

**MATERIAL SAFETY DATA SHEET**  
**Vacuum Gas Oil**

# MATERIAL SAFETY DATA SHEET

## Vacuum Gas Oil

### Section I. Product and Company Identification

Material Name:	Vacuum Gas Oil
Synonyms:	Light Vacuum Gasoil, LVGO, Heavy Vacuum Gas Oil, HVGO.
Material Use:	Main feed of the hydrotreater unit, base oil production.
Manufacturer:	
MSDS Version:	1.0
MSDS Date:	17 May 2013

### Section II. Hazards Identification

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Toxicity Category 4 (Inhalation)	H332	Harmful if inhaled
Skin Irritation Category 2	H315	Causes skin irritation
Carcinogenicity Category 2	H351	Suspected of causing cancer
Specific Target Organ Toxicity (STOT) Repeated Exposure Category 2	H373	May cause damage to organs through prolonged or repeated exposure
Aspiration Toxicity Category 1	H304	May be fatal if swallowed and enters airways
Chronic Hazard to Aquatic Environment Category 2	H411	Toxic to aquatic life with long lasting effects

#### CLP Precautionary statements

P261: Avoid breathing dust, fumes, gases, mists, vapours, spray.

P280: Wear protective gloves, protective clothing, eye protection, face protection.

P301+P310: If swallowed, Immediately call a doctor.

P331: Do NOT induce vomiting.

P332+P313: If skin irritation occurs, get medical advice.

P501: Dispose of contents and container to appropriate waste collection point.



GHS08



GHS07



GHS09

#### Classification according to Directive 67/548/EEC or 1999/45/EC

Xn: Harmful

N: Dangerous for the environment

R20: Harmful by inhalation

R38: Irritating to skin

R40: Limited evidence of carcinogenic effect

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R65: Harmful: may cause lung damage if swallowed

S2: Keep out of the reach of children

S24: Avoid contact with skin

S36/37: Wear suitable protective clothing and gloves

S61: Avoid release to the environment. Refer to special instructions/safety data sheets

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label



NFPA 704 HAZARD IDENTIFICATION		
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Fire Hazard</p> <p>Health</p> <p>Specific Hazard</p> </div> <div style="text-align: center;"> <p>Reactivity</p> </div> </div>	4	Extreme
	3	High
	2	Slight
	1	Least
<b>Summary of Hazards</b>		
<b>Health Hazards</b>		
<p>May cause irritation to eyes, skin and respiratory system.            May be fatal if swallowed and enters airways            Causes skin irritation. Avoid prolonged or repeated skin contact.            Harmful if inhaled            Suspected of causing cancer.            May cause damage to organs through prolonged or repeated exposure.            Toxic to aquatic life with long lasting effects</p>		
<b>Physical Hazards</b>		
Combustible material		
Spilled material may present a slipping hazard		
<b>Health Effects: Eye Contact</b>		
May cause irritation to eyes on contact.		
<b>Health Effects: Skin Contact</b>		
May cause irritation to skin on contact. Prolonged / repeated contact may cause severe irritation and possible skin cancer. Contains polycyclic aromatic compounds which have been shown to cause anemia, disorders of the liver, bone marrow and lymphoid tissues in rats following dermal application.		
<b>Health Effects: Ingestion</b>		
May be fatal if swallowed. Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion may result in central nervous system effects including headache, sleepiness, dizziness, slurred speech and blurred vision. Swallowing or vomiting of the liquid may cause aspiration into the lungs and thus mild to severe pulmonary injury.		
<b>Health Effects: Inhalation</b>		
Inhalation may cause headache, dizziness, nausea, and loss of coordination. Inhalation of heated vapors may cause headache, dizziness, nausea, and loss of coordination. Aspiration of liquid into the lungs and thus mild to severe pulmonary injury.		

