

Safety Data Sheet

H2S-102

SECTION I - IDENTIFICATION



Greenwell Energy Solutions
16107 West University
Odessa, TX 79763
(432) 381-2595
Chemtrec :..... (800) 424-9300

Product Number H2S-102
Product Name H2S-102
Chemical Family Metal Salts & Ligands
CAS Number Multiple
Date Prepared 5/16/2018
Revision Number
Recommended Use For Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Corrosive to Metals	Category 1
Acute Toxicity, Oral	Category 3
Skin Corrosion/Irritation	Category 1B
Serious Eye Damage/Eye Irritation	Category 2A
Acute Toxicity, Inhalation	Category 4
Sensitization, Respiratory	Category 1

DANGER!

GHS LABEL:



Hazard Statements

H290	May be corrosive to metals
H301	Toxic if swallowed
H314	Causes severe burns and eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled

Safety Data Sheet

H2S-102

Precautionary Statements

- P234 Keep only in original packaging
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash... thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated are.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P284 Wear respiratory protection.
- P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304+340 IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
- P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P312 Call a POISON CENTER or a doctor/physician if you feel unwell.
- P321 Specific treatment (see ... on this label).
- P330 Rinse mouth.
- P337+313 If eye irritation persists get medical advice/attention.
- P342+311 If experiencing respiratory symptoms Call a POISON CENTER or doctor/physician.
- P363 Wash contaminated clothing before reuse.
- p390 Absorb spillage to prevent material damage.
- P405 Store locked up.
- P406 Store in a corrosive resistant/... container with a resistant inner liner.
- P501 Dispose of contents/container to...

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Zinc chloride	7646-85-7	10-20%	1 mg/m3	1 mg/m3
Water	7732-18-5	60-75%	Not Established	Not Established

Safety Data Sheet

H2S-102

Sodium Lignosulfonate	8061-51-7	15-30%	Not Established	Not Established
-----------------------	-----------	--------	-----------------	-----------------

SECTION IV - FIRST AID MEASURES

- Contact with eyes:** Flush with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention.
- Skin contact:** Wash exposed areas with water and mild soap. Remove contaminated clothing immediately and launder before reuse. If irritations persist, seek immediate medical attention.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
- Ingestion:** If SWALLOWED: Call a poison control center immediately. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without medical advice. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical advice.

SECTION V - FIREFIGHTING MEASURES

- Suitable Extinguishing Media:** Alcohol resistant foam, carbon dioxide, regular dry chemical, water
Do not use a direct stream of water. Product will float and can be reignited on surface of water.
- Special Fire Fighting Procedures** Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Firefighters' protective clothing will provide limited protection.
- Unusual Fire Fighting Hazards:** SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO₂, water spray, firefighting foam, or Halon.
LARGE FIRES: Water spray, fog or firefighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep out of low areas. Ensure adequate ventilation. Ventilate closed spaces before entering them.
- Environmental Precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Methods for Cleaning Up:** Small Spill: Clean up with shovel and broom. Move other containers from spill area. Absorb spill material with an inert absorbent. Use spark proof tools while working in spill area. Contaminated absorbent material may pose same hazards as the spilled product. Dispose of any materials using approved disposal methods. Contact Greenwell

Safety Data Sheet

H2S-102

Environmental Affairs after area is secure.

Large Spill: Move other containers from spill area. Absorb spill material with an inert absorbent. Approach area from upwind. Dike spill area and do not allow spilled material to reach water systems or drainage systems. Use spark proof tools while working in spill area. Dispose of any materials using approved disposal methods. Contaminated absorbent material may pose same hazards as the spilled product.

Contact Greenwell Environmental Affairs after area is secure.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling. Vent container carefully before opening. Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended. "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources. Keep containers tightly closed when not in use.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Zinc chloride	7646-85-7	1 mg/m ³	1 mg/m ³
Water	7732-18-5	Not Established	Not Established
Sodium Lignosulfonate	8061-51-7	Not Established	Not Established

Engineering Controls: Ensure adequate ventilation, especially in confined areas. Eye wash fountain and emergency showers are recommended.

