

SAFETY DATA SHEET

Sodium Hydrosulphide

SECTION 01 - IDENTIFICATION

Product identifier	Sodium Hydrosulphide
Other means of identification	Sodium Hydrosulphide with not less than 25% water of crystallisation; Sodium bisulphide; Sodium Hydrosulphide flake
Recommended use of chemical	Used in leather treatment, dye and lubricant manufacture, agents, dyes, waste- water treatment, metals finishing, ore beneficiation, pharmaceuticals. Paper pulping, dyestuffs processing, rayon and cellophane desulfurising, de-hairing hides, bleaching agent
Supplier name	Ixom Operations Pty Limited trading as LogiChem
Supplier address	Lot 33 Bulong Road Parkeston-Kalgoorlie, Australia PO Box 878 Kalgoorlie WA 6433 Australia
Supplier phone	1800 033 111 / Int. +61 (0) 3 9663 2130
24 Hour emergency phone	1800 033 111

SECTION 02 - HAZARD(S) IDENTIFICATION

Classification	Corrosive to Metals - Category 1 Acute Toxicity (Oral) - Category 3 Acute Toxicity (Dermal) - Category 3 Skin Corrosion/Irritation - Category 1B Serious Eye Damage/Irritation - Category 1
Signal word	Danger
Hazard statements	H290 - May be corrosive to metals. H301 - Toxic if swallowed. H311 - Toxic in contact with skin. H314 - Causes severe skin burns and eye damage.
Precautionary statements	Prevention P234 - Keep only in original container. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P273 - Avoid release to the environment. P260 - Do not breathe fume / gas / mist / vapours / spray. P280 - Wear protective gloves / protective clothing / eye protection / face protection. Response P301 / P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P301 / P330 / P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302 / P352 - IF ON SKIN: Wash with plenty of soap and water. P303 / P361 / P353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P304 / P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 / P351 / P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTER or doctor/physician. P312 - Call a POISON CENTER or doctor/physician if you feel unwell. P321 - Specific treatment (see First Aid Measures on Safety Data Sheet). P361 - Remove/Take off immediately all contaminated clothing. P363 - Wash contaminated clothing before reuse. P390 - Absorb spillage to prevent material damage. P391 - Collect spillage. Storage P405 - Store locked up.

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P406 - Store in corrosive resistant container with a resistant inner liner.
Disposal
 P501 - Dispose of contents/container in accordance with local / regional / national / international regulations.



SECTION 03 – COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Components	Cas No:	Proportion % w/w
Sodium Hydrosulphide	16721-80-5	>70.0%

SECTION 04 – FIRST AID MEASURES

Description of necessary first aid measures	<p>Eye – Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Seek medical attention immediately.</p> <p>Ingestion - If conscious immediately wash out mouth and give water to drink. Do not induce vomiting. Seek medical attention immediately.</p> <p>Inhalation – Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing laboured and patient cyanotic (blue) ensure airways are clear and have qualified person give oxygen through a face mask. If breathing has stopped apply artificial respiration at once. In event of cardiac arrest, apply external cardiac massage. Seek medical attention immediately.</p> <p>Skin - Wash contaminated skin with plenty of soap and water. Remove contaminated clothing and wash before re-use. If irritation persists, seek medical attention immediately.</p>
Medical attention / special treatment	Treat symptomatically.
Symptoms caused by exposure	No information available on medical conditions aggravated by exposure to this product. Overexposure to hydrogen sulphide gas may cause memory loss, paralysis, nerve damage or death. Sodium sulphide and hydrogen sulphide paralyses the sense of smell.

SECTION 05 – FIRE FIGHTING MEASURES

Suitable extinguishing media	Water, dry chemical powder, foam, carbon dioxide.
Specific hazards arising from the chemical	CAUTION - Product may ignite spontaneously if water crystallization is < 25.0%. Pyrophoric product if water crystallization is < 25.0%. Finely divided sodium hydrosulphide dust forms explosive/combustible mixtures in air. Although this material does not readily ignite, it is combustible and can ignite if subjected to very high temperatures. Avoid contact with paper, wood or other combustible materials. Fine dust or powder may form explosive mixtures in air. Fire may produce irritating, corrosive and/or toxic vapours of hydrogen sulphide and sulphur dioxide. Avoid contact with moisture and acids.
Special protective equipment & precautions for fire fighters	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire-fighting water to reach waterways, drains or sewers. Store fire-fighting water for treatment. Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire-fighting clothing (includes fire-fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.

SECTION 06 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective	Avoid accidents, clean up immediately. Increase ventilation. Avoid walking through
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equipment and emergency procedures	spilled product as it may be slippery when spilt. Isolate the danger area. Use clean, non-sparking tools and equipment. Eliminate all sources of ignition and do not generate flames or sparks. Evacuate all unnecessary personnel. Personnel involved in the clean-up should wear full protective clothing as listed in Section 08.
Environmental precautions	Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority. Empty containers can have residues, gases and mists that are hazardous.
Methods and materials for containment and cleaning up.	Collect the product with suitable means avoiding dust formation. Collect liquid recycle or using chloric acid to resolve with water. Contain the spill and deposit in a closed, labelled, DOT-approved waste container. Do NOT neutralise with the acid directly, must change the sulphide into the sulphate with 3% of the hydrogen peroxide solution first; Or neutralise sulphide hydrosulphide with the chlorine ion first, and then add the sodium carbonate to waste. Sodium hydrosulphide is considered hazardous to the environment. Spilled product should be disposed of in an EPA-approved disposal facility in accordance with applicable national, state and local environmental laws and regulations.

SECTION 07 – HANDLING AND STORAGE

Precautions for safe handling	Corrosive product need enhance eye protection. Workers need to be trained for product danger and safe operation procedure. DO NOT mix with acid materials. Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Remove contaminated clothing and wash before reuse. Use the smallest quantity possible for the operation, avoiding generation of dust and contact with moisture.
Conditions for Safe Storage (Including Any Incompatibles)	Keep container tightly closed when not in use. Avoid contact with moisture during storage to prevent release of Hydrogen Sulphide. Avoid contact with paper, wood and other organic combustibles. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Storage areas should be made of corrosion- and fire-resistant materials. Post warning and “NO SMOKING” signs in storage and use areas, as appropriate. Use corrosion-resistant structural materials, lighting, and ventilation systems in the storage area. Floors should be sealed to prevent absorption of this material. Inspect all incoming containers before storage, to ensure containers are properly labelled and not damaged. Have appropriate extinguishing equipment in the storage area (i.e., sprinkler system, portable fire extinguishers). Good housekeeping is very important to prevent accumulations of dust. Dry sweeping is not recommended. Pre-wet the material or use an explosion proof vacuum equipped with high efficiency filter(s). Use only conductive equipment for handling this material (e.g. metal conveyors and piping) and keep all components grounded. Ground clips must contact bare metal. Do not transfer in storage area unless it is segregated by fire- resistant construction. Consideration should be made to install hydrogen sulphide detectors and alarms in storage and use areas. Restrict access to storage area. Empty containers may contain residual particulates; therefore, empty containers should be handled with care. Do not cut, grind, weld, or drill near this container. Never store food, feed, or drinking water in containers which held this product. Keep this material away from food, drink and animal feed. Do not store this material in open or unlabelled containers. Limit quantity of material stored. Store away from incompatible materials as listed in section 10. Store away from other chemicals including acids, oxidizers, zinc, aluminium or copper. Product will corrode containers not made of iron or steel. Keep product in closed, dust proof containers. Store below 30

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Deg C, ideally 25 Deg C. Store away from direct sunlight to avoid increase in temperature.

SECTION 08 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters – exposure standards, biological monitoring	No value assigned for this specific material by Safe Work Australia (SWA). However, the exposure standard for dust not otherwise specified is 10mg/m ³ (for inspirable dust) and 3mg/m ³ (for respirable dust). Hydrogen sulphide: 8hr TWA = 14 mg/m ³ (10 ppm), 15 min STEL 21 mg/m ³ (15 ppm) As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants (ORICA).
Appropriate engineering controls	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Material must be handled or transferred with adequate ventilation and independent system.
Personal protective equipment (PPE)	<p>Clothing – Wear apron, long sleeves and other protective clothing suitable for use conditions to prevent contact with the skin (AS3765/2210).</p> <p>Eyes – Chemical goggles unless a full-face piece respirator is also worn. Contact lenses are not recommended when using this product (AS1336/1337).</p> <p>Footwear – Wear boots suitable for use conditions to prevent contact with the skin (AS3765/2210).</p> <p>Gloves – Impervious protective chemical gloves (PVC, neoprene or rubber) (AS2161).</p> <p>Other - Use an approved dust/mist or positive-pressure respirator, depending on dust concentration and presence of hydrogen sulphide gas. An air-supplied respirator is recommended for unknown concentrations of hydrogen sulphide gas (AS1715/1716).</p>

SECTION 09 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Lemon-yellow flakes
Odour	Slightly "rotten egg" odour
Odour threshold	Not available
pH	11.9 (10g/L @ 20°C)
Melting point/freezing point	50°C
Specific gravity (water = 1)	Not available
Boiling point and boiling range	173°C
Flash point	Not available
Evaporation rate	Not available
Flammability	Not available
Upper/lower flammability or explosive limits	Not available
Vapour pressure (hPa @ 20°C)	Not available
Vapour density	Not available
Relative density	1.5
Solubility(ies) (water)	50g / 100ml
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	> 90°C
Decomposition temperature	Not available
Viscosity	Not available
Specific heat value	Not available
Particle size	Not available
Volatile organic compounds content	Not available
% volatile	Not available
Saturated vapour concentration	Not available
Release of invisible flammable vapours	Not available

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and gases

SECTION 10 – STABILITY AND REACTIVITY

Reactivity	Hazardous Polymerization will not occur. Hazardous reactions: Sodium hydrosulphide releases highly toxic and highly flammable hydrogen sulphide gas if mixed with an acid or if exposed to excessive heat. Hydrogen sulphide has a pungent rotten egg odour.
Chemical stability	Although stable at room temperature, sodium hydrosulphide is unstable and may explode with rapid heating or percussion. This material is hygroscopic. In contact with water or moisture, Sodium Hydrosulphide, Monohydrate slowly evolves hydrogen sulphide gas; more gas is evolved if heated. Aqueous solutions are slowly oxidized upon exposure to air. Solid material will become discoloured when strongly heated.
Conditions to avoid	Avoid contact with heat, moisture, ignition sources and open flame. Avoid dust generation. Product corrodes containers not made of iron or steel. Avoid dispersion of Sodium Hydrosulphide, Monohydrate particulates into air and contact with heat, moisture and acidic materials. Avoid the use of non-vented containers if they contain concentrated solutions, as heating may cause non-vented containers to rupture.
Incompatible materials	Avoid contact with water (moisture), acids, carbon dioxide, oxidizing materials and non-ferrous metals (aluminium, copper, zinc).
Hazardous decomposition products	Hydrogen sulphide gas (with acids) & sulphur dioxide gas (with oxidizers) reaction releases highly toxic and flammable hydrogen sulphide and large quantity of heat. Contact with oxidizing agents can cause violent reaction and release sulphur dioxide. Contact with diazonium salts or N,N-dichloromethyl amine can cause explosive reaction. Contact with carbon can generate excessive heat. Solutions of Sodium Hydrosulphide, Monohydrate can attack zinc, copper aluminium and alloys of these metals. Contact with paper, wood or other combustible materials may result in fire.

SECTION 11- TOXICOLOGICAL INFORMATION

Information on routes of exposure	<p>Eyes – A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury. Eye contact may cause painful conjunctivitis, coloured halo effects on vision, and eyelid spasm.</p> <p>Ingestion - Corrosive. May cause burns to the mouth and throat. Symptoms may include vomiting, nausea, diarrhea, abdominal pain and chemical burns to the gastrointestinal tract.</p> <p>Inhalation – Breathing in dust may result in respiratory irritation. The odour cannot be relied upon as a warning property as hydrogen sulphide paralyses the sense of smell above 100 ppm.</p> <p>Skin - Product can cause severe skin damage - corrosive. Direct contact with sodium sulphide irritates the skin and other tissue, may cause skin burns.</p>
Symptoms related to exposure	Not available.
Numerical measures of toxicity	<p>Oral LD50 (rat): 96-208 mg/kg</p> <p>Oral LD50 (rat): 200 mg/kg</p> <p>Inhalation (Hydrogen sulphide gas): Mouse LC50: 1500 mg/m³ (18-minute duration).</p>
Immediate, delayed and chronic health effects from exposure	May cause impaired memory, paralysis, impairment of the central nervous system.
Exposure levels	Not available.
Interactive effects	Not available.
Data limitations	Not available.

SECTION 12- ECOLOGICAL INFORMATION

Ecotoxicity	<p>Toxic to terrestrial vertebrates.</p> <p>Fishes, <i>Semolitus atromaculatus</i>, LC50, 24 h, from 4 - 10 mg/L</p> <p>Fishes, <i>Gambusia affinis</i>, LOEC, 96 h, 206 mg/L</p>
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	Chronic ecotoxicity: Fishes, Salmon, LOEC, mortality, 2.5 mg/L
Persistence and degradability	Not available.
Bioaccumulative potential	Not available.
Mobility in soil	Considerable solubility and mobility.
Other adverse effects	Not available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Safe handling and disposal methods	Dispose of in accordance with all local, state and federal regulations.
Disposal of any contaminated packaging	All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Environmental regulations	Contact a specialist disposal company or the local waste regulator for advice. Do NOT neutralise with the acid directly, must change the sulphide into the sulphate with 3% of the hydrogen peroxide solution first; Or neutralise sulphide hydrosulphide with the chlorine ion first, and then add the sodium carbonate to waste. Sodium hydrosulphide is considered hazardous to the environment. Spilled product should be disposed of in an EPA-approved disposal facility in accordance with applicable national, state and local environmental laws and regulations.

SECTION 14 – TRANSPORT INFORMATION

UN number	2949
Proper shipping name	Sodium Hydrosulphide
Transport hazard class(es)	8 – Corrosive Substances
Subsidiary risk	None allocated.
Packaging group	II
Environmental hazards	Not available.
Special precautions during transport	Not available.
Hazchem code	2X

SECTION 15 – REGULATORY INFORMATION

AICS name	SODIUM SULFIDE (Na(SH))
Poisons Schedule number	Not available.

SECTION 16 – OTHER INFORMATION

SDS creations date	08 August 2005
Most recent revision date	01 February 2018
Revision number	013 THIS ISSUE NUMBER REPLACES ALL ISSUES
Reason for revision	Annual Update
Contact person	Ixom 1800 033 111

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

END OF SDS