Section 1. Identification

Product identifier

Product Identity Hydrogen Sulfide (CHE-3020S)

Other means of identification Not Applicable

Relevant identified uses of the substance or mixture and uses advised against

Purification of acids, and wastewater and in the manufacture of sulfur and organosulfur compounds.

Details of the supplier of the safety data sheet

Company Name

Chemtrade Logistics Inc. (Canada)
155 Gordon Baker Road Suite 300
Toronto, Ontario M2H 3N5
(416) 496-5856

Chemtrade Logistics Inc. (US)
90 East Halsey Road, Suite 200
Parsippany, NJ 07054
(800) 228- 8558

Emergency

24 hour Emergency Telephone No.

Chemtrade Emergency Contact: (866) 416-4404 (US and Canada)
CHEMTREC +1-800-424-9300
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

Customer Service:

For SDS Info: (416) 496-5856
www.chemtradelogistics.com

Section 2. Hazard(s) identification

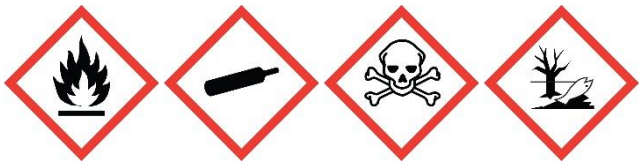
Odor must not be used as a warning since the gas may deaden the sense of smell. Gas detection must be used.
Odor Threshold Data 0.13 ppm – minimal perceptible odor
0.77 ppm – faint but perceptible odor
4.6 ppm – easily detectable moderate odor
27 ppm – strong unpleasant odor, but not intolerable
IDHL (Immediately Dangerous to Life or Health) - 100 ppm - loss of sense of smell

Classification of the substance or mixture

Flammable Gas, category 1;H220 Extremely flammable gas.

Gas under pressure;H280	Contains gas under pressure; may explode if heated.
Acute toxicity(inhalation), category 2:H330	Fatal if inhaled.
Skin corrosion/irritation category 2;H315	Causes skin irritation.
Serious eye damage / eye irritation, category 2A;H319	Causes serious eye irritation.
Aquatic toxicity (acute), category 1;H400	Very toxic to aquatic life.

Label elements



Danger

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H400 Very toxic to aquatic life.

[Prevention]:
P210 Keep away from heat, sparks, open flames, and other ignition sources - No smoking.
P260 Do not breathe dust, fume, mist, vapors or spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves, eye protection, and face protection.
P284 In case of inadequate ventilation, wear respiratory protection.
[Response]:
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P304+340 IF INHALED: Remove person 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. Continue rinsing.
P310 Immediately call a POISON CENTER, doctor or physician.
P332+313 If skin irritation occurs: Get medical attention.
P337+313 If eye irritation persists: Get medical advice or attention.
P362+364 Take off contaminated clothing and wash it before reuse.
P377 Leaking gas fire - do not extinguish unless leak can be stopped safely.
P381 In case of leakage, eliminate all ignition sources.
P391 Collect spillage.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.
P405 Store locked up.
P410+403 Protect from sunlight. Store in a well ventilated place.

[Disposal]:

P501 Dispose of contents or container in accordance with local and national regulations.

Other hazards

CONTAINS HYDROGEN SULFIDE. Product may contain significant quantities of dissolved hydrogen sulfide gas. H2S has a broad range of effects dependent on the airborne concentration and length of exposure: 0.02 ppm odor threshold, smell of rotten eggs; 10 ppm eye and respiratory tract irritation; 100 ppm coughing, headache, dizziness, nausea, eye irritation, loss of sense of smell in minutes; 200 ppm potential for pulmonary edema after >20-30 minutes; 500 ppm loss of consciousness after short exposures, potential for respiratory arrest; >1000 ppm immediate loss of consciousness, may lead rapidly to death, prompt cardiopulmonary resuscitation may be required. Do not depend on sense of smell for warning. H2S causes rapid olfactory fatigue (deadens sense of smell). There is no evidence that H2S will accumulate in the body tissue after repeated exposure.

This product contains no PBT/vPvB/vPvM chemicals.

