Safety Data Sheet

Hydrogen sulfide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Referentni broj: RS-H2S-073
Issue date: 04/28/2022 Revision date: 01/01/2026 Supersedes: 09/01/2024 Version: 3D

Danger

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

1.1. Product identifier

Trade name	:	Hydrogen sulfide
SDS no	:	RS-H2S-073
Other means of identification	:	Sulphur hydrogen
CAS no.	:	7783-06-4
EC no.	:	231-977-3
Index no.	:	016-001-00-4
REACH no.	:	01-2119445737-29
Chemical formula	:	H_2S

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

Relevant identified uses	:	Industrial use. Perform risk assessment prior to use. Test gas/Calibration gas. Chemical reaction / Synthesis. Laboratory use. Use for manufacture of electronic/photovoltaic components.
Uses advised against	:	Consumer use. Uses other than those listed above are not supported, contact your supplier for more information on other uses.

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	Flammable gases, Category 1A	H220

	Gases under pressure : Liquefied gas	H280
Health hazards	Acute toxicity (inhalation:gas) Category 2	H330
	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Environmental hazards	Hazardous to the aquatic environment – Acute Hazard, Category 1	H400

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS04 GHS06 GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H330 - Fatal if inhaled.
H335 - May cause respiratory irritation.
H400 - Very toxic to aquatic life.

Precautionary statements (CLP)

- Prevention : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe gas, vapours.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P284 - Wear respiratory protection.

- Response : P304+P340 - IF INHALED : Remove person to fresh air and keep comfortable for breathing.
P310 - Immediately call a POISON CENTER or doctor.
P320 - Specific treatment is urgent.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - In case of leakage, eliminate all ignition sources.
P391 - Collect spillage.

- Storage : P403+P410+P233 - Protect from sunlight. Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.

- Disposal : P501 - Dispose of container in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contact with liquid may cause cold burns/frostbite.
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

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP] ATE, EUH-statements, M-Factors
Hydrogen sulfide	CAS no.: 7783-06-4 EC no.: 231-977-3 Index no.: 016-001-00-4 REACH no: 01-2119445737-29	≤ 100	Flam. Gas 1A, H220 Press. Gas (Liq.), H280 Acute Tox. 2 (Inhalation:gas), H330 (ATE=440 ppmv/4h) STOT SE 3, H335 Aquatic Acute 1, H400

Name	Product identifier	Specific concentration limits (%)
Hydrogen sulfide	CAS no.: 7783-06-4 EC no.: 231-977-3 Index no.: 016-001-00-4 REACH no: 01-2119445737-29	(1 ≤ C ≤ 100) STOT SE 3; H335

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

3.2. Mixtures Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- Inhalation : Get immediate medical help. Provide oxygen. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Perform cardiopulmonary resuscitation in case of respiratory arrest. Avoid mouth-to-mouth artificial respiration due to the danger to the rescuer.
- Skin contact : In case of frostbite spray with water for at least 15 minutes. Do not use hot water! Apply a sterile dressing. Chemical injuries must be treated by a doctor.
- Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses. Obtain medical assistance.
- Ingestion : Ingestion is not considered a potential route of exposure.

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

May cause damaging effects to central nervous system, metabolism and gastrointestinal tract.
Prolonged exposure to small concentrations may result in pulmonary oedema.
May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. See section 11.

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

Obtain medical assistance. Loosen tight clothing, such as a collar, tie or belt.
Place the unconscious person in a lateral position.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray or fog. Dry powder. Carbon dioxide.Shutting off the source of the gas is the p referred method of control. Be aware of the risk of formation of static electricity with the use of CO_2 extinguishers. Do not use them in places where a flammable atmosphere may be present.
- 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 : Sulphur dioxide.

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. Do not extinguish a leaking gas flame unless absolutely necessary.
Spontaneous/explosive re-ignition may occur. Extinguish any other fire. 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. Eliminate ignition sources. Ensure adequate air ventilation. Stay upwind.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
See section 8 of the SDS for more information on personal protective equipment.

For emergency responders : Monitor concentration of released product. Consider the risk of potentially explosive atmospheres. 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. Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment. Ensure equipment is adequately earthed. Take precautionary measures against static discharge. Keep away from ignition sources (including static discharges). Consider the use of only non-sparking tools. Before use, ensure that the equipment is properly grounded. 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 regularily) checked for leaks before use. Purge system with dry inert gas (e.g. helium or nitrogen) before gas is introduced and when system is placed out of service. Installation of a cross purge assembly between the container and the regulator is recommended.
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 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 allow backfeed into the container. Suck back of water into the container must be prevented. 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

Segregate from oxidant gases and other oxidants in store.
All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere. 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.
Store locked up.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hydrogen sulphide (7783-06-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Hydrogen sulphide
IOEL TWA	7 mg/m³
	5 ppm
IOEL STEL	14 mg/m³
	10 ppm
Regulatory reference	COMMISSION DIRECTIVE 2009/161/EU
Serbia - Occupational Exposure Limits	
Local name	водоник сулфид
OEL TWA	7 mg/m³
	5 ppm
OEL STEL	14 mg/m³
	10 ppm
Remark	ЕУ*** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2009/161/ЕУ (трећа 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)

