SECTION 1. IDENTIFICATION

Product name : Hydrogen Sulfide

Product code : X2620

Manufacturer or supplier's details

Company : **Shell Chemical LP**
PO Box 2463
HOUSTON TX 77252-2463
USA

SDS Request : 1-800-240-6737

Customer Service : 1-855-697-4355

Emergency telephone number

Chemtrec Domestic (24 hr) : 1-800-424-9300

Chemtrec International (24 hr) : 1-703-527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Refinery stream.

Restrictions on use :
This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable gases : Category 1

Gases under pressure : Compressed gas

Acute toxicity : Category 2

Serious eye damage/eye irritation : Category 2A

Acute aquatic toxicity : Category 1

GHS Label element

Hazard pictograms :

Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
HEALTH HAZARDS:
H330 Fatal if inhaled.
H319 Causes serious eye irritation.
ENVIRONMENTAL HAZARDS:
H400 Very toxic to aquatic life.

Precautionary statements : **Prevention:**
P260 Do not breathe gas.
P271 Use only outdoors or in a well-ventilated area.
P284 Wear respiratory protection.
Response:
P304 + P310 IF INHALED: Immediately call a POISON CENTER or doctor/ physician.
P320 Specific treatment is urgent (see supplemental first aid instructions on this label).
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification
Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger.
Hydrogen sulphide (H2S), an extremely flammable and toxic gas, and other hazardous vapours may evolve and collect in the headspace of storage tanks, transport vessels and other enclosed containers.
Hydrogen sulphide is highly toxic and may be fatal if inhaled.
This material has the potential to be a static accumulator.

The classification of this material is based on OSHA HCS 2012 criteria.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	Synonyms	CAS-No.	Concentration (%)
hydrogen sulphide	hydrogen sulphide	7783-06-4	<= 100

SECTION 4. FIRST-AID MEASURES

General advice : Vapourisation of H2S that has been trapped in clothing can be

dangerous to rescuers. Maintain respiratory protection to avoid contamination from the victim to rescuer. Mechanical ventilation should be used to resuscitate if at all possible.

If inhaled	:	If inhalation of mists, fumes or vapour causes irritation to the nose or throat, remove to fresh air. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment. Inhalation of vapours require immediate medical attention.
In case of skin contact	:	Contaminated clothing must be removed as soon as possible. It must be relaundered before reuse. Obtain medical treatment immediately. Wash off immediately with soap and plenty of water.
In case of eye contact	:	DO NOT DELAY. Flush eye with copious quantities of water. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.
If swallowed	:	In the unlikely event of ingestion, obtain medical attention immediately.
Most important symptoms and effects, both acute and delayed	:	High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
Protection of first-aiders	:	When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
Immediate medical attention, special treatment	:	Treat symptomatically. Administer oxygen if necessary. Hydrogen sulphide (H2S) - CNS asphyxiant. May cause rhinitis, bronchitis and occasionally pulmonary oedema after severe exposure. CONSIDER: Oxygen therapy. Consult a Poison Control Center for guidance.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Shut off supply. If not possible and no risk to surroundings, let the fire burn itself out. Use foam, water fog for major fires. Use dry chemical powder, carbon dioxide, sand or earth for minor fires.
Unsuitable extinguishing media	:	Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
Specific hazards during fire-	:	Hazardous combustion products may include:

fighting		Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds. Contents are under pressure and can explode when exposed to heat or flames. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	:	Keep adjacent containers cool by spraying with water.
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter. Test atmosphere for flammable gas concentrations to ensure safe working conditions before personnel are allowed to enter the area.
Environmental precautions	:	Use appropriate containment to avoid environmental contamination.
Methods and materials for containment and cleaning up	:	Allow to evaporate. Attempt to disperse the gas or to direct its flow to a safe location, for example by using fog sprays. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly. Take precautionary measures against static discharges.
Additional advice	:	For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet. Vapour may form an explosive mixture with air.

Risk of explosion. Inform the emergency services if product enters surface water drains.

SECTION 7. HANDLING AND STORAGE

Technical measures : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Air-dry contaminated clothing in a well-ventilated area before laundering.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
Take precautionary measures against static discharges.

Precautions for safe handling : The inherent toxic and olfactory (sense of smell) fatiguing properties of hydrogen sulphide require that air monitoring alarms be used if concentrations are expected to reach harmful levels such as in enclosed spaces, heated transport vessels and spill or leak situations. If the air concentration exceeds 10 ppm, the area should be evacuated unless respiratory protection is in use.
Ensure that all local regulations regarding handling and storage facilities are followed.
This product is intended for use in closed systems only.
This product can create a low temperature exposure hazard when released as a liquid.
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
Avoid prolonged or repeated contact with skin.
Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Earth all equipment.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Do not use compressed air for filling discharge or handling. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Delivery lines may become cold enough to present a cold burns hazard. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge.

