




# SAFETY DATA SHEET

## Sodium Hydrosulfide Solution

Section 1: Identification Of the Substance/Mixture And Of The Supplier	
<b>Supplier</b> TDC, LLC 1916 Farmerville Hwy Ruston, LA 71270  Company Contact: Customer Service Telephone Number: (800) 422-6274 E-Mail: TDCcustomerservice@genlp.com Web Site: www.genesisenergy.com	<b>Manufacturer</b> TDC, LLC 1916 Farmerville Hwy Ruston, LA 71270  Company Contact: Customer Service Telephone Number: (800) 422-6274 E-Mail: TDCcustomerservice@genlp.com Web Site: www.genesisenergy.com
<b>Supplier Emergency Contacts &amp; Phone Number</b> Customer Service: 800-422-6274 CHEMTREC: 800-424-9300	<b>Manufacturer Emergency Contacts &amp; Phone Number</b> Customer Service: 800-422-6274 CHEMTREC: 800-424-9300
Issue Date: 06/10/2015  Product Name: Sodium Hydrosulfide Solution CAS Number: NA Chemical Family: inorganic salt solution  <b>Product/Material Uses</b> Product is a unique alkaline material, playing a vital role in many industrial processes.	
Section 2: Hazards Identification	
	
<b>Hazard Classification(s)</b> <b>HAZARD CLASSIFICATION(S):</b> Eye Damage/Irritation - Category 1 Corrosive to Metals - Category 1 Skin Corrosion/Irritation - Category 1B Acute Aquatic Hazard - Category 1 Acute Toxicity - Category 3 (oral) Acute Toxicity - Category 4 (inhalation) There is insufficient information to assess Acute Dermal Toxicity  <b>SIGNAL WORD:</b> DANGER  <b>HAZARD STATEMENTS:</b> Causes serious eye damage (H318) Causes severe skin burns and eye damage (H314) May be corrosive to metals (H290) Very toxic to aquatic life (H400) Toxic if swallowed (H301) Harmful if inhaled (H332)  <b>PRECAUTIONARY STATEMENTS:</b> P234 - Keep only in original container. P260 - Do not breathe mist, vapor or spray. P264 - Wash thoroughly after handling.	

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## Sodium Hydrosulfide Solution

### Section 2: Hazards Identification - Continued

#### Hazard Classification(s) - Continued

P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment  
P280 - Wear protective gloves.  
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a Poison Control Center.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340 - IF INHALED: remove person to fresh air and keep 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. If eye irritation persists, get medical attention.  
P310 - Immediately call a poison center or physician.  
P363 - Wash contaminated clothing before reuse.  
P390 - Absorb spillage to prevent material damage.  
P391 - Collect spillage  
P405 - Store locked up.  
P406 - Store in corrosive resistant container with a resistant inner liner.  
P501 - Dispose of contents/container in accordance with local, state, federal and international regulation.

### Section 3: Composition/Information On Ingredients

Ingredient Name	CAS Number		Percent Of Total Weight
sodium hydrosulfide	16721-80-5		20 - 49
sodium carbonate	497-19-8	<	3
sodium sulfide	1313-82-2	<	1
water	7732-18-5		50 - 79

### Section 4: First Aid Measures

#### Eye

In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention immediately. Person may be kept in a dark room with ice compresses applied to eyes and forehead until medical treatment is available. Speed in treatment may prevent permanent eye damage.

#### Skin

Immediately remove contaminated clothing and shoes. In case of contact, immediately flush skin with soap and plenty of water. Get medical attention immediately if irritation (redness, rash, blistering) develops and persists.

#### Ingestion

Call a physician or a poison control center immediately. If vomiting occurs, keep head low so that stomach contents do not enter the lungs.

If conscious, rinse the mouth out several times with cold water and spit out. Give one or two cups of water or milk. This may be followed by gastric antacids, such as milk of magnesia or aluminum hydroxide. Stop if victim becomes nauseated. DO NOT INDUCE VOMITING unless instructed to do so by medical personnel. Never give anything by mouth to an unconscious person.

If the victim stops breathing: administer artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

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### Section 4: First Aid Measures - Continued

#### Inhalation

Call a Poison Center or doctor/physician if exposed or you feel unwell. Remove person from source of exposure to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration using a pocket mask or resuscitation device. Direct mouth contact should be avoided if possible due to the potential for residual corrosive liquid around the person's mouth and airways.

