MATERIAL SAFETY DATA SHEET
HIGH SPEED DIESEL

1. Chemical Identification

Chemical Name : Diesel Oil  Chemical classification : Flammable Liquid
Synonyms : Automotive Diesel Oil  Trade name : HSD

Shipping name : HSD
Regulated identification : HSD  Hazardous west ID No. : NA  Hazchem No. : Class 3
Hazardous Ingredients  C.A.S.No. :
Benzene Trace  71-43-2
Naphthalene Trace  91-20-3
Sulphur Trace  7704-34-9

2. Physical & Chemical data

Boiling Range / points : 215° C to 376° C  Physical state : Liquid  Appearance : Light brown
Melting / freezing points: 18° C to 46° C  Vapour Pressure : 2.12 to 26mm Hg @38° C
Vapour Density (Air-1) : 3-5  Solubility in water : 30 PPM
Specific Gravity  water : 0.81-0.91  PH : NA

3. Fire and Explosion Hazards Data

Flammability : Yes  LEL : 0.6%  Flash Point : 32° C  Auto ignition : 225° C
TDG Flammability : Class 3  UEL : 6%  Flash Point :

Explosion Sensitivity to impact : Non sensitive to Mechanical Impact
Explosion Sensitivity to Static Electricity : For vapors sensitivity exist
Hazardous Combustion Products : Carbon monoxide, Nitrogen Oxide and other aromatic hydrocarbons

Hazardous Ploymerisation : N.A
Combustible Liquid : Yes  Explosive material : Yes  Corrosive material : No
Flammable material : Yes  Oxidiser : NA  Other : NA
Pyrophoric material : NA  Organic peroxide : NA

4. Reactivity Data

Chemical stability : Stable
Incompatibility with other material : Oxidizers such peroxides, Nitric acid and Perchorates
Hazardous Reaction Products : On fire it will be liberate some amount carbon monoxide, Sulphur dioxide Nitrogen Oxide and other aromatic hydrocarbons
5. Health Hazards Data

Routes of Entry: Inhalation, Skin absorption, ingestion

Effects of Exposure Symptoms: Excessive inhalation vapors cause rapid breathing, excitability, staggering, headache, fatigue, nausea and vomiting, dizziness, drowsiness, narcosis convulsions, coma

Emergency Treatment: In case of eye or Skin contract fresh with plenty of fresh water, remove containment clothing, in case of excessive inhalation move the victim to fresh air, obtain medical assistance.

TLV (ACGIH): 800 PPM
STEL: 500 PPM

Permissible Exposure Limit

<table>
<thead>
<tr>
<th>NFPA Hazards</th>
<th>Health</th>
<th>Flammability</th>
<th>Stability</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signals</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

6. Preventive measures

Personal Protective equipment: Canister type gas mask. PVC or Rubber. Goggles giving complete protection to eyes. Eye wash fountain with safety.

Handling and storage Precautions: Do not expose to heat and naked lights, keep containers and valves closed when not in use.

7. Emergency and First aid measures

Fire
Fire Extinguishing media: Foam. CO₂, Dry Chemical Powder. Water may be used to cool fire exposed containers

Fire
Special procedures: Shut off leak, if safe to do so. Keep non-involved people away from spill site. Eliminate all sources all sources of ignition.

Unusual Hazards: It will spread along the ground and collect in sewers

Exposure First Aid measures

Skin contact: in case of contact with Skin flush with fresh water, remove containment clothing

Inhalation: in case of excessive inhalation move the victim to fresh air, If problem in breathing give artificial respiration; give oxygen obtain medical assistance

Ingestion: Give water to conscious victim to drink; do not induce vomiting.

Antidotes/Dosages: NA
Spills

Steps to be taken: Shut off leak, if safe to do so. Keep non-involved people away from spillage site. Eliminate all sources of ignition. Prevent spill entering into sewers. For major spillage contact emergency services.

Waste disposal Method: NA
MATERIAL SAFETY DATA SHEET
MOTOR SPRIT

1. Chemical Identification

Chemical Name : Petrol
Synonyms : Gasoline., Motor Sprit
Formula : Mixture of hydrocarbons
C.A.S No. : 86290-81.5
U.N.No. : 1203.

