

## 1. Identification

|   |   |
|---|---|
| <b>Product identifier</b>                                     | <b>Sodium Hydrosulfide Solution</b>   |
| <b>Other means of identification</b>                          |   |
| <b>Product number</b>   | GENLP-TDC-001-CAN   |
| <b>Recommended use</b>  | Product is a unique alkaline material, playing a vital role in many industrial processes. |
| <b>Recommended restrictions</b>                               | Use in accordance with supplier's recommendations.  |
| <b>Manufacturer/Importer/Supplier/Distributor information</b> |   |
| <b>Importer</b>   | TDC Energy Canada, LTD.   |
| <b>Address</b>  | 1916 Farmerville Hwy<br>Ruston, LA 71270  |
| <b>Telephone</b>  | Customer Service (800) 422-6274   |
| <b>Email</b>  | TDCcustomerservice@genlp.com  |
| <b>CHEMTREC:</b>  | 800-424-9300 (Domestic – North America)   |
| <b>CHEMTREC:</b>  | +1-703-527-3887 (International)   |

## 2. Hazard identification

|                              |  |             |
|------------------------------|--|-------------|
| <b>Physical hazards</b>      | Corrosive to metals                                | Category 1  |
| <b>Health hazards</b>        | Acute toxicity, oral                               | Category 3  |
|                              | Skin corrosion/irritation                          | Category 1B |
|                              | Serious eye damage/eye irritation                  | Category 1  |
| <b>Environmental hazards</b> | Hazardous to the aquatic environment, acute hazard | Category 1  |

### Label elements



|                                 |   |
|---------------------------------|---|
| <b>Signal word</b>              | Danger  |
| <b>Hazard statement</b>         | May be corrosive to metals. Toxic if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life.  |
| <b>Precautionary statement</b>  |   |
| <b>Prevention</b>               | Keep only in original container. Do not breathe mist or vapour. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.  |
| <b>Response</b>                 | If swallowed: Immediately call a poison centre/doctor. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. 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 centre/doctor. Absorb spillage to prevent material damage. |
| <b>Storage</b>                  | Store locked up. Store in corrosive resistant container with a resistant inner liner.   |
| <b>Disposal</b>                 | Dispose of contents/container in accordance with local/regional/national/international regulations.   |
| <b>Other hazards</b>            | None known.   |
| <b>Supplemental information</b> | None.   |

## 3. Composition/information on ingredients

### Mixtures

| Chemical name       | Common name and synonyms | CAS number | %    |
|---------------------|--------------------------|------------|------|
| Sodium hydrosulfide |                          | 16721-80-5 | 5-49 |
| Sodium carbonate    |                          | 497-19-8   | <5   |
| Sodium sulfide      |                          | 1313-82-2  | <5   |

**Composition comments** Components not listed are either non-hazardous or are below reportable limits. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

#### 4. First-aid measures

|   |   |
|---|---|
| <b>Inhalation</b>   | Move to fresh air. Call a physician if symptoms develop or persist.   |
| <b>Skin contact</b>   | Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control centre immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.  |
| <b>Eye contact</b>  | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control centre immediately.   |
| <b>Ingestion</b>  | Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not give mouth-to-mouth resuscitation. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Toxic if swallowed. Causes digestive tract burns.   |
| <b>Indication of immediate medical attention and special treatment needed</b> | Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.                                    |
| <b>General information</b>  | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.   |

#### 5. Fire-fighting measures

|  |  |
|--|--|
| <b>Suitable extinguishing media</b>                                  | Use fire-extinguishing media appropriate for surrounding materials.  |
| <b>Unsuitable extinguishing media</b>                                | No restrictions known.   |
| <b>Specific hazards arising from the chemical</b>                    | During fire, gases hazardous to health may be formed. Hydrogen sulphide (H <sub>2</sub> S) may be given off when this material is heated. Do not depend on sense of smell for warning. |
| <b>Special protective equipment and precautions for firefighters</b> | Self-contained breathing apparatus and full protective clothing must be worn in case of fire.  |
| <b>Fire fighting equipment/instructions</b>                          | Cool containers exposed to heat with water spray and remove container, if no risk is involved.   |
| <b>Specific methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.   |