This product contains no endocrine disrupting chemicals.

Does NOT contain component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS) per the US EPA PFASMASTER combined list of PFAS chemicals.

Section 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the Hazardous Products Regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Hydrogen sulfide CAS Number: 7783-06-4 Synonyms: Dihydrogen monosulfide, Dihydrogen sulfide	80 - 100	Flammable Gas, category 1;H220 Gas under pressure;H280 Acute toxicity(inhalation), category 2:H330 Aquatic toxicity (acute), category 1;H400	No data available

The actual concentration or concentration range is withheld as a trade secret.
*PBT/vPvB - PBT, vPvM or vPvB-substance.
The full texts of the phrases are shown in Section 16.

Section 4. First aid measures

Description of first aid measures

General Take personal protective measures first, and after ensuring safety, move the patient out of the contaminated area to a place with fresh air. Never give anything by mouth to an unconscious person. If frostbite or freezing occurs, do not use hot water. Do not rub affected area.
Immediately call a POISON CENTER, doctor or physician.

Inhalation Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. If breathing has stopped or is labored, trained personnel should give artificial respiration or assisted respirations. It is best to give oxygen under the guidance of trained personnel.
If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
Get immediate medical attention.

Eyes In case of frostbite, do not try to heat the affected area, cover eyes with gauze, and see a physician immediately.
If no frostbite, open the eyelids immediately, rinse the affected area with plenty of warm water for more than 30 minutes until the contamination is removed, then cover the eyes with gauze, and see a physician immediately.

Skin If necessary, wear protective gloves to avoid direct contact with this chemical. Remove contaminated clothing. In case of frostbite, do not try to heat the affected area, do not rinse or rub the affected area, and see a physician immediately. If no frostbite, spray with plenty of warm water for at least 30 minutes. Apply a sterile dressing and see a physician immediately. Wash contaminated clothing before reuse.

Ingestion Ingestion is not considered a potential route of exposure. Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Overview Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Fatal if inhaled. Contact with gas escaping the container can cause frostbite. Causes eye irritation.
Acute Health Effects: the substance causes eyes irritation, frost bite, and is fatal if inhaled.
EYE: Causes eye irritation. Contact with the liquefied gas causes frostbite and

serious damage. Corrosive to mucus membranes.
SKIN: May cause frostbite on contact with the liquefied gas.
INHALATION: Odor should not be used as a warning since the gas may deaden the sense of smell. Fatal if inhaled. Corrosive to mucus membranes. Causes severe respiratory irritation if inhaled. Symptoms may include burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. May cause pulmonary edema. Symptoms may be delayed.
INGESTION: Ingestion is an unlikely route of exposure for a gas.

This product contains Hydrogen sulfide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within minutes of continuous exposure. Above 500 ppm Hydrogen sulphide may cause instantaneous loss of consciousness and immediate death. See section 2 for further details.

Inhalation	Fatal if inhaled.
Eyes	Causes serious eye irritation.
Skin	Causes skin irritation.
Chronic effects	Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage.

Section 5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media: Do not use:water jet, or heavy water stream.

Special hazards arising from the substance or mixture

Hazardous decomposition: Under conditions of fire this material may produce: Sulphur oxides. Carbon oxides (CO, CO_2).
Thermal decomposition generates: Corrosive vapors.
If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300. In other countries call CHEMTREC at (International code) +1-703-527-3887. Prevent entry to sewers and public waters. Avoid release to the environment.
Keep away from heat, sparks, open flames, and other ignition sources - No smoking.
Do not breathe dust, fume, mist, vapors or spray.

