1. Transport information

ONU number 1006

Transport hazard class(es)



2.2 : Non-flammable, non-toxic gases

Environmental hazards None.

14.2. Special precautions for user

General information

- Avoid transport on vehicles where the load space is not separated from the driver's compartment.
- Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
- Before transporting product containers:
- Ensure there is adequate ventilation.
- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.

SECTION 15: Regulatory information

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

Chemical safety assessment	A CSA does not need to be carried out for this product.
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SECTION 16: Other information

Indication of changes	Revised safety data sheet in accordance with commission regulation (EU) No 453/2010.
Training advice	The hazard of asphyxiation is often overlooked and must be stressed during operator training.
Labelling EC 67/548 or EC 1999/45	R Phrase(s): None. S Phrase(s): None.
Information source	This Safety Data Sheet has been established in accordance with the applicable European Union legislation.
Other Advice	<p>Details given in this document are believed to be correct at the time of going to press.</p> <p>Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.</p> <p>Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.</p>
Responsibilities	<p>The base of available information at the time of going to press and cover the most common applications, without guaranteeing that its content is sufficient in all cases and situations.</p> <p>Its observance does not exclude the fulfillment of the in force regulation in every moment.</p>
Description of changes	Adjustment to current regulations.