Safety Data Sheet

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

Hydrogen sulphide

SDS reference: 00073_LIQ

Danger

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

1.1. Product identifier

Trade name	:	Hydrogen sulphide
SDS no	:	00073_LIQ
Chemical description	:	Hydrogen sulphide CAS-No. : 7783-06-4 EC-No. : 231-977-3 EC Index-No. : 016-001-00-4
Registration-No.	:	01-2119445737-29
Chemical formula	:	H2S

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. Use for manufacture of electronic/photovoltaic components. Laboratory use. Contact supplier for more information on uses.
Uses advised against	:	Consumer use.

1.3. Details of the supplier of the safety data sheet

Company identification	:	SIAD S.p.A. Via San Bernardino, 92 I-24126 Bergamo Italia +39 035 328111 www.siad.com siad_reach_clp@siad.com

1.4. Emergency telephone number

Emergency telephone number	:	Linea verde S.E.T. - from Italy 800452661 - International +39 0362512868 - 24 hours a day, 365 days a year

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 1	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

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

Hazard pictograms (CLP) :

GHS06 GHS02 GHS04 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.
P273 - Avoid release to the environment.
- Response : P304+P340+P315 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get immediate medical advice / attention.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - In case of leakage, eliminate all ignition sources.
- Storage : P403 - Store in a well-ventilated place.
P405 - Store locked up.

2.3. Other hazards

: Contact with liquid may cause cold burns/frostbite.

SECTION 3: composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hydrogen sulphide	(CAS-No.) 7783-06-4 (EC-No.) 231-977-3 (EC Index-No.) 016-001-00-4 (Registration-No.) 01-2119445737-29	100	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Acute Tox. 2 (Inhalation:gas), H330 STOT SE 3, H335 Aquatic Acute 1, H400

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 : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.

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- Skin contact : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
- Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.
- Ingestion : Ingestion is not considered a potential route of exposure.

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

: May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.

May cause damaging effects to central nervous system, metabolism and gastrointestinal tract.

Prolonged exposure to small concentrations may result in pulmonary oedema.

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.

  Dry powder.
- Unsuitable extinguishing media : Carbon dioxide.

  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

: Try to stop release.
Evacuate area.
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.
Eliminate ignition sources.
Ensure adequate air ventilation.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Act in accordance with local emergency plan.
Stay upwind.

6.2. Environmental precautions

: Try to stop release.

6.3. Methods and material for containment and cleaning up

: Ventilate area.
Keep area evacuated and free from ignition sources until any spilled liquid has evaporated (ground free from frost).

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 : The product 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 regularily) 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.
Installation of a cross purge assembly between the cylinder and the regulator is recommended.
Avoid suck back of water, acid and alkalis.
Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment.
Purge air from system before introducing gas.
Take precautionary measures against static discharge.
Keep away from ignition sources (including static discharges).
Consider the use of only non-sparking tools.
Do not breathe gas.
Avoid release of product into atmosphere.
Ensure equipment is adequately earthed.

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.

Suck back of water into the container must be prevented.

Open valve slowly to avoid pressure shock.

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.

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.

7.3. Specific end use(s)

: None.

SECTION 8: exposure controls/personal protection

8.1. Control parameters

Hydrogen sulphide (7783-06-4)
OEL : Occupational Exposure Limits

EU	TWA IOELV (EU) 8 h [mg/m³]	7 mg/m³
	TWA IOELV (EU) 8 h [ppm]	5 ppm
	STEL IOELV (EU) 15 min [mg/m³]	14 mg/m³
	STEL IOELV (EU) 15 min [ppm]	10 ppm
Austria	TWA (AT) OEL 8h [mg/m³]	7 mg/m³
	STEL (AT) OEL 15min [ppm]	5 ppm
	STEL (AT) OEL 15min [mg/m³]	7 mg/m³
	TWA (AT) OEL 8h [ppm]	5 ppm
Belgium	TWA (BE) OEL 8h [mg/m3]	7 mg/m³
	TWA (BE) OEL 8h [ppm]	5 ppm
	STEL (BE) OEL 15min [mg/m3]	14 mg/m³
	STEL (BE) OEL 15min [ppm]	10 ppm