Advice for fire-fighters

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.
Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles.
Fire Hazard: Extremely flammable gas.
Explosion Hazard: May form flammable/explosive vapor-air mixture. Keep away from heat, sparks, open flames, and other ignition sources - No smoking.
Reactivity: Reacts violently with (strong) acids/bases. Alkali metals.
Firefighting Instructions: Exercise caution when fighting any chemical fire.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leaking gas fire, eliminate all ignition sources if safe to do so.
Hazardous Combustion Products: Sulphur oxides.
Other Information: Do not allow run-off from firefighting to enter drains or water courses.
ERG Guide No. 117

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
For Non-Emergency Personnel
Protective Equipment: Use recommended respiratory protection. Use appropriate personal protective equipment (PPE); protective clothing, gloves and eye/face protection.
Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area. Keep upwind.
For Emergency Personnel
Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection. Equip cleanup crew with proper protection.
Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area. top leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area.
Use only outdoors or in a well-ventilated area. Do not breathe mist, spray, and vapours.
Do not get in eyes, on skin, or on clothing. Use appropriate personal protection equipment (PPE). Wear protective gloves, eye protection, face protection (refer to section 8 for more details).
Use good personal hygiene practices. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Promptly remove soiled clothing and wash thoroughly before reuse.
Environmental precautions
If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC

at 800-424-9300. In other countries call CHEMTREC at (International code) +1-703-527-3887. Prevent entry to sewers and public waters. Avoid release to the environment.

Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. 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. Collect spillage.

General Measures: Use special care to avoid static electric charges. Eliminate every possible source of ignition. Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking. Do not allow product to spread into the environment.

Methods and material for containment and cleaning up

Methods for Cleaning Up: Ventilate area. Pump into a labelled inert emergency tank. Absorb the remainder with an inert absorbent material.

For Containment: Immediately contact emergency personnel. Stop leak if without risk if possible. Use spark-proof tools and explosion-proof equipment.

Contain, dilute cautiously with water, and neutralize with soda ash or lime.

Section 7. Handling and storage

Precautions for safe handling

Follow safety procedures for containers of compressed gases. Comply with applicable regulations. Prevent build-up of electrostatic charges (e.g, by grounding). Proper grounding procedures to avoid static electricity should be followed. Provide special training to workers handling hydrogen sulfide. Leaks should be stopped with promptly. Store in well-ventilated area of low fire potential and away from incompatible materials. Regularly test and inspect piping and containment. Heating could melt plugs on cylinders and ton containers and cause safety valves on tank cars to vent, causing leaks. Never place a leaking container in water or spray leaking container with water. Never tamper with fusible plugs or safety devices on containers: never manifold containers from liquid valves. This product is toxic to fish. Keep out of waterways and sewers.

The working area is separated from the storage area and should be well ventilated and far away from heat sources. Do not smoke or ignite sources of ignition.

If used in an enclosed area, all safety procedures should be followed carefully.

Prevent physical damage to the cylinder: Do not drag, pull, roll, or kick the cylinder. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Before consulting the supplier, never try to increase the pressure of the container to accelerate the output of the liquid. Do not use fires or electric heating cylinder to increase the pressure in the container.

Keep cylinder valves clean and free from contamination (water or oil). Do not lift the cylinder from the valve. Avoid operating with oily hands. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating and materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Close container valve after each use and when empty, even if still connected to equipment. When opening, release the pressure slowly and carefully to avoid damaging to the valve seat. When in use, start the bottle valve cover, use a suitable pressure regulating valve, keep the valve fully open, and install a check valve to prevent gas from flowing into the container. After use, close the container valve and adjust the pressure regulating valve.

The empty cylinder should maintain a slight positive pressure. Empty barrels, containers and pipelines may still contain dangerous residues. Do not engage in any welding, cutting, drilling or other work before cleaning, so that the containers are subject to abnormal mechanical shocks. Cannot be used with incompatible materials.

Ensure the complete gas system has been checked for leaks before use.

Prepare emergency treatment equipment for fire and leakage at any time, and regularly check the container for obvious corrosion and spillage.
See section 2 for further details. - [Prevention]:

Conditions for safe storage, including any incompatibilities

Keep container closed when not in use. Store in a dry, cool place. Store locked up. Keep/Store away from extremely high or low temperatures and incompatible materials. Store in original container or corrosive resistant and/or lined container. Protect from Sunlight. Keep reduction valves free from grease and oil. Empty containers retain product residue and can be hazardous. Do not reuse container. Use only hydrogen sulfide compatible lubricants. Use in a sealed system and/or a well-ventilated area. Observe good hygiene practices.

