

Danger



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

1.1. Product identifier

SDS Nr : AWO110

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
 PL1
 52020 Woikoski Finland
 +358 40 166 2023
 www.woikoski.fi
 info@woikoski.fi

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
	Myrkytystietokeskus Giftnformationscentralen, 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 : Gases under pressure : Compressed gas H280
 Health hazards : Reproductive toxicity, Category 1A H360
 Specific target organ toxicity — Repeated exposure, Category 2 H373

2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H280 - Contains gas under pressure; may explode if heated.
 H360 - May damage fertility or the unborn child.



0,4 % C₃H₈ + 4,5 % CO + 15 % CO₂ + N₂

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H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (CLP)

- Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
- Response : P308+P313 - IF exposed or concerned: Get medical advice/attention.
- Storage : P405 - Store locked up.
P403 - Store in a well-ventilated place.

2.3. Other hazards

: None.

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]
Nitrogen	(CAS No) 7727-37-9 (EC no) 231-783-9 (EC index no) (REACH-no) *1	80.1	Compressed gas, H280
Carbon dioxide	(CAS No) 124-38-9 (EC no) 204-696-9 (EC index no) (REACH-no) *1	15	Liquefied gas, H280
Carbon monoxide	(CAS No) 630-08-0 (EC no) 211-128-3 (EC index no) 006-001-00-2 (REACH-no) 01-2119480165-39	4.5	Flam. Gas 1, H220 Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Repr. 1A, H360D STOT RE 1, H372
Propane	(CAS No) 74-98-6 (EC no) 200-827-9 (EC index no) 601-003-00-5 (REACH-no) 01-2119486944-21	0.4	Flam. Gas 1, H220 Liquefied 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.

*2: Registration deadline not expired.

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

SECTION 4: First aid measures

4.1. Description of first aid measures



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- 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.

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

: Refer to section 11.

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

: Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- 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

- Specific hazards : Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : None.

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 : 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.

6.2. Environmental precautions

- : Try to stop release.

6.3. Methods and material for containment and cleaning up

- : Ventilate area.

6.4. Reference to other sections

- : See also sections 8 and 13.



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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.
Avoid exposure, obtain special instructions before use.
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

Propane (74-98-6)		
OEL : Occupational Exposure Limits		
Finland	HTP-värden (FI) - 8 H - [mg/m ³]	1500 mg/m ³
	HTP-värden (FI) - 8 H - [ppm]	800 ppm



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	HTP-värden - 15min - [mg/m ³]	2000 mg/m ³
	HTP-värden - 15min - [ppm]	1100 ppm

Carbon monoxide (630-08-0)

OEL : Occupational Exposure Limits

Finland	HTP-värden (FI) - 8 H - [mg/m ³]	35 mg/m ³
	HTP-värden (FI) - 8 H - [ppm]	30 ppm
	HTP-värden - 15min - [mg/m ³]	87 mg/m ³
	HTP-värden - 15min - [ppm]	75 ppm

Carbon dioxide (124-38-9)

OEL : Occupational Exposure Limits

Finland	HTP-värden (FI) - 8 H - [mg/m ³]	9100 mg/m ³
	HTP-värden (FI) - 8 H - [ppm]	5000 ppm

Carbon monoxide (630-08-0)

DNEL: Derived no effect level (Workers)

Acute - local effects, inhalation	100 ppm
Acute - systemic effects, inhalation	100 ppm
Long-term - local effects, inhalation	20 ppm
Long-term - systemic effects, inhalation	20 ppm

PNEC (Predicted No-Effect Concentration) : No data available.

8.2. Exposure controls

8.2.1. Appropriate engineering controls

- : Product to be handled in a closed system and under strictly controlled conditions.
- Provide adequate general and local exhaust ventilation.
- Product to be handled in a closed system.
- Preferably use only permanent leak-tight installations (e.g. welded pipes).
- Systems under pressure should be regularly checked for leakages.
- Ensure exposure is below occupational exposure limits (where available).
- Gas detectors should be used when toxic gases may be released.
- Gas detectors should be used when flammable gases/vapours may be released.
- Gas detectors should be used when oxidising gases may be released.
- 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
 - : 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.
 - Other
 - : Wear safety shoes while handling containers.
 - Standard EN ISO 20345 - Personal protective equipment - Safety footwear.



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- Respiratory protection : Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known.
Use gas filters and full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.
Consult respiratory device supplier's product information for the selection of the appropriate device.
Gas filters do not protect against oxygen deficiency.
Standard EN 14387 - Gas filter(s), combined filter(s) and full face mask - EN 136.
Keep self contained breathing apparatus readily available for emergency use.
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
- 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 : Mixture contains one or more component(s) which have the following colour(s):
Colourless.

Odour : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Mixture contains one or more component(s) which have the following odour(s):
Stenchant often added. Sweetish.