Regulated identification : Petrol
Hazardous west ID No. : NA
Hazchem No. : Class 3

Hazardous Ingredients
Gasoline 8006-61-9
Benzene 71-43-2
n-Hexan Trace 110-54-3.

2. Physical & Chemical data

Boiling Range / points : 30°C to 215°C
Melting / freezing points: 90°C to 75°C
Vapour Density (Air-1) : 3-4
Specific Gravity water : 0.75-0.85
Physical state : Liquid  Appearance : Colourless
Vapour Pressure : 300 to 600mm Hg @35°C
Solubility in water : 1-100 PPM
PH : NA

3. Fire and Explosion Hazards Data

Flammability : Yes  LEL : 1.4%  Flash Point : < 23°C  Auto ignition : 446°C
TDG Flammability : Class 3  UEL : 7.6%

Explosion Sensitivity to impact : Non sensitive to Mechanical Impact
Explosion Sensitivity to Static Electricity : For vapors sensitivity exist
Hazardous Combustion Products : Carbon monoxide, Nitrogen Oxide and other aromatic

Hazardous Polymerisation : N.A
Combustible Liquid : Yes
Flammable material : Yes
Pyrophoric material : NA

Explosive material : Yes  Oxidiser : NA  Other : NA
Corrosive material : No
Organic peroxide : NA

4. Reactivity Data

Chemical stability : Stable
Incompatibility with other material : Oxidizers such peroxides, Nitric acid and Perchorates
Hazardous Reaction Product : On fire it will be liberate some amount carbon monoxide, Nitrogen oxide and other aromatic hydrocarbons
5. Health Hazards Data

Routes of Entry: Inhalation, Skin absorption, ingestion

Effects of Exposure Symptoms: Excessive inhalation vapors cause rapid breathing, excitability, staggering, headache, fatigue, nausea and vomiting, dizziness, drowsiness, narcosis, convulsions, coma

Emergency Treatment: In case of contact with Skin flush with fresh water, remove containment clothing; in case of excessive inhalation move the victim to fresh air, obtain medical assistance.

TLV (ACGIH): 300 PPM
STEL: 500 PPM

Permissible Exposure Limit
L.D50 (Oral - Rat): 13.6 g/Kg
L.C50 (Rat for 4 hrs): 43g/M^3

NFPA Hazards
Health: 0
Flammability: 3
Stability: 0
Special: -

6. Preventive measures

Personal Protective equipment: Gloves, Eye protection preferred

Handling and storage Precautions: Eliminate all sources of ignition at storage, ensure good ventilation, ground and bond the containers

7. Emergency and First aid measures

Fire Extinguishing media: Foam, CO2, Dry Chemical Powder. Water may be used to cool fire exposed containers

Special procedures: Shut off leak, if safe to do so. Keep non-involved people away from spill site. Issue warning “FLAMMABLE”. Eliminate all sources of ignition.

Unusual Hazards: Vapor heavier than Air, it will spread along the ground and collect in sewer.

Exposure First Aid measures
Skin contact: In case of contact with Skin flush with fresh water, remove containment clothing

Inhalation: In case of excessive inhalation move the victim to fresh air. If problem in breathing give artificial respiration; give oxygen obtain medical assistance

Ingestion: Give water to conscious victim to drink; do not induce vomiting.

Antidotes/Dosages: NA
<table>
<thead>
<tr>
<th>Spills</th>
<th>Steps to be taken</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shut off leak, if safe to do so, Keep non-involved people away from spillage site.</td>
</tr>
<tr>
<td></td>
<td>Eliminate all sources of ignition. Prevent spill entering in to sewers, for Major spillage contact emergency services.</td>
</tr>
</tbody>
</table>

| Waste disposal Method | : NA |
# Material Safety Data Sheet

## Superior Kerosene Oil

### 1. Chemical Identification

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Kerosene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>Superior Kerosene Oil</td>
</tr>
<tr>
<td>Formula</td>
<td>Mixture of hydrocarbons</td>
</tr>
<tr>
<td>Chemical classification</td>
<td>Flammable Liquid</td>
</tr>
<tr>
<td>Trade name</td>
<td>SKO</td>
</tr>
<tr>
<td>C.A.S No.</td>
<td>8008-20-6</td>
</tr>
<tr>
<td>U.N. No.</td>
<td>1223</td>
</tr>
<tr>
<td>Shipping name</td>
<td>SKO</td>
</tr>
<tr>
<td>Regulated identification</td>
<td>SKO</td>
</tr>
<tr>
<td>Hazardous west ID No.</td>
<td>17</td>
</tr>
<tr>
<td>Hazchem No.</td>
<td>Class 3</td>
</tr>
</tbody>
</table>

