Safety Data Sheet

Lambda Mix A1 / A2 (0,2 % C_3H_8 + 3,5 % CO + 14 % CO_2 in N_2)

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Reference number: RS-C3H8-CO-CO2-N2-02
Issue date: 09/01/2018 Revision date: 01/01/2026 Supersedes version of: 09/01/2024 Version: 3D

Danger

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

1.1. Product identifier

Trade name	:	Lambda Mix A1 / A2
SDS no	:	RS-C3H8-CO-CO2-N2-02
Other means of identification		
CAS no.	:	None.
EC no.	:	None.
Index no.	:	None.
REACH no.	:	None.

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

Relevant identified uses	:	Industrial and professional use for chemical analysis, calibration, (routine) quality control, laboratory use, under controlled conditions. Perform risk assessment prior to use.
Uses advised against	:	Consumer use. Uses other than those listed above are not supported, contact your supplier for more information on other uses. Attention: These products must not be applied to humans or animals unless they are expressly designated as medical or medicinal gases!

1.3. Details of the supplier of the safety data sheet

Messer Tehnogas AD Beograd
Banjicki put no. 62
11090 Belgrade, Serbia
Telephone: +381 11 35 37 200 Fax: +381 11 35 37 291
e-mail: postoffice@messer.rs
Web: www.messer.rs

Person responsible for the safety data sheet:
Tamara Ječmenica, Chemicals Advisor
Telephone: +381 65 35 37 785
e-mail: sds@messer.rs

1.4. Emergency telephone number

Emergency telephone number	:	Poison Control Center, VMA Crnotravska 17, Belgrade Serbia Tel. : +381(0) 11 360 8440 (24h)

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	H360D***
	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) :

GHS04 GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H280 - Contains gas under pressure; may explode if heated.
H360D*** - May damage fertility or the unborn child.
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.
P260 - Do not breathe gas.
P280 - Wear protective gloves, protective clothing, eye protection.
- Response : P308+P313 - IF exposed or concerned: Get medical advice / attention.
P314 - Get medical advice/attention if you feel unwell.
- Storage : P403 - Store in a well-ventilated place.
P405 - Store locked up.
- Disposal : P501 - Dispose of container in accordance with local, regional, national and/or international regulation.

Supplemental information : Restricted to professional users.

2.3. Other hazards

Not classified as PBT or vPvB. Not classified as PMT or vPvM.
The substance / mixture has no endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP] ATE, EUH-statements, M-Factors
Nitrogen	CAS no.: 7727-37-9 EC no.: 231-783-9 Index no.: --- REACH no.: *1	Rest	Press. Gas (Comp.), H280
Carbon dioxide	CAS no.: 124-38-9 EC no.: 204-696-9 Index no.: --- REACH no.: *1	14	Press. Gas (Liq.), H280

Carbon monoxide	CAS no.: 630-08-0 EC no.: 211-128-3 Index no.: 006-001-00-2 REACH no.: 01-2119480165-39	3.5	Flam. Gas 1B, H221 Press. Gas (Comp.), 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 Index no.: 601-003-00-5 REACH no.: 01-2119486944-21	0.2	Flam. Gas 1A, H220 Press. Gas (Liq.), H280

Full text of H- and EUH-statements: 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 : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Maintain an open airway. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
- Skin contact : Adverse effects not expected from this product.
- Eye contact : Adverse effects not expected from this product. If irritation occurs: Flush eyes with plenty of water. Remove any contact lenses. Get medical advice / attention.
- Ingestion : Ingestion is not considered a potential route of exposure.

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. See section 11.

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

Take first aid measures. Loosen tight clothing, such as a collar, tie or belt.
Place the unconscious person in a lateral position. Seek medical attention.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray or fog. Product does not burn, use fire control measures appropriate for the surrounding fire.
- 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 : Carbon monoxide.

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.
Move containers away from the fire area if this can be done without risk.

Special protective equipment for fire fighters : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus.
Standard EN 943-2: Protective clothing against liquid and gaseous chemicals, aerosols and solid particles. Gas-tight chemical protective suits for emergency teams.
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

For non-emergency personnel : Act in accordance with local emergency plan. Try to stop release. Evacuate area.
Ensure adequate air ventilation. Stay upwind.
See section 8 of the SDS for more information on personal protective equipment.

For emergency responders : Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. See section 5.3 of the SDS for more information.

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product : Avoid exposure, obtain special instructions before use.
The product must be handled in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke while working with the product.
Wash hands after use. Only experienced and properly instructed persons should handle gases under pressure. Wear personal protective equipment (See section 8).
Consider pressure relief device(s) in gas installations.
Ensure the complete gas system was (or is regularly) checked for leaks 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.
Avoid suck back of water, acid and alkalis.
Do not breathe gas.
Avoid release of product into work area.

