

Safety Data Sheet

Product :

Hydrogen sulphide

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MSDS Nr : 320-00-0004BOC(U)

Version : 1.02

Date : 06/10/2000

Replaces version dated : 29/07/1994

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

| | |
|-------------------------|---------------------------|
| Product name | Hydrogen sulphide |
| Chemical formula | H ₂ S |
| Company identification | see heading and/or footer |
| Emergency phone numbers | see heading and/or footer |

2 COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|-----------------------|--|
| Substance/Preparation | Substance. |
| Components/Impurities | Contains no other components or impurities which will influence the classification of the product. |
| CAS Nr | 07783-06-4 |
| EC Nr (from EINECS) | 231-977-3 |

3 HAZARDS IDENTIFICATION

| | |
|------------------------|---|
| Hazards identification | Extremely flammable Very toxic by inhalation. Liquefied gas |
|------------------------|---|

4 FIRST AID MEASURES

| | |
|------------------|---|
| Inhalation | Very toxic by inhalation. May cause damaging effects to central nervous system, metabolism and gastrointestinal tract. Prolonged exposure to small concentrations may result in pulmonary oedema. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. Delayed adverse effects possible. |
| Skin/eye contact | Remove contaminated clothing In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Immediately flush eyes thoroughly with water for at least 15 minutes. Obtain medical assistance |
| Ingestion | Ingestion is not considered a potential route of exposure. |

5 FIRE FIGHTING MEASURES

| | |
|-------------------------------|---|
| Specific hazards | Exposure to fire may cause containers to rupture/explode. |
| Hazardous combustion products | If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition: Sulphur dioxide |

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Suitable extinguishing media

All known extinguishants can be used.

Specific methods

If possible, stop flow of product.

Move away from the container and cool with water from a protected position.

Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.

Special protective equipment for fire fighters

Use self-contained breathing apparatus.

Use chemically protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area.

Eliminate ignition sources.

Ensure adequate air ventilation.

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Environmental precautions

Try to stop release.

Clean up methods

Ventilate area.

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

7 HANDLING AND STORAGE

Handling and storage

Ensure equipment is adequately earthed.

Suck back of water into the container must be prevented.

Purge air from system before introducing gas.

Do not allow backfeed into the container.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

Keep away from ignition sources (including static discharges).

Segregate from oxidant gases and other oxidants in store.

Refer to supplier's container handling instructions.

Keep container below 50°C in a well ventilated place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value for country

UK: Hydrogen sulphide - LTEL: 5ppm; STEL:10ppm (EH40/2002)

Germany: Hydrogen sulphide - MAK: 10ppm

France: Hydrogen sulphide - VLE: 10ppm; VME: 5ppm

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Personal protection

Ensure adequate ventilation.

Do not smoke while handling product.

Keep suitable chemically resistant protective clothing readily available for emergency use.

Keep self contained breathing apparatus readily available for emergency use.

9 PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------|-----------------------------------|
| Molecular weight | 34 |
| Melting point | -86 °C |
| Boiling point | -60.2 °C |
| Critical temperature | 100 °C |
| Relative density, gas | 1.2 (air=1) |
| Relative density, liquid | 0.92 (water=1) |
| Vapour Pressure 20°C | 18 bar |
| Solubility mg/l water | 3660 mg/l at 20°C |
| Appearance/Colour | Colourless gas |
| Odour | Rotten eggs Odour can persist. |
| Autoignition temperature | 270 °C |
| Flammability range | 4,3-45,5 vol% in air. |

10 STABILITY AND REACTIVITY

Stability and reactivity

Can form explosive mixture with air.

May react violently with oxidants.

With water causes rapid corrosion of some metals.

11 TOXICOLOGICAL INFORMATION

General

Damage to central nervous system.

Delayed fatal pulmonary oedema possible.

LC50/1h (ppm)

712 ppm

12 ECOLOGICAL INFORMATION

General

Toxic to water organisms.

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13 DISPOSAL CONSIDERATIONS

General

Avoid discharge to atmosphere.

Do not discharge into any place where its accumulation could be dangerous.

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

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.

Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

UN Nr

1053

Class/Div

2.3

Subsidiary risk

2.1

ADR/RID Classification code

2,2° TF

ADR/RID Hazard Nr

263

Labelling ADR

Label 2.3: toxic substance.

Label 2.1: flammable gas

Other transport information

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 that they are firmly secured and:

- cylinder valve is closed and not leaking
- valve outlet cap nut or plug (where provided) is correctly fitted
- valve protection device (where provided) is correctly fitted
- there is adequate ventilation.
- compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548

016-001-00-4.

EC Classification

F+;R12|T+;R26

-Symbols

F+: Extremely flammable

T+: Very toxic

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Labelling of cylinders

-Symbols

Label 2.3: toxic substance.

Label 2.1: flammable gas

-Risk phrases

R12 Extremely flammable.

R26 Very toxic by inhalation.

-Safety phrases

S1 Keep locked up.

S9 Keep container in well ventilated place.

S16 Keep away from ignition sources - No smoking.

S33 Take precautionary measures against static discharges.

S36 Wear suitable protective clothing.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 OTHER INFORMATION

Ensure all national/local regulations are observed.

Ensure operators understand the flammability hazard.

Contact with liquid may cause cold burns/frost bite.

Users of breathing apparatus must be trained.

Ensure operators understand the toxicity hazard.

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.

End of document.

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