Storage

Other data : Storage Temperature : 50°C maximum.
Store only in purpose-designed, appropriately labelled pressure vessels or cylinders.

Must be stored in a well-ventilated area, away from sunlight, ignition sources and other sources of heat.
Do not store near cylinders containing compressed oxygen or other strong oxidizers.
The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.
Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Packaging material : Suitable material: For containers and container linings, use materials specifically approved for use with this product.
Unsuitable material: Lead, Copper.

Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Specific use(s) : Not applicable

See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity).
CENELEC CLC/TR 50404 (Electrostatics – Code of practice for the avoidance of hazards due to static electricity).

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
hydrogen sulphide	7783-06-4	CEIL	20 ppm	OSHA Z-2
		Peak	50 ppm	OSHA Z-2
		TWA	1 ppm	ACGIH
		STEL	5 ppm	ACGIH

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
Use sealed systems as far as possible.
Firewater monitors and deluge systems are recommended.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Eye washes and showers for emergency use.

General Information:

Consider technical advances and process upgrades (including automation) for the elimination of releases.Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation.Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance.Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when there is potential for inhalation; clear up spills immediately and dispose of wastes safely.Ensure safe systems of work or equivalent arrangements are in place to manage risks.Regularly inspect, test and maintain all control measures.Consider the need for risk based health surveillance.
Do not ingest. If swallowed then seek immediate medical assistance

Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
All respiratory protection equipment and use must be in accordance with local regulations.
Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Hand protection

Remarks	:	Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Neoprene rubber. Nitrile rubber. If contact with liquefied product is possible or anticipated, gloves should be thermally insulated to prevent cold burns. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material.
Eye protection	:	Chemical splash goggles (gas-tight monogoggles) and face shield with chin guard.
Skin and body protection	:	Chemical and cold resistant gloves/gauntlets, boots, and apron.
Protective measures	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Hygiene measures	:	Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Environmental exposure controls

General advice	:	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Gas.
Colour	:	colourless
Odour	:	rotten-egg like
Odour Threshold	:	Data not available

pH	:	Not applicable
Melting / freezing point	:	-86.0 °C / -122.8 °F
Boiling point/boiling range	:	-60.7 °C / -77.3 °F
Flash point	:	-83.4 °C / -118.1 °F
Evaporation rate	:	Data not available
Flammability (solid, gas)	:	Extremely flammable.
Upper explosion limit	:	45 %(V)
Lower explosion limit	:	4.3 %(V)
Vapour pressure	:	ca. 1,740 kPa (21 °C / 70 °F)
Relative vapour density	:	1.2(Air = 1.0)
Relative density	:	0.79
Density	:	1.4 kg/m3 (21 °C / 70 °F) Data not available
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	Data not available
Auto-ignition temperature	:	270 °C / 518 °F
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, dynamic	:	Data not available
Viscosity, kinematic	:	Data not available
Explosive properties	:	Not applicable
Oxidizing properties	:	Data not available
Surface tension	:	Data not available
Conductivity	:	Data not available
Molecular weight	:	34.08 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No, product will not become self-reactive.
Chemical stability	:	Stable under normal conditions of use.
Possibility of hazardous reactions	:	No, hazardous, exothermical polymerization cannot occur.
Conditions to avoid	:	Heat, open flames, sparks and flammable atmospheres. In certain circumstances product can ignite due to static electricity.
Incompatible materials	:	Strong oxidising agents.
Hazardous decomposition products	:	Hazardous decomposition products are not expected to form during normal storage.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product data, a knowledge of the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure
Inhalation is the primary route of exposure although exposure may occur through skin or eye contact.

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: Not applicable
Acute inhalation toxicity	:	(Rat): Exposure time: 4 h Remarks: Fatal if inhaled. LC50 > 100 - <= 500 ppmV Remarks: Contains hydrogen sulphide. Hydrogen Sulphide is extremely toxic.
Acute dermal toxicity	:	Remarks: Not applicable

Components:

hydrogen sulphide:

Acute inhalation toxicity	:	(Man): Exposure time: 0.5 h Remarks: Extremely toxic: LC100 = 600ppm(v)

Skin corrosion/irritation

Product:

Remarks: Causes mild skin irritation.

Serious eye damage/eye irritation

Product:
Remarks: Irritating to eyes. (Hydrogen Sulfide)

Respiratory or skin sensitisation

Product:
Remarks: Not expected to be a sensitiser.

Germ cell mutagenicity

Product:

: Remarks: Not considered a mutagenic hazard.

