Material Safety Data Sheet

Revision Date: 14.10.2019

SODIUM HYDROSULPHIDE

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

1.1 Product identifier

- Trade name : SODIUM HYDROSULPHIDE - FLAKES 70-72%
- Synonyms : Sodium hydrogen sulfide (sulphide), Sodium hydrosulfide (hydrosulphide), Sodium sulfhydrate

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

Uses of the Substance / Mixture

- Chemical industry
- Ore processing (Mining)
- Water treatment
- De-hairing agent (Leather tanning)
- Textile industry
- Manufacture of pulp, paper and paper products

1.3. Company/Undertaking Identification

Address : **NOVICHEM CO.**
No.30, Magnolia Str, Qaem Maqam Farahani Ave.
Tehran 15886/13941 IRAN

1.4. Emergency and contact telephone numbers

Contact telephone number (Product information): : **+98-21-88329799 (Hunting)**

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

Acute toxicity, Category 3	H301: Toxic if swallowed.
Skin corrosion, Category 1A	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

Pictogram

Signal Word
- Danger

Hazard Statements

- H301	Toxic if swallowed.
- H314	Causes severe skin burns and eye damage.
- H318	Causes serious eye damage.

Precautionary Statements

Prevention

- P260	Do not breathe dusts or mists.
- P264	Wash skin thoroughly after handling.
- P270	Do not eat, drink or smoke when using this product.
- P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

- P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
- P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 + P310	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
- P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
- P363	Wash contaminated clothing before reuse.

Storage

- P405	Store locked up.

Disposal

- P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

- H400: Very toxic to aquatic life.

SECTION 3: Composition/information on ingredients

3.1 Information on Components and Impurities

Chemical Name	Identification number CAS-No.	Concentration [%]
Sodium hydrogensulfide (hydrate)	207683-19-0	70 - 72
Sodium sulphide	27610-45-3	<= 7
Thiosulfuric acid (H2S2O3), sodium salt (1:2)	7772-98-7	<= 3
Carbonic acid sodium salt (1:2)	497-19-8	<= 2

SECTION 4: First aid measures

4.1 Description of first-aid measures

In case of inhalation

- Move to fresh air.
- Oxygen or artificial respiration if needed.
- Victim to lie down in the recovery position, cover and keep him warm.
- Call a physician immediately.

In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- Keep warm and in a quiet place.
- Call a physician or poison control center immediately.
- Wash contaminated clothing before re-use.

In case of eye contact

- Call a physician or poison control center immediately.
- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Take victim immediately to hospital.

In case of ingestion

- Call a physician or poison control center immediately.
- Take victim immediately to hospital.
- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.
- Artificial respiration and/or oxygen may be necessary.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation

Symptoms
- At high concentrations:
- slight irritation

Effects
- No hazards to be specially mentioned.

In case of skin contact

Symptoms
- Redness
- Swelling of tissue
- Burn

Effects
- Corrosive

In case of eye contact

Symptoms
- Redness
- Lachrymation
- Swelling of tissue
- Burn

Effects
- May cause irreversible eye damage.
- May cause blindness.

In case of ingestion

Symptoms
- Nausea
- Abdominal pain
- Bloody vomiting
- Diarrhea
- Suffocation
- Cough
- Severe shortness of breath

Effects
- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

4.3 Indication of any immediate medical attention and special treatment needed

- no data available

SECTION 5: Firefighting measures

Flash point	Not applicable, inorganic
Autoignition temperature	> 302 °F (> 150 °C)
Flammability / Explosive limit	no data available

5.1 Extinguishing media

Suitable extinguishing media

- Foam
- powder

Unsuitable extinguishing media

- Water
- Carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting

- Not combustible.
- Hazardous decomposition products

Hazardous combustion products:

- Sulfur oxides

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Exposure to decomposition products may be a hazard to health.
- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
- Wear chemical resistant oversuit

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Sweep up to prevent slipping hazard.
- Avoid dust formation.

Advice for non-emergency personnel

- Prevent further leakage or spillage if safe to do so.

Advice for emergency responders

- Isolate the area.
- Wear self-contained breathing apparatus and protective suit.

6.2 Environmental precautions

- Discharge into the environment must be avoided.
- Do not flush into surface water or sanitary sewer system.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.

6.3 Methods and materials for containment and cleaning up

- Pick up and arrange disposal without creating dust.
- Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Use product only in closed system.
- Ensure adequate ventilation.
- Keep away from heat.
- Keep away from incompatible products

Hygiene measures

- Eye wash bottles or eye wash stations in compliance with applicable standards.
- When using do not eat, drink or smoke.
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Packaging material

Suitable material

- Steel drum
- Polyethylene

7.3 Specific end use(s)

- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

Consult local authorities for acceptable exposure limits.