Safe handling of the gas receptacle : Refer to supplier's container handling instructions.
Protect containers 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 the protection cap is too tight, remove it with adjustable wrench. Never insert sharp objects into the cavities of the cap, this can lead to damage to the valve and leakage.
Open valve slowly to avoid pressure shock.
If user experiences any difficulty operating 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 use direct flame or electrical heating devices to raise the pressure of a container.
Do not allow backfeed into the container.
Never attempt to transfer gases from one cylinder / container to another.
Do not remove or deface labels provided by the supplier for the identification of the content of the container.

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 them from falling over. 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

Carbon monoxide (630-08-0)	
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Carbon monoxide
BOEL TWA	23 mg/m³
BOEL TWA [ppm]	20 ppm
BOEL STEL	117 mg/m³
BOEL STEL [ppm]	100 ppm
Regulatory reference	DIRECTIVE (EU) 2022/431 (amending Directive 2004/37/EC)

Serbia - Occupational Exposure Limits	
Local name	угљенмоноксид
OEL TWA	23 mg/m³
OEL TWA	20 ppm
OEL STEL	117 mg/m³
OEL STEL	100 ppm
Remark	ЕУ**** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2017/164/ЕУ (четврта листа)
Regulatory reference	ПРАВИЛНИК о превентивним мерама за безбедан и здрав рад при излагању хемијским материјама („Службени гласник РС”, бр. 106/09, 117/17 и 107/21)

Carbon dioxide (124-38-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Carbon dioxide
IOEL TWA	9000 mg/m³
IOEL TWA [ppm]	5000 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Serbia - Occupational Exposure Limits	
Local name	угљен-диоксид
OEL TWA	9000 mg/m³
OEL TWA	5000 ppm
Remark	ЕУ** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2006/15/Е3 (друга листа)
Regulatory reference	ПРАВИЛНИК о превентивним мерама за безбедан и здрав рад при излагању хемијским материјама („Службени гласник РС”, бр. 106/09, 117/17 и 107/21)

Carbon monoxide (630-08-0)	
DNEL: Derived no effect level (Workers)	
Acute - local effects, inhalation	117 ppm
Acute - systemic effects, inhalation	117 mg/m³
Long-term - local effects, inhalation	23 ppm
Long-term - systemic effects, inhalation	23 mg/m³

PNEC (Predicted No-Effect Concentration) : None established.

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.
Preferably use 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).
Consider the use of a 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 - specifications.
Standard EN ISO 16321-1 - Eye and face protection for occupational use Part 1: General requirements.

• Skin protection

- Hand protection : Wear working gloves when handling gas containers.
Standard EN 388 - Protective gloves against mechanical risks, performance level 1 or higher.
Recommended types include wrist gloves from leather or synthetic material with equivalent performance, fabric gloves, fabric gloves with leather palms.

- Other : Wear safety shoes while handling containers.
Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

• Respiratory protection : Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
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. Consult respiratory device supplier´s product information for the selection of the appropriate device. When indicated by a risk assessment, Respiratory Protective Equipment must be used. The selection of the Respiratory Protective Device (RPD) must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected RPD.

• Thermal hazards : None in addition to the above sections.

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 : Odour threshold is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Stenchant often added. Sweetish.

Melting point / Freezing point	:	Not applicable for gases and gas mixtures.
Boiling point	:	Not applicable for gas mixtures. It is technically not possible to determine the boiling point or range of this mixture. Component with lowest boiling point: Nitrogen -196 °C
Flammability	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not applicable for gases and gas mixtures.
Auto-ignition temperature	:	Non flammable.
Decomposition temperature	:	Not applicable.
pH	:	Not applicable for gases and gas mixtures.
Viscosity, kinematic	:	Not applicable for gases and gas mixtures.
Water solubility [20°C]	:	Mixture is partially soluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure [20°C]	:	Not applicable.
Vapour pressure [50°C]	:	Not applicable.
Density and/or relative density	:	Not applicable.
Relative vapour density (air=1)	:	Lighter or similar to air.
Particle characteristics	:	Not applicable for gases and gas mixtures. Nanoforms are not relevant for gases and gas mixtures.

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosion limits	:	Non flammable.
Oxidising properties	:	No oxidising properties.

9.2.2. Other safety characteristics

Other data	:	None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Data for mixtures are not available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

This mixture contains components with the following reactivity: Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid

Avoid moisture in installation systems.