#### 6. Accidental release measures

|  |  |
|--|--|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.  |
| <b>Methods and materials for containment and cleaning up</b>               | Prevent entry into waterways, sewer, basements or confined areas.<br><br>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Recover as much material as possible.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Recover the product and place in a suitable container for reuse. Neutralization/oxidation of residue using dilute bleach or peroxide. Recover as much product as possible. |
| <b>Environmental precautions</b>   | Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.   |

## 7. Handling and storage

### Precautions for safe handling

Do not breathe mist or vapour. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Hydrogen sulfide, a very toxic gas, may be present with this material. Keep face clear of tank and/or tank car openings. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS). Protect from heat and direct sunlight. Store at temperature below 150°F. Provide appropriate secondary containment.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

| Components                        | Type | Value |
|-----------------------------------|------|-------|
| Hydrogen sulphide (CAS 7783-06-4) | STEL | 5 ppm |
|                                   | TWA  | 1 ppm |

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components                        | Type    | Value              |
|-----------------------------------|---------|--------------------|
| Hydrogen sulphide (CAS 7783-06-4) | Ceiling | 21 mg/m3           |
|                                   |         | 15 ppm             |
|                                   | TWA     | 14 mg/m3<br>10 ppm |

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components                        | Type    | Value  |
|-----------------------------------|---------|--------|
| Hydrogen sulphide (CAS 7783-06-4) | Ceiling | 10 ppm |

#### Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components                        | Type | Value |
|-----------------------------------|------|-------|
| Hydrogen sulphide (CAS 7783-06-4) | STEL | 5 ppm |
|                                   | TWA  | 1 ppm |

#### Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components                        | Type | Value  |
|-----------------------------------|------|--------|
| Hydrogen sulphide (CAS 7783-06-4) | STEL | 15 ppm |
|                                   | TWA  | 10 ppm |

#### Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

| Components                        | Type | Value              |
|-----------------------------------|------|--------------------|
| Hydrogen sulphide (CAS 7783-06-4) | STEL | 21 mg/m3           |
|                                   |      | 15 ppm             |
|                                   | TWA  | 14 mg/m3<br>10 ppm |

#### Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

| Components                        | Type      | Value  |
|-----------------------------------|-----------|--------|
| Hydrogen sulphide (CAS 7783-06-4) | 15 minute | 15 ppm |
|                                   | 8 hour    | 10 ppm |

### Biological limit values

No biological exposure limits noted for the ingredient(s).



|  |  |
|--|--|
| <b>Appropriate engineering controls</b>                                      | Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product. |
| <b>Individual protection measures, such as personal protective equipment</b> |  |
| <b>Eye/face protection</b>   | Wear chemical splash goggles and face shield.  |
| <b>Skin protection</b>   |  |
| <b>Hand protection</b>   | Neoprene gloves are recommended. Wear appropriate chemical resistant gloves.   |
| <b>Other</b>   | Wear suitable protective clothing.   |
| <b>Respiratory protection</b>  | Do not breathe dust/fume/gas/mist/vapours/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.   |
| <b>Thermal hazards</b>   | Wear appropriate thermal protective equipment.   |
| <b>General hygiene considerations</b>  | Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.   |

## 9. Physical and chemical properties

### Appearance

|  |                                       |
|--|---------------------------------------|
| <b>Physical state</b>                          | Liquid.                               |
| <b>Form</b>                                    | Liquid.                               |
| <b>Colour</b>                                  | Yellow to red to dark green or black. |
| <b>Odour</b>                                   | Rotten egg or mercaptan odor typical. |
| <b>Odour threshold</b>                         | Not available.                        |
| <b>pH</b>                                      | 11.5 - 12.5                           |
| <b>Melting point/freezing point</b>            | Not available.                        |
| <b>Initial boiling point and boiling range</b> | 122.8 - 131.7 °C (253 - 269 °F)       |
| <b>Flash point</b>                             | Not available.                        |
| <b>Evaporation rate</b>                        | Not available.                        |
| <b>Flammability (solid, gas)</b>               | Not applicable.                       |

