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

### 1.1. Product identifier

Trade name	Hydrogen sulphide
Chemical description	Hydrogen sulphide
CAS N°	7783-06-4
CE N°	231-977-3
Index N°	016-001-00-4
Registration n°	01-2119445737-29
Chemical formula	H <sub>2</sub> S

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

Relevant identified uses	Industrial and professional Test or calibration gas Laboratory use Contact the supplier for more information on use
Uses advised against	For use by industrial or professional users only

### 1.3. Details of the supplier of the safety data sheet

Company identification	MULTIGAS Route de l'Industrie 102 CH-1564 Domdidier
Phone number	+41 (0) 26 676 94 94
E-mail address	<a href="mailto:info@multigas.ch">info@multigas.ch</a>

### 1.4. Emergency telephone numbers


145 (Toxicology Centre Zurich) or +41 (0) 44 251 51 51  
+41 (0) 26 676 94 94 (Multigas)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Flammable gases, Category 1	H220
Gases under pressure : Liquefied gas	H280
Acute toxicity (inhalation: gas) Category 2	H330

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Specific target organ toxicity — Single exposure, Category 3, H335  
Respiratory tract irritation

Hazardous to the aquatic environment — Acute Hazard, H400  
Category 1

For the complete H-sentences texts mentioned in that chapter, refer to Section 16


## 2.2. Label elements

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

<b>Hazard pictograms</b>	   
	GHS02      GHS04      GHS06      GHS09
<b>Signal word</b>	Danger
<b>Hazard statements</b>	
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
<b>Precautionary statements</b>	
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
P304+P340+P315	IF INHALED: Remove victim to fresh air and keep at rest in a position 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
P410+P403	Protect from sunlight. Store in a well-ventilated place
P405	Store locked up

## 2.3. Other hazards

Contact with liquid may cause cold burns/frostbite

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**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

Name	Product identifier	Concentration	Classification
Hydrogen sulphide	(CAS-No.) 7783-06-4 (EC-No.) 231-977-3 (EC Index-No.) 016-001-00-4 (Registration-No.) 01-2119445737-29	≥ 99 %	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Acute Tox. 2 (Inhalation: gas), H330 STOT SE 3, H335 Aquatic Acute 1, H400

For the complete H-sentences texts mentioned in that chapter, refer to Section 16

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

**3.2. Mixtures**

Not established

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

<b>General advice</b>	See a doctor. Show this safety data sheet to the attending physician
<b>In case of inhalation</b>	In case of inhalation, remove the person from the contaminated area. In case of respiratory arrest, give artificial respiration. See a doctor
<b>In case of skin contact</b>	In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance
<b>In case of eyes contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes and consult a doctor
<b>In case of ingestion</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. See a doctor

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11


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

No data available

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

<b>Suitable extinguishing media</b>	Water spray or water mist. Dry powder. Carbon dioxide. Foam
<b>Unsuitable extinguishing media</b>	Do not use water jet to extinguish

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## **5.2. Special hazards arising from the substance or mixture**

<b>Specific hazards</b>	In case of fire or excessive heat, hazardous combustion products may be produced Exposure to fire may cause containers to rupture/explode
<b>Hazardous combustion products</b>	In case of fire or excessive heat, hazardous combustion products may be produced such as : sulphur dioxide

## **5.3. Additional information**

Cool endangered receptacles with water spray jet from a protected position

## **SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Avoid breathing vapours, spray mists or gases  
Provide adequate ventilation  
Eliminate ignition sources  
Evacuate personnel to a safe place  
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous  
Personal protective equipment, see section 8

### **6.2. Environmental precautions**

Try to stop the leak

### **6.3. Methods and material for containment and cleaning up**

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**

Avoid breathing vapour or mist  
Keep away from sources of ignition - No smoking  
Take precautionary measures against static discharge  
For precautions, see section 2.2

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### 7.2. Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place  
Content under pressure

### 7.3. Specific end use(s)

None

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Components with occupational exposure limits

Component	CAS N°	Exposure value type	Control parameter	Source
Hydrogen sulphide	7783-06-4	TWA	5 ppm	SUVA: Limit values of exposure to workstations
			7.1 mg/m <sup>3</sup>	
		OEL	10 ppm	SUVA: Limit values of exposure to workstations
			14.2 mg/m <sup>3</sup>	

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation  
Gas detectors should be used when toxic gases may be released

#### 8.2.2. Individual protection measures, e.g. personal protective equipment

##### **Eye/face protection**

Wear goggles and a face shield when transfilling or breaking transfer connections. Standard EN 166 - Personal eye-protection

##### **Skin / hand protection**

Wear protective gloves when handling gas cylinders. Standard EN 388- Protective gloves against mechanical hazards

Wear cold insulating gloves when transferring or disconnecting transfer lines Standard EN 511 - Insulating gloves against cold

Wearing chemical resistant gloves Standard EN 374-Protective gloves against chemicals

##### **For short-term and long-term use**

Material: butyl rubber


Glove thickness: 0.3 mm

Penetration time: 30 min

Have appropriate, chemical-resistant protective clothing ready for use in emergencies. Norm EN943-1

##### **Respiratory protection**

Self-contained breathing apparatus (SCBA) or positive pressure air mask must be used in oxygenated atmospheres. Standard EN 137 - Self-contained compressed air device with a full face mask

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### 8.2.3. Environmental exposure controls