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Bulgaria	TWA (BG) OEL 8h [mg/m³]	7 mg/m³
	STEL (BG) OEL 15min [mg/m³]	14 mg/m³
Estonia	TWA (EE) OEL 8h [mg/m³]	7 mg/m³
	TWA (EE) OEL 8h [ppm]	5 ppm
	STEL (EE) OEL 15min [mg/m³]	14 mg/m³
	STEL (EE) OEL 15min [ppm]	10 ppm
France	STEL (FR) OEL 15min [mg/m³]	14 mg/m³
	STEL (FR) OEL 15min [ppm]	10 ppm
	TWA (FR) OEL 8h [mg/m³]	7 mg/m³
	TWA (FR) OEL 8h [ppm]	5 ppm
	Note (FR)	Valeurs règlementaires contraignantes
Germany	TWA (DE) OEL 8h [mg/m3] TRGS 900	7,1 mg/m³
	TWA (DE) OEL 8h [ppm] TRGS 900	5 ppm
	Remark (TRGS 900)	EU,DFG,AGS,Y
Greece	TWA (GR) OEL 8h [mg/m³]	15 mg/m³
	TWA (GR) OEL 8h [ppm]	10 ppm
	STEL (GR) OEL 15min [mg/m³]	21 mg/m³
	STEL (GR) OEL 15min [ppm]	15 ppm
ACGIH	ACGIH TWA (ppm)	1 ppm
	ACGIH STEL (ppm)	5 ppm
	Remark (ACGIH)	URT irr; CNS impair
Italy	TWA (IT) OEL 8h [mg/m³]	7 mg/m³
	TWA (IT) OEL 8h [ppm]	5 ppm
	STEL (IT) OEL 15min [mg/m³]	14 mg/m³
	STEL (IT) OEL 15min [ppm]	10 ppm
Latvia	TWA (LV) OEL 8h [mg/m³]	7 mg/m³
	TWA (LV) OEL 8h [ppm]	5 ppm
	STEL (LV) OEL 15min [mg/m³]	14 mg/m³
	STEL (LV) OEL 15min [ppm]	10 ppm
Slovenia	TWA (SL) OEL 8h [mg/m³]	7 mg/m³
	TWA (SL) OEL 8h [ppm]	5 ppm
Spain	TWA (ES) OEL 8h [mg/m3]	7 mg/m³
	TWA (ES) OEL 8h [ppm]	5 ppm
	STEL (ES) OEL 15min [mg/m3]	14 mg/m³
	STEL (ES) OEL 15min [ppm]	10 ppm
	Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Switzerland	STEL (CH) OEL 15min [mg/m³]	14,2 mg/m³
	STEL (CH) OEL 15min [ppm]	10 ppm
	TWA (CH) OEL 8h [mg/m³]	7,1 mg/m³
	TWA (CH) OEL 8h [ppm]	5 ppm
	Remark (CH)	SS_C - OAW, Geruch, NS - NIOSH, OSHA
Netherlands	MAC TWA 8H (NL) [mg/m³]	2,3 mg/m³
United Kingdom	WEL - LTEL - UK [mg/m³]	7 mg/m³
	WEL - LTEL - UK [ppm]	5 ppm
	WEL - STEL - UK [mg/m³]	14 mg/m³
	WEL - STEL - UK [ppm]	10 ppm
Czech Republic	TWA (CZ) OEL 8h [mg/m³]	10 mg/m³
	TWA (CZ) OEL 8h [ppm]	7,2 ppm
	STEL (CZ) OEL 15min [mg/m³]	20 mg/m³
	STEL (CZ) OEL 15min [ppm]	14,4 ppm
Denmark	TWA (DK) OEL 8h [mg/m³]	15 mg/m³

	TWA (DK) OEL 8h [ppm]	10 ppm
Finland	TWA (FI) OEL 8h [mg/m³]	7 mg/m³
	TWA (FI) OEL 8h [ppm]	5 ppm
	STEL (FI) OEL 15min [mg/m³]	14 mg/m³
	STEL (FI) OEL 15min [ppm]	10 ppm
Hungary	TWA (HU) OEL 8h [mg/m3]	7 mg/m³
	STEL (HU) OEL 15min [mg/m3]	14 mg/m³
	Megjegyzések (HU)	i; V.
Iceland	STEL (IS) OEL 15min [mg/m³]	20 mg/m³
	STEL (IS) OEL 15min [ppm]	15 ppm
	TWA (IS) OEL 8h [mg/m³]	14 mg/m³
	TWA (IS) OEL 8h [ppm]	10 ppm
Ireland	OEL (IE)-(8-hour reference period) [mg/m3]	7 mg/m³
	OEL (IE)-(8-hour reference period) [ppm]	5 ppm
	OEL (IE)-(15min reference period) [mg/m3]	14 mg/m³
	OEL (IE)-(15min reference period) [ppm]	10 ppm
	Notes (IE)	IOELV
Lithuania	TWA (LT) OEL 8h [mg/m3]	7 mg/m³
	TWA (LT) OEL 8h [ppm]	5 ppm
	STEL (LT) OEL 15min [mg/m3]	14 mg/m³
	STEL (LT) OEL 15min [ppm]	10 ppm
	Ceiling value (LT) OEL [mg/m3]	20 mg/m³
	Ceiling value (LT) OEL [ppm]	15 ppm
	Remark (LT)	Ū
Poland	TWA (PL) OEL 8h [mg/m³]	7 mg/m³
	STEL (PL) OEL 15min [mg/m³]	14 mg/m³
Romania	TWA (RO) OEL 8h [mg/m³]	10 mg/m³
	TWA (RO) OEL 8h [ppm]	7,2 ppm
	STEL (RO) OEL 15min [mg/m³]	15 mg/m³
	STEL (RO) OEL 15min [ppm]	10,8 ppm
Slovakia	Maximum permissible exposure limit, average, 8h (SK) [mg/m³]	14 mg/m³
	Maximum permissible exposure limit, average, 8h (SK) [ppm]	10 ppm
Sweden	TWA (SV) OEL 8h [mg/m³]	7 mg/m³
	TWA (SV) OEL 8h [ppm]	5 ppm
	STEL (SV) OEL 15min [mg/m³]	14 mg/m³
	STEL (SV) OEL 15min [ppm]	10 ppm
	Ceiling value (SV) OEL [mg/m³]	20 mg/m³
	Ceiling value (SV) OEL [ppm]	15 ppm
Portugal	TWA (PT) OEL 8h [ppm]	10 ppm
	STEL (PT) OEL 15min [ppm]	15 ppm