Odour threshold : Odour threshold is subjective and inadequate to warn for overexposure.

pH value : Not applicable for gas-mixtures.

Molar mass : Not applicable for gas-mixtures.

Melting point : Not applicable for gas-mixtures.

Boiling point : Not applicable for gas-mixtures.

Flash point : Not applicable for gas-mixtures.

Evaporation rate (ether=1) : Not applicable for gas-mixtures.

Flammability range [vol% in air] : Not applicable for gas-mixtures.

Vapour pressure [20°C] : Not applicable.

Vapour pressure [50°C] : No data available

Relative density, gas (air=1) : Lighter or similar to air.

Solubility in water [mg/l] : No data available

Partition coefficient n-octanol/water [log Kow] : Not applicable for gas-mixtures.

Auto-ignition temperature [°C] : No data available

Viscosity at 20°C : Not applicable.

Explosive Properties : Not applicable.

Oxidising Properties : None.

9.2. Other information

Other data : None.

SECTION 10: Stability and reactivity



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10.1. Reactivity

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

10.2. Chemical stability

: Stable under normal conditions.

10.3. Possibility of hazardous reactions

: None.

10.4. Conditions to avoid

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

10.5. Incompatible materials

: For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful by inhalation.

Carbon monoxide (630-08-0)

LC50 inhalation rat (ppm)	1880 ppm/4h
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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 : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not applicable for gases and gas-mixtures.

SECTION 12: Ecological information

12.1. Toxicity

Assessment : Classification criteria are not met.

Propane (74-98-6)

EC50 48h - Daphnia magna	27.1 mg/l
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EC50 72h Algae	11.9 mg/l
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LC50-96 h - fish	49.9 mg/l
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Carbon monoxide (630-08-0)

EC50 48h - Daphnia magna	Study scientifically unjustified.
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EC50 72h Algae	Study scientifically unjustified.
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LC50-96 h - fish	Study scientifically unjustified.
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12.2. Persistence and degradability

Assessment : No data available.

12.3. Bioaccumulative potential



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Assessment : No data available.

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 ozone layer : None.

Effect on the global warming : Contains greenhouse gas(es) not covered by 842/2006/EC.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contact supplier if guidance is required.
May be vented to atmosphere.
Avoid discharge to atmosphere.
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 wastes : 16 05 04: Gases in pressure containers (including halons) containing dangerous substances.

13.2. Additional information

: None.

SECTION 14: Transport information

14.1. UN number

UN-No. : 1956

14.2. UN proper shipping name

Land transport (ADR/RID) : COMPRESSED GAS, N.O.S. (Nitrogen, Carbon monoxide)

Air transport (ICAO-TI / IATA-DGR) : COMPRESSED GAS, N.O.S.

Sea transport (IMDG) : COMPRESSED GAS, N.O.S. (Nitrogen, Carbon monoxide)

14.3. Transport hazard class(es)

Labelling :



2.2 : Non-flammable, non-toxic gases.

Land transport (ADR/RID)

Class : 2.

Classification code : 1A.

Hazard identification number : 20.

Tunnel Restriction : E - Passage forbidden through tunnels of category E.

Air transport (ICAO-TI / IATA-DGR)

Class / Div. (Sub. risk(s)) : 2.2

Sea transport (IMDG)



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Class / Div. (Sub. risk(s)) : 2.2
Emergency Schedule (EmS) - Fire : F-C.
Emergency Schedule (EmS) - Spillage : S-V.

14.4. Packing group

Land transport (ADR/RID) : Not applicable
Air transport (ICAO-TI / IATA-DGR) : Not applicable
Sea transport (IMDG) : Not applicable

14.5. Environmental hazards

Land transport (ADR/RID) : None.
Air transport (ICAO-TI / IATA-DGR) : None.
Sea transport (IMDG) : None.

14.6. Special precautions for user

Packing Instruction(s)

Land transport (ADR/RID) : P200.
Air transport (ICAO-TI / IATA-DGR)
 Passenger and Cargo Aircraft : 200.
 Cargo Aircraft only : 200.
Sea transport (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 73/78 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

Restrictions on use : Restricted to professional users (Annex XVII REACH).
Seveso directive 96/82/EC : Not covered.

National regulations

National legislation : Ensure all national/local regulations are observed.
Water hazard class (WGK) : -

15.2. 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 : Users of breathing apparatus must be trained.
Receptacle under pressure.
- 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

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Compressed gas	Gases under pressure : Compressed gas
Flam. Gas 1	Flammable gases, Category 1
Liquefied gas	Gases under pressure : Liquefied gas
Repr. 1A	Reproductive toxicity, Category 1A
Repr. 1A	Reproductive toxicity, Category 1A
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H331	Toxic if inhaled
H360	May damage fertility or the unborn child
H360D	May damage the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure

- DISCLAIMER OF LIABILITY : Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Details given in this document are believed to be correct at the time of going to press.
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.

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