Incompatible materials: Avoid contact with most metals, carbides, turpentine, organic acids, combustibles (wood, paper, cotton) and other organic and readily oxidized materials. Strong acids. Strong bases. Strong oxidizers. Reducing agents. Organic materials. Alkalis. Moisture.

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from combustible materials, clothing, organic material. - No smoking. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Do not breathe gas. Handle empty containers with care because they may still present a hazard.

Additional Hazards When Processed: Handle empty containers with care because residual vapors are toxic and flammable. Extremely flammable gas.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

See section 2 for further details. - [Storage]:

Specific end use(s)

Purification of acids, and wastewater and in the manufacture of sulfur and organosulfur compounds.

Section 8. Exposure controls / personal protection

Control parameters

Exposure Limits

CAS No.	Ingredient	Source	Value
7783-06-4	Hydrogen sulfide	ACGIH	1 ppm 5 ppm
		OSHA	C 20 ppm, Max above C: 50 ppm 10 mins once
		NIOSH	C 10 ppm (15 mg/m^3) [10-minute]
		Alberta	10 ppm TWA; 14 mg/m^3 TWA
		British Columbia	C 10 ppm
		Manitoba	1 ppm TWA 5 ppm STEL
		New Brunswick	10 ppm TWA; 14 mg/m^3 TWA 15 ppm STEL; 21 mg/m^3 STEL
		Newfoundland and Labrador	1 ppm TWA 5 ppm STEL
		Nova Scotia	1 ppm TWA 5 ppm STEL
		Northwest Territories	10 ppm TWA 15 ppm STEL
		Nunavut	10 ppm TWA 15 ppm STEL
		Ontario	10 ppm TWA 15 ppm STEL
		Prince Edward Island	1 ppm TWA 5 ppm STEL
		Quebec	10 ppm TWAEV; 14 mg/m^3 TWAEV 15 ppm STEV; 21 mg/m^3 STEV
		Saskatchewan	10 ppm TWA 15 ppm STEL
		Yukon	10 ppm TWA; 15 mg/m^3 TWA 15 ppm STEL; 27 mg/m^3 STEL

Exposure controls

Respiratory

IDHL for hydrogen sulfide is 100 ppm . Additional exposure information can be found in the table above and in sections 2 and 11.
A NIOSH-approved self-contained breathing apparatus (SCBA) operated in a pressure demand or other positive pressure mode, or equivalent respirator should be used in situations of oxygen deficiency (concentration less than 19.5%), unknown exposure concentrations, conditions that are immediately dangerous to life or health (IDLH), or when exposure levels are above ACGIH or OSHA exposure limits. A respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2-1992 or MSHA 30 CFR 72.710 (where applicable) requirements must be followed whenever workplace conditions warrant respirator use.
EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS: Positive pressure, full-face piece SCBA; or positive pressure full-face piece SAR with an auxiliary positive pressure SCBA. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Advice should be sought from respiratory protection specialists. If contact with liquid or gas is possible, use of chemically protective gloves, coveralls and boots is required.

Eyes	Chemical goggles with face shield. **Where higher splash potential exists** (e.g. loading, unloading, line breaking, sampling of product), wear SCBA.
Skin	Wear chemical resistant gloves such as Neoprene Butyl Rubber gloves. Skin contact with liquified gas may cause frostbite, use suitable protection. Wear chemical fire-resistant clothing. **Where higher splash potential exists** (e.g. loading, unloading, line breaking, sampling of Hydrogen Sulfide), wear hard hat and SCBA (Self Contained Breathing Apparatus), fire resistant jacket and plants or bib overalls. Chemical resistant gloves such as Neoprene Butyl Rubber gloves. Skin and eye contact with liquified gas may cause frostbite, use suitable protection. Follow all posted PPE requirements.
Engineering Controls	Appropriate Engineering Controls: Gas detectors should be used when flammable gases/vapors may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below the recommended exposure limits.
Other Work Practices	Put on appropriate personal protective equipment. Chemically compatible gloves (e.g.Neoprene Butyle Rubber), Fire resistant clothing, and chemical resistant safety goggles and face shield. Protect skin and eyes from contact with liquified product, as it may cause frostbite. Where there is insufficient ventilation: wear respiratory protection. Use only outdoors or in a well-ventilated area. Do not breathe mist, spray, and vapours. Do not get in eyes, on skin, or on clothing. Use appropriate personal protection equipment (PPE). Wear protective gloves, eye protection, face protection (refer to section 8 for more details). Use good personal hygiene practices. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details.