#### Note To Physician

Some medical protocols prescribe the use of amyl nitrite as part of first aid treatment. Do not use amyl nitrite treatment if oxygen is not available. Amyl nitrite is only a useful adjunct during the first 10 to 15 minutes following exposure. Once breathing is restored, provide a high flow of oxygen and amyl nitrite if appropriate.

Symptoms of pulmonary edema may be delayed for 24 to 72 hours after initial exposure. Therefore, hospitalization and medical observation is advisable during this period.

### Section 5: Fire Fighting Measures

#### Fire And Explosion Hazards

Product solution is non-flammable. However, trace levels of flammable hydrogen sulfide gas are continuously released in air, especially when product is heated or exposed to acids. Gas may form explosive mixtures in air. Do not cut open or apply heat sources to containers. Thermal decomposition ("burning") may evolve toxic and irritating combustion byproducts - hydrogen sulfide.

#### Extinguishing Media

In case of fire, use water spray or foam or as appropriate for combustibles involved in fire.

#### Fire Fighting Instructions

Avoid breathing vapors, gases and fumes. Do not touch, handle or walk-through spilled liquid. Firefighters should wear a positive pressure-demand self-contained breathing apparatus (SCBA) and full protective gear. Containers may build up pressure if exposed to radiant heat. Water can be used to cool and protect exposed material. Do not allow runoff to enter sewers or waterways. Move containers away from fire area if safe to do so.

### Section 6: Accidental Release Measures

Refer to North American Emergency Response Guide (NAERG) # 154. Do not allow to come in contact with acids or incompatible materials. Prevent release to the environment, such as runoff to drains, sewers, waterways, basements or confined spaces. Provide maximum exhaust or dilution ventilation. Spills exceeding 5,000 lbs are reportable to the National Response Center (800-424-8802).

**Small releases:** Isolate 100 feet in all directions. Protect persons downwind - at least 0.1 mile (528 ft) during day; 0.2 miles (1,056 ft) at night. Confine area to qualified response personnel. Wear proper Personnel Protective Equipment (See Section 8). Confine release material by berming or diverting its path. Absorb with 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. Contain and/or absorb spill with inert material (e.g. sand, fly ash, cement powder). Soda ash may be used to neutralize.

**Large releases:** First isolate 1,000 feet. Protect persons downwind - at least 1.0 mile during day; 3.5 miles at night. 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 spill release.

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### Section 7: Handling And Storage

#### Handling Precautions

Wear proper Personal Protective Equipment (PPE) as indicated in Section 8. Avoid breathing vapor, gas or mist. Prevent contact with eyes and skin. Use only with adequate ventilation.

Cautionary Note: Handling may result in potential exposure to hydrogen sulfide. Wear PPE as indicated in section 8 of this SDS.

Do not cut open, puncture or reuse the container - may contain potentially flammable or explosive residual material. Keep away from heat and flame. Avoid contact with acids and other incompatible materials.

Dilute product only in enclosed containers. Always add product to water - not water to product.

#### Storage Precautions

Keep away from acids and incompatible materials. Do not store combustibles (e.g., paper, wood, oil) in area of storage containers. Keep away from heat or flame. Store in a cool, dry, well-ventilated area out of direct sunlight (<104 deg F, 40 deg C). Keep container tightly closed. Keep away from children.

Not compatible with copper, zinc, aluminum or their alloys (e.g., brass, bronze, galvanized metals, etc.). Corrosive to steel above 150 deg F (65.5 deg C).

#### Work/Hygienic Practices

Wash thoroughly after handling, and before eating, drinking, smoking and using toilet facilities.

### Section 8: Exposure Controls/Personal Protection

#### Engineering Controls

Use outdoors or indoors only with adequate general and local exhaust ventilation. Maintain exposures to hydrogen sulfide below occupational exposure limits.

The use of hydrogen sulfide air monitoring detectors with alarms is recommended for poorly ventilated areas and confined spaces.

#### Eye/Face Protection

At a minimum, chemical splash goggles or faceshield over safety glasses or goggles should be worn at all times when handling. A full facepiece should be worn with SCBA or air-line respirator.

#### Skin Protection

The use of chemical-resistant gloves made of neoprene rubber are recommended as minimum industrial skin protection when handling product or performing spill cleanup. Chemical resistant apron, and/or suit and boots should be worn to prevent skin contact. Chemical protective clothing constructed of DuPont Tychem Responder or equivalent material may be used for spill cleanup.

Wash/decontaminate clothing prior to reuse. Contaminated leather shoes cannot be cleaned and should be discarded.

