



Date of issue: 14/11/2019
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Safety Data Sheet

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

Product identifier:

Product name: Sodium hydrosulfide

SDS No. : 7172E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Safety Management Dept. of Chemicals

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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 3

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Specific target organ toxicity – single exposure: Category 2 (respiratory apparatus)

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 1

Label elements



Signal word: Danger

HAZARD STATEMENT

Toxic if swallowed

Causes severe skin burns and eye damage

Causes serious eye damage

May cause damage to organs after single exposure (respiratory apparatus)

May cause respiratory irritation

Very toxic to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

Response

Collect spillage.

Call a POISON CENTER or doctor/physician if you feel unwell.



IF exposed or concerned: Call a POISON CENTER or doctor/physician.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Disposal

Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name: Sodium hydrosulfide, n-hydrate

Content (%): <100

Chemical formula: $\text{NaHS} \cdot n\text{H}_2\text{O}$

Chemicals No, Japan: 1-416

CAS No.: 207683-19-0

Note : The figures shown above are not the specifications of the product.

Impurities

Sodium sulfide hydrate $\leq 5.0\%$ (CAS No. 27610-45-3)

Sodium carbonate $\leq 1.5\%$ (CAS No. 497-19-8)

4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.

Immediately call a POISON CENTER or doctor/physician.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.



Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/ flame resistant/retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

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

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

Polyethylene



8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals

Color: White to light yellow

Odor: Characteristic odour

Melting point/Freezing point: 50 through 55°C

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 150~155g/100g (26°C)

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density: 1.58

Relative vapor density (Air=1) data is not available.

No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(As sodium hydrosulfide, anhydrous)

The solution in water is a strong base. It reacts violently with acid and is corrosive.

Decomposes on heating. This produces sulfur oxides. Decomposes on contact with water. This produces highly toxic and flammable hydrogen sulfide. Attacks metal. Reacts with strong oxidants. This produces sulfur oxides. (ICSC 1710)

Conditions to avoid

Contact with incompatible materials.



Contact with fire source.

Incompatible materials

Acids, Strong oxidizing agents, Water, Metals

Hazardous decomposition products

Sulfur oxides, Hydrogen sulfide

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Sodium carbonate)

rat LD50=2800mg/kg (SIDS, 2008)

[Company proprietary data]

(Sodium hydrosulfide, n-hydrate)

(As sodium hydrosulfide, anhydrous) rat LD50=96mg/kg, 115mg/kg and 200mg/kg (IUCID(2000))

(Sodium sulfide hydrate)

(As sodium sulfide, anhydrous) rat LD50=208mg/kg

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Sodium carbonate)

mist: rat LC50=1.2mg/L/4hr (SIDS, 2008)

Irritant properties

Skin corrosion/irritation

[Company proprietary data]

(Sodium hydrosulfide, n-hydrate)

(As sodium hydrosulfide, anhydrous) Category 1

(Sodium sulfide hydrate)

(As sodium sulfide, anhydrous) Category 1

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Sodium carbonate)

rabbit severe irreversible eyes damage (SIDS, Access on Jul. 2008)

[Company proprietary data]

(Sodium hydrosulfide, n-hydrate)

(As sodium hydrosulfide, anhydrous) Category 1

(Sodium sulfide hydrate)

(As sodium sulfide, anhydrous) Category 1

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.2]

[Company proprietary data]

(Sodium hydrosulfide, n-hydrate)

respiratory apparatus (As sodium hydrosulfide, anhydrous)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Sodium carbonate)

respiratory tract irritation (SIDS, 2008)

[Company proprietary data]



(Sodium hydrosulfide, n-hydrate)

Respiratory tract irritation (As sodium hydrosulfide, anhydrous)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]

(Sodium carbonate)

narcotic effect (SIDS, 2008)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Very toxic to aquatic life

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Sodium carbonate)

Crustacea (Daphnia) EC₅₀=250mg/L/48hr (SIDS 2002)

[Company proprietary data]

(Sodium hydrosulfide, n-hydrate)

(As sodium hydrosulfide, anhydrous) Fish (Common minnow)

TL_m=0.0071-0.55mg/L/96hr (HSDB, 2004)

(Sodium sulfide hydrate)

(As sodium sulfide, anhydrous) Crustacea (Water flea) LC₅₀=0.55mg/L/48hr

Water solubility

(Sodium carbonate)

0.53 g/100 ml (PHYSPROP_DB 2008)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment (– if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. or ID No.: 2949

UN Proper Shipping Name :

SODIUM HYDROSULPHIDE with not less than 25% water of crystallization

Class or division (Transport hazard class) : 8

Packing group : II

ERG GUIDE No.: 154

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 2949



Proper Shipping Name :

SODIUM HYDROSULPHIDE with not less than 25% water of crystallization

Class or division : 8

Packing group : II

IATA Dangerous Goods Regulations

UN No.: 2949

Proper Shipping Name :

SODIUM HYDROSULPHIDE with not less than 25% water of crystallization

Class or division : 8

Hazard labels : Corrosive

Packing group : II

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

MARPOL Annex V – Prevention of pollution by garbage discharge

Hazardous to the aquatic environment – acute hazard: cat.1

Sodium hydrosulfide, n-hydrate; Sodium sulfide hydrate

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemicals listed in TSCA Inventory

Sodium carbonate; Sodium hydrosulfide, n-hydrate; Sodium sulfide hydrate

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling

Acute Tox. 3: H301 Toxic if swallowed

Skin Corr. 1: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

STOT SE 2: H371 May cause damage to organs after single exposure

STOT SE 3: H335 May cause respiratory irritation

Aquatic Acute 1: H400 Very toxic to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2020 TLVs and BEIs. (ACGIH)

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2019).