Date of issue: 2025/01/16

Safety Data Sheet

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

Product identifier:

Product name: Sodium hydrogen sulfite

SDS No. : 71701E-1

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

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

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

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Serious eye damage/eye irritation: Category 1

Respiratory sensitization: Category 1

Skin sensitization: Category 1

Specific target organ toxicity - single exposure: Category 2 (gastrointestinal tract)

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

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 3

Hazardous to the aquatic environment, long-term (chronic): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

H302 Harmful if swallowed

H318 Causes serious eye damage

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317 May cause an allergic skin reaction

H371 May cause damage to organs (gastrointestinal tract)

H335 May cause respiratory irritation

H412 Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

P273 Avoid release to the environment.

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

P284 In case of inadequate ventilation wear respiratory protection.
P271 Use only outdoors or in a well-ventilated area.
P264 Wash contaminated parts thoroughly after handling.
P280 Wear protective gloves.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.

Response

P310 Immediately call a POISON CENTER/doctor/physician.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330 IF SWALLOWED: Rinse mouth.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Sodium hydrogen sulfite	<100	7631-90-5	1-502	NaHSO3
Disodium disulfite	<100	7681-57-4	1-502	Na2S2O5

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

Supplementary information concerning ingredients

Sodium hydrogen sulfite in equilibrium with Disodium disulfite.

Impurities

Sodium sulfate ≦5.0 (CAS No.7757-82-6)

Section 4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.
Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or shower.
Wash with plenty of soap and water.
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.
Call a POISON CENTER/doctor/physician if you feel unwell.

Section 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

Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may cause pollution.
See "10.Stability and Reactivity".

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.
Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

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.

Section 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, hot surfaces, sparks, open flames and other ignition sources. 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/eye protection/face protection.
Wash hands et al thoroughly after handling.
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.
Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage
Keep container tightly closed.
Store locked up. (P405)
Store in a cool, dry place. Do not store in direct sunlight.
Storage in accordance with local/national regulation.

Container and packaging materials for safe handling
Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters

Control value and concentration standard value are not available in ISHA.

Adopted value
(Other inorganic and organic dust (third class dust))
JSOH Respirable dust 2mg/m3, Total dust 8mg/m3
(Sodium hydrogen sulfite)
ACGIH(1996) TWA: 5mg/m3 (Skin, eye & URT irr)
(Disodium disulfite)
ACGIH(1996) TWA: 5mg/m3 (URT irr)

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
Recommend to use protective equipment in conformity with the standards.
Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystalline powder to powder
Color: White
Odor: Characteristic odor
Melting point/Freezing point: (decompose) 150℃
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: Soluble
Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 1.48
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.

Other information

Other information is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(Sodium hydrogen sulfite)
Decomposes on heating and on contact with acids. This produces sulfur oxides. Reacts with acids and strong oxidants. This generates fire hazard. The substance is a weak acid.
Attacks metals. (ICSC 1134)
(Disodium disulfite)
Decomposes on heating. This produces sulfur oxides. The substance is a strong reducing

agent. It reacts violently with oxidants. Reacts violently with concentrated solution of sodium nitrite. Decomposes on contact with acids. This produces sulfur oxides.(ICSC 1461)

Conditions to avoid

Contact with incompatible materials.
Contact with fire source.

Incompatible materials

Acids, Oxidizing agents, Concentrated solution of sodium nitrite

Hazardous decomposition products

Sulfur oxides, Sodium oxides

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Category 4, Harmful if swallowed

[Data for components of the product]

[NITE-CHRIP]

(Disodium disulfite)

rat LD50: 1540 mg/kg (source: NITE)

(Sodium sulfate)

rat LD50: > 10000 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Data for components of the product]

[NITE-CHRIP]

(Disodium disulfite)

rat LD50: > 2000 mg/kg (source: NITE)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[Product]

Category 1, Causes serious eye damage

[Data for components of the product]

