SAFETY DATA SHEET

ODC-15 Drilling Fluid Base Oil

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Trade name</th>
<th>ODC-15 Drilling Fluid Base Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>Paraffinic Naphthenic Solvent</td>
</tr>
<tr>
<td>Use</td>
<td>Industrial &amp; Institutional cleaning, Industrial use, Oilfield Drilling</td>
</tr>
<tr>
<td>Company</td>
<td>Sasol Chemicals (USA) LLC</td>
</tr>
<tr>
<td></td>
<td>(an affiliate of Sasol Chemicals North America LLC)</td>
</tr>
<tr>
<td>Address</td>
<td>12120 Wickchester Lane   Houston TX 77079</td>
</tr>
<tr>
<td>Telephone</td>
<td>CHEMTREC North America Transportation Emergency (24-hr)</td>
</tr>
<tr>
<td></td>
<td>CHEMTREC World Wide</td>
</tr>
<tr>
<td></td>
<td>Other Emergencies (24-hr)</td>
</tr>
<tr>
<td></td>
<td>SDS and Product Information (8:00am-4:30pm CST)</td>
</tr>
<tr>
<td></td>
<td>Health and Safety Information (7:30am-4:00pm CST)</td>
</tr>
<tr>
<td>E-mail address</td>
<td><a href="mailto:SasolElectronicSDS@us.sasol.com">SasolElectronicSDS@us.sasol.com</a></td>
</tr>
</tbody>
</table>

SECTION 2 HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>OSHA/GHS Hazards</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 4</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Category 3 (Narcotic effects)</td>
</tr>
</tbody>
</table>

LABEL ELEMENTS

Hazard symbols

Signal word Danger

Hazard statements

H227 Combustible liquid.
H304 May be fatal if swallowed and enters airways.
H336 May cause drowsiness or dizziness.

Precautionary statements

Prevention
P210 Keep away from open flames/hot surfaces. - No smoking.
P280 Wear protective gloves/ eye protection/ face protection.
ODC-15 Drilling Fluid Base Oil

P261  Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271  Use only outdoors or in a well-ventilated area.

Response  P370 + P378  In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
P301 + P310  IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331  Do NOT induce vomiting.
P304 + P340  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312  Call a POISON CENTER/doctor if you feel unwell.

Storage  P403 + P233 + P235  Store in a cool, well ventilated place. Keep container tightly closed.
P405  Store locked up.

Disposal  P501  Dispose of contents/ container to an approved waste disposal plant.

SECTION 3  COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raffinates (Petroleum), Sorption Process</td>
<td>64741-85-1</td>
<td>90 - 100</td>
</tr>
<tr>
<td>Distillates, petroleum, hydrotreated light</td>
<td>64742-47-8</td>
<td>0 - 10</td>
</tr>
</tbody>
</table>

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4  FIRST AID MEASURES

Eye contact  Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact  Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. When symptoms persist or in all cases of doubt seek medical advice. Wash contaminated clothing before re-use.

Inhalation  Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.

Ingestion  If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5  FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES
Fire/explosion  NFPA Class IIIA combustible liquid.
ODC-15 Drilling Fluid Base Oil

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Methods and materials for containment and cleaning up**

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**SECTION 7 HANDLING AND STORAGE**

**Safe handling advice**

Ensure all equipment is electrically grounded before beginning transfer operations.

**Storage/Transport temperature**

Ambient

**Storage/Transport pressure**

Ambient

**Load/Unload temperature**

Ambient

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING MEASURES**

Air contaminant levels should be controlled below the PEL or TLV for this product (see Exposure Guidelines).

**PERSONAL PROTECTIVE EQUIPMENT**

**Eyes**

Wear as appropriate: Goggles, Face-shield

**Skin**

Wear suitable protective clothing, gloves and eye/face protection.

**Inhalation**

Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.

