



Safety Data Sheet

[in accordance with Regulation EC 1907/2006 (REACH) as amended]

Date of issue: 24.07.2015
Version: 2.0/EN

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

1.1 Product identifier

Trade name: **TIN BRASS WITH ARSEN**
Type: MC70; CW706R; CuZn28Sn1; C44300; C111; CuZn29Sn1; ŁOMsz-77-2-0,05; C44400

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

Relevant identified uses: alloy used as tubulation of the condensers in power engineering, heat exchangers and installations in thermal power stations, heat exchangers and coolers working in the aquatic environment.

Uses advised against: not determined.

1.3 Details of the supplier of the safety data sheet

Manufacturer: **Walcownia Metali „Dziedzice” S.A.**
Address: ul. Kaniowska 3, 43-502 Czechowice-Dziedzice, Poland
Telephone/Fax number: +48 32 714 30 00
Product information: sekretariat@walcownia.com.pl, www.walcownia.com.pl
E-mail address for a competent person responsible for MSDS: biuro@theta-doradztwo.pl

1.4 Emergency telephone number

112

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Product is not classified as hazardous for human health and life.

2.2 Label elements

Hazard pictograms and signal words

None.

Hazard statements

None.

Precautionary statements

None.

2.3 Other hazards

Components do not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation REACH.

Section 3: Composition/information on ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

Product characteristic

Chemical composition of the alloy [%]			
Cu	Zn	Sn	As
69-73	25-31	0,9-1,5	0,02-0,06



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Dangerous components

Arsenic

Range of percentages: < 0,1%
CAS number: 7440-38-2
EC number: 231-148-6
Registration number:
Classification: Acute Tox. 3 H331, Acute Tox. 3 H301, Aquatic Acute 1 H400,
Aquatic Chronic 1 H410

Full text of each relevant H phrase is given in section 16 of SDS.

Section 4: First aid measures

4.1 Description of first aid measures

General information: at room temperature (except for the dangers of a mechanical nature), alloy in metallic form does not pose risk to human health and life.

Skin contact: usually exposure in this route is not possible. If irritation persists, wash the affected skin thoroughly with soap and water. Consult a doctor if irritation occurs.

Eye contact: usually exposure in this route is not possible. However, if filings/sharp elements get into eyes, immediately wash out with plenty of water or physiological fluid (0,9% NaCl or 5% glucose) with the eyelid hold wide open. Immediately obtain medical attention.

Ingestion: usually exposure in this route is not possible.

Inhalation: usually exposure in this way is not possible. However, in case of a malaise, take the victim to fresh air.

4.2 Most important symptoms and effects, both acute and delayed

No reports of effects or critical hazards with normal use of the product.

4.3 Indication of any immediate medical attention and special treatment needed

Physician makes a decision regarding further medical treatment after a thorough examination of the injured person.

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: non-flammable product. Use extinguishing measures that are appropriate to the environment.

Unsuitable extinguishing media: none.

5.2 Special hazards arising from the substance or mixture

During combustion, product may release toxic gases, vapors, and fumes containing toxic lead compounds. Do not inhale combustion products – it can be dangerous for health.

5.3 Advice for firefighters

Personal protection typical in case of fire. Do not stay in the fire zone without self-contained breathing apparatus and protective clothing resistant to chemicals.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. Use personal protective equipment.

6.2 Environmental precautions

In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify the appropriate emergency services.



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6.3 Methods and material for containment and cleaning up

Collect the product mechanically to labeled waste containers or reuse it.

6.4 Reference to other sections

Appropriate conduct with waste product – section 13. Appropriate personal protective equipment – section 8.

Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Before break and after work wash hands carefully. See also section 8.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry, clean and covered place. Do not store with the products, that can react with an alloy, e.g. acids, bases. Protect against weather.

7.3 Specific end use(s)

No information about the applications other than listed in subsection 1.2.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Product does not contain any components with occupational exposure limit values at working place in Community.

Please check any national occupational exposure limit values in your country.