8.2 Exposure controls

Control measures

Engineering measures
- Provide appropriate exhaust ventilation at places where dust is formed.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection
- In case of insufficient ventilation, wear suitable respiratory equipment.
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Recommended Filter type: P3 filter
- In case of decomposition (see section 10), face mask with combined type B-P3 cartridge.

Hand protection
- chemical resistant gloves

Suitable material
- PVC
- Neoprene
- Natural Rubber

Eye protection
- Goggles

Skin and body protection
- Dust impervious protective suit
- Apron
- Boots
- PVC
- Neoprene

Hygiene measures
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- When using do not eat, drink or smoke.
- Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: flakes Physical state: solid Color: biege
Odor	rotten-egg like
pH	11.2 (1 %) 12.1 saturated aqueous solution
Melting point/range	50 - 55 °C
Flammability (solid, gas)	The product is not flammable., The substance or mixture is not classified as pyrophoric.
Flammability / Explosive limit	Explosiveness: Not explosive
Autoignition temperature	> 150 °C
Density	1500 Kg / M³
Solubility	Soluble in water

SECTION 10: Stability and reactivity

10.1 Reactivity

- Contact with acids liberates toxic gas.

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- no data available

10.4 Conditions to avoid

- Keep away from flames and hot surfaces.
- Exposure to moisture.

10.5 Incompatible materials

- Carbon dioxide (CO2)
- Acids
- Oxidizing agents
- Metals

10.6 Hazardous decomposition products

- Sulfur oxides
- Hydrogen sulfide (H2S)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	LD50 : 72 - 105 mg/kg - Rat
Acute inhalation toxicity	no data available
Acute dermal toxicity	study scientifically unjustified
Acute toxicity (other routes of administration)	no data available

Skin corrosion/irritation	Corrosive
Serious eye damage/eye irritation	Corrosive
Respiratory or skin sensitization	study scientifically unjustified
	Test substance: Molecular weight ~ 1500

Mutagenicity

Genotoxicity in vitro	In vitro tests did not show mutagenic effects
Genotoxicity in vivo	In vivo tests did not show mutagenic effects

Toxicity for reproduction and development

Toxicity to reproduction / fertility	no data available
Developmental Toxicity/Teratogenicity	no data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Hydrogen sulfide (H2S)	LC50 - 96 h : 0.0027 mg/l - Fish
Sodium sulfide (Na2S)	LC50 - 96 h : 0.55 mg/l - Brachydanio rerio (zebrafish)

M-Factor

Sodium sulfide (Na2S)	Acute aquatic toxicity = 1 (according to the Globally Harmonized System (GHS))

12.2 Persistence and degradability

Abiotic degradation

Stability in water	Medium, Water, Soil, complexation/precipitation of inorganic and organic materials Medium, Water, Soil, Oxidation, Degradation products:, sulfates
Photodegradation	Chemical degradation Half-life (direct photolysis): 1 h Sensitizer: sensitizer: OH/O3 radicals Degradat. indirect photolysis: 0.6 - 2 % Test substance: Hydrogen sulfide Medium Air Degradation products: Sulphur dioxide sulfates Sulfides
Biodegradability	aerobic Method: Oxidation Test substance: Sulfides Degradation products: sulfites sulfates anaerobic Method: biodegradation by sulforeduction Test substance: sulfates Degradation products: Hydrogen sulfide anaerobic Method: methanogenesis Test substance: sulfates Inhibitor

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- In accordance with local and national regulations.
- Where possible recycling is preferred to disposal or incineration.
- Use an FeCl3 solution to precipitate FeS.
- Filtrate the product and send the cake to a landfill for industrial waste.

Advice on cleaning and disposal of packaging

- The empty and clean containers are to be reused in conformity with regulations.
- Uncleaned empty packaging
- Dispose of as unused product.

SECTION 14: Transport information

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification.
The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

IMDG / IATA

14.1 UN number	UN 2949
14.2 Proper shipping name	SODIUM HYDROSULPHIDE, HYDRATED
14.3 Transport hazard class Label(s)	8 8
14.4 Packing group Packing group	II
14.5 Environmental hazards **Marine pollutant**	YES

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	Listed on Inventory
Mexico INSQ (INSQ)	Listed on Inventory, Anhydrous form
Canadian Domestic Substances List (DSL)	Listed on Inventory
New Zealand. Inventory of Chemical Substances	Listed on Inventory, Anhydrous form
Australia Inventory of Chemical Substances (AICS)	Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed on Inventory

SECTION 16: Other information

Information contained herein is provided in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.