

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

## Light Vacuum Gas Oil

Version 1.0      Revision Date: 4/01/2022      SDS Number: VRAM00011      Print Date: 4/01/2022  
Date of last issue: 4/01/2022

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### SECTION 1. IDENTIFICATION

Product name : Gas Oils (Petroleum), Light Vacuum

Product code : 002D4406

CAS-No. : 64741-58-8

#### Manufacturer or supplier's details

Manufacturer/Supplier : **Vertex Refining Alabama LLC**  
400 Industrial Pkwy Ext. East  
Saraland AL 36571  
USA

SDS Request : 251-679-7180

Customer Service : 251-679-7180

#### Emergency telephone number

Spill Information : 800-424-9300

Health Information : 800-424-9300

#### 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.

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids : Category 3

Aspiration hazard : Category 1

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Carcinogenicity : Category 2

Specific target organ toxicity : Category 2 (Blood, thymus, Liver.)  
- repeated exposure

Long-term (chronic) aquatic hazard : Category 2

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### GHS label elements

Hazard pictograms

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Signal word

: Danger

Hazard statements

: **PHYSICAL HAZARDS:**  
H226 Flammable liquid and vapour.  
**HEALTH HAZARDS:**  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H332 Harmful if inhaled.  
H373 May cause damage to organs (Blood, Liver, thymus) through prolonged or repeated exposure.  
H351 Suspected of causing cancer.  
**ENVIRONMENTAL HAZARDS:**  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**  
P201 + P202 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash hands thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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P314 Get medical advice/ attention if you feel unwell.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P370 + P378 In case of fire: Use appropriate media to extinguish.  
P391 Collect spillage.

### Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

### Disposal:

P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

### Other hazards which do not result in classification

May ignite on surfaces at temperatures above auto-ignition temperature.  
Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour concentrations are within the flammability range.  
This material is a static accumulator.  
Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.  
If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.  
This product is intended for use in closed systems only.  
The classification of this material is based on OSHA HCS 2012 criteria.  
Hydrogen sulphide (H<sub>2</sub>S), 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.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

### Hazardous components

Chemical name	Synonyms	CAS-No.	Concentration (% w/w)
Gas oils (petroleum), light vacuum	Gas oils (petroleum), light vacuum	64741-58-8	<= 100

Hydrogen sulphide may be present both in the liquid and the vapour. Composition is complex and varies with the source of the crude oil and the contributing process plants at that time.

## SECTION 4. FIRST-AID MEASURES

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- General advice : Vapourisation of H<sub>2</sub>S 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 : Call emergency number for your location / facility. Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or Cardio-Pulmonary Resuscitation as required and transport to the nearest medical facility.
- In case of skin contact : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop. Obtain medical attention even in the absence of apparent wounds.
- In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Transport to the nearest medical facility for additional treatment.
- If swallowed : Call emergency number for your location / facility. If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.
- Most important symptoms and effects, both acute and delayed : If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. No specific hazards under normal use conditions.

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Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.  
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.  
Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

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.

Indication of any immediate medical attention and special treatment needed : Call a doctor or poison control center for guidance.  
Potential for chemical pneumonitis.  
Treat symptomatically.

Hydrogen sulphide (H<sub>2</sub>S) - CNS asphyxiant. May cause rhinitis, bronchitis and occasionally pulmonary oedema after severe exposure. CONSIDER: Oxygen therapy. Consult a Poison Control Center for guidance.

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### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media : Do not use water in a jet.  
Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Specific hazards during fire-fighting : Hazardous combustion products may include:  
A complex mixture of airborne solid and liquid particulates and gases (smoke).  
Oxides of sulphur.  
Unidentified organic and inorganic compounds.  
Carbon monoxide may be evolved if incomplete combustion occurs.  
Will float and can be reignited on surface water.  
Flammable vapours may be present even at temperatures below the flash point.  
The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Hydrogen sulphide (H<sub>2</sub>S) and other toxic sulphur oxides may be given off when this material is heated. Do not depend on sense of smell for warning.

Specific extinguishing methods : Use water spray to cool unopened containers.

Further information : Keep adjacent containers cool by spraying with water.  
If possible remove containers from the danger zone.

