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

1.1 Product identifier

<table>
<thead>
<tr>
<th>Trade name</th>
<th>Argon IG-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC number</td>
<td>231-147-0</td>
</tr>
<tr>
<td>CAS number</td>
<td>7440-37-1</td>
</tr>
</tbody>
</table>

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

Relevant identified uses: Fire extinguishing agent

1.3 Details of the supplier of the safety data sheet

Minimax GmbH & Co.KG
Industriestrasse 10/12
23840 Bad Oldesloe
Germany

Telephone: +49 (0) 4531 - 803 0
Telefax: +49 (0) 4531 - 803 248
Website: www.minimax.de

National contact

<table>
<thead>
<tr>
<th>National contact</th>
<th>e-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV Global R&amp;D -</td>
<td><a href="mailto:ClaessenT@minimax.de">ClaessenT@minimax.de</a></td>
</tr>
<tr>
<td>Technical Product Management - Inert</td>
<td></td>
</tr>
<tr>
<td>Gas / CO2-based products</td>
<td></td>
</tr>
</tbody>
</table>

1.4 Emergency telephone number

Emergency information service: Consultank GmbH +49 (0) 178 433 7434

Poison centre

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>Giftinformationszentrum - Nord Göttingen</td>
<td>+49 551 19240</td>
</tr>
</tbody>
</table>

As above or next toxicological information centre.
SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
</tr>
<tr>
<td>2.5</td>
</tr>
</tbody>
</table>

The most important adverse physicochemical, human health and environmental effects
May displace oxygen and cause rapid suffocation.
Victim may not be aware of asphyxiation.
Contains gas under pressure; may explode if heated.

Additional information
According to the results of its assessment, this substance is not a PBT or a vPvB.

2.2 Label elements

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

<table>
<thead>
<tr>
<th>Signal word</th>
<th>warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pictograms</td>
<td></td>
</tr>
<tr>
<td>GHS04</td>
<td></td>
</tr>
</tbody>
</table>

Hazard statements
H280 Contains gas under pressure; may explode if heated.

Precautionary statements
P410 Protect from sunlight.

2.3 Other hazards
There is no additional information.

Results of PBT and vPvB assessment
According to the results of its assessment, this substance is not a PBT or a vPvB.
SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance: argon

Identifiers

CAS No: 7440-37-1
EC No: 231-147-0
Molecular formula: Ar
Molar mass: 39.95 g/mol

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes
In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation
Provide fresh air.
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.
Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.

Following skin contact
Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Following eye contact
Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Following ingestion
Get medical advice/attention if you feel unwell.

Notes for the doctor

4.2 Most important symptoms and effects, both acute and delayed
Breathing difficulties.
Unconsciousness.

4.3 Indication of any immediate medical attention and special treatment needed
none
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
coop-ordinate firefighting measures to the fire surroundings

5.2 Special hazards arising from the substance or mixture
Hazardous decomposition products: Section 10.
Contact with the product can cause burns and/or frostbite.
Contains gas under pressure; may explode if heated.

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters
use suitable breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Remove persons to safety.
Ventilate affected area.

For emergency responders
Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions
not required

6.3 Methods and material for containment and cleaning up

Advises on how to clean up a spill
Not applicable.

Other information relating to spills and releases
Ventilate affected area.

6.4 Reference to other sections
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.
SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation
Use local and general ventilation.

Specific notes/details
None.

Measures to protect the environment
Refer to manufacturer/supplier for information on recovery/recycling.

Advice on general occupational hygiene
Do not eat, drink and smoke in work areas.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards
None.

Incompatible substances or mixtures
Incompatible materials: see section 10.

Protect against external exposure, such as
heat

Consideration of other advice
Keep away from food, drink and animal feedingstuffs.

Ventilation requirements
Provision of sufficient ventilation.

Packaging compatibilities
Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
No data available.

8.2 Exposure controls

Appropriate engineering controls
General ventilation.
Individual protection measures (personal protective equipment)

**Eye/face protection**
Not required.

**Hand protection**
Wear suitable gloves.
Protect against external exposure, such as Cold.

**Respiratory protection**
In case of inadequate ventilation wear respiratory protection.
Self-contained breathing apparatus (EN 133).