10.5. Incompatible materials

Moisture. 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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity : Classification criteria are not met.

Carbon monoxide (630-08-0)	
LC50 Inhalation - Rat [ppm]	3760 ppm/1h (ADR) 1300 ppm/4h (CLP)

Propane (74-98-6)	
LC50 Inhalation - Rat [ppm]	20000 ppm/4h

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 : May damage fertility.

Toxic for reproduction : unborn child : May damage the unborn child.

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.

11.2. Information on other hazards

Other information : For more information, see 'EIGA Safety Info 24: Carbon Dioxide, Physiological Hazards' at www.eiga.eu Unlike simple asphyxiants, carbon dioxide has the ability to cause death even when normal oxygen levels (20-21%) are maintained. 5% CO_2 has been found to act synergistically to increase the toxicity of certain other gases (CO, NO_2). CO_2 has been shown to enhance the production of carboxy- or met-hemoglobin by these gases possibly due to carbon dioxide's stimulatory effects on the respiratory and circulatory systems.
The substance / mixture has no endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Toxicity

Assessment : Classification criteria are not met.

EC50 48h - Daphnia magna [mg/l] : No data available.

EC50 72h - Algae [mg/l] : No data available.

LC50 96 h - Fish [mg/l] : No data available.

Carbon monoxide (630-08-0)	
EC50 48h - Daphnia magna [mg/l]	No data available.
EC50 72h - Algae [mg/l]	No data available.
LC50 96 h - Fish [mg/l]	No data available.

Carbon dioxide (124-38-9)	
EC50 48h - Daphnia magna [mg/l]	No data available.
EC50 72h - Algae [mg/l]	No data available.
LC50 96 h - Fish [mg/l]	No data available.

Propane (74-98-6)	
EC50 48h - Daphnia magna [mg/l]	27.1 mg/l
EC50 72h - Algae [mg/l]	11.9 mg/l
LC50 96 h - Fish [mg/l]	49.9 mg/l

Nitrogen (7727-37-9)	
EC50 48h - Daphnia magna [mg/l]	No data available.
EC50 72h - Algae [mg/l]	No data available.
LC50 96 h - Fish [mg/l]	No data available.

12.2. Persistence and degradability

Assessment : No data available.

12.3. Bioaccumulative potential

Assessment : No data available.

12.4. Mobility in soil

Assessment : Because of its high volatility, the product is unlikely to cause ground or water pollution.
Partition into soil is unlikely.

12.5. Results of PBT and vPvB assessment

Assessment : Not classified as PBT or vPvB.

12.6. Endocrine disrupting properties

Assessment : The substance / mixture has no endocrine disrupting properties.

12.7. Other adverse effects

Other adverse effects : Not classified as PMT or vPvM.

Effect on the ozone layer : No effect on the ozone layer.

Effect on global warming : Contains greenhouse gases listed in Annex I of EU 2024/573.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contact supplier if guidance is required.
Ensure that the emission levels from local regulations or operating permits are not exceeded.
Refer to the EIGA code of practice Doc.30/21 "Disposal of Gases", downloadable at http://www.eiga.eu for more guidance on suitable disposal methods.
Must not be discharged to atmosphere.
Return unused product in original container to supplier.

List of hazardous waste codes (from Commission Delegated Decision (EU) 2025/934 of 5 March 2025 amending Decision 2000/532/EC) : 16 05 04 *: Gases in pressure containers (including halons) containing hazardous substances.

13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: Transport information

14.1. UN number or ID number

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

UN-No. : 1956

14.2. UN proper shipping name

Transport by road/rail/inland waterways (ADR/RID/ADN) : COMPRESSED GAS, N.O.S. (Nitrogen, Carbon monoxide)

Transport by air (ICAO-TI / IATA-DGR) : Compressed gas, n.o.s. (Nitrogen, Carbon monoxide)

Transport by sea (IMDG) : COMPRESSED GAS, N.O.S. (Nitrogen, Carbon monoxide)

14.3. Transport hazard class(es)

Labelling :

2.2 : Non flammable, non-toxic gases.