Monitoring: Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: If needed to prevent skin contact, chemical protective clothing such as of DuPont TyChem[®], Saranex or equivalent recommended based on degree of exposure. The resistance of specific material may vary from product to product as well as with degree of exposure

Respiratory Protection: Use a NIOSH-approved respirator as required to prevent overexposure. In accord with 29 CFR 1910.134, Use either a full-face, atmosphere-supplying respirator or an air-purifying respirator

Safety Data Sheet

H2S-102

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark Brown liquid
Odor	Slight odor
pH@25°C	4.0 to 5.0
Melting/Freezing Point	Not Available
Flashpoint	>200°F
Specific Gravity	1.14
Solubility	Soluble
Auto-Ignition Temperature	Not Available
Decomposition Temperature	Not Available
VOC Content	Not Available
Odor Threshold	Not Available
Boiling Range	212°F
Evaporation Point	Not Available
Flammable Limits - Upper	Not Available
Flammable Limits - Lower	Not Available
Vapor Pressure	Not Available
Vapor Density (Air=1)	Not Available
Viscosity	Not Available

SECTION X - STABILITY AND REACTIVITY

Stability:	Stable, under normal conditions of storage and handling.
Conditions to Avoid:	Not flammable in the presence of the following materials or conditions: open flames, sparks, static discharge and heat.
Hazardous Decomposition/Byproducts:	Carbon monoxide, Carbon dioxide Noncombusted Hydrocarbons
Hazardous Polymerization:	Will not occur.
Polymerization Conditions to Avoid:	None
Incompatibilities:	Can react with strong oxidizing agents, peroxides, alkaline products and strong acids. Contact with amines, ammonia, and some metals can create hazards. Avoid contact with Aluminum and Copper. Mildly corrosive to carbon steel.

Safety Data Sheet

H2S-102

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Contact and inhalation; ingestion possible.

Inhalation: Inhalation is not expected unless small particulates or heated to high temperatures. Inhalation of concentrations over 50 ppm can produce headache, lassitude, weariness, dizziness, drowsiness, over excitation. Exposure to very high levels can result in unconsciousness and death. Repeated over-exposure may cause liver and kidney injuries. Components of the product may affect the nervous system. Exposure to light hydrocarbons has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.

Eye Contact: Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, marked excess redness and swelling of the conjunctiva, and chemical burns of the eye

Skin Contact: Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.
Allergic reactions are possible

Ingestion: Swallowing this material may be harmful or fatal. Symptoms may include severe stomach and intestinal irritation (nausea, vomiting, diarrhea), abdominal pain, and vomiting of blood. Swallowing this material may cause burns and destroy tissue in the mouth, throat, and digestive tract. Low blood pressure and shock may occur as a result of severe tissue injury

Acute Toxicity Value: Eye or skin contact will result in serious burns and may cause blindness.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Zinc chloride	Oral - mouse - 329 mg/kg; Oral - rat - 350 mg/kg	Not Established
Water	Not Established	Not Established
Sodium Lignosulfonate	Not Established	Not Established

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Safety Data Sheet

H2S-102

Embryotoxicity	Not Applicable
Sensitization to Product	Not Applicable
Synergistic Products	Not Applicable
Carcinogenicity	Not listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Components of this product have been identified as having potential environmental concerns.

Mobility: Mobile in soil

Degradability: Readily biodegradable

BioAccumulation: This material is not expected to significantly bio accumulate.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

The generation of waste should be avoided and minimized at all times. Empty containers may contain a residue of this product. Processing, use or contamination of the product may change the waste management options. Must not be disposed of together with household garbage. Any unused product should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated (In containers less than 776 gallons)

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

Safety Data Sheet

H2S-102

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Component Name	CAS #	% by wt.
Zinc chloride	7646-85-7	10-20%

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Component Name	CAS #	% by wt.	RQ (lbs.)
Zinc chloride	7646-85-7	10-20%	1,000

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 3

HMIS Flammability: 1

HMIS Reactivity: 0

Additional: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.