#### Hazardous Ingredients

- Benzene 100-41-4
- Naphthalene Trace 91-20-3

### 2. Physical & Chemical data

<table>
<thead>
<tr>
<th>Boiling Range / points</th>
<th>300°C to 570°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colourless</td>
</tr>
<tr>
<td>Melting / freezing points</td>
<td>18°C to 46°C</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>0.50mm Hg</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Specific Gravity water</td>
<td>0.78-0.84</td>
</tr>
<tr>
<td>PH</td>
<td>NA</td>
</tr>
</tbody>
</table>

### 3. Fire and Explosion Hazards Data

- Flammability: Yes
- LEL: 0.7%
- Flash Point: 32°C
- Auto ignition: 225°C
- TDG Flammability: Class 3
- UEL: 5%
- Explosion Sensitivity to impact: Non sensitive to Mechanical Impact
- Explosion Sensitivity to Static Electricity: For vapors sensitivity exist
- Hazardous Combustion Products: Carbon monoxide, Nitrogen Oxide and other aromatic hydrocarbons
- Hazardous Polymerisation: N.A
- Combustible Liquid: Yes
- Explosive material: Yes
- Corrosive material: No
- Flammable material: Yes
- Oxidiser: NA
- Other: NA
- Pyrophoric material: NA
- Organic peroxide: NA

### 4. Reactivity Data

- Chemical stability: Stable
- Incompatibility with other material: Oxidizers such peroxides, Nitric acid and Perchorates
- Hazardous Reaction Products: On fire it will be liberate some amount carbon monoxide, Sulphur dioxide Nitrogen Oxide and other aromatic hydrocarbons
5. Health Hazards Data

Routes of Entry: Inhalation, Skin absorption, ingestion
Effects of Exposure: Excessive inhalation vapors cause rapid breathing, excitability, staggering, headache, fatigue, nausea and vomiting, dizziness, drowsiness, narcosis, convulsions, coma
Emergency Treatment: In case of eye or skin contact, fresh with plenty of fresh water, remove containment clothing, in case of excessive inhalation move the victim to fresh air, obtain medical assistance.

TLV (ACGIH): 800 PPM
STEL: 500 PPM
Permissible Exposure Limit: L.D$_{50}$ (Oral - Rat): 5 g/Kg
L.C$_{50}$: >340 mg/m$^3$/1H
NFPA Hazards: Health 2, Flammability 0, Stability 0, Special -

6. Preventive measures

Personal Protective Equipment: Canister type gas mask, PVC or rubber, goggles giving complete protection to eyes, eye wash fountain with safety.
Handling and storage Precautions: Do not expose to heat and naked lights, keep containers and valves closed when not in use.

7. Emergency and First aid measures

Fire Extinguishing media: Foam, CO$_2$, dry chemical powder. Water may be used to cool fire exposed containers.
Special procedures: Shut off leak, if safe to do so, keep non-involved people away from spill site, eliminate all sources of ignition.
Unusual Hazards: It will spread along the ground and collect in sewers

Exposure First Aid measures: Skin contact: in case of contact with skin flush with fresh water, remove containment clothing.
Inhalation: in case of excessive inhalation move the victim to fresh air, if problem in breathing give artificial respiration; give oxygen, obtain medical assistance.
Ingestion: Give water to conscious victim to drink; do not induce vomiting.

Antidotes/Dosages: NA
<table>
<thead>
<tr>
<th>Spills</th>
<th>Steps to be taken</th>
<th>Waste disposal Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shut off leak, if safe to do so, Keep non-involved people away from spillage site. Eliminate all sources of ignition. Prevent spill entering in to sewers, for Major spillage contact emergency services.</td>
<td>NA</td>
</tr>
</tbody>
</table>