

Material Safety Data Sheet

(Sodium Hydrosulfide)

Section 1: Production Identification

1.1 Product name: Sodium Hydrosulfide

Synonyms: Sodium Hydrosulphide, Sodium Hydrogen Sulphide, Sodium Hydrogen Sulfide, Sodium Sulphydrate, Sodium Bisulphide.

1.2 Formula: NaHS

1.3 Material usage: Mainly used in Mill Run, Pesticide, Dye, Leather production and Organic Compound., Etc.

1.4 Manufacturer: Shanghai Baijin Chemical Group Co., Ltd.

26F, Sino-life Tower, No.707, Zhangyang Rd. Pudong, Shanghai-200120, P.R.China.

Tel:0086-21-58359999 Fax:0086-21-58365862

1.5 Validation date: 02/26/2026

1.6 In case of emergency:

China:0086-532-3889090

Baijin Group : 0086-18716812999

Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

2.1 Chemical Ingredients (% by wt.)

Sodium hydrosulfide	CAS #:16721-80-5	70%Min
Sodium sulfide	CAS #: 1313-82-2	2.0%Max (Typical)
Sodium carbonate	CAS #: 497-19-8	1.0%Max (Typical)
Water	CAS #:7732-18-5	27%Min

Section 3: HAZARDS IDENTIFICATION

NFPA: Health - 3 Flammability - 2 Reactivity - 12



3.1 POTENTIAL HEALTH EFFECTS

EYE: Contact with the eyes will cause marked eye irritation and possibly severe corneal damage.

SKIN CONTACT: Contact with the skin will cause skin irritation or burning sensation.

Prolonged contact will result in corrosion of the skin.

SKIN ABSORPTION: Absorption is unlikely to occur.

INGESTION: Ingestion will result in severe burning and corrosion of mouth, throat and the gastrointestinal tract.

If the ingested material contacts stomach acid, highly toxic hydrogen sulfide gas will be evolved.

INHALATION: Product solution and vapors contain highly toxic hydrogen sulfide gas.

Exposure to this gas causes, headaches, nausea, dizziness and vomiting.

Continued exposure can lead to loss of consciousness and death.

CHRONIC EFFECTS/CARCINOGENICITY: Not listed as a carcinogen by NTP, IARC or OSHA.

Section 4: FIRST AID MEASURES

4.1 EYES: Immediately flush with large quantities of water for a minimum of 15 minutes.

Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye.

Obtain immediate medical attention.

4.2 SKIN: Immediately flush with large quantities of water.

Remove contaminated clothing under a safety shower.

Obtain immediate medical attention

4.3 INGESTION: DO NOT INDUCE VOMITING.

If victim is conscious, immediately give 2 to 4 glasses of water.

If vomiting does occur, repeat fluid administration.

Obtain immediate medical attention.

4.4 INHALATION: Remove victim from contaminated atmosphere.

If breathing is labored, administer oxygen.

If breathing has ceased, clear airway and start artificial respiration with the aid of a pocket mask equipped with a one way valve or other proper respiratory medical device.

If heart has stopped beating, external heart massage should be applied.

Obtain immediate medical attention.

Section 5: FIRE FIGHTING MEASURES**5.1 FLAMMABLE PROPERTIES**

FLASH POINT: Not flammable

5.2 FLAMMABLE LIMITS

Hydrogen sulfide LFL: 4% UFL: 46%

5.3 EXTINGUISHING MEDIA: Water spray or foam or as appropriate for combustibles involved in fire.

5.4 FIRE & EXPLOSIVE HAZARDS: Solution is non-flammable.

However, if these solutions are exposed to heat or acids, hydrogen sulfide will be released and may form explosive mixtures with air (see above).

Keep containers/storage vessels in fire area cooled with water spray.

Heating may cause the release of hydrogen sulfide vapors.

5.5 FIRE FIGHTING EQUIPMENT: Because of the possible presence of toxic gases and the corrosive nature of the product, wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Small releases: Isolate for 100 feet. Confine area to qualified response personnel. Wear proper Personnel Protective equipment (See Section 8). Confine release material by berming or diverting its path. Absorb on sand, earth or other inert dry absorbent. Do not allow into sewer, storm drains or any waterway. Oxidize residual reactive sulfides with a weak (3-5%) hydrogen peroxide solution to stop the release of toxic hydrogen sulfide. Remove contaminated soil and dispose of in accordance with all governmental regulations.

6.2 Large releases: Activate Emergency Response Plan procedures. Isolate release area for 700 feet. Confine area to qualified response personnel. Wear proper Personnel Protective Equipment (See Section 8). Shut off release, if safe to do so. Dike spill area to prevent runoff into sewers, drains (potential toxic and explosive mixtures of hydrogen sulfide in confined spaces) or surface waterways (potential aquatic toxicity). Recover as much of the solution as possible. Treat remaining material as a small release (above).

Section 7: HANDLING and STORAGE

7.1 Handling: Wear proper protective equipment (See Section 8). Avoid breathing product vapors.

Avoid contact with skin and eyes. Use only in a well-ventilated area. Dilute product only in enclosed containers.

Wash thoroughly after handling.

7.2 Storage: Store in well ventilated areas. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store tote and smaller containers out of direct sunlight at moderate temperatures [$<80^{\circ}\text{F}$ (27°C)]. (See Section 10.4 for materials of construction)

Section 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

8.1 RESPIRATORY PROTECTION: If working near open container, storage vessel opening or open tank truck dome cover, wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent).

