

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SH-3, SH-5

Reference number: AWO015

Date of issue: 3/5/2021 Revision date: 3/5/2021 Supersedes version of: 3/6/2013 Version: 2.2

Danger



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

1.1. Product identifier

SDS no : AWO015

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.
Contact supplier for more information on uses.

1.3. Details of the supplier of the safety data sheet

Company identification : Oy Woikoski Ab
Virransalmentie 2023
52920 Voikoski Finland
Tel. +358 15 7700 700
info@woikoski.fi
www.woikoski.fi

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
	Myrkytystietokeskus Giftinformationscentralen, Poison Information Centre	P.O.B 790 (Tukholmankatu 17) HUS SF - 00029 Helsinki	+358 9 471 977	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Physical hazards : H221
Gases under pressure : Compressed gas : H280

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS04

Signal word (CLP) :

Danger

Hazard statements (CLP) : H221 - _H_221_EU.
H280 - _H_280_EU.

Precautionary statements (CLP)
- Storage : P403 - _P_403_EU.

2.3. Other hazards

Asphyxiant in high concentrations.

SECTION 3: Composition/information on ingredients

3.1. Substance Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Argon	CAS No: 7440-37-1 EC no: 231-147-0 EC index no: --- REACH-no: *1		Compressed gas, H280
Hydrogen	CAS No: 1333-74-0 EC no: 215-605-7 EC index no: 001-001-00-9 REACH-no: *1		Flam. Gas 1A, H220 Compressed gas, H280

Full text of H-phrases: see section 16

Contains no other components or impurities which will influence the classification of the product.

*1: Listed in Annex IV / V REACH, exempted from registration.

*3: Registration not required: Substance manufactured or imported < 1t/y.

SECTION 4: First aid measures

4.1. Description of first aid measures

- Inhalation : Assure fresh air breathing.
Allow the victim to rest.
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 : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- Eye contact : Rinse immediately with plenty of water.
Obtain medical attention if pain, blinking or redness persist.
- Ingestion : Rinse mouth.
Do NOT induce vomiting.
Obtain emergency medical attention.

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

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.

Refer to section 11.

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

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Foam.
Dry powder.
Carbon dioxide.
Water spray.
Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.
Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

- Specific hazards : Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : None.
- Reactivity : This mixture contains components with the following reactivity : May react violently with oxidants. Can form explosive mixture with air.

5.3. Advice for firefighters

- Specific methods : 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.
If possible, stop flow of product.
Use water spray or fog to knock down fire fumes if possible.
- Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.
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.
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Try to stop release.
- Evacuate area.
- Monitor concentration of released product.
- Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
- Ensure adequate air ventilation.
- For non-emergency personnel : Evacuate unnecessary personnel
- For emergency responders : Ventilate area

6.2. Environmental precautions

- Prevent entry to sewers and public waters.
- Notify authorities if liquid enters sewers or public waters.
- Try to stop release.

6.3. Methods and material for containment and cleaning up

- Ventilate area.

6.4. Reference to other sections

- See Heading 8.
- Exposure controls and personal protection.
- See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product

- : The substance must be handled in accordance with good industrial hygiene and safety procedures.
Only experienced and properly instructed persons should handle gases under pressure.
Consider pressure relief device(s) in gas installations.
Ensure the complete gas system was (or is regularly) checked for leaks before use.
Do not smoke while handling product.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

Safe handling of the gas receptacle

- : Refer to supplier's container handling instructions.
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.
Containers should be stored in the vertical position and properly secured to prevent toppling.

7.2. Conditions for safe storage, including any incompatibilities

- Observe all regulations and local requirements regarding storage of containers.
Containers should not be stored in conditions likely to encourage corrosion.
Container valve guards or caps should be in place.
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.
Keep container below 50°C in a well ventilated place.
Store containers in location free from fire risk and away from sources of heat and ignition.
Keep away from combustible materials.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation.
Systems under pressure should be regularly checked for leakages.
Ensure exposure is below occupational exposure limits (where available).
Oxygen detectors should be used when asphyxiating gases may be released.
Consider work permit system e.g. for maintenance activities.

8.2.2. 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
 - : Chemical goggles or safety glasses.
 - Wear safety glasses with side shields.
 - Standard EN 166 - Personal eye-protection.

- Skin protection
 - Hand protection
 - : Wear working gloves when handling gas containers.
 - Wear protective gloves.
 - Standard EN 388 - Protective gloves against mechanical risk.
 - Other
 - : Do not eat, drink or smoke during use.
 - Wear safety shoes while handling containers.
 - Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

- Respiratory protection
 - : Wear appropriate mask.
- Thermal hazards
 - : None necessary.