Section III. Composition/Information on Ingredients		
Material Description:	Petroleum Hydrocarbons, with number of carbon atoms higher than C20. May contain traces of hydrogen sulfide.	
Reportable Quantity:	See Section XV, Regulatory Information.	
Marine Pollutant:	Yes	
<b>Hazardous Ingredients</b>		
Ingredient Name	CAS #	Concentration Range
Vacuum Gasoil	64741-58-8	0-100%
Polycyclic Aromatic Hydrocarbons	65996-93-2	5%
Hydrogen Sulfide	7783-06-4	1-3ppm

## **Section IV. First Aid Measures**

### **First Aid: Eye Contact**

Remove contact lenses if it can be done safely. Flush immediately with large amounts of water for at least 15 minutes, while holding eyelids open. Seek medical advice if pain or redness continues.

### **First aid: Skin Contact**

Remove contaminated clothing and shoes. Completely decontaminate clothing, shoes and protective equipment before reuse. Contaminated leather goods should be discarded.

In case of skin contact with hot product, immediately immerse or drench the affected are in water to assist cooling. Get immediately medical attention.

If irritation persists or symptoms develop, seek medical attention.

High pressure skin injections are **SERIOUS MEDICAL EMERGENCIES**. Get immediate medical attention.

### **First Aid: Ingestion**

Never give anything by mouth to an unconscious person. **DO NOT** induce vomiting. Aspiration of material into the lungs due to vomiting can cause chemical pneumonitis, which can be fatal. Give vegetable oil or charcoal slurry to retard absorption. If spontaneous vomiting occurs, keep head below hips to prevent aspiration of liquid into lungs and monitor for breathing difficulty. **SEEK IMMEDIATE MEDICAL ATTENTION**. Keep person warm and quiet.

### **First Aid: Inhalation**

Remove to fresh air. If breathing is difficult, ensure clear airway and administer oxygen. If not breathing, apply artificial respiration or cardiopulmonary resuscitation. Keep person warm, quiet and get medical attention.

### **First Aid: Notes to Physician**

In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption. Consideration should be given to the use of an intratracheal tube, to prevent aspiration. Irregular heartbeat may occur, use of adrenalin is not advisable. Individuals intoxicated by the product should be hospitalized immediately, with acute and continuing attention to neurological and cardiopulmonary function. Positive pressure ventilation may be necessary. After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary edema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated. In case of skin injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss.

## **Section V. Fire Fighting Measures**

### **Fire & Explosion Hazards**

Combustible Material. It will float on water and it can be reignited on water surface. Combustion forms carbon monoxide carbon dioxide and nitrogen oxides. Heating closed containers may result in pressure increase, distortion and bursting of container. When the material is heated above the flash point, will release flammable vapors which can ignite if exposed to an ignition source. Vapors may be explosive in confined spaces. Mists or sprays may be flammable at temperatures below flash point.

### **Extinguishing Media**

Dry chemical, halon, carbon dioxide. Foam, water spray or fog are effective but may cause frothing. Do not use a water jet since it may cause the fire to spread. Use water to cool fire exposed containers and to protect personnel.

### **Advice for firefighters**

Do not enter enclosed fire spaces without proper protective equipment. Fire fighters should wear full – face, self contained breathing apparatus and thermal protective clothing. Evacuate the area from unnecessary personnel. If a tank, tank truck or rail car is involved in fire evacuate a radius of ½ mile. Position firefighters upwind. Cool containers with water spray. If possible withdraw containers from fire area. Improper use of extinguishing media containing water may cause frothing and thus spread the fire to a larger area.

## Section VI. Accidental Release Measures

### Personnel precautions & protective equipment

Personnel should wear suitable protective clothing, gloves, boots, eye and face protection, especially when handling hot material. No respiratory protection is needed under normal conditions with adequate ventilation. Eye protection should be worn, including chemical type goggles or face shield. Do not wear contact lenses. Provide eye wash water. In case of fire personnel should wear self-contained breathing apparatus.

Spills may result in slippery walking areas.

Eliminate all sources of ignition.