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If the fire cannot be extinguished the only course of action is to evacuate immediately.  
Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

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).

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Do not breathe fumes, vapour.  
Do not operate electrical equipment.  
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.

Environmental precautions : Take measures to minimise the effects on groundwater.  
Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.  
Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Methods and materials for containment and cleaning up : Take precautionary measures against static discharges.  
For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.  
For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.  
Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

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.  
Observe all relevant local and international regulations.

Additional advice : For guidance on selection of personal protective equipment

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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.  
Local authorities should be advised if significant spillages cannot be contained.  
Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

This material is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Petroleum Exclusion. Therefore, releases to the environment may not be reportable under CERCLA.  
U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Chapter 15) to the National Response Center at (800) 424-8802.  
Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported to the National Response Center at (800) 424-8802.

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### 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.  
Prevent spillages.  
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.  
Never siphon by mouth.  
Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse.
- Advice on safe handling : Ensure that all local regulations regarding handling and storage facilities are followed.  
Avoid inhaling vapour and/or mists.  
Avoid prolonged or repeated contact with skin.  
When using do not eat or drink.  
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.  
Earth all equipment.  
Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

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Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

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.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Avoid splash filling Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling ( for large storage tanks) before opening hatches or manholes. Keep containers closed when not in use. Contamination resulting from product transfer may give rise to light hydrocarbon vapour in the headspace of tanks that have previously contained gasoline. This vapour may explode if there is a source of ignition. Partly filled containers present a greater hazard than those that are full, therefore handling, transfer and sampling activities need special care. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ( $\leq 1$  m/s until fill pipe submerged to twice its diameter, then  $\leq 7$  m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

Further information on storage stability : Drum and small container storage:  
Drums should be stacked to a maximum of 3 high.  
Use properly labeled and closable containers.  
Tank storage:  
Tanks must be specifically designed for use with this product.  
Bulk storage tanks should be diked (bunded).  
Locate tanks away from heat and other sources of ignition.  
Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat.  
Vapours from tanks should not be released to atmosphere.  
Breathing losses during storage should be controlled by a suitable vapour treatment system.  
The vapour is heavier than air. Beware of accumulation in pits

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and confined spaces.  
Keep container tightly closed and in a cool, well-ventilated place.  
Keep in a cool place.  
Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.  
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.

Prevent ingress of water.

Packaging material : Suitable material: For containers, or container linings use mild steel, stainless steel.  
Unsuitable material: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene., Compatibility should be checked with the manufacturer.

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

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).  
IEC/TS 60079-32-1: Electrostatic hazards, guidance

## 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 sulfide	7783-06-4	TWA	5 ppm 7 mg/m <sup>3</sup>	2009/161/EU
Further information: This value is for information where there is no				

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		national limit value available.		
Hydrogen sulfide		STEL	10 ppm 14 mg/m3	2009/161/EU
	Further information: This value is for information where there is no national limit value available.			
Hydrogen sulfide		STEL	5 ppm	ACGIH
	Further information: Central Nervous System impairment, Upper Respiratory Tract irritation			
Hydrogen sulfide		CEIL	20 ppm	OSHA Z-2
Hydrogen sulfide		Peak	50 ppm (10 minutes once only if no other measured exposure occurs)	OSHA Z-2
Hydrogen sulfide		TWA	1 ppm	ACGIH
Hydrogen sulfide		STEL	5 ppm	ACGIH

### Biological occupational exposure limits

No biological limit allocated.

### 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 Sécurité, (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 ventilation to control airborne concentrations below the exposure guidelines/limits.
  - Local exhaust ventilation is recommended.
  - Eye washes and showers for emergency use.

General Information:

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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. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. 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.

Select a filter suitable for the combination of organic gases and vapours [Type A/Type P boiling point >65°C (149°F)].

In areas where hydrogen sulphide vapours may accumulate, a positive-pressure air-supplied respirator is advised.

Hand protection  
Remarks

: 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. When prolonged or frequent repeated contact occurs. Nitrile rubber. For incidental contact/splash protection Neoprene, PVC gloves may be suitable. 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

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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. 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. 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.