-

## 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**    Stinking, rotten eggs

**Odour threshold**                              No data available

**pH**    No data available

**Melting point / Freezing point**              No data available

**Boiling point**                                      -60.2°C

**Flash point**                                        No data available

**Evaporation rate**                                No data available

**Flammability (solid, gas)**                      Extremely flammable gas

**Explosive limits**                                3.9 – 50.2%

**Vapour pressure [20°C]**                        18.8 bar

**Vapour pressure [50°C]**                        36.4 bar

**Vapour density**                                No data available

**Relative density, liquid (water=1)**            0.92

**Relative density, gas (air=1)**                1.17

**Water solubility**                                3.98 g/l

**Partition coefficient**                        -1.38

**n-octanol/water (Log Kow)**

**Auto-ignition temperature**                270°C

**Decomposition temperature**                No data available

**Viscosity**                                        No data available

**Explosive properties**                        No data available


**Oxidising properties**                        No data available

### 9.2. Other information

**Molar mass**                                      34 g/mole

**Critical temperature [°C]**                    100.1°C

**Relative vapour density**                      Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

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**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 recommended storage conditions

**10.3. Possibility of hazardous reactions**

Can form explosive mixture with air  
 Violent reactions with ammonia  
 Reacts with amines  
 Reacts with halogenated compounds  
 Reacts with oxidants  
 Reacts with many chemical compounds

**10.4. Conditions to avoid**

Keep away from heat/sparks/open flames/hot surfaces. Humidity. No smoking

**10.5. Incompatible materials**

Avoid contact with most metals, carbides, turpentine, organic acids, combustible materials (wood, paper, cotton) and other organic materials and easily oxidized. Strong acids. Strong bases. Strong oxidizers  
 In the presence of water causes rapid corrosion of some metals  
 Humidity  
 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. Chemical safety assessment**

<b>Acute toxicity</b>	Fatal if inhaled
<b>Skin corrosion/irritation</b>	No data available
<b>Serious eye damage/irritation</b>	Causes severe eye irritation
<b>Respiratory or skin sensitisation</b>	No data available
<b>Germ cell mutagenicity</b>	No data available
<b>Carcinogenicity</b>	No data available

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<b>Reproductive toxicity</b>	No data available
<b>STOT-single exposure – Target organ(s)</b>	May cause respiratory irritation
<b>STOT-repeated exposure</b>	Damage to central nervous system
<b>Ingestion hazard</b>	No data available

**11.2 Information on other hazards**

The substance/mixture has no endocrine disrupting properties

**SECTION 12: Ecological information**

**12.1. Toxicity**

**Assessment** Very toxic to aquatic life

**12.2. Persistence and degradability**

No data available

**12.3. Bioaccumulative potential**

No data available

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

PBT / vPvB assessment is not available because the chemical safety assessment is not required / is not conducted

**12.6. Endocrine-disrupting properties**

The substance/mixture does not have endocrine disrupting properties

**12.7. Other adverse effects**

No data available


**Effect on the ozone layer**

Ozone depletion potential No data available

**Effect on global warming**

Global warming potential No data available



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**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

<b>Product</b>	Must not be released into the atmosphere Burn in a chemical incinerator equipped with an afterburner and scrubber
<b>Contaminated container</b>	Return to the supplier the product not consumed in its original container Contact the supplier if instructions are needed
<b>OMoD Code</b>	16 05 04 Gases in pressurised containers (including halons) containing dangerous substances

**SECTION 14: Transport information**


**14.1. UN number**

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
1053	1053	1053

**14.2. UN proper shipping name**

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
HYDROGEN SULPHIDE	HYDROGEN SULPHIDE	HYDROGEN SULPHIDE

**14.3. Transport hazard class(es)**


<b>Labelling</b>	
<b>ADR/RID IMDG IATA</b>	2.3 : Toxic gases 2.1 : Flammable gases

**14.4. Packing group**

<b>ADR/RID IMDG IATA</b>	Not established
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**14.5. Environmental hazards**

<b>ADR/RID</b>	Environmentally hazardous substance / mixture
<b>IMDG</b>	Marine pollutant
<b>ICAO-TI / IATA-DGR</b>	Environmentally hazardous substance / mixture

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#### **14.6. Special precautions for user**

No data available

#### **14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable

### **SECTION 15: Regulatory information**

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

This safety data sheet complies with the requirements of Regulation (CE) No. 1907/2006

#### **15.2. Chemical safety assessment**

A CSA has been carried out

### **SECTION 16: Other information**

#### **Indication of changes**

Revised safety data sheet in accordance with commission regulation (EU) No 2015/830

#### **Abbreviations and acronyms**

ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS : Chemical Abstract Service number (USA)

CLP : Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

CSA : Chemical Safety Assessment

EIGA : European Industrial Gases Association

EINECS : European Inventory of Existing Commercial Chemical Substances

EN : European Standard

ATE : Acute Toxicity Estimate

IATA : International Air Transport Association

IMDG Code : International Maritime Dangerous Goods Code

LC50 : Lethal Concentration to 50 % of a test population

OMoD : Swiss Ordinance on the movement of waste

PBT : Persistent, Bioaccumulative and Toxic

PPE: Personal Protection Equipment

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-SE : Specific Target Organ Toxicity - Single Exposure

UN : United Nations

vPvB : Very Persistent and Very Bioaccumulative

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WGK: Water Hazards Class

**Full text of H, EUH and P statements used in sections 2 and 3**

**Hazard statements**

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**

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
P304+P340+P315	IF INHALED: Remove victim to fresh air and keep at rest in a position 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
P410+P403	Protect from sunlight. Store in a well-ventilated place
P405	Store locked up

**Disclaimer of liability**

Details given in this document have been prepared based on the most available reliable documents and are believed to be correct at the time of going to press

They do not claim to be exhaustive and should be considered as a guide