8.2.3. Environmental exposure controls

Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	
- Physical state at 20°C / 101.3kPa	: Gas
- Colour	: Colourless
Odour	: characteristic
Odour threshold	: Odour threshold is subjective and inadequate to warn for overexposure. Odour threshold is subjective and inadequate to warn for overexposure.
pH	: Not applicable for gas-mixtures.
Melting point / Freezing point	: Not applicable for gas-mixtures.
Boiling point	: Not applicable for gas-mixtures.
Flash point	: Not applicable for gas-mixtures.
Evaporation rate	: Not applicable for gas-mixtures.
Flammability (solid, gas)	: Flammability range not available. Non flammable.
Explosive limits	: Not applicable for gas-mixtures.
Vapour pressure [20°C]	: Not applicable.
Relative density, gas (air=1)	: Heavier than air.
Partition coefficient n-octanol/water (Log Kow)	: Not applicable for gas-mixtures.
Viscosity	: Not applicable.
Explosive properties	: Not applicable.
Oxidising properties	: None.

9.2. Other information

Molar mass	: Not applicable for gas-mixtures.
Other data	: None.

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).
Direct sunlight.
Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids.
Strong bases.
For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition products

fume.
Carbon monoxide.
Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: No toxicological effects from this product.
Skin corrosion/irritation	: No known effects from this product.
Serious eye damage/irritation	: No known effects from this product.
Respiratory or skin sensitisation	: No known effects from this product.
Germ cell mutagenicity	: No known effects from this product.
Carcinogenicity	: No known effects from this product.
Toxic for reproduction : Fertility	: No known effects from this product.
Toxic for reproduction : unborn child	: No known effects from this product.
STOT-single exposure	: No known effects from this product.
STOT-repeated exposure	: No known effects from this product.
Aspiration hazard	: Not applicable for gases and gas-mixtures.
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Assessment	: Classification criteria are not met.
EC50 48h - Daphnia magna	: No data available.
EC50 72h Algae	: No data available.
LC50-96 h - fish	: No data available.

12.2. Persistence and degradability

Assessment	: Not established. No data available.
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12.3. Bioaccumulative potential

Assessment : Not established.

12.4. Mobility in soil

Assessment : No data available.

12.5. Results of PBT and vPvB assessment

Assessment : No data available.

12.6. Other adverse effects

Effect on the ozone layer : None.

Effect on global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contact supplier if guidance is required.

Do not discharge into any place where its accumulation could be dangerous.

Ensure that the emission levels from local regulations or operating permits are not exceeded.

Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org> for more guidance on suitable disposal methods.

List of hazardous waste codes (from Commission Decision 2001/118/EC) : 16 05 05: Gases in pressure containers other than those mentioned in 16 05 04.

13.2. Additional information

None.

SECTION 14: Transport information

14.1. UN number

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

UN-No. : 1954

14.2. UN proper shipping name

Transport by road/rail (ADR/RID) : COMPRESSED GAS, FLAMMABLE, N.O.S.

Transport by air (ICAO-TI / IATA-DGR) : COMPRESSED GAS, FLAMMABLE, N.O.S.

Transport by sea (IMDG) : COMPRESSED GAS, FLAMMABLE, N.O.S.

14.3. Transport hazard class(es)

Labelling :



2.1 : Flammable gases.

Transport by road/rail (ADR/RID)

Class : 2

Classification code : 1F

Hazard identification number : 23

Tunnel Restriction : B/D - Tank carriage : Passage forbidden through tunnels of category B, C, D and E. Other carriage : Passage forbidden through tunnels of category D and E

Transport by air (ICAO-TI / IATA-DGR)

Class / Div. (Sub. risk(s)) : 2.1

Transport by sea (IMDG)

Class / Div. (Sub. risk(s)) : 2.1

Emergency Schedule (EmS) - Fire : F-D
Emergency Schedule (EmS) - Spillage : S-U

14.4. Packing group

Transport by road/rail (ADR/RID) : Not applicable
Transport by air (ICAO-TI / IATA-DGR) : Not applicable
Transport by sea (IMDG) : Not applicable

14.5. Environmental hazards

Transport by road/rail (ADR/RID) : None.
Transport by air (ICAO-TI / IATA-DGR) : None.
Transport by sea (IMDG) : None.

14.6. Special precautions for user

Packing Instruction(s)

Transport by road/rail (ADR/RID) : P200
Transport by air (ICAO-TI / IATA-DGR)
Passenger and Cargo Aircraft : Forbidden.
Cargo Aircraft only : 200.
Transport by sea (IMDG) : P200

Special transport precautions : 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.

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

Not applicable.

SECTION 15: Regulatory information

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

EU-Regulations

Other information, restriction and prohibition regulations : Ensure all national/local regulations are observed.
Seveso directive 96/82/EC : Not covered.

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 : Revised safety data sheet in accordance with commission regulation (EU) No 453/2010.
Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 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.
Training advice : Receptacle under pressure.



SH-3, SH-5

Reference number: AWO015

Further information

: This Safety Data Sheet has been established in accordance with the applicable European Union legislation.
Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.

Full text of H- and EUH-phrases	
Compressed gas	Gases under pressure : Compressed gas
Flam. Gas 1A	
Flam. Gas 1B	
H220	_H_220_EU
H221	_H_221_EU
H280	_H_280_EU

DISCLAIMER OF LIABILITY

: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
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