### Upper/lower flammability or explosive limits

|  |                              |
|--|------------------------------|
| <b>Explosive limit - lower (%)</b>             | 4 % (hydrogen sulfide)       |
| <b>Explosive limit – upper (%)</b>             | 46 % (hydrogen sulfide)      |
| <b>Vapour pressure</b>                         | 17 mm Hg (68 °F (20 °C))     |
| <b>Vapour density</b>                          | 1.17 (Air= 1)                |
| <b>Relative density</b>                        | 1.152 - 1.331 (H2O=1)        |
| <b>Solubility(ies)</b>                         |                              |
| <b>Solubility (water)</b>                      | Completely soluble in water. |
| <b>Partition coefficient (n-octanol/water)</b> | Not available.               |
| <b>Auto-ignition temperature</b>               | Not available.               |
| <b>Decomposition temperature</b>               | Not available.               |
| <b>Viscosity</b>                               | Not available.               |
| <b>Other information</b>                       |                              |
| <b>Explosive properties</b>                    | Not explosive.               |
| <b>Oxidising properties</b>                    | Not oxidising.               |
| <b>Pounds per gallon</b>                       | 9.6 - 11.1 lb/gal            |

## 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactivity</b>                         | Reacts violently with strong acids. This product will react with oxidizing agents. May be corrosive to metals. Reacts violently with diazonium salts.  |
| <b>Chemical stability</b>                 | Material is stable under normal conditions.  |
| <b>Possibility of hazardous reactions</b> | Heating this product will evolve toxic fumes of hydrogen sulfide, sulfoxides and sodium oxide. 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 sodium oxide. |
| <b>Conditions to avoid</b>                | Contact with incompatible materials. Do not mix with other chemicals.  |
| <b>Incompatible materials</b>             | Acids, alkalis, oxidizing agents, light metals, aldehydes or organic anhydrides. Alkylene oxides. Aldehydes. Alcohols. Glycols. Phenols.   |
| <b>Hazardous decomposition products</b>   | Uncontrolled heating of this product will evolve toxic fumes of hydrogen sulfide, sulfoxides and sodium oxide. Fire conditions will also cause the production of sulfur dioxide.   |

## 11. Toxicological information

### Information on likely routes of exposure

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | May cause irritation to the respiratory system.   |
| <b>Skin contact</b> | Causes severe skin burns.                         |
| <b>Eye contact</b>  | Causes serious eye damage.                        |
| <b>Ingestion</b>    | Toxic if swallowed. Causes digestive tract burns. |

**Symptoms related to the physical, chemical and toxicological characteristics** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Toxic if swallowed. Causes digestive tract burns. May be harmful in contact with skin.

### Information on toxicological effects

**Acute toxicity** Toxic if swallowed.

| <b>Components</b>                                       | <b>Species</b>   | <b>Test Results</b> |
|---|--|---------------------|
| Sodium carbonate (CAS 497-19-8)                         |  |                     |
| <b>Acute</b>  |  |                     |
| <b>Dermal</b>   |  |                     |
| LD50  | Rabbit   | > 2000 mg/kg        |
| <b>Oral</b>   |  |                     |
| LD50  | Rat  | 2080 mg/kg          |
| Sodium hydrosulfide (CAS 16721-80-5)                    |  |                     |
| <b>Acute</b>  |  |                     |
| <b>Oral</b>   |  |                     |
| LD50  | Rat  | 100 - 215 mg/kg     |
| Sodium sulfide (CAS 1313-82-2)                          |  |                     |
| <b>Acute</b>  |  |                     |
| <b>Oral</b>   |  |                     |
| LD50  | Rat  | 208 mg/kg           |
| <b>Skin corrosion/irritation</b>                        | Causes severe skin burns.  |                     |
| <b>Serious eye damage/eye irritation</b>                | Causes serious eye damage.   |                     |
| <b>Respiratory or skin sensitisation</b>                |  |                     |
| <b>Respiratory sensitisation</b>                        | Not a respiratory sensitiser.  |                     |
| <b>Skin sensitisation</b>                               | This product is not expected to cause skin sensitisation.  |                     |
| <b>Germ cell mutagenicity</b>                           | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |                     |
| <b>Carcinogenicity</b>                                  | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.                                  |                     |
| <b>Reproductive toxicity</b>                            | This product is not expected to cause reproductive or developmental effects.                                     |                     |
| <b>Specific target organ toxicity - single exposure</b> | Not classified.  |                     |

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Further information** No other specific acute or chronic health impact noted.