Section 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical State	Liquified Gas
Color	Colorless
Odor	Smells like rotten eggs.

Odor threshold	0.13 ppm – minimal perceptible odor 0.77 ppm – faint but perceptible odor 4.6 ppm – easily detectable moderate odor 27 ppm – strong unpleasant odor, but not intolerable 100 ppm - loss of sense of smell Odor should not be used as a warning since the gas may deaden the sense of smell.
Melting point / freezing point	-82.77 °C (-117°F)
Initial boiling point and boiling range	-59.99 °C (-76°F)
Flammability (solid, gas)	Gas
Upper/lower flammability or explosive limits	Lower Explosive Limit: 4% Upper Explosive Limit: 44%
Flash Point	207°C
Auto-ignition temperature	232 °C
Decomposition temperature	No available information
pH	0.3
Viscosity (cSt)	No available information
Solubility in Water	Water: 437 mL of gas in 100 mL of water at 0°C; 186 mL of gas in 100 mL of water at 40°C. Organic solvent: Soluble in hydrocarbon solvents, ether, alcohol, glycerol and carbon disulfide
Partition coefficient n-octanol/water (Log Kow)	No available information
Vapour pressure (Pa)	250 psig @ 70 °F
Relative Density	No available information
Vapour Density	1.19 air=1
Evaporation rate (Ether = 1)	No available information

Other information

No other relevant information.

Section 10. Stability and reactivity

Reactivity

Reacts violently with. (strong) acids/bases. Alkali metals.

Chemical stability

Stable at standard temperature and pressure. Extremely flammable gas.

Possibility of hazardous reactions

Hazardous polymerization can occur in contact with certain incompatible materials.

Conditions to avoid

Protect from moisture. Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. Incompatible materials.

Incompatible materials

Avoid contact with most metals, carbides, turpentine, organic acids, combustibles (wood, paper, cotton) and other organic and readily oxidized materials. Strong acids. Strong bases. Strong oxidizers. Reducing agents. Organic materials. Alkalis. Moisture.

Hazardous decomposition products

Under conditions of fire this material may produce: Sulphur oxides. Carbon oxides (CO, CO_2).

Thermal decomposition generates: Corrosive vapors.

Section 11. Toxicological information

Acute toxicity

Odor must not be used as a warning since the gas may deaden the sense of smell. Gas detection must be used.
Odor Threshold Data 0.13 ppm – minimal perceptible odor
0.77 ppm – faint but perceptible odor
4.6 ppm – easily detectable moderate odor
27 ppm – strong unpleasant odor, but not intolerable
IDHL (Immediately Dangerous to Life or Health) - 100 ppm - loss of sense of smell

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Product Acute Toxicity Estimates	NA	NA	NA	NA	444

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Hydrogen sulfide - (7783-06-4)	No data available.	No data available.	No data available.	No data available.	444.00, Rat - Category: 2

Carcinogen Data

CAS No.	Ingredient	Source	Value
7783-06-4	Hydrogen sulfide	IARC	No
		ACGIH	No Established Limit

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable

Acute toxicity (inhalation)	2	Fatal if inhaled.
Skin corrosion/irritation	2	Causes skin irritation.
Serious eye damage/irritation	2A	Causes serious eye irritation.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

Possible routes of entry:
Inhalation, ingestion, skin contact, and skin absorption.

Symptoms and effects, both acute and delayed:
Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Fatal if inhaled. Contact with gas escaping the container can cause frostbite. Causes eye irritation.

Acute Health Effects: the substance causes eyes irritation, frost bite, and is fatal if inhaled.

EYE: Causes eye irritation. Contact with the liquefied gas causes frostbite and serious damage. Corrosive to mucus membranes.

SKIN: May cause frostbite on contact with the liquefied gas.