**EXPOSURE GUIDELINES**
## SAFETY DATA SHEET

**ODC-15 Drilling Fluid Base Oil**

### Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure limit(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>OSHA TWA 1 ppm</td>
</tr>
<tr>
<td></td>
<td>OSHA STEL (Short Term Exposure Limit) 5 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (8-hour) 0.5 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH STEL (Short Term Exposure Limit) 2.5 ppm</td>
</tr>
<tr>
<td>Benzene, ethyl-</td>
<td>OSHA PEL (Permissible Exposure Limit) 100 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (8-hour) 20 ppm</td>
</tr>
<tr>
<td>Toluene</td>
<td>OSHA TWA 200 ppm</td>
</tr>
<tr>
<td></td>
<td>OSHA Ceiling 300 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (8-hour) 20 ppm</td>
</tr>
<tr>
<td>Xylene (mixed isomers)</td>
<td>OSHA PEL (Permissible Exposure Limit) 100 ppm 435 mg/m3</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (8-hour) 100 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH STEL (Short Term Exposure Limit) 150 ppm</td>
</tr>
<tr>
<td>Internal standard</td>
<td>The following Sasol internal standard would apply: 100 ppm (525 mg/m3) for 8-hour TWA (Exposure limits for Petroleum Distillate - Stoddard Solvent).</td>
</tr>
</tbody>
</table>

PEL= Permissible Exposure Limits  
TWA= Time Weighted Average (8 hr.)  
TLV= Threshold Limit Value  
STEL= Short Term Exposure Limit (15 min.)  
EL= Excursion Limit  
WEEL= Workplace Environmental Exposure Level

### SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**: liquid;
- **Colour**: clear
- **Form**: liquid
- **Odour**: hydrocarbon-like
- **Odour Threshold**: No data available
- **Flash point**: Average 64 °C, 148 °F; ASTM D 56;
- **Flammability**: Upper explosion limit: 7.0 % (V)  
  Lower explosion limit: 0.6 % (V)
- **Boiling point/boiling range**: 191 - 258 °C, 376 - 496 °F; ASTM D-86;
- **Melting point/range**: < -68 °C, < -90 °F; ASTM D 97-66;
Auto-ignition temperature 229 °C, 445 °F; ASTM E 659;
Decomposition temperature No data available
Flammability (solid, gas) No data available
Vapour pressure 0.23 psi Reid (D-323);
Vapour density 5.7
Density 0.812 g/cm³ @ 20 °C, 68 °F; ASTM D-4052;
Specific gravity No data available
Water solubility negligible
Viscosity 1.6 cSt @ 20 °C, 68 °F; ASTM D 445;
pH No data available
Evaporation rate No data available
Partition coefficient: n-octanol/water No data available

SECTION 10 STABILITY AND REACTIVITY

Reactivity Stable at normal ambient temperature and pressure.
Chemical stability No decomposition if stored and applied as directed.
Conditions to avoid Keep away from heat and sources of ignition.
Hazardous decomposition products Hazardous gases and vapors produced in fire are oxides of carbon.
Materials to avoid Oxidizing agents
Hazardous polymerisation None.
# SECTION 11  TOXICOLOGICAL INFORMATION

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute dermal toxicity</strong></td>
<td>LD50: &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td><strong>Acute inhalation toxicity</strong></td>
<td>Rat (4 hours): &gt; 5 mg/l</td>
</tr>
<tr>
<td></td>
<td>All rats survived at indicated concentration.</td>
</tr>
<tr>
<td><strong>Acute oral toxicity</strong></td>
<td>LD50 Rat: &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td>Primary irritation (Rabbit): 2.62 (Max. score is 8.0.)</td>
</tr>
<tr>
<td></td>
<td>Repeated exposure may cause skin dryness or cracking.</td>
</tr>
<tr>
<td><strong>Serious eye damage/eye irritation</strong></td>
<td>Primary irritation (Rabbit): 3.3 (Max. score is 110.)</td>
</tr>
<tr>
<td></td>
<td>Not irritating</td>
</tr>
<tr>
<td><strong>Respiratory or skin sensitisation</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td>Genotoxicity in vitro:</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Genotoxicity in vivo:</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Assessment Mutagenicity:</strong></td>
<td>This substance or mixture is not classified as a germ cell mutagen.</td>
</tr>
<tr>
<td><strong>Reproductive toxicity</strong></td>
<td>Reproductive toxicity:</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Assessment Reproductive toxicity:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Teratogenicity:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Assessment teratogenicity:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>STOT - single exposure</strong></td>
<td>May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td><strong>STOT - repeated exposure</strong></td>
<td>The substance or mixture is not classified as specific target organ toxicant, repeated exposure.</td>
</tr>
<tr>
<td><strong>Aspiration toxicity</strong></td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>Assessment carcinogenicity:</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
SECTION 12  ECOLOGICAL INFORMATION