#### Respiratory Protection

Engineering controls should be implemented preferentially to reduce exposures. If working near open container, storage vessel opening or open tank truck dome cover, wear self-contained breathing apparatus, or positive pressure demand air-line respirator if there is a potential for exposure. Air-purifying (cartridge) respirators should not be used, except for escape purposes, due to the possible presence of hydrogen sulfide.

#### Other/General Protection

Eyewash and safety shower should be available in areas of handling or storage.

Installation of H<sub>2</sub>S ventilation systems alarms is recommended where hazardous concentrations may occur, such

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### Section 8: Exposure Controls/Personal Protection - Continued

#### Other/General Protection - Continued

as areas of storage. Design storage tank vents to minimize the potential for worker exposure.

### Section 9: Physical And Chemical Properties

#### Appearance

A yellow to red to dark green or black liquid.

#### Odor

A characteristic rotten egg or mercaptan odor. DO NOT INHALE - EXTREMELY HAZARDOUS. May be fatal.

#### Odor Threshold

not available

**Chemical Type:** Mixture

**Physical State:** Liquid

**Melting Point:** not available °F

**Boiling Point:** 253-269 °F 122.8-131.7 °C

**Specific Gravity:** 1.152-1.331 (9.6-11.1 lbs/gal)

**Packing Density:** not available

**Vapor Pressure:** 17 mm Hg @ 68 deg F

**Vapor Density:** 1.17

**pH Factor:** 11.5-12.5

**Solubility:** complete (water)

**Viscosity:** not available

**Evaporation Rate:** not available

**Flash Point:** not available

**Flammability (solid, gas):** non-flammable

**Lower Explosive Limit (LEL %):** 4% (hydrogen sulfide)

**Upper Explosive Limit (UEL %):** 46% (hydrogen sulfide)

**Autoignition Temperature:** not available

**Decomposition Temperature:** not available

**Partition Coefficient (n-octanol/water):** not available

### Section 10: Stability And Reactivity

**Stability:** stable

**Hazardous Polymerization:** will not occur.

#### Conditions To Avoid (Stability)

Avoid exposure to sources of heat and flame. Store away from incompatible materials.

#### Incompatible Materials

Incompatible with acids, amides, organic anhydrides, isocyanates, alkylene oxides, epichlorhydrin, aldehydes, alcohols, glycols, phenols, cresols, caprolactam solution, and oxidizers. Contact with acids will cause the release of highly toxic hydrogen sulfide gas. Reacts violently with diazonium salts. 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 (65.5°C).

#### Hazardous Decomposition Products

Heating this product will evolve toxic fumes of hydrogen sulfide, sulfoxides and Na<sub>2</sub>O. Fire conditions will also cause the production of sulfur dioxide. Contact with acids increases the formation of hydrogen sulfide. Hydrogen sulfide may form flammable mixtures with air. Heating to decomposition emits toxic fumes of sulfoxides and Na<sub>2</sub>O.

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## Sodium Hydrosulfide Solution

### Section 11: Toxicological Information

#### Eye Effects

Corrosive and irritating. Vapors, mist and spray may cause severe eye irritation and burns to the conjunctiva and cornea. Permanent eye damage may occur.

Exposure to hydrogen sulfide at low concentrations over several hours or days may result in "gas eyes" or "sore eyes", with symptoms of scratchiness, irritation, tearing, and burning. Symptoms are likely to disappear when the exposure ends. Prolonged exposures to concentrations over 50 ppm may cause permanent damage or intense tearing, blurring of vision, and pain when looking at bright light.

#### Skin Effects

Corrosive and irritating to skin and mucous membranes. Skin contact with liquid, mist or spray may cause severe irritation, pain, redness (erythema), and burns to skin and mucous membranes. These effects may be delayed

#### Acute Oral Effects

Very toxic. May be fatal by ingestion. Corrosive and irritating to skin and mucous membranes of the mouth and throat. Ingestion of small amounts in a single dose may produce irritation or burning of the esophagus. Ingesting larger quantities, or small quantities over an extended period, may seriously damage the gastrointestinal tract.

Aspiration hazard. Sodium hydrosulfide that mixes with stomach acids produces hydrogen sulfide, which may cause irritation, pulmonary edema and other health effects related to inhalation of H<sub>2</sub>S. Pulmonary edema may be delayed and fatal.

#### Acute Inhalation Effects

Corrosive and irritating. Inhalation of vapors or mist may cause severe irritation to the nose, throat, and respiratory system. Symptoms include runny nose, coughing, sneezing, hoarseness, headache, nausea, shortness of breath and severe lung damage.