- Eye protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended. If a local risk assessment deems it so then chemical splash goggles may not be required and safety glasses may provide adequate eye protection.
- Skin and body protection : Wear chemical resistant gloves/gauntlets and boots. Where risk of splashing, also wear an apron.
- Protective measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

### Environmental exposure controls

- General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation. Information on accidental release measures are to be found in section 6.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : Brown to black
- Odour : hydrocarbon-like
- Odour Threshold : no data available
- pH : Not applicable
- Melting point/freezing point : Data not available
- Boiling point/boiling range :  $\geq 150$  °C /  $\geq 302$  °F  
Method: Unspecified

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Flash point	:	61 - 200 °C / 142 - 392 °F
		Method: Unspecified
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / upper flammability limit	:	6 %(V)
Lower explosion limit / Lower flammability limit	:	0.6 %(V)
Vapour pressure	:	<= 0.4 kPa (38 °C / 100 °F)
Relative vapour density	:	no data available
Density	:	800 - 910 kg/m <sup>3</sup> (15 °C / 59 °F) Method: Unspecified
Solubility(ies)	:	
Water solubility	:	negligible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	log Pow: ca. 2 - 15
Auto-ignition temperature	:	Data not available
Decomposition temperature	:	no data available
Viscosity	:	
Viscosity, dynamic	:	Data not available
Viscosity, kinematic	:	2.5 - 11 mm <sup>2</sup> /s (40.0 °C / 104.0 °F)
Explosive properties	:	Classification Code: NOT CLASS: Not classified
Oxidizing properties	:	Not applicable
Conductivity	:	Low conductivity: < 100 pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semiconductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid

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### SECTION 10. STABILITY AND REACTIVITY

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Reactivity	:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	:	Stable under normal use conditions.
Possibility of hazardous reactions	:	No hazardous reaction is expected when handled and stored according to provisions
Conditions to avoid	:	Avoid heat, sparks, open flames and other ignition sources.  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. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.  Hydrogen sulphide.

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### 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).
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#### Information on likely routes of exposure

Skin and eye contact are the primary routes of exposure although exposure may occur through inhalation or following accidental ingestion.

#### Acute toxicity

##### Product:

Acute oral toxicity	:	LD50 Oral (rat): > 5,000 mg/kg Remarks: Low toxicity:
Acute inhalation toxicity	:	LC 50 (rat): > 1 - <=5 mg/l Exposure time: 4 h Remarks: Harmful if inhaled. High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
Acute dermal toxicity	:	LD 50 (Rabbit): > 2,000 mg/kg

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Remarks: Low toxicity:

### Skin corrosion/irritation

**Product:**

Remarks: Irritating to skin.

### Serious eye damage/eye irritation

**Product:**

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

Remarks: Irritating to eyes. (Hydrogen Sulfide)

### Respiratory or skin sensitisation

**Product:**

Remarks: Not a sensitiser.  
Based on available data, the classification criteria are not met.

### Germ cell mutagenicity

**Product:**

: Remarks: Positive in in-vitro, but negative in in-vivo mutagenicity assays.

### Carcinogenicity

**Product:**

Remarks: Limited evidence of carcinogenic effect, Repeated skin contact has resulted in irritation and skin cancer in animals.

**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.

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**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:**

:

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Remarks: Not a developmental toxicant., Based on available data, the classification criteria are not met., Does not impair fertility.

### STOT - single exposure

#### Product:

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

Remarks: Inhalation of vapours or mists cause irritation to the respiratory system. (Hydrogen Sulfide)

### STOT - repeated exposure

#### Product:

Target Organs: Blood, thymus, Liver

Remarks: May cause damage to organs or organ systems through prolonged or repeated exposure.

### Aspiration toxicity

#### Product:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

### Further information

#### Product:

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

Remarks: H<sub>2</sub>S 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. H<sub>2</sub>S causes rapid olfactory fatigue (deadens sense of smell). There is no evidence that H<sub>2</sub>S will accumulate in the body tissue after repeated exposure.

## SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Information given is based on a knowledge of the components and the ecotoxicology of similar products.  
Fuels are typically made from blending several refinery streams. Ecotoxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives.