INHALATION: Odor should not be used as a warning since the gas may deaden the sense of smell. Fatal if inhaled. Corrosive to mucus membranes. Causes severe respiratory irritation if inhaled. Symptoms may include burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. May cause pulmonary edema. Symptoms may be delayed.

INGESTION: Ingestion is an unlikely route of exposure for a gas.

This product contains Hydrogen sulfide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within minutes of continuous exposure. Above 500 ppm Hydrogen sulphide may cause instantaneous loss of consciousness and immediate death.

Eyes Causes serious eye irritation.

Skin Causes skin irritation.

Chronic effects Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage.

Section 12. Ecological information

Toxicity

Very toxic to aquatic life.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Hydrogen sulfide - (7783-06-4)	No data available.	No data available.	No data available.

Persistence and degradability

There is no data available on the preparation itself.

Bioaccumulative potential

No available information

Mobility in soil

No available information

Results of PBT and vPvB assessment

This product contains no PBT/vPvB/vPvM chemicals.

Other adverse effects

No available information

Section 13. Disposal considerations

Waste treatment methods

Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations. The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Chemtrade-owned pressure vessels should be returned to Chemtrade. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Additional Information: Handle empty containers with care because residual vapors are flammable. Hydrogen sulfide is listed on the US RCRA toxic hazardous waste list.

United States - RCRA Toxic hazardous waste "U" List

Hydrogen sulfide (CAS 7783-06-4) is listed, reference number U135.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Section 14. Transport information

Classification Method: Classified as per Part 2, Sections 2.1-2.8 of the Transportation of Dangerous Goods Regulations.

DOT (Domestic Surface Transportation)	
UN number	UN1053
UN proper shipping name	UN1053,Hydrogen sulfide,2.3,(2.1)
	
Transport hazard class(es)	2.3
Sub Class	2.1
Packing group	Not Applicable

TDG (Domestic Surface Transportation)	
UN number	UN1053
UN proper shipping name	Hydrogen sulfide
	
Transport hazard class(es)	2.3
Sub Class	2.1
Packing group	Not Applicable

IMO / IMDG (Ocean Transportation)	
UN number	UN1053
UN proper shipping name	Hydrogen sulfide
	
Transport hazard class(es)	2.3
Sub Class	2.1
Packing group	Not Applicable

ICAO/IATA	
UN number	UN1053
UN proper shipping name	Hydrogen sulfide
Transport hazard class(es)	2.3
Sub Class	2.1
Packing group	Not Applicable

Environmental hazards

IMDG Marine Pollutant: Yes; (Hydrogen sulfide)

Special precautions for user

No available information

Section 15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA) All components of this material are either listed or exempt from listing on the TSCA Inventory.

NFPA Ranking

Health (blue) :3
Fire (red) :1
Reactivity (yellow) :0
Special (white) :ACID

Toxic Substance Control Act (TSCA)

Hydrogen sulfide

CERCLA Chemicals and RQs (lbs):

Hydrogen sulfide (100.00)

EPCRA 302 Extremely Hazardous:

Hydrogen sulfide

EPCRA 313 Toxic Chemicals:

Hydrogen sulfide

Canadian Domestic Substance List (DSL):

Hydrogen sulfide

Canadian Non-Domestic Substance List (NDSL):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):

Hydrogen sulfide

Pennsylvania RTK Substances (>1%):

Hydrogen sulfide

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 Label Warning:

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Chemical Name (CAS Number)	US TSCA	Australia AICS	Korea ECL	EU EINECS	EU ELINCS	EU SVHC	EN NLP	Mexico INSQ
Hydrogen sulfide (7783-06-4)	Yes	Yes	Yes	Yes	No	No	No	Yes

Chemical Name (CAS Number)	China IECSC	Japan ENCS	Japan ISHL	Japan PDSCL	Japan PRTR 1	Japan PRTR 2	Philippines PICCS	New Zealand NZIOC
Hydrogen sulfide (7783-06-4)	Yes	Yes	Yes	No	No	No	Yes	Yes

Section 16. Other information

Revision Date 10/31/2025

Revision Number 4

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H330 Fatal if inhaled.

H400 Very toxic to aquatic life.

Disclaimer: The information presented herein is supplied as a guide to those who handle or use this product. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

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