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life.

| Components                           |       | Species             | Test Results            |
|--------------------------------------|-------|---------------------|-------------------------|
| Sodium carbonate (CAS 497-19-8)      |       |                     |                         |
| <b>Aquatic</b>                       |       |                     |                         |
| <i>Acute</i>                         |       |                     |                         |
| Crustacea                            | EC50  | Ceriodaphnia dubia  | 200 mg/l, 48 Hours      |
| Fish                                 | LC50  | Lepomis macrochirus | 300 mg/l, 96 Hours      |
| Sodium hydrosulfide (CAS 16721-80-5) |       |                     |                         |
| <b>Aquatic</b>                       |       |                     |                         |
| <i>Acute</i>                         |       |                     |                         |
| Fish                                 | LC50  | Lepomis macrochirus | > 0.0478 mg/l, 96 Hours |
| <i>Chronic</i>                       |       |                     |                         |
| Fish                                 | LOAEL | Lepomis macrochirus | > 0.0041 mg/l, 97 days  |
| Sodium sulfide (CAS 1313-82-2)       |       |                     |                         |
| <b>Aquatic</b>                       |       |                     |                         |
| <i>Acute</i>                         |       |                     |                         |
| Crustacea                            | LC50  | Crustacea           | 0.08 mg/l, 48 Hours     |

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Mobility in soil** This product is water soluble and may disperse in soil.

**Other adverse effects** The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel]  
D003: Waste Reactive material  
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### TDG

**UN number** UN2922

**UN proper shipping name** CORROSIVE LIQUID, TOXIC, N.O.S. (SODIUM HYDROSULFIDE)

**Transport hazard class(es)**

**Class** 8

**Subsidiary risk** 6.1

**Packing group** II

**Environmental hazards** Yes

**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

### IATA

**UN number** UN2922



**UN proper shipping name** Corrosive liquid, toxic, n.o.s. (Sodium hydrosulfide)  
**Transport hazard class(es)**  
**Class** 8  
**Subsidiary risk** 6.1  
**Label(s)** 8, 6.1  
**Packing group** II  
**Environmental hazards** Yes  
**ERG Code** 8P  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

**UN number** UN2922  
**UN proper shipping name** CORROSIVE LIQUID, TOXIC, N.O.S. (SODIUM HYDROSULFIDE)  
**Transport hazard class(es)**  
**Class** 8  
**Subsidiary risk** 6.1  
**Packing group** II  
**Environmental hazards**  
**Marine pollutant** Yes  
**EmS** F-A, S-B  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

**Canadian regulations** This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

#### Controlled Drugs and Substances Act

Not regulated.

#### Export Control List (CEPA 1999, Schedule 3)

Not listed.

#### Greenhouse Gases

Not listed.

#### Precursor Control Regulations

Not regulated.

#### International regulations

##### Stockholm Convention

Not applicable.

##### Rotterdam Convention

Not applicable.

##### Kyoto Protocol

Not applicable.

##### Montreal Protocol

Not applicable.

##### Basel Convention

Not applicable.

#### International Inventories

| Country(s) or region | Inventory name   | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia            | Australian Inventory of Chemical Substances (AICS)                     | Yes                    |
| Canada               | Domestic Substances List (DSL)   | Yes                    |
| Canada               | Non-Domestic Substances List (NDSL)                                    | No                     |
| China                | Inventory of Existing Chemical Substances in China (IECSC)             | Yes                    |
| Europe               | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes                    |
| Europe               | European List of Notified Chemical Substances (ELINCS)                 | No                     |
| Japan                | Inventory of Existing and New Chemical Substances (ENCS)               | Yes                    |

| Country(s) or region        | Inventory name  | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Korea                       | Existing Chemicals List (ECL)                                     | Yes                    |
| New Zealand                 | New Zealand Inventory   | Yes                    |
| Philippines                 | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes                    |
| Taiwan                      | Taiwan Chemical Substance Inventory (TCSI)                        | Yes                    |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory                     | Yes                    |

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information

**Issue date** 16-August-2016

**Revision date** 12-May-2020

**Version No.** 03

**List of abbreviations** EC50: Effective Concentration, 50%.  
 LOAEC: Lowest observed adverse effect concentration.  
 LC50: Lethal Concentration, 50%.  
 IC50: Inhibitory concentration, 50%.  
 TWA: Time weighted average.  
 STEL: Short term exposure limit.

**Disclaimer** TDC, L.L.C. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.