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Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

### Ecotoxicity

#### Product:

- Toxicity to fish (Acute toxicity) : Remarks: LL/EL/IL50 > 1 <= 10 mg/l  
Toxic
- Toxicity to daphnia and other aquatic invertebrates (Acute toxicity) : Remarks: LL/EL/IL50 > 1 <= 10 mg/l  
Toxic
- Toxicity to algae (Acute toxicity) : Remarks: LL/EL/IL50 > 1 <= 10 mg/l  
Toxic
- Toxicity to fish (Chronic toxicity) : Remarks: NOEC/NOEL > 0.01 - <=0.1 mg/l
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l
- Toxicity to microorganisms (Acute toxicity) : Remarks: LL/EL/IL50 > 100 mg/l  
Practically non toxic:  
Based on available data, the classification criteria are not met.

### Persistence and degradability

#### Product:

- Biodegradability : Remarks: Readily biodegradable.

### Bioaccumulative potential

#### Product:

- Bioaccumulation : Remarks: Contains constituents with the potential to bioaccumulate.

### Mobility in soil

#### Product:

- Mobility : Remarks: Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day.  
If product enters soil, one or more constituents will be mobile and may contaminate groundwater.  
Large volumes may penetrate soil and could contaminate groundwater.  
Floats on water.

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### Other adverse effects

#### **Product:**

Additional ecological information : Films formed on water may affect oxygen transfer and damage organisms.

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Recover or recycle if possible.  
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.  
Do not dispose into the environment, in drains or in water courses  
Do not dispose of tank water bottoms by allowing them to drain into the ground.  
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.

Contaminated packaging : After draining, vent in a safe place away from sparks and fire.  
Residues may cause an explosion hazard.  
Drain container thoroughly.  
Do not puncture, cut, or weld uncleaned drums.  
Send to drum recoverer or metal reclaimer.  
Do not pollute the soil, water or environment with the waste container.

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## SECTION 14. TRANSPORT INFORMATION

### National Regulations

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

UN/ID/NA number : UN 1202  
Proper shipping name : Gas Oil  
Class : CBL  
Packing group : III  
Labels : NON  
ERG Code : 128  
Marine pollutant : no  
Remarks : This material is an 'OIL' under 49 CFR Part 130 when transported in a container of 3500 gallon capacity or greater.

### International Regulations

#### **IATA-DGR**

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UN/ID No. : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Gas oils (petroleum), light vacuum)

Class : 9  
Packing group : III  
Labels : 9

### IMDG-Code

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Gas oils (petroleum), light vacuum)

Class : 9  
Packing group : III  
Labels : 9  
Marine pollutant : yes

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

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

### 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

### 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	*

\*: The components with RQs are given for information., Vertex HSSE classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA.

Calculated RQ exceeds reasonably attainable upper limit.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
Aspiration hazard  
Acute toxicity (any route of exposure)  
Skin corrosion or irritation

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Carcinogenicity  
Specific target organ toxicity (single or repeated exposure)

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Water Act

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

Hydrogen sulfide	7783-06-4	0.5 %
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### US State Regulations

#### Pennsylvania Right To Know

Hydrogen sulfide	7783-06-4
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#### 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.

#### Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

IARC has classified diesel exhaust emissions as a Class 1 carcinogen - carcinogenic to humans. Steps should be taken to prevent personal exposure to diesel exhaust emissions.

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## SECTION 16. OTHER INFORMATION

### Further information

NFPA Rating (Health, Fire, Reactivity) 2, 2, 0

### Full text of other abbreviations

2009/161/EU	:	2009/161/EU
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-2	:	USA. Occupational Exposure Limits (OSHA) - Table Z-2
2009/161/EU / STEL	:	Short term exposure limit
2009/161/EU / TWA	:	Limit Value - eight hours
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / STEL	:	Short-Term Exposure Limit (STEL)
OSHA Z-2 / CEIL	:	Acceptable ceiling concentration
OSHA Z-2 / Peak	:	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
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.

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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 für 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\_HP V = 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

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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

This product is intended for use in closed systems only.

**|| Due to a change in detail in Section 15, this document has been released as a significant change.**

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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 a 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.

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