

**Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)**

Printed 09.01.2012
Revision 06.01.2012 (GB) Version 9.3

Hydrogen sulphide
0900



1. Identification of the substance/mixture and of the company/undertaking

Product identifier

Name of product Hydrogen sulphide
Art-Nr.: 0900
Name of substance Hydrogen sulphide
Index No 016-001-00-4
EC No 231-977-3
CAS No 7783-06-4

Manufacturer/distributor

GHC Gerling, Holz & Co. Handels GmbH
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Advice

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Emergency advice

GHC Gerling, Holz & Co. Handels GmbH
Phone +49 (0) 40 853 123-0

Recommended intended purpose(s)

Basic substance.

2. Hazards identification

Classification according to 67/548/EEC or 1999/45/EC

F+; R12
T+; R26
N; R50

R-phrases

12 Extremely flammable.
26 Very toxic by inhalation.
50 Very toxic to aquatic organisms.

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

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
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Flam. Gas 1	H220
Liquef. Gas	H280
Acute Tox. 2	H330
Aquatic Acute 1	H400

Hazard statements for physical hazards

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.

Hazard statements for health hazards

H330 Fatal if inhaled.

Hazard statements for environmental hazards

H400 Very toxic to aquatic life.

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Additional hints

Listed substance (Regulation (EC) No 1272/2008, Annex VI, part 3).

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



GHS02



GHS04



GHS06



GHS09

Signal word

Danger

Hazard statements for physical hazards

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

Hazard statements for health hazards

H330 Fatal if inhaled.

Hazard statements for environmental hazards

H400 Very toxic to aquatic life.

Precautionary Statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

Response

P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P315 Get immediate medical advice/attention.

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 Eliminate all ignition sources if safe to do so.

Storage

P403 Store in a well-ventilated place.

P405 Store locked up.

Information pertaining to special dangers for human and environment

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

Contact with liquid may cause cold burns/frostbite.

Receptacle under pressure.

Nerve poison (neurotoxin).

3. Composition/information on ingredients

CAS No 7783-06-4

EC No 231-977-3

Index No 016-001-00-4

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4. First aid measures

General information

Remove contaminated soaked clothing immediately.
Adhere to personal protective measures when giving first aid.
Seek medical treatment immediately.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.
In case of breathing difficulties give oxygen.
In the event of pulmonary irritation treat initially with corticoid spray, e.g. Ventolair- or Pulmicort- metered-dose aerosol (Ventolair and Pulmicort are registered trademarks).
Seek medical treatment immediately.
In case of respiratory standstill give artificial respiration by respiratory bag (Ambu bag) or respirator. Send for a doctor.

In case of skin contact

In case of contact with skin wash off with warm water.
In case of frostbite spray with lukewarm (not hot) water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
Seek medical treatment immediately.

In case of eye contact

Eye rinsing with water carefully while protecting unhurt eye.
Call for a doctor immediately.

In case of ingestion

Ingestion is not considered a potential route of exposure.

Physician's information / possible symptoms

Unconsciousness
Shortness of breath
Headache
Dizziness

Physician's information / possible dangers

Risk of respiratory disorders
Risk of cardiac rhythm disturbances
Risk of pulmonary oedema

5. Firefighting measures

Suitable extinguishing media

Dry powder
Carbon dioxide

Extinguishing media which must not be used for safety reasons

Full water jet

Special hazards arising from the substance or mixture

In case of fire formation of dangerous gases possible.
Formation of explosive gas mixtures in air.
In the event of fire the following can be released:
Sulphur dioxide (SO₂)

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply (isolated).
Wear full protective clothing.

Additional information

Cool endangered containers with water spray jet.
Exposure to fire may cause containers to rupture / explode.
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur.
Extinguish any other fire.

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6. Accidental release measures

Personal precautions

See chapter 8.
Remove persons to safety.
Keep away sources of ignition.

Environmental precautions

Collect contaminated water / firefighting water separately.
If possible, stop flow of product.
Eliminate ignition sources.
Do not discharge into the drains/surface waters/groundwater.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Suppress gases/vapours/mists with water spray jet
Do not discharge into the subsoil/soil.

Methods for cleaning up

Ensure adequate air ventilation.

Additional Information

Informations for safe handling see chapter 7.
Informations for personal protective equipment see chapter 8.
No water on the leaks.

7. Handling and storage

Advice on safe handling

Use only in thoroughly ventilated areas.
Transfer and handle only in enclosed systems.
Barrels and installations thoroughly earthing (grounding).
Use antistatic tools.
Treatment only in suitable rooms and systems.
Provide good room ventilation even at ground level (vapours are heavier than air).
Prevent cylinders from falling over.
Ensure valve protection device is correctly fitted.
Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
Open valve slowly to avoid pressure shock.
Do not allow backfeed into the container.
Suck back of water into the container must be prevented.
No water to valves, flanges and other fittings.
Purging of pipes and valves with inert gases - to avoid: water, solvents.

Advice on protection against fire and explosion

The product is combustible.
Because of risk of explosion avoid vapours getting into cellar, sewage system and holes.
Take precautionary measures against static discharges.
Formation of explosive gas mixtures in air.
Use explosion-proof equipment / fittings and non-sparking tools.