**Environmental exposure controls**
Use appropriate container to avoid environmental contamination.
Keep away from drains, surface and ground water.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

**Appearance**
- Physical state: gaseous
- Form: compressed
- Colour: colourless
- Odour: of citrus fruits (odorant)

**Other safety parameters**
- pH (value): not relevant
- Melting point/freezing point: -189.2 °C
- Initial boiling point and boiling range: -185.9 °C
- Flash point: not applicable
- Evaporation rate: these information are not available
- Flammability (solid, gas): non-combustible

**Explosive limits**
- Lower explosion limit (LEL): not applicable
- Upper explosion limit (UEL): not applicable
- Vapour pressure: these information are not available
- Density: 0.001784 9/cm³ at 0 °C
- Vapour density: these information are not available
Argon IG-01

Relative density 1.38 (air = 1)

**Solvability**

Water solubility 67 mg/l at 20 °C

**Partition coefficient**

n-octanol/water (log KOW) these information are not available
Auto-ignition temperature these information are not available
Relative self-ignition temperature for solids not relevant (Gaseous)
Decomposition temperature these information are not available

**Viscosity**

Kinematic viscosity not relevant (gaseous)
Dynamic viscosity not relevant (gaseous)

Explosive properties not explosive
Oxidising properties shall not be classified as oxidising

### 9.2 Other information

None

**SECTION 10: Stability and reactivity**

10.1 Reactivity

Gas under pressure.

If heated:

danger of explosion, gas under pressure, danger of bursting container

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Contains gas under pressure; may explode if heated.
10.5 **Incompatible materials**
There is no additional information.

10.6 **Hazardous decomposition products**
Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

**SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**
If not otherwise specified the classification is based on:
Animal studies; Evidence from any other toxicity tests; Expert judgement (weight of evidence determination).

**Classification according to GHS (1272/2008/EC, CLP)**

**Acute toxicity**
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Skin corrosion/irritation**
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Serious eye damage/eye irritation**
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Respiratory or skin sensitisation**

**Skin sensitisation**
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Respiratory sensitisation**
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Germ cell mutagenicity**
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Carcinogenicity**
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Reproductive toxicity**
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.
Specific target organ toxicity - single exposure
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics
If inhaled:
asphyxiant gas, may displace oxygen and cause rapid suffocation

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity (acute)
No data available.

Aquatic toxicity (chronic)
No data available.

12.2 Persistence and degradability
Biodegradation
The study does not need to be conducted because the substance is inorganic.

Persistence
The study does not need to be conducted because the substance is inorganic.

12.3 Bioaccumulative potential
Data are not available.

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects
Data are not available.

Endocrine disrupting potential
Not listed.
SECTION 13: Disposal considerations

13.1 Waste treatment methods
Refer to manufacturer/supplier for information on recovery/recycling.

Sewage disposal-relevant information
Do not empty into drains.

Waste treatment of containers/packagings
Refer to manufacturer/supplier for information on recovery/recycling.

Remarks
Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number 1006
14.2 UN proper shipping name ARGON, COMPRESSED
14.3 Transport hazard class(es)
   Class 2.2
   Subsidiary risk(s) 2.2 (gas under pressure)
14.4 Packing group not assigned to a packing group
14.5 Environmental hazards non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user
Provisions for dangerous goods (ADR) should be complied within the premises.
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
The cargo is not intended to be carried in bulk.
14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number 1006
Proper shipping name UN1006, ARGON, COMPRESSED, 2.2, (E)
Class 2
Classification code 1A
Danger label(s) 2.2
**Argon IG-01**

Special provisions (SP) 378, 653, 662

Excepted quantities (EQ) E1

Limited quantities (LQ) 120 ml

Transport category (TC) 3.

Tunnel restriction code (TRC) E

Hazard identification No 20

Emergency Action Code 2T

**International Maritime Dangerous Goods Code (IMDG)**

UN number 1006

Proper shipping name UN1006, ARGON, COMPRESSED, 2.2

Class 2.2

Danger label(s) 2.2

**International Civil Aviation Organization (ICAO-IATA/DGR)**

UN number 1006

Proper shipping name UN1006, Argon, compressed, 2.2

Class 2.2

Danger label(s) 2.2
SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII
not listed

List of substances subject to authorisation (REACH, Annex XIV)
not listed

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II
not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)
not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)
not listed

Regulation 98/2013/EU on the marketing and use of explosives precursors
not listed

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Indication of changes: Section 1

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>EC No</td>
<td>The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
</tbody>
</table>
### Abbreviations and Their Descriptions

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

### Key literature references and sources for data

- Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).
- International Maritime Dangerous Goods Code (IMDG).
- Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H280</td>
<td>Contains gas under pressure; may explode if heated.</td>
</tr>
</tbody>
</table>

### Responsible for the safety data sheet

- C.S.B. GmbH
  - Düsseldorf Str. 113
  - 47809 Krefeld
  - Telephone: +49 (0) 2151 - 652086 - 0
  - Telefax: +49 (0) 2151 - 652086 - 9
  - e-Mail: info@csb-online.de
  - Website: www.csb-online.de

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.