

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

## SECTION 1. IDENTIFICATION

Product name : GN K-1 Kerosine

Product code : 002D3167

### Manufacturer or supplier's details

Manufacturer/Supplier : **Motiva Enterprises LLC**  
PO BOX 4540  
Houston TX 77210-4540  
USA

SDS Request : (+1) 8772767285  
Customer Service :

### Emergency telephone number

Spill Information : +1-877-504-9351  
Health Information : +1-877-242-7400

### Recommended use of the chemical and restrictions on use

Recommended use : Fuel for use in domestic and commercial heating and lighting equipment.

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. This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Flammable liquids : Category 3

Skin irritation : Category 2

Aspiration hazard : Category 1

Specific target organ toxicity - single exposure (Inhalation) : Category 3 (Narcotic effects.)

Chronic aquatic toxicity : Category 2

### GHS Label element

Hazard pictograms :



Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:  
H226 Flammable liquid and vapour.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

## HEALTH HAZARDS:

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

## ENVIRONMENTAL HAZARDS:

H411 Toxic to aquatic life with long lasting effects.

## Precautionary statements

### : **Prevention:**

P102 Keep out of reach of children.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

### **Response:**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P331 Do NOT induce vomiting.

### **Storage:**

No precautionary phrases.

### **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

Slightly irritating to respiratory system.

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.

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.

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

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Chemical nature : May also contain several additives at <0.1% v/v each.

### Hazardous components

Chemical Name	Synonyms	CAS-No.	Concentration (%)
Kerosine (petroleum)	kerosine (petroleum)	8008-20-6	<= 100

## SECTION 4. FIRST-AID MEASURES

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

- 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 : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
- Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.
- 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.
- In case of eye contact : Flush eyes with water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision, or swelling persist transport to the nearest medical facility for additional treatment.
- Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.
- If swallowed : 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. Give nothing by mouth.
- 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.
- The onset of respiratory symptoms may be delayed for several hours after exposure.
- Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters.
- Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination.
- Continued inhalation may result in unconsciousness and 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.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

Immediate medical attention, special treatment : 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.

## 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 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-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.
- 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. If possible remove containers from the danger zone. If the fire cannot be extinguished the only course of action is to evacuate immediately.
- 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 : 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 eva-

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

cuate 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 : 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 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.

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.  
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.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

## 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.  
Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse.  
Prevent spillages.  
Never siphon by mouth.  
For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier.  
Ensure that all local regulations regarding handling and storage facilities are followed.
- Precautions for safe handling : Ensure that all local regulations regarding handling and storage facilities are followed.  
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.  
Avoid inhaling vapour and/or mists.  
Avoid prolonged or repeated contact with skin.  
When using do not eat or drink.  
When handling product in drums, safety footwear should be worn and proper handling equipment should be used.  
The vapour is heavier than air, spreads along the ground and distant ignition is possible.  
Earth all equipment.  
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.  
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

"Product Name" designates a trade-mark of Shell Brands International AG. Used under license.

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. Refer to guidance under Handling section.

## Storage

Other data : Drum and small container storage:  
Drums should be stacked to a maximum of 3 high.  
Use properly labeled and closable containers.  
Take suitable precautions when opening sealed containers, as pressure can build up during storage.  
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.  
The vapour is heavier than air. Beware of accumulation in pits and confined spaces.  
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.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

- Packaging material : Suitable material: For containers, or container linings use carbon steel and low alloy steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. For container linings the following may also be used: Unplasticized polyvinyl chloride (U-PVC), Fluoropolymers (PTFE), Polyvinylidene fluoride (PVDF), Polyetheretherketone (PEEK), Polyamide (PA-11). For seals and gaskets use: Fluoroelastomer (FKM), Viton A, and Viton B, Nitrile butadiene (NBR), Buna-N. For coating (paint) materials use: High build, amine adduct-cured epoxy.  
Unsuitable material: For containers or container linings, examples of materials to avoid are: Polyethylene (PE, HDPE), Polypropylene (PP), Polymethyl methacrylate (PMMA), Acrylonitrile butadiene styrene (ABS). For seals and gaskets, examples of materials to avoid are: Natural rubber (NR), Ethylene Propylene (EPDM), Polychloroprene (CR) - Neoprene, Butyl (IIR), Chlorosulphonated polyethylene (CSM), e.g. Hypalon.
- 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
Kerosine (petroleum)	8008-20-6	TWA	500 ppm 2,000 mg/m <sup>3</sup>	OSHA Z-1
		TWA	200 mg/m <sup>3</sup> (as total hydrocarbon vapor)	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 sam-



# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

ples 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 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:

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

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

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Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

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

## 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 gloves. 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 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. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

## 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 as-

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

essment 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	: Undyed
Odour	: Data not available
Odour Threshold	: Data not available
pH	: Not applicable
Melting point/freezing point	: Data not available
Boiling point/boiling range	: 150 - 290 °C / 302 - 554 °F Method: Unspecified
Flash point	: 38 - 62 °C / 100 - 144 °F Method: Unspecified
Evaporation rate	: Data not available
Flammability (solid, gas)	: Not applicable
Upper explosion limit	: no data available
Lower explosion limit	: 1 %(V)
Vapour pressure	: 1 - 3.7 kPa (38.0 °C / 100.4 °F) Method: Unspecified  1.6 - 7 kPa (50.0 °C / 122.0 °F) Method: Unspecified
Relative vapour density	: Data not available
Relative density	: Data not available
Density	: 807.5 kg/m <sup>3</sup> (15.0 °C / 59.0 °F) Method: Unspecified
Solubility(ies)	
Water solubility	: Data not available
Solubility in other solvents	: Data not available
Partition coefficient: n-octanol/water	: log Pow: 2 - 10
Auto-ignition temperature	: > 220 °C / 428 °F

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

Decomposition temperature	: Data not available
Viscosity	
Viscosity, kinematic	: 1 - 2 mm <sup>2</sup> /s (40.0 °C / 104.0 °F) Method: Unspecified
Explosive properties	: Classification Code: 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

## SECTION 10. STABILITY AND REACTIVITY

Chemical stability	: Stable under normal conditions of use.
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.