8.2. Exposure controls

Use the product in accordance with good occupational hygiene and safety practices. Do not eat, drink or smoke whilst handling with the material. Before break and after work wash hands thoroughly.

Hand and body protection

Use skin protection measures appropriate to the thermal, chemical or mechanical hazards.

Eye/face protection

In case of risk of eye contamination wear tightly-fitting goggles.

Respiratory protection

Not needed in normal conditions of work.

Personal protective equipment must meet requirements of directive 89/686/CE. Employer is obliged to ensure equipment adequate to activities carried out, with quality demands, cleaning and maintenance.

Environmental exposure controls

Avoid release to the environment, do not allow to enter the sewage system. Any emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

physical state:	solid
colour:	yellow
odour:	odourless
odour threshold:	not determined
pH:	not applicable
melting point/freezing point:	890-980°C
initial boiling point and boiling range:	not determined
flash point:	not applicable



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evaporation rate:	not determined
flammability (solid, gas):	not flammable
upper/lower flammability or explosive limits:	not applicable
vapour pressure:	not applicable
relative vapour density:	not determined
vapour density:	not determined
density:	ca. 8,6 g/cm ³
solubility(ies):	insoluble in water
partition coefficient: n-octanol/water:	not determined
auto-ignition temperature:	not applicable
decomposition temperature:	not determined
explosive properties:	not displayed
oxidising properties:	not displayed
kinematic viscosity:	not applicable

9.2 Other information

No additional data.

Section 10: Stability and reactivity

10.1 Reactivity

Product is reactive; reacts with oxidants, peroxides, acids and bases.

10.2 Chemical stability

Product stable under normal conditions of usage and storage.

10.3 Possibility of hazardous reactions

In contact with acids and bases reacts with liberation of hydrogen or nitrogen oxides (reaction with nitric acid).

10.4 Conditions to avoid

Moisture.

10.5 Incompatible materials

Strong oxidants, bromine, chlorine trifluoride, copper nitrate, ammonium nitrate, sodium and potassium peroxide, hydrogen peroxide, sodium nitride, chlorine, acids, bases.

10.6 Hazardous decomposition products

None.

Section 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.



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Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: Ecological information

12.1 Toxicity

No specific toxicity test results. This product is not classified as hazardous for the environment.

12.2 Persistence and degradability

Not biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation is not expected.

12.4 Mobility in soil

Product is not mobile in soil and aquatic environment.

12.5 Results of PBT and vPvB assessment

Not determined.

12.6 Other adverse effects

This product has no influence on the global warming or the ozone layer depletion.

Section 13: Disposal considerations

13.1 Waste treatment methods

Disposal methods for the product: disposal in accordance with applicable regulations. Do not remove with household waste, do not empty into drains. Recycle or reprocess. Waste code should be given at the place of its formation.

Legal basis: Directive 2008/98/EC, European Parliament and Council Directive 94/62/EC.

Section 14: Transport information

14.1 UN number

Not applicable, product is not classified as hazardous during transport.

14.2 UN proper shipping name

Not applicable.

14.3 Transport hazard class(es)

Not applicable.

14.4 Packing group

Not applicable.

14.5 Environmental hazards

Product is not classified as dangerous for the environment in accordance with transport regulations.



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14.6 Special precautions for user

Not applicable.

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance).

Commission Regulation (EU) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Text with EEA relevance).

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

Additional information

The product meets the requirements of Regulation 1907/2006/EC (REACH), directive 2002/95/EC (RoHS) and directive 2000/53/EC (End-of life vehicles).

15.2 Chemical safety assessment

Chemical safety assessment is not required for mixtures.

Section 16: Other information

Full text of indicated H phrases mentioned in section 3

H301	Toxic if swallowed.
H331	Toxic if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo proper workplace training.