The gases released by the product may contain high levels of hydrogen sulfide. High concentrations of H<sub>2</sub>S may produce olfactory fatigue (i.e., the inability to smell H<sub>2</sub>S), a build up of fluid in the lungs (pulmonary edema), severe shortness of breath, and even death. Possible death may occur in 4 to 8 hours at high concentrations. At very high concentrations, severe toxicity to the central nervous system, respiratory paralysis and nerve damage may occur.

#### Chronic/Carcinogenicity

Neither the product overall nor any of its ingredients are known to be listed as potentially carcinogenic by NTP, IARC, OSHA or ACGIH.

#### Reproductive Effects

No human information available for any ingredients of this product.

#### Mutagenicity (Genetic Effects)

Sodium hydrosulfide is positive in the Ames Test at high concentrations. No information is available regarding the germ cell mutagenicity of this product or its ingredients.

#### Ingredient(s) - Toxicological Data

sodium hydrosulfide

LD50 (dermal, rabbit): >200 mg/kg

LD50 (oral, rat): 58.4 mg/kg

sodium carbonate

LC50 (inhal, guinea pig): 800 mg/m<sup>3</sup> (2 hrs)

LC50 (inhal, rat): 2300 mg/m<sup>3</sup> (2 hrs)

LD50 (oral, mouse): 6600 mg/kg

LD50 (oral, rat): 2800 mg/kg

sodium sulfide

LD50 (oral, rat): 208 mg/kg

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## Sodium Hydrosulfide Solution

### Section 11: Toxicological Information - Continued

#### Ingredient(s) - Toxicological Data - Continued

LD50 (oral, mouse): 205 mg/kg

### Section 12: Ecological Information

#### Ecotoxicological Information

Very toxic to fish and aquatic organisms. Do not allow to enter sewers and waterways.

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

LC50 fly inhalation 1,500 mg/m<sup>3</sup>, 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

Dispose in accordance with applicable federal, state and local government regulations. Waste materials may be required to be disposed of as hazardous waste. Do not allow into any sewer, on the ground, or into any body of water.

#### RCRA Information

Waste solutions may meet the RCRA Corrosive characteristic (D003). RCRA waste classification D002 may apply if pH is greater than 12.5.

### Section 14: Transport Information

#### Proper Shipping Name

Corrosive liquids, toxic, n.o.s. (sodium hydrosulfide solution)

#### Hazard Class

8 (PGII)

#### Secondary Hazard Class

6.1

#### DOT Identification Number

UN2922

#### DOT Shipping Label

Corrosive, Toxic

### Section 15: Regulatory Information

#### U.S. Regulatory Information

This product is listed as a hazardous substance under criteria defined in the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substance Control Act (TSCA): All ingredients of this product are listed on the TSCA 8(b) Chemical Substance Inventory or are exempt.

CERCLA/Superfund Hazardous Substance (49 CFR 172.101 App A): RQ = 5,000 lbs (2,270 kg)

SARA 302 - Product does not contain ingredients that are listed as Extremely Hazardous Substances.

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## **Sodium Hydrosulfide Solution**

### **Section 15: Regulatory Information - Continued**

#### **SARA Hazard Classes**

Acute Health Hazard  
Fire Hazard  
Reactivity Hazard

#### **SARA Section 313 Notification**

This product does not contain any ingredients regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

#### **Ingredient(s) - U.S. Regulatory Information:**

sodium hydrosulfide  
SARA Title III - EPA Part 355 Extremely Hazardous Substance  
RCRA Hazardous Waste

#### **State Regulations**

Sodium hydrosulfide is listed on the following U.S. State Right-To-Know lists -

California  
Florida  
Illinois  
Massachusetts  
New Jersey  
Pennsylvania  
Rhode Island

Sodium sulfide is listed on the following U.S. State & local Right-To-Know lists -

Massachusetts  
New Jersey  
New York City

#### **Canadian Regulatory Information**

This product contains more than 1% of a known, controlled ingredient regulated under WHMIS.

WHMIS Hazard Classifications:

Class E - Corrosive Material  
Class D, Div 1 - Poisonous or Infectious Material: immediate and serious toxic effects

#### **Ingredient(s) - Canadian Regulatory Information**

sodium hydrosulfide  
WHMIS - Ingredient Disclosure List

### **Section 16: Other Information**

#### **NFPA Rating**

**Health: 3**  
**Fire: 2**  
**Reactivity: 1**

#### **Revision/Preparer Information**

**This SDS Supersedes A Previous (M)SDS Dated: 06/08/2015**

#### **Disclaimer**

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular



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## Sodium Hydrosulfide Solution

**Disclaimer - Continued**

purpose(s).

TDC, LLC

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