## 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

Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

## Acute toxicity

### Product:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg  
Remarks: Low toxicity:

Remarks: Aspiration into the lungs may cause chemical  
pneumonitis which can be fatal.

Acute inhalation toxicity : LC 50 (Rat): > 5 mg/l  
Exposure time: 4 h  
Remarks: Low toxicity:

Remarks: 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 : LD50 Dermal (Rabbit): > 2,000 mg/kg  
Remarks: Low toxicity:

Acute toxicity (other routes of :  
administration) Remarks: Inhalation of vapours or mists may cause irritation  
to the respiratory system.

## Skin corrosion/irritation

### Product:

Remarks: Irritating to skin.

## Serious eye damage/eye irritation

### Product:

Remarks: Expected to be slightly irritating.

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.

Germ cell mutagenicity- As- : This product does not meet the criteria for classification in  
sessment categories 1A/1B.

## Carcinogenicity

### Product:

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

Remarks: Not classified as a carcinogen.

Remarks: Repeated skin contact has resulted in irritation and skin cancer in animals.

Remarks: Limited evidence of carcinogenic effect

Carcinogenicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

**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** Confirmed animal carcinogen with unknown relevance to humans

Kerosine (petroleum) 8008-20-6

**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 impair fertility., Not expected to be a developmental toxicant.

Reproductive toxicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

## STOT - single exposure

### Product:

Remarks: 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 may cause irritation to the respiratory system.

## STOT - repeated exposure

### Product:

Remarks: Kidney: caused kidney effects in male rats which are not considered relevant to humans

## Aspiration toxicity

### Product:

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

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

## 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 (deadsens sense of smell). There is no evidence that H2S will accumulate in the body tissue after repeated exposure.

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

## SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : 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.  
Information given is based on a knowledge of the components and the ecotoxicology of similar products. 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: Toxic:  
LL/EL/IL50 > 1 <= 10 mg/l

Toxicity to daphnia and other aquatic invertebrates (Acute toxicity) : Remarks: Toxic:  
LL/EL/IL50 > 1 <= 10 mg/l

Toxicity to algae (Acute toxicity) : Remarks: Toxic:  
LL/EL/IL50 > 1 <= 10 mg/l

Toxicity to fish (Chronic toxicity) : Remarks: NOEC/NOEL expected to be > 0.01 - <= 0.1 mg/l (based on modeled data)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

Toxicity to bacteria (Acute toxicity) : Remarks: Practically non toxic:  
LL/EL/IL50 > 100 mg/l

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

## Persistence and degradability

### Product:

Biodegradability : Remarks: Major constituents are expected to be inherently biodegradable.  
The volatile constituents will oxidize rapidly by photochemical reactions in air.

## Bioaccumulative potential

### Product:

Bioaccumulation : Remarks: Contains constituents with the potential to bioaccumulate.  
Log Kow > =4

## Mobility in soil

### Product:

Mobility : Remarks: Large volumes may penetrate soil and could contaminate groundwater.  
Evaporates within a day from water or soil surfaces.  
Contains volatile components.  
Floats on water.

## Other adverse effects

### Product:

Results of PBT and vPvB assessment : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

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 : Send to drum recoverer or metal reclaimer.



# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

Drain container thoroughly.  
After draining, vent in a safe place away from sparks and fire.  
Residues may cause an explosion hazard if heated above the  
flash point. Do not puncture, cut or weld uncleaned drums.  
Do not pollute the soil, water or environment with the waste  
container.  
Comply with any local recovery or waste disposal regulations.

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 na-  
tional requirements and must be complied with.

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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 1223  
Proper shipping name : KEROSENE  
Class : 3  
Packing group : III  
Labels : 3  
ERG Code : 128  
Marine pollutant : no  
Remarks : Oil: This product is an oil under 49CFR (DOT) Part 130. If  
shipped by rail or highway in a tank with a capacity of 3500  
gallons or more, it is subject to these requirements. Mixtures  
or solutions containing 10% or more of this product may also  
be subject to this rule.

### International Regulation

#### IATA-DGR

UN/ID No. : UN 1223  
Proper shipping name : KEROSENE  
Class : 3  
Packing group : III  
Labels : 3

#### IMDG-Code

UN number : UN 1223  
Proper shipping name : KEROSENE  
Class : 3  
Packing group : III  
Labels : 3  
Marine pollutant : yes

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

Pollution category : Not applicable

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

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.

**Additional Information** : MARPOL Annex 1 rules apply for bulk shipments by sea.

## SECTION 15. REGULATORY INFORMATION

**OSHA Hazards** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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

#### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

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

**SARA 311/312 Hazards** : Fire Hazard  
Acute Health Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**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

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

### Pennsylvania Right To Know

Kerosine (petroleum) 8008-20-6

### New Jersey Right To Know

Kerosine (petroleum) 8008-20-6

**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

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

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

This product is intended for use in closed systems only.

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 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

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

Version 1.0

Revision Date: 05/28/2015

Print Date: 05/29/2015

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 Dan-  
gerous 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 : 05/28/2015

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.