8.2 SKIN PROTECTION: Neoprene rubber gloves, chemical suit and boots should be worn to prevent contact with the liquid. Wash contaminated clothing prior to reuse. Contaminated leather shoes cannot be cleaned and should be discarded.

8.3 EYE PROTECTION: Chemical goggles and a full face shield.

8.4 EXPOSURE GUIDELINES:

	OSHA		ACGIH	
	TWA	STEL	TLV	STEL
Hydrogen sulfide	20 ppm (ceiling)		1 ppm	5ppm

8.5 ENGINEERING CONTROLS: Use adequate exhaust ventilation to prevent inhalation of product vapors. Where feasible, scrub process or storage vessel vapors with caustic solution. Maintain eyewash/safety shower in areas where chemical is handled.

Section 9: PHYSICAL and CHEMICAL PROPERTIES

9.1 APPEARANCE: May be yellow to brown in flake, Solid scales.

9.2 ODOR: Hydrogen sulfide (rotten egg)

9.3 SOLUBILITY: 548 g/l @20 °C (68 °F)

9.4 FLASH POINT: Not applicable

9.5 SOLUBILITY IN WATER: Complete

9.6 RELATIVE DENSITY: 1.5 @ 16°C (60.8°F)(H₂O=1)

9.7 PH: 11.5 - 12.5

Section 10: STABILITY and REACTIVITY

10.1 STABILITY: This is a stable material

10.2 HAZARDOUS POLYMERIZATION: Will not occur.

10.3 HAZARDOUS DECOMPOSITION PRODUCTS: Heating this product will evolve hydrogen sulfide.

Fire conditions will also cause the production of sulfur dioxide.

Hydrogen sulfide (4-44%) may form flammable mixtures with air.

Heating to decomposition emits toxic fumes of sulfoxides and Na₂O.

10.4 INCOMPATIBILITY: Acids will cause the release of highly toxic hydrogen sulfide.

React violently with diazonium salts.

Sodium hydrosulfide solution is not compatible with copper, zinc, aluminum or their alloys (i.e. bronze, brass, galvanized metals, etc.).

It is corrosive to steel more than 150° F (65.5°C).

These materials of construction should not be used in handling systems or storage containers for this product (SEE Section 7.2, Storage).

Dilution of NaHS with water will increase the evolution of hydrogen sulfide. Dilution should be done in an enclosed container.

Section 11: TOXICOLOGICAL INFORMATION

11.1 ORAL: Data not available.

11.2 DERMAL: Data not available

11.3 INHALATION:

INH-RAT LC₅₀: 444 ppm (hydrogen sulfide)

INH-MOUSE LC₅₀: 1,500 mg/m³, 18 minutes

INH-RAT LC₅₀: 1,500 mg/m³, 14 minutes

11.4 CHRONIC/CARCINOGENICITY: No evidence available

11.5 TERATOLOGY: Data not available

11.6 REPRODUCTION: Data not available

11.7 MUTAGENICITY: Data not available.

Section 12: ECOLOGICAL INFORMATION

Static acute 96 hour-LC₅₀ for mosquito fish is 206 mg/L. (Tl_m - fresh water)

LC50 fly inhalation 1,500 mg/m³, 7 minutes

TLm Gammarus 0.84 mg/L, 96 hours (hydrogen sulfide)

TLm Ephemera 0.316 mg/L, 96 hours (hydrogen sulfide)

TLm Flathead minnow 0.071 – 0.55 mg/L @ 6-24°C, 96 hour flow through bioassay (hydrogen sulfide)

TLm Bluegill 0.0090 – 0.0140 mg/L @ 20-22°C, 96 hour flow through bioassay (hydrogen sulfide)

TLm Brook trout 0.0216 – 0.0308 mg/L @ 8-12.5°C, 96 hour flow through bioassay (hydrogen sulfide)

Section 13: DISPOSAL CONSIDERATIONS

If released to the environment for other than its intended purpose, this product contains some reactive sulfides which may be in sufficient quantity to meet the definition of a D003, hazardous waste.

Section 14: TRANSPORT INFORMATION

14.1 Hazard Class: 8

14.2 UN/NA Number: 2949

14.3 Packing Group: II

14.4 DOT Placard: Corrosive

14.5 IMO Shipping Name: Sodium hydrosulphide

Section 15: REGULATORY INFORMATION

15.1 OSHA: This product is listed as a hazardous material under Chinese regulation published by Ministry of Environmental Protection of the People's Republic of China.

Section 16: OTHER INFORMATION

Reference literature: Dangerous Chemicals Safety Material Data, Chemical Industry Publishing House,1997.

Date of Validity: Till January,1,2026.

Department of form: HSE Dept of Shanghai Baijin Chemical Group Co., Ltd

Auditing department of Data: HSE dept. of Shanghai Baijin Chemical Group Co., Ltd.

Modification notice: Any amendment, we will inform you ASAP.

Section 17: User's Responsibility

The information contained in this Material Safety Data Sheet is based on the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if this information is suitable for their applications and to follow safety precautions as may be necessary. The user has the responsibility to make sure that this sheet is the most up-to-date issue.

Definition of common terms used :

LEL : lower explosive limit

NAP : Not applicable

OSHA : Occupational Safety and Health Administration

PEL : Permissible Exposure Limit

TWA : Time – Weighted Average

UFL : Upper Flammable Limit