Carcinogenicity

Product:
Remarks: Not expected to be carcinogenic.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

:
Remarks: Not expected to be a reproductive toxicant. Not expected to impair fertility.

STOT - single exposure

Product:
Remarks: Contains hydrogen sulphide., High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death., Inhalation of vapours or mists may cause irritation to the respiratory system.

STOT - repeated exposure

Product:

Remarks: Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Aspiration toxicity

Product:

Not considered an aspiration hazard.

Further information

Product:

Remarks: H2S has a broad range of effects dependent on the airborne concentration and length of exposure: 0.02 ppm odour 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 oedema after >20-30 minutes; 500 ppm loss of consciousness after short exposures, potential for respiratory arrest; >1000ppm 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., Rapid release of gases which are liquids under pressure may cause frost burns of exposed tissues (skin, eye) due to evaporative cooling., High gas concentrations will displace available air; unconsciousness and death may occur suddenly from lack of oxygen., Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment	:	Information given is based on product testing, and/or similar products, and/or components. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s). Physical properties indicate that petroleum gases will rapidly volatilise from the aquatic environment and that acute and chronic effects would not be observed in practice.

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity)	:	Remarks: Very toxic: LL/EL/IL50 < 1 mg/l
Toxicity to daphnia and other aquatic invertebrates (Acute toxicity)	:	Remarks: Very toxic: LL/EL/IL50 < 1 mg/l
Toxicity to algae (Acute toxicity)	:	Remarks: Toxic:

LL/EL/IL50 > 1 <= 10 mg/l

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: Data not available

Toxicity to bacteria (Acute toxicity) : Remarks: Harmful:
LL/EL/IL50 >10 <= 100 mg/l

Persistence and degradability

Product:

Biodegradability : Remarks: Expected to be readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Not expected to bioaccumulate significantly.
Log Kow < 4

Mobility in soil

Product:

Mobility : Remarks: Dissolves in water.
Evaporates within a day from water or soil surfaces.

Other adverse effects

no data available

Product:

Additional ecological information : In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Do not dispose into the environment, in drains or in water courses
Given the nature and uses of this product, the need for disposal seldom arises. If necessary, dispose by controlled combustion in purpose-designed equipment. If this is not possible,

contact the supplier.

Contaminated packaging	:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not pollute the soil, water or environment with the waste container. Return part-used or empty cylinders to the supplier. For tanks seek specialist advice from suppliers. Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.
Local legislation Remarks	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

UN/ID/NA number	:	UN 1053
Proper shipping name	:	Hydrogen sulfide
Class	:	2.3
Subsidiary risk	:	2.1
Packing group	:	Not Assigned
Labels	:	2.3 (2.1)
Reportable quantity		Hydrogen Sulfide (100 lb)
ERG Code	:	117
Marine pollutant	:	no
Poisonous by inhalation.	:	Hazard Zone B

International Regulation

IATA-DGR

UN/ID No.	:	UN 1053 (Not permitted for transport)
Proper shipping name	:	HYDROGEN SULPHIDE
Class	:	2.3
Packing group	:	Not Assigned

IMDG-Code

UN number	:	UN 1053
Proper shipping name	:	HYDROGEN SULPHIDE
Class	:	2.3
Subsidiary risk	:	2.1
Packing group	:	Not Assigned
Labels	:	2.3 (2.1)

Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category : Not applicable
Ship type : Not applicable
Product name : Not applicable
Special precautions : Not applicable

Special precautions for user

Remarks : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : Flammable gas

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Hydrogen Sulfide	7783-06-4	100	100

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Hydrogen Sulfide	7783-06-4	100	100

SARA 311/312 Hazards : Fire Hazard

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

hydrogen sulphide 7783-06-4 100 %

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

hydrogen sulphide 7783-06-4 100 %

Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

hydrogen sulphide 7783-06-4 100 %

Pennsylvania Right To Know

hydrogen sulphide 7783-06-4

New Jersey Right To Know

hydrogen sulphide 7783-06-4

California Prop 65 This product does not contain any chemicals known to State

of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16. OTHER INFORMATION

Further information

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial Hygienists
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS = Australian Inventory of Chemical Substances
ASTM = American Society for Testing and Materials
BEL = Biological exposure limits
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
COC = Cleveland Open-Cup
DIN = Deutsches Institut fur Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
INV = Chinese Chemicals Inventory
IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables
KECI = Korea Existing Chemicals Inventory
LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of Pollution From Ships

NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level
OE_HPV = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of Chemicals
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

Revision Date : 05/14/2015

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

MSDS Version Number	:	11.0
MSDS Effective Date	:	07/14/2010
MSDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product
Disclaimer	:	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.