Requirements for storage rooms and vessels

Keep in closed original container.
Ventilate store-rooms thoroughly.
Use transportable pressure equipment.
Suitable materials: Normalised steel and carbon steel, tempered steel, aluminium alloys, stainless steel.
Valve: Suitable materials: Brass, copper alloys, carbon steels, aluminium alloys, stainless steel.

Advice on storage compatibility

Do not store with spontaneously flammable materials.
Do not store together with combustible liquids or combustible solids.
Do not store together with feedstuff.
Do not store together with explosives.

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Do not store together with infectious substances.
Do not store together with radioactive material.
Do not store together with toxic liquids or toxic solids.
Do not store together with food.
Do not store together with oxidizing liquids or oxidizing solids.

Further information on storage conditions

Ensure valve protection device is correctly fitted.
Keep container tightly closed and store at cool and aired place.
Prevent cylinders from falling over.
Protect of heat.
Storage temperature may not exceed 50°C (=122°F).

Information on storage stability

At appropriate storage unlimited stability.

Recommendation(s) for intended use

no

8. Exposure controls/personal protection

Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
7783-06-4	Hydrogen sulphide	WEL, 8 hours	7	5	EH/40, United Kingdom
		Short-term	14	10	
7783-06-4	Hydrogen sulphide	8 hours	7	5	2009/161/EU
		Short-term	14	10	

Respiratory protection

Keep self contained breathing apparatus readily available for emergency use.
Short term: filter apparatus, Filter B

Hand protection

Leather gloves
Neoprene gloves

Eye protection

safety goggles, in case of increased risk add protective face shield

Skin protection

Safety shoes with steel toe.
Body covering work clothing, or chemical resistant suit at increased risk.
antistatic boots
flame-stopping and antistatic protective clothing

General protective measures

Do not inhale gases/vapours/aerosols.

Hygiene measures

At work do not eat, drink and smoke.

Limitation and surveillance of the environment

See chapter 7.

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9. Physical and chemical properties

Form Gaseous / liquefied under pressure.	Colour colourless	Odour of rotten eggs
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Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state	4	20 °C	1,7 g/l		aqueous solution
boiling point	-60,2 °C		1013 hPa		
melting point	-85,6 °C				
Flash point				not determined	
Ignition temperature	270 °C			DIN 51794	
Lower explosion limit	4,3 Vol-%				
Upper explosion limit	45,5 Vol-%				
Vapour pressure	18100 hPa	20 °C			
Density	0,915 g/cm ³	-60,2 °C			liquid phase
Rel. vapour density	1,19				air = 1
Solubility in water	6,72 g/l	20 °C			
Viscosity dynamic	0,126 mPa*s	20 °C			liquid phase

Additional information

Vapours are heavier than air.

10. Stability and reactivity

Conditions to avoid

Formation of explosive gas/air mixtures.
Humidity.

Materials to avoid

Reactions with oxidising agents.
Reactions with numerous chemical compounds.
Reactions with alkalies.

Hazardous decomposition products

Sulphur dioxide

Thermal decomposition

Remark No decomposition if used as directed.

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11. Toxicological information**Acute toxicity/Irritability/Sensitization**

	Value/Validation	Species	Method	Remark
LC50 acute inhalation	712 ppm (1 h)	rat		
Irritability eye	irritant			experiences
Skin sensitization		not determined		
Sensitization respiratory system		not determined		

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Mutagenicity				Data insufficient.
Reproduction-Toxicity				Data insufficient.
Carcinogenicity				Data insufficient.

Experiences made from practice

Causes disorders of the central nervous system and can cause headache, respiratory difficulties or unconsciousness.

12. Ecological information**Data on elimination (persistence and degradability)**

	Elimination rate	Method of analysis	Method	Validation
Physico-chemical degradability	not determined			
Biological degradability	not determined			
Degradability	not determined			
Biological eliminability	not determined			

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 0,09 mg/l (96 h)	Carassius Auratus		
Algae	not determined			
Bacteria	not determined			

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General regulation

Product is not allowed to be discharged into aquatic environment, drains or sewage treatment plants.

13. Disposal considerations

Waste code No.	Name of waste
16 05 04*	gases in pressure containers (including halons) containing dangerous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

Recommendations for the product

Dispose of as hazardous waste.

Recommendations for packaging

Transportable pressure equipment (empty, residual pressure): Return to supplier / manufacturer.

14. Transport information

Land and inland navigation transport ADR/RID

UN 1053 HYDROGEN SULPHIDE, 2.3 (2.1), (B/D), Classification code: 2TF

Marine transport IMDG

UN 1053 HYDROGEN SULPHIDE, 2.3 (2.1), marine pollutant

Ems: F-D, S-U

Air transport ICAO/IATA-DGR

UN 1053 Hydrogen sulphide, 2.3 (2.1)

FORBIDDEN

! 15. Regulatory information

! Other regulations (EU)

Please note:

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII No 40.

Directive 96/82/EC on the control of major-accident hazards involving dangerous substances.

16. Other information

Recommendend uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

All declarations of safety-data-sheet refer to pure substance.

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Wording of the R/H-phrases specified in chapter 3 (not the classification of the mixture!)

R 12 Extremely flammable.

R 26 Very toxic by inhalation.

R 50 Very toxic to aquatic organisms.

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H330 Fatal if inhaled.

H400 Very toxic to aquatic life.