Aquatic toxicity  Not toxic to aquatic organisms (fish, daphnia, algae) up to water solubility.

Toxicity to fish  LL50 (Pimephales promelas (fathead minnow)) 96 hours: 16 %
The product has low solubility in the test medium. An aqueous dispersion was tested.

Toxicity to aquatic invertebrates  LL50 (Daphnia pulex (Water flea)) 48 hours: 7.3 %
The product has low solubility in the test medium. An aqueous dispersion was tested.

Toxicity to algae  EL50 (Scenedesmus capricornutum (green algae)) 96 hours: 31.6 %;
The product has low solubility in the test medium. An aqueous dispersion was tested.

Chronic toxicity to fish  No data available

Chronic toxicity to aquatic invertebrates  No data available

Biodegradation  Readily biodegradable.
OECD Test Guideline 301F (28 d): > 60 %

Bioaccumulative potential  No data available

Mobility in soil  No data available

Other adverse effects  No data available

SECTION 13  DISPOSAL CONSIDERATIONS

Waste Code  D018 (TC Benzene) RQ = 10 lbs. This product has the RCRA characteristic of toxicity.
Re-evaluation of the product may be required by the user at the time of disposal, since
the product uses, transformations, mixtures, contamination, and spillage may change the
classification.

Disposal methods  Dispose of only in accordance with local, state, and federal regulations. Land disposal of
this product is restricted. Do not contaminate any lakes, streams, ponds, groundwater or
soil.
ODC-15 Drilling Fluid Base Oil

Empty containers. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. 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. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

DOT  Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3)).
IATA not regulated
IMDG not regulated

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

Remarks  No data available

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA Inventory Listing

Components  CAS-No.
Raffinates (Petroleum), Sorption Process  64741-85-1
Distillates, petroleum, hydrotreated light  64742-47-8

SARA 302 Status

Components  CAS-No.  Weight percent
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification
"Fire hazard", "Immediate (acute) health hazard"

SARA 313 Chemical

Components  CAS-No.  Weight percent
Xylene (mixed isomers)  1330-20-7  <= 750 PPM

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components  Reportable Quantity  Weight percent
Benzene  10 LB  <= 5 PPM
Benzene, ethyl-  1,000 LB  <= 20 PPM
Toluene  1,000 LB  <= 20 PPM
Xylene (mixed isomers)  100 LB  <= 750 PPM
ODC-15 Drilling Fluid Base Oil

INTERNATIONAL REGULATIONS

WHMIS Classification
- Flammable liquids: Category 4
- Aspiration hazard: Category 1
- Specific target organ toxicity - single exposure: Category 3 (Narcotic effects)

European Union
Classification according to Regulation (EU) 1272/2008.
- Aspiration hazard, Category 1
- Specific target organ toxicity - single exposure, Category 3 (Narcotic effects)
- Repeated exposure may cause skin dryness or cracking.

Australia. Inventory of Chemical Substances (AICS) Listed
Japan. Inventory of Existing and New Chemical Substances (ENCS) Listed
Japan. ISHL - Inventory of Chemical Substances Not listed
Canada. Domestic Substances List (DSL) Inventory Listed
Canada. Non-Domestic Substance Listing (NDSL) Not listed
Philippines. Inventory of Chemicals / Chemical Substances (PICCS) Listed
Korea. Existing Chemicals Inventory (KECI) Listed
China. Inventory of Existