



# SAFETY DATA SHEET

## KEROSENE

### 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name: KEROSENE

Recommended use: Chemical for industry

Manufacturer/Supplier: **MODERN CHEMICAL CO.,LTD.**  
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### 2. HAZARDS IDENTIFICATION

#### Label elements

Pictogram



Signal word

Danger

#### Hazard statement(s):

- 1.) Flammable liquid and vapor.
- 2.) May be fatal if swallowed or enters airways.
- 3.) Causes skin irritation.
- 4.) May cause drowsiness or dizziness.
- 5.) Suspected of causing cancer
- 6.) Toxic to aquatic life with long lasting effects.

#### Precautionary statement(s):

- 1.) Obtain special instructions before use.
- 2.) Do not handle until all safety precautions have been read and understood.
- 3.) Keep away from heat/sparks/open flames/hot surface. - No smoking.



- 4.) Keep container tightly closed.
- 5.) Ground / bond container and receiving equipment.
- 6.) Use explosion-proof electrical ventilating, and lighting equipment.
- 7.) Use only non-sparking tools.
- 8.) Take precautionary measures against static discharge.
- 9.) Avoid breathing mist/vapours.
- 10.) Wash skin thoroughly after handling.
- 11.) Use only outdoors or in a well-ventilated area.
- 12.) Avoid release to the environment.
- 13.) Wear protective gloves.
- 14.) Use personal protective equipment as required.
- 15.) IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- 16.) IF ON SKIN: Wash with plenty of soap and water.
- 17.) IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- 18.) IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- 19.) IF exposed or concerned: Get medical advice/attention.
- 20.) If you feel unwell. Call a POISON CENTER or doctor/physician.
- 21.) Do NOT induce vomiting.
- 22.) If skin irritation occurs: Get medical advice/attention.
- 23.) Take off contaminated clothing and wash before reuse.
- 24.) In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish.
- 25.) Collect spillage.
- 26.) Store in a well-ventilated place. Keep cool.
- 27.) Store locked up.
- 28.) Dispose of contents and container in accordance with local regulations.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonym:** Coal oil, Fuel Oil, Kerosine, Petroleum, Hydrodesulfurized

Ingredients	% (w/w)	CAS NO.
KEROSENE	100	8008-20-6



#### 4. FIRST AID MEASURES

**General advice:** No data available.

**Inhalation:** Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

**Skin contact:** Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

**Eye contact:** Flush thoroughly with water. If irritation occurs, get medical assistance.

**Ingestion:** Seek immediate medical attention. **Do not induce vomiting.**

#### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:**

Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Unsuitable Extinguishing Media:**

Straight streams of water.

**Specific hazards arising from Chemicals:**

Smoke, Fume, Aldehydes, Sulphur oxides, Incomplete combustion products, Oxides of carbon.

**Special protective equipment for fire-fighters :**

Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.



## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions:

Avoid contact with spilled material. Warn or evacuate occupants in of the maerial. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders : Respiratory protection : half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H<sub>2</sub>S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

### Environmental Precautions:

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and Material for Containment and Clean Up:

**Land Spill:** Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material.



Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces.

**Water Spill:** Stop leak if you can do so without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

## 7. HANDLING AND STORAGE

### Precautions for Safe Handling & Product Transfer:

Avoid all personal contact. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator 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, anti-static additives and filtration can greatly influence the conductivity of a liquid.

### Conditions for Safe Storage & Unsuitable Materials:

The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers,



transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational Exposure Limits:** TWA 200 mg/m<sup>3</sup>

**Appropriate Engineering Controls:** The level of protection and types of controls necessary will vary

depending upon potential exposure condition. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

### Individual Protection Measures

#### Respiratory protection:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: No special requirements under ordinary conditions of use and with adequate ventilation. Organic vapour. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

#### Hand protection:

Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: Chemical resistant gloves are recommended. Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. Nitrile, Viton.

#### Eye protection:

If contact is likely, safety glasses with side shields are recommended.

#### Skin and body protection:

Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: Chemical/oil resistant clothing if contact with material is likely.



**Hygiene measures:** Always observe good personal hygiene measures, such as washing 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Form, Color and Odor:</b> liquid, colourless, Petroleum/Solvent	<b>Evaporation rate :</b> N/D
<b>Melting Point:</b> N/A	<b>Specific gravity :</b> 0.775 - 0.840 g/cm <sup>3</sup> at 15.6 °C
<b>pH:</b> N/A	<b>Solubility in water :</b> Negligible
<b>Boiling:</b> 150 - 300 °C	<b>Viscosity :</b> < 1 cSt at 40 °C
<b>Vapour pressure:</b> 0.064 kPa at 20 °C	<b>Vapour density:</b> 4.5 at 101 kPa
<b>Lower explosion limits:</b> 0.7 %Vol	<b>Upper explosive limit:</b> 5.0 %Vol
<b>Auto-ignition temperature:</b> 250 °C	<b>Flash point:</b> 38 - 45 °C
<b>Odour threshold:</b> N/D	<b>Flammability (solid, gas):</b> N/A
<b>Decomposition temperature:</b> N/A	<b>Solubility in other solvents:</b> N/A
<b>n-octanol/water partition coefficient (log P<sub>ow</sub>):</b> >3.5	

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Material is stable under normal conditions.

**Reactions:** No data available.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to avoid:** Avoid heat, sparks, open flames and other ignition sources.

**Materials to be avoided:** Halogens, Strong Acids, Alkalies, Strong oxidizers.

**Hazardous Decomposition Products:** Material does not decompose at ambient temperatures.

## 11. TOXICOLOGICAL INFORMATION

**Acute oral toxicity:** LD50 (Oral, rat): >5000 mg/kg  
LD50 (Dermal, rabbit): >2000 mg/kg  
LC50 (Inhalation, rat): >5000 mg/kg



**Sensitization:** Vapour/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anaesthesia, drowsiness, unconsciousness and other central nervous system effects including death. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

**Carcinogenicity:** Anticipated health effects from sub-chronic, chronic, respiratory or skin sensitization, mutagenicity, reproductive toxicity, carcinogenicity, target organ toxicity (single exposure or repeated exposure), aspiration toxicity and other effects based on human experience and/or experimental data.

**Further toxicological information:** No data available

## 12. ECOLOGICAL INFORMATION

### Toxicity

Toxicity to fish: LL50 - *Oncorhynchus mykiss*: 1 - 100 mg/l - 96h

Toxicity to algae: EL50 - *Pseudokirchneriella subcapitata*: 1 - 100 mg/l - 72h

Toxicity to aquatic invertebrates: EL50 - *Daphnia magna*: 1 - 100 mg/l - 48h

Toxicity Bacterial: No data available.

Biodegradability Remarks: Expected to be inherently biodegradable. Expected to degrade rapidly in air.

Bioaccumulative Potential: Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

Mobility: Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids. Low potential to migrate through soil.

Affected in any other way: Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

## 13. DISPOSAL CONSIDERATIONS

**Material Disposal:** Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

**Container Disposal:**

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death.

**14. TRANSPORT INFORMATION****ADR/RID**

UN-No: 1223

Class: 3

Packing group: III

Label(s)/Mark(S): 3, EHS

Hazchem Code: 3Y

Proper shipping name: KEROSENE

**IMDG**

UN-No: 1223

Class: 3

Packing group: III

Ems: F-E, S-E

Label(S): 3

Marine Pollutant: Yes

Proper shipping name: UN1223, KEROSENE, 3, PG III, (38°C c.c.), MARINE POLLUTANT

**IATA**

UN-No: 1223

Class: 3

Packing group: III

Label(s)/Mark(S): 3

Proper shipping name: UN1223, KEROSENE, 3, PG III

**15. REGULATORY INFORMATION**

This material is considered hazardous according to the classification criteria of the Hazard Classification and Communication System for Hazardous Material BE 2555.

**REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS**

**Hazardous Substance Act BE2535:** No Regulated



**Listed or exempt from listing / notification on the following chemical inventories:** AICS, DSL, ENCS, KECI, PICCS, TSCA

## 16. OTHER INFORMATION

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