Transport by road/rail/inland waterways (ADR/RID/ADN)

Class : 2

Classification code : 1A

Hazard identification number : 20

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

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

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

Transport by sea (IMDG)

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

Emergency Schedule (EmS) - Fire : F-C

Emergency Schedule (EmS) - Spillage : S-V

14.4. Packing group

Transport by road/rail/inland waterways (ADR/RID/ADN) : 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/inland waterways (ADR/RID/ADN) : 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/inland waterways (ADR/RID/ADN)	:	P200.
Transport by air (ICAO-TI / IATA-DGR)		
Passenger and Cargo Aircraft	:	200.
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 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. Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

RS Regulations

Pravilnik o ograničenjima i zabranama proizvodnje, stavljanja u promet i korišćenja hemikalija("Sl. glasnik RS", br. 90/13, 25/15, 2/16, 44/17, 36/18, 9/20, 57/22, 29/24 i 90/25)	:	Allowed for professional use only. Prohibition 30.
Pravilnik o izvozu i uvozu određenih opasnih hemikalija („Sl. glasnik RS“ br. 93/23 i 78/25)	:	None.
Zakon o kontroli opasnosti od velikih udesa koji uključuju opasne supstance ("Sl. glasnik RS", br. 94/24)	:	Covered.

Pravilnik o Listi opasnih supstanci, vrstama i količinama opasnih supstanci i kriterijumima za razvijanje kompleksa u kompleksu nižeg reda i kompleksa višeg reda ("Sl. glasnik RS", br. 28/25)	Qualifying quantity (tonnes)	
	Lower-tier	Upper-tier
Carbon monoxide		
H2 ACUTE TOXIC — Category 2, all exposure routes — Category 3, inhalation exposure route	50	200
P2 FLAMMABLE GASES Flammable gases, Category 1 or 2	10	50
Propane		
Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas	50	200

EU Regulations

Other information, restriction and prohibition regulations	:	Restricted to professional users (Annex XVII REACH). Entry 30. Not listed on the PIC list (Regulation EU 649/2012). Not listed on the POP list (Regulation EU 2019/1021).
Seveso Directive : 2012/18/EU (Seveso III)	:	Covered.

Seveso III Part II (Named dangerous substances)	**Qualifying quantity (tonnes)**	
	Lower-tier	**Upper-tier**
Carbon monoxide		
H2 ACUTE TOXIC — Category 2, all exposure routes — Category 3, inhalation exposure route	50	200
P2 FLAMMABLE GASES Flammable gases, Category 1 or 2	10	50
Seveso III Part I (Categories of dangerous substances)	**Qualifying quantity (tonnes)**	
	Lower-tier	**Upper-tier**
Propane		
Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas	50	200

15.2. Chemical safety assessment

A CSA does not need to be carried out for this product.

SECTION 16: Other information

Indication of changes	:	In Section 1, the Safety Data Sheet is supplemented with information about details of the supplier of the safety data sheet. In Section 2, the Safety Data Sheet is supplemented with other hazards. In Section 8, the Safety Data Sheet is supplemented with information about personal protection. In Section 12, the Safety Data Sheet is supplemented with other adverse effects. In Section 13, the Safety Data Sheet is supplemented with information about waste treatment methods. In Section 15, the Safety Data Sheet is supplemented with regulatory information.
Abbreviations and acronyms	:	ADN - International Carriage of Dangerous Goods by Inland Waterways ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road ATE - Acute Toxicity Estimate CAS - Chemical Abstract Service number CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 CSA - Chemical Safety Assessment DNEL - Derived No Effect Levels EINECS - European Inventory of Existing Commercial Chemical Substances EC- European Community number EIGA - European Industrial Gases Association EN - European Standard IATA - International Air Transport Association ICAO - International Civil Aviation Organization

IMDG - International Maritime Dangerous Goods
IMO - International Maritime Organization
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose 50%
LEL - Lower Explosive Limit
OEL - Occupational exposure limits
PBT - Persistent, Bioaccumulative and Toxic
PMT - Perzistentno, mobilno i toksično .
PNEC - Predicted No Effect Concentration
PPE - Personal Protection Equipment
PROC - Procesna kategorija (Process category).
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RMM - Risk Management Measures
STOT - RE - Specific Target Organ Toxicity - Repeated Exposure
STOT- SE - Specific Target Organ Toxicity - Single Exposure
STEL - Short Term Exposure Limit
TWA –8-hour total weight average
UEL - Upper explosive limit
UFI - Unique Formula Identifier
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative
vPvM – veoma perzistentno i veoma mobilno.
WGK - Water Hazard Class

Training advice : Receptacle under pressure.
The hazard of asphyxiation is often overlooked and must be stressed during operator training.
For more guidance, refer to EIGA SL 01 “Dangers of Asphyxiation”, downloadable at http://www.eiga.eu

Further information : Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP). Key literature references and sources of data are maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at http://www.eiga.eu

Full text of H- and EUH-statements	
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Flam. Gas 1A	Flammable gases, Category 1A
Flam. Gas 1B	Flammable gases, Category 1B
H220	Extremely flammable gas.
H221	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.
Press. Gas (Comp.)	Gases under pressure : Compressed gas
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
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

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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