### Environmental precautions

Do not discharge into drains. Do not discharge into environment. The material may be hazardous to aquatic life. The material may cause increase of chemical and biological oxygen demand of water.

### Spills

Stop spill if possible. Absorb spills with inert material. Remove ignition sources. Use dikes and water booms to contain discharge. Use non-sparking tools and equipment (pumps etc). Prevent entry into sewers. Wear appropriate protective equipment.

## Section VII. Handling and storage

### Handling

Provide adequate ventilation to minimize vapour concentrations. Avoid contact with skin, eye and clothing. Do not breathe dust/fume/gas/mist/vapours/spray. Keep containers closed when not in use. Avoid all unnecessary exposure. Do not eat, drink and do not smoke in areas where product is used. Handle in accordance with good industrial hygiene and safety procedures. Equipment handling the material should be steam cleaned prior to maintenance.

### Storage

Store in grounded, proper vessels away from heat, sparks, open flame and other ignition sources. Provide storage area with adequate extinguishing measures. Prevent soil and water contamination. Storage tanks should be diked.

### Incompatible materials

Strong oxidizing agents. Strong acids.

## Section VIII. Exposure Controls & Personal Protection

### Exposure Limits Vacuum Gas Oil (64741-58-8)

#### DNEL / DMEL (Workers)

Acute – systemic effects, inhalation	4300 mg /m <sup>3</sup>
Long – term systemic effects, dermal	2.9 mg /kg bodyweight / day
Long – term systemic effects, inhalation	68 mg /m <sup>3</sup> /day

#### DNEL / DMEL (General Population)

Acute – systemic effects, inhalation	2600 mg /m <sup>3</sup>
Long – term systemic effects, dermal	1.3 mg /kg bodyweight / day
Long – term systemic effects, inhalation	20 mg /m <sup>3</sup> /day

### Exposure Controls

Provide storage area with adequate ventilation. Provide emergency eye wash fountains and safety showers. Use explosion proof electrical equipment. Personal protective equipment includes impermeable protective nitrile gloves, chemical goggles or face shield with safety glasses, fire retardant clothing. In case of insufficient ventilation combined gas / dust mask with filter type A/P2 should be used. In confined spaces self contained breathing apparatus should be used. Spills should be contained with dikes and / or absorbents. Entrance to sewers and streams should be prevented.

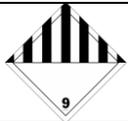
<b>Section IX. Physical &amp; Chemical Properties</b>	
Physical State	Viscous Liquid
Appearance	Thick Liquid
Color	Dark Brown to Black
Odour	Heavy Hydrocarbons
Odour threshold	No data available
pH	Not applicable
Boiling point range	600 – 1130 °F
Pour point	15 °F
Vapor Pressure	6 mm Hg at 68°F
Evaporation Rate (n-Butyl Acetate=1)	Slow – only partially volatile
Specific Gravity (water=1)	0.93 at 60°F
Viscosity	5 – 70 cSt at 122°F
Flash Point	266°F (Pensky – Martens, closed cup)
Auto Ignition Temperature	> 500°F
Upper Flammable Limit (UFL)	6.5% vol
Lower Flammable Limit (LFL)	0.5% vol
Relative Vapor Density (air=1)	> 1
Water Solubility	Negligible

<b>Section X. Stability &amp; Reactivity Information</b>
<b>Chemical Stability</b>
Material stable under normal conditions.
<b>Conditions to Avoid</b>
Avoid ignition sources.
<b>Incompatible materials</b>
Strong Oxidizing Agents. Strong Acids. Heated vapors or mists may form explosive mixtures with air.
<b>Hazardous Decomposition Products</b>
Lower molecular weight hydrocarbons. Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides, Sulfur Oxides. Thermal decomposition may produce low molecular weight acidic gases.

