

FACTORY : Survey No.322/3, AT-Indrad, TA-Kadi,
Dist-Mehsana-382715. Gujarat.(INDIA)

OFFICE : 4,Shreenath Bungalows,
Ramwadi Tekra, Isanpur, Ahmedabad-382443.

E mail : info@siliconindustries.net

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SILICON
INDUSTRIES

Manufacturer : Inorganic Chemicals | Barium Salts

SODIUM HYDROSULFIDE SOLUTION

MSDS MATERIAL SAFETY DATA SHEET

Section 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name :	Sodium hydrosulfide solution
	Chemical Family :	Inorganic salt solution
	Synonyms :	KI-300 depressant, NaHS, sodium hydrogen sulfide
	Formula :	NaHS
1.2	Manufacturer :	M/s. SILICON INDUSTRIES SURVEY NO.322/3, VILLAGE: INDRAD, TA-KADI, DISTRICT-MEHSANA, GUJARAT, INDIA
	Information :	+ (91) 9824013419

Section 2 : COMPOSITION, INFORMATION ON INGREDIENTS

2.1	CHEMICAL INGREDIENTS (% BY WT.)		
	Sodium hydrosulfide	CAS #: 16721-80-5	20-45%
	Water	CAS #: 7732-18-5	55-80%
	(See Section 8 for exposure guidelines)		

Section 3 : HAZARDS IDENTIFICATION

NFPA:	Health – 3	Flammability – 2	Reactivity - 1
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EMERGENCY OVERVIEW

Warning: Solution is highly alkaline

Contains hydrogen sulfide , a highly toxic gas.

Eye contact will cause marked eye irritation and possibly severe corneal damage.

Skin contact will result in irritation and possible corrosion of the skin.

Ingestion will irritate/burn mouth, throat and gastrointestinal tract. Contact with stomach acid will cause hydrogen sulfide vapors to be released.

Heating or acid will cause hydrogen sulfide gas to evolve.

Section 3 : HAZARDS IDENTIFICATION, Cont.

3.1 POTENTIAL HEALTH EFFECTS

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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 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| INGESTION : Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start mouth to mouth resuscitation. 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

METHOD USED: NA

5.2 | FLAMMABLE LIMITS Hydrogen sulfide **LFL: 4% UFL: 44%**

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

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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 : Confine and absorb small releases on sand earth or other inert absorbent. Oxidize residual reactive sulfides with a weak (3-5%) hydrogen peroxide solution.

6.2 | LARGE RELEASES : Wear proper protective equipment. Confine area to qualified personnel. Shut off release if safe to do so. Dike spill area to prevent runoff into sewers, drains (potential 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 or 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.

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

8.4| EXPOSURE GUIDELINES :

HYDROGEN SULFIDE	OSHA		ACGIH	
	TWA	STEL	TLV	STEL
	20 PPM (CEILING)		10 PPM (CEILING)	

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	Yellow to dark green liquid.
9.2	ODOR	Strong hydrogen sulfide (rotten egg) odor.
9.3	BOILING POINT	253 .F(122.8 .C) - 269 .F (131.7 .C)
9.4	VAPOR PRESSURE	17 mm Hg @ 68 .F (20 .C)
9.5	VAPOR DENSITY	(Air = 1.0) 1.17
9.6	SOLUBILITY IN WATER	Complete
9.7	SPECIFIC GRAVITY	1.152 - 1.303 (9.6 - 10.9 lbs/gal)
9.8	FREEZING POINT	0.F (-17.8.C) - 20% 56° F (13.3° C) - 45%
9.9	pH	11.5 - 12.5
9.10	VOLATILE	Not applicable

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.

10.4| INCOMPATIBILITY : Acids will cause the release of highly toxic hydrogen sulfide. Sodium hydrosulfide solution is not compatible with copper, zinc, aluminum or their alloys (i.e. bronze, brass, galvanized metals, etc.). Corrosive to steel above 150° F

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(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)

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/m ³ 18 minutes INH-RAT LC50: 1,500 mg/m ³ 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. (TIm - 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

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14.1	DOT SHIPPING NAME	Corrosive liquids, toxic, n.o.s.
14.2	DOT HAZARD CLASS	8
14.3	UN/NA NUMBER	UN2922 UN2949 (IMDG - over water)
14.4	PACKING GROUP	II
14.5	DOT PLACARD	Corrosive
14.6	DOT LABEL(S)	Corrosive Toxic
14.7	IMO SHIPPING NAME	Sodium hydrosulphide solution
14.8	RQ (REPORTABLE QUANTITY)	5,000 lbs (2268 Kg) 100% basis [2,604 gal (20%) 1,019 gal (45%)]
14.9	RR STCC NUMBER	28-123-33/49-352-04 (international)

Key Tags:

sodium hydrosulphide

sodium hydrosulfide

[sodium hydrosulfide msds](#)

sodium hydrosulfide cas

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