Explanation of abbreviations and acronyms

PBT	Persistent, Bioaccumulative and Toxic substance
vPvB	very Persistent, very Bioaccumulative substance
Acute Tox. 3	Acute Toxicity Category 3
Aquatic Acute 1	Aquatic Acute Category 1
Aquatic Chronic 1	Aquatic Chronic Category 1

The product meets the requirements of standards:

1	CuZn28Sn1	DIN 17660	5	C 44300	ASTM B111, ASME SB111.
2	CZ 111	BS 2871 PART 3	6	C 44400	ASTM B111, ASME SB111
3	ŁOMsz 70-1-0,05	GOST 15527	7	MC 70	PN-H 87025
4	CuZn29Sn1	NF-A 51-102	8	CW 706R	EN12451



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Other data

Classification was based on physicochemical tests and data on the content of hazardous substances established using calculation method under the guidance of Regulation 1272/2008/EC (CLP).

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Composed by: mgr Monika Gotowalska (on the basis of producer's data).

Safety Data Sheet made by: „**THETA**” Doradztwo Techniczne

The information above is based on a current available data concerning the product, but also on the experience and knowledge in this field of the producer. They are neither a quality description of the product nor a guarantee of particular features. They are to be treated as aid to safety in transport, storage and usage of the product. That does not free the user from the responsibility of improper usage of the information above and also of improper compliance with the law norms in the field.

SAFETY DATA SHEET

Version 6.3
Revision Date 01/15/2020
Print Date 11/20/2020

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product name : Hydrogen sulfide

Product Number : 295442
Brand : Aldrich
Index-No. : 016-001-00-4
CAS-No. : 7783-06-4

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

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 Spruce Street
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24
Hours/day; 7 Days/week

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable gases (Category 1), H220
Gases under pressure (Liquefied gas), H280
Acute toxicity, Inhalation (Category 2), H330
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)	
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H330	Fatal if inhaled.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P284	Wear respiratory protection.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	Eliminate all ignition sources if safe to do so.
P391	Collect spillage.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P410 + P403	Protect from sunlight. Store in a well-ventilated place.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	: H ₂ S
Molecular weight	: 34.08 g/mol
CAS-No.	: 7783-06-4
EC-No.	: 231-977-3
Index-No.	: 016-001-00-4

Component	Classification	Concentration
Hydrogen sulphide	Flam. Gas 1; Press. Gas Liquefied gas; Acute Tox. 1; Aquatic Acute 1; H220, H280, H330, H400 M-Factor - Aquatic Acute: 10	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Sulphur oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Clean up promptly by sweeping or vacuum.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive.

Storage class (TRGS 510): 2A: Gases

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Hydrogen sulphide	7783-06-4	TWA	1 ppm	USA, ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment Upper Respiratory Tract Irritation		
		STEL	5 ppm	USA, ACGIH Threshold Limit Values (TLV)
		Central Nervous System Impairment Upper Respiratory Tract Irritation		
		C	10 ppm 15 mg/m ³	USA, NIOSH Recommended Exposure Limits
		10 minute ceiling value		
		See Table Z-2		
		CEIL	20 ppm	USA, Occupational Exposure Limits (OSHA) - Table Z-2
		Z37.2-1966		
		Peak	50 ppm	USA, Occupational Exposure Limits (OSHA) - Table Z-2
		Z37.2-1966		

		STEL	15 ppm 21 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		C	50 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		PEL	10 ppm 14 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

- | | |
|---|---|
| a) Appearance | Form: Liquefied gas
Colour: colourless |
| b) Odour | Stench. |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point/range: -85 °C (-121 °F) - lit. |
| f) Initial boiling point and boiling range | -60 °C -76 °F - lit. |
| g) Flash point | ()Not applicable |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 46 %(V)
Lower explosion limit: 4 %(V) |
| k) Vapour pressure | 17,369.8 hPa at 21 °C (70 °F) |
| l) Vapour density | 1.17 - (Air = 1.0) |
| m) Relative density | No data available |
| n) Water solubility | No data available |
| o) Partition coefficient: n-octanol/water | No data available |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |

- s) Explosive properties No data available
- t) Oxidizing properties No data available

9.2 Other safety information

Relative vapour density 1.17 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sulphur oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

No data available

LC50 Inhalation - Mouse - 1 h - 634 ppm

LC50 Inhalation - Rat - 444 ppm

Remarks: Lungs, Thorax, or Respiration: Other changes. Diarrhoea Kidney, Ureter, Bladder: Urine volume increased.