<b>Section XI. Toxicological Information</b>
<b>Vacuum Gasoil (64741-58-8)</b>
LD50 oral rat > 2000 mg/kg
LD50 dermal rabbit > 5000 mg/kg
LC50 inhalation rat (mg/l) 4.1 mg/l/4h
NOAEL (dermal,rat/rabbit,90 days) 30 mg/kg bodyweight/day
Acute toxicity : Harmful if inhaled.
Aspiration hazard : May be fatal if swallowed and enters airways.
Skin corrosion/irritation : Causes skin irritation
Serious eye damage/irritation : Not classified / Not irritating
Respiratory or skin sensitisation : Not classified / Not sensitizing
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure): May cause damage to organs through prolonged or repeated exposure
Potential Adverse human health effects and symptoms: Repeated exposure may cause liver damage or failure. May cause photosensitization. Absorbed through the skin. Prolonged/repetitive skin contact may cause skin defatting or dermatitis.
Other information : Not classifiable as to carcinogenicity to humans (IARC Group 3). Material is likely to contain polycyclic aromatic hydrocarbons some of which are known to be carcinogenic.

<b>Section XII. Ecological Information</b>
<b>Ecotoxicity</b>
<b>General</b>
Material is considered environmentally toxic and damaging on contact with plants, birds and water mammals. Large spills may form a film on the surface of water which can diminish dissolved oxygen levels, harming aquatic organisms.
<b>Harmful Exposure Limits</b>
LC50 fish 21 mg/l 96 hours
LC50 other aquatic organisms > 1000 ppm 40 hours - microorganism
EC50 Daphnia > 5.3 mg/l 48 hours
NOEC (acute) 0.2 mg/l 21 days- daphnia
NOEC (chronic) 0.083 mg/l 14 days
ErC50 (algae) 22 mg/l 72 hours
<b>Biodegradability</b>
Material is not easily biodegradable. Rates depend on soil moisture, bacteria and other conditions. Not likely to produce short term degradation hazardous products. Recovery time for land and water extends into months, possibly years.

<b>Section XIII. Disposal Considerations</b>
Disposal must be done according to local regulations. Dispose of this material and its container to hazardous or special waste collection point.

<b>Section XIV. Transportation Information</b>	
<b>UN</b>	
UN Number: 3082	
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	
Transport document description : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, (E)	
UN Class: 9	
UN Hazard label:	
Un Packing Group: III	
<b>Environmental Hazards</b>	
Marine Pollutant	
<b>Overland transport</b>	
Hazard identification number (Kemler Number): 90	
Classification code : M6	
Plates:	
Tunnel restriction code : E	
Limited quantities (ADR) : LQ07	
Excepted quantities (ADR) : E1	
<b>IATA / ICAO Information</b>	
Not regulated as dangerous goods for transportation.	
<b>IMDG Information</b>	
Not regulated as dangerous goods for transportation.	
<b>US DOT Information</b>	
Not regulated as dangerous goods for transportation.	
Regulated under 49 CFR 130 (Regulations applicable to oil spill prevention and response plans) when transported by highway or rail.	

**Section XV. Regulatory Information****EU**

Compliance with following regulations: Regulation (EC) 1907/2006 as amended. Regulation (EC) 1272/2008 as amended. Directive 1999/45/EC as amended. Directive 67/548/EEC as amended

**US**

Reporting may be required by Federal or State regulations.

**US OSHA Hazard Communication Class**

The material is considered hazardous under 29 CFR 1910.1200.

HCS Classes:

HCS Class: May cause cancer

HCS Class: Irritating substance

**Section XVI. Other Information**

The information presented in this Material Safety Data Sheet is based on current knowledge and is believed to be complete and accurate at the time of preparation of this document. It describes the material for the purposes of health, safety and environment requirements only and shall, therefore, be used only as a guide. The data refers to a specific product and may not be valid for combined uses with other products. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. GIT shall not be responsible for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. Unless specifically agreed otherwise GIT does not take responsibility for use, transportation, storage, handling or disposal of the material described herein.