[NITE-CHRIP]

(Sodium hydrogen sulfite)

Category 2B (source: NITE)

(Disodium disulfite)

Category 1 (source: NITE)

(Sodium sulfate)

Category 2B (source: NITE)

Sensitization

Respiratory sensitization

[Product]

Category 1, May cause allergy or asthma symptoms or breathing difficulties if inhaled

[Data for components of the product]

[NITE-CHRIP]

(Disodium disulfite)

Category 1 (source: NITE)

Skin sensitization

[Product]
Category 1, May cause an allergic skin reaction
[Data for components of the product]
[NITE-CHRIP]
(Disodium disulfite)
Category 1 (source: NITE)
Mutagenic effects data is not available.
Carcinogenicity
[Data for components of the product]
[ACGIH]
(Sodium hydrogen sulfite)
A4(1996) : Not Classifiable as a Human Carcinogen
(Disodium disulfite)
A4(1996) : Not Classifiable as a Human Carcinogen
Reproductive toxicity data is not available.
Specific target organ toxicity (STOT)
STOT-single exposure
[Product]
Category 2, May cause damage to organs
Category 3, May cause respiratory irritation
[Data for components of the product]
[NITE-CHRIP]
(Sodium hydrogen sulfite)
Category 3 (Respiratory tract irritation) (source: NITE)
(Disodium disulfite)
Category 3 (Respiratory tract irritation) (source: NITE)
(Sodium sulfate)
Category 1 (gastrointestinal tract) (source: NITE)
STOT-repeated exposure data is not available.
Aspiration hazard data is not available.
Information on other hazards
May cause lung disorders by massive inhalation of powdered substance.
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

Section 12. Ecological Information

Toxicity
Aquatic toxicity
[Product]
Category 3, Harmful to aquatic life
Category 3, Harmful to aquatic life with long lasting effects
[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)
[NITE-CHRIP]
(Disodium disulfite)
Algae (Desmodesmus subspicatus) 72-hour EC50: 48.1 mg/L (source: NITE)
(Sodium sulfate)
Algae (Pseudokirchneriella subcapitata) 72-hour EC50: 1584.583 mg/L (source: NITE)
Crustacea (Ceriodaphnia dubia) 48-hour EC50: 3150.21 mg/L (source: NITE)

Fish (Pimephales promelas) 96-hour LC50: 7960 mg/L (source: NITE)

Hazardous to the aquatic environment, long-term (chronic)

[NITE-CHRIP]

(Disodium disulfite)

Crustacea (Daphnia magna) 21-day NOEC: > 10 mg/L (source: NITE)

(Sodium sulfate)

Algae (Pseudokirchneriella subcapitata) 72-hour NOEC: 1060 mg SO4/L (a converted value equivalent to NaSO4: 1265 mg/L) (source: NITE)

Crustacea (Ceriodaphnia dubia) 7-day NOEC: 610 mg SO4/L (a converted value equivalent to NaSO4: 728 mg/L) (source: NITE)

Fish (Oncorhynchus mykiss) 31-day NOEC: 205 mg SO4/L (a converted value equivalent to NaSO4: 245 mg/L) (source: NITE)

Water solubility

(Disodium disulfite)

54 g/100 mL (source: ICSC, 2002)

(Sodium sulfate)

very good (source: ICSC, 2005)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

[Data for components of the product]

(Disodium disulfite)

log Pow: -3.7 (source: ICSC, 2002)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 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.

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

IATA (Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

Environmental hazards

Marine pollutants (yes/no) : no

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Sodium hydrogen sulfite; Disodium disulfite; Sodium sulfate

Other regulatory information

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

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)
IATA Dangerous Goods Regulations (65th Edition) 2024
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2024 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2023 Recommendation on TLVs (JSOH)
Supplier's data/information

General Disclaimer

Please provide SDS to customers for selling or transferring.
All chemicals have unknown hazard. Handle the product with care.
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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).