Hydrogen sulphide (7783-06-4)	
DNEL: Derived no effect level (Workers)	
Acute - local effects, inhalation	14 mg/m³
Acute - systemic effects, inhalation	14 mg/m³
Long-term - local effects, inhalation	7 mg/m³
Long-term - systemic effects, inhalation	7 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).
Gas detectors should be used when toxic gases may be released.
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 goggles when transfilling or breaking transfer connections.
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.
Permeation time: minimum >480min long term exposure: material / thickness [mm] Nitrile rubber (NBR) 0,7.
Wear cold insulating gloves when transfilling or breaking transfer connections.
Standard EN 511 - Cold insulating gloves, performance level 1 or higher. Recommended types include insulated gauntlets or gloves specifically selected to prevent liquid penetration and ingress of cryogenic liquids and to provide mechanical resistance.

- Other : Consider the use of flame resistant anti-static safety clothing.
Standard EN ISO 14116 - Limited flame spread materials.
Standard EN 1149-5 - Protective clothing: Electrostatic properties.
Wear safety shoes while handling containers.
Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

• Respiratory protection : Recommended: Filter B (grey).
Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
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 with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.
Gas filters do not protect against oxygen deficiency.
Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .
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.

• 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	:	Rotten eggs. Poor warning properties at low concentrations. Odour can persist.
Melting point / Freezing point	:	-86 °C
Boiling point	:	-60.2 °C
Flammability	:	Extremely flammable gas.
Lower explosion limit	:	3.9 vol %
Upper explosion limit	:	45.5 vol %
Flash point	:	Not applicable for gases and gas mixtures.
Auto-ignition temperature	:	270 °C
Decomposition temperature	:	Not applicable.
pH	:	Not applicable for gases and gas mixtures.
Viscosity, kinematic	:	No reliable data available.
Water solubility [20°C]	:	3980 mg/l
Partition coefficient n-octanol/water (Log Kow)	:	Not applicable for inorganic products.
Vapour pressure [20°C]	:	18.8 bar(a)
Vapour pressure [50°C]	:	36.4 bar(a)
Density and/or relative density	:	Not applicable for gases and gas mixtures.
Relative vapour density (air=1)	:	1.2
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	:	Not known.
Oxidising properties	:	No oxidising properties.
Tci	:	8.9 %
Critical temperature [°C]	:	100 °C

9.2.2. Other safety characteristics

Molar mass	:	34 g/mol
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

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

Can form explosive mixture with air.bMay react violently with oxidants.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Avoid moisture in installation systems.

10.5. Incompatible materials

With water causes rapid corrosion of some metals.
Moisture. Air, Oxidisers. 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 : Fatal if inhaled.

Hydrogen sulphide (7783-06-4)	
LC50 Inhalation - Rat [ppm]	712 ppm/1h (ADR) 440 ppm/4h (CLP)

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 : Irritation to the respiratory tract.
May cause respiratory irritation.

STOT-repeated exposure : Damage to central nervous system.

Aspiration hazard : Not applicable for gases and gas mixtures.

11.2. Information on other hazards

Other information : The substance/mixture has no endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Toxicity

Assessment : Very toxic to aquatic life.

EC50 48h - Daphnia magna [mg/l] : 0.12 mg/l

EC50 72h - Algae [mg/l] : 1.87 mg/l

LC50 96 h - Fish [mg/l]	:	0.007 - 0.019 mg/l

12.2. Persistence and degradability

Assessment	:	Not applicable for inorganic products.

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	:	No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction. Toxic and corrosive gases formed during combustion should be scrubbed before discharge to atmosphere. Contact supplier if guidance is required. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. 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.	:	1053

14.2. UN proper shipping name

Transport by road/rail/inland waterways (ADR/RID/ADN)	:	HYDROGEN SULPHIDE
Transport by air (ICAO-TI / IATA-DGR)	:	Hydrogen sulphide
Transport by sea (IMDG)	:	HYDROGEN SULPHIDE

14.3. Transport hazard class(es)

Labelling :

2.3 : Toxic gases.

2.1 : Flammable gases.

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

Class	:	2
Classification code	:	2TF
Hazard identification number	:	263
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 sea (IMDG)

Class / Div. (Sub. risk(s))	:	2.3 (2.1)
Emergency Schedule (EmS) - Fire	:	F-D
Emergency Schedule (EmS) - Spillage	:	S-U

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)	:	Environmentally hazardous substance / mixture.
Transport by air (ICAO-TI / IATA-DGR)	:	Environmentally hazardous substance / mixture.
Transport by sea (IMDG)	:	Marine pollutant.

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	:	Forbidden.
Cargo Aircraft only	:	Forbidden.
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) : None.

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
Hydrogen sulphide	5	20

EU Regulations

Other information, restriction and prohibition regulations : None.
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
Hydrogen sulphide	5	20

15.2. Chemical safety assessment

A CSA has been carried out.

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.
Users of breathing apparatus must be trained.
Ensure operators understand the flammability hazard.
Ensure operators understand the toxicity hazard.

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. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Flam. Gas 1A	Flammable gases, Category 1A
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

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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