DNEL (Derived-No Effect Level) : None established.

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.

• Skin protection

- Hand protection : Wear working gloves when handling gas containers.
Standard EN 388 - Protective gloves against mechanical risk.
Wear cold insulating gloves when transfilling or breaking transfer connections.
Standard EN 511 - Cold insulating gloves.
Permeation time: minimum >480min long term exposure : material / thickness Nitrile rubber (NBR) / 0.7 [mm].

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

• 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 with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.
Recommended: Filter B (grey).
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.
Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
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 : Odour can persist. Rotten eggs. Poor warning properties at low concentrations.

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Odour threshold	:	Odour threshold is subjective and inadequate to warn of overexposure.
pH	:	Not applicable for gases and gas mixtures.
Melting point / Freezing point	:	-86 °C
Boiling point	:	-60,2 °C
Flash point	:	Not applicable for gases and gas mixtures.
Evaporation rate	:	Not applicable for gases and gas mixtures.
Flammability (solid, gas)	:	Extremely flammable gas
Explosive limits	:	3,9 - 45,5 vol %
Vapour pressure [20°C]	:	18,8 bar(a)
Vapour pressure [50°C]	:	36,4 bar(a)
Vapour density	:	Not applicable.
Relative density, liquid (water=1)	:	0,92
Relative density, gas (air=1)	:	1,2
Water solubility	:	3980 mg/l
Partition coefficient n-octanol/water (Log Kow)	:	Not applicable for inorganic gases.
Auto-ignition temperature	:	270 °C
Decomposition temperature	:	Not applicable.
Viscosity	:	Not known.
Explosive properties	:	Not applicable.
Oxidising properties	:	Not applicable.

9.2. Other information

Molar mass	:	34 g/mol
Critical temperature [°C]	:	100 °C
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.
May 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

: Air, Oxidisers.
With water causes rapid corrosion of some metals.
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.

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SECTION 11: toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Fatal if inhaled.
LC50 inhalation rat (ppm)		356 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	:	No known effects from this product.
Toxic for reproduction : unborn child	:	No known effects from this product.
STOT-single exposure	:	May cause respiratory irritation.
STOT-repeated exposure	:	Damage to central nervous system.
Aspiration hazard	:	Not applicable for gases and gas mixtures.

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

12.2. Persistence and degradability

Assessment	:	Not applicable for inorganic gases.

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. Other adverse effects

Other adverse effects	:	No known effects from this product.
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 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.

Must not be discharged to atmosphere.

Toxic and corrosive gases formed during combustion should be scrubbed before discharge to atmosphere.

Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction.

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.eu for more guidance on suitable disposal methods.

Return unused product in original cylinder to supplier.

List of hazardous waste codes (from Commission Decision 2001/118/EC) : 16 05 04 *: Gases in pressure containers (including halons) containing dangerous 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

UN-No. : 1053

14.2. UN proper shipping name

Transport by road/rail (ADR/RID) : 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.

Environmentally hazardous substances

Transport by road/rail (ADR/RID)

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 (ADR/RID) : Not applicable

Transport by air (ICAO-TI / IATA-DGR) : Not applicable

Transport by sea (IMDG) : Not applicable

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Abbreviations and acronyms	:	ATE - Acute Toxicity Estimate CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 EINECS - European Inventory of Existing Commercial Chemical Substances CAS# - Chemical Abstract Service number PPE - Personal Protection Equipment LC50 - Lethal Concentration to 50 % of a test population RMM - Risk Management Measures PBT - Persistent, Bioaccumulative and Toxic vPvB - Very Persistent and Very Bioaccumulative STOT- SE : Specific Target Organ Toxicity - Single Exposure CSA - Chemical Safety Assessment EN - European Standard UN - United Nations ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road IATA - International Air Transport Association IMDG code - International Maritime Dangerous Goods RID - Regulations concerning the International Carriage of Dangerous Goods by Rail WGK - Water Hazard Class
Training advice	:	Ensure operators understand the flammability hazard. Users of breathing apparatus must be trained. Ensure operators understand the toxicity hazard.

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 1	Flammable gases, Category 1
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
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

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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