Dermal: No data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is

Identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: MX1225000

Hydrogen sulfide is strongly bound to methemoglobin in a manner similar to cyanide. Toxicologically, its reaction with enzymes in the blood stream inhibits cell respiration resulting in pulmonary paralysis, sudden collapse, and death. It is recognized by its characteristic odor of "rotten eggs". The detectable, minimum perceptible odor occurs at 0.13ppm, rapid olfactory fatigue can occur at high concentrations (>100 ppm). At concentrations of 20ppm hydrogen sulfide begins acting as an irritant on the mucous membranes of the eyes and respiratory tract and increases with concentration and exposure time. Eye irritation is characterized by irritation of the conjunctiva with photophobia to keratoconjunctivitis and vesiculation of the cornea epithellum. Prolonged exposure to moderate concentrations (250ppm) may cause pulmonary edema. At concentrations over 500ppm, drowsiness, dizziness, excitement, headache, unstable gait, and other systemic symptoms occur within a few minutes. Sudden loss of consciousness without premonition, anxiety, or sense of struggle are characteristic of acute exposure at concentrations above 700ppm. At concentrations of 1000-2000ppm hydrogen sulfide is rapidly absorbed through the lung into the blood. In this range a single inhalation may cause coma and may be rapidly fatal. Initially hyperpnea occurs, followed by rapid collapse and respiratory inhibition. At higher concentrations, hydrogen sulfide exerts an immediate paralyzing effect on the respiratory centers. When concentration reaches 5000ppm, imminent death almost always results. Exposure to and/or consumption of alcohol may increase toxic effects.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

The following applies to hydrogen sulfide: odour perception limit 0.025 - 8 ppm. After inhalation: < 100 ppm: rhinitis, photophobia, mucosal irritations, coughing, irritations after contact with the eyes. > 500 ppm: headache, dizziness, ataxia (impaired locomotor coordination), cardiovascular disorders, agitation, spasms. Inhalation may lead to the formation of oedemas in the respiratory tract. > 1000 ppm: respiratory arrest within seconds to minutes. Late sequelae: the following organs may be damaged after uptake: lungs, heart, eyes.

This substance should be handled with particular care.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 0.016 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - < 1 mg/l Remarks: (Hommel)
Toxicity to bacteria	EC50 - Bacteria - 90 mg/l - 24 h Remarks: (Lit.)

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 not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 1053 Class: 2.3 (2.1)

Proper shipping name: Hydrogen sulfide

Reportable Quantity (RQ): 100 lbs

Poison Inhalation Hazard: Hazard Zone D

IMDG

UN number: 1053 Class: 2.3 (2.1)

Proper shipping name: HYDROGEN SULPHIDE

EMS-No: F-D, S-U

Marine pollutant : yes

IATA

UN number: 1053 Class: 2.3 (2.1)

Proper shipping name: Hydrogen sulphide

IATA Passenger: Not permitted for transport

IATA Cargo: Not permitted for transport

SECTION 15: Regulatory information

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Hydrogen sulphide	CAS-No. 7783-06-4	Revision Date 2007-03-01
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SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Hydrogen sulphide	CAS-No. 7783-06-4	Revision Date 2007-03-01
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SARA 311/312 Hazards

Fire Hazard, Sudden Release of Pressure Hazard, Acute Health Hazard

Massachusetts Right To Know Components

Hydrogen sulphide	CAS-No. 7783-06-4	Revision Date 2007-03-01
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No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Hydrogen sulphide	CAS-No. 7783-06-4	Revision Date 2007-03-01
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Hydrogen sulphide

CAS-No. 7783-06-4	Revision Date 2007-03-01
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New Jersey Right To Know Components

Hydrogen sulphide	CAS-No. 7783-06-4	Revision Date 2007-03-01
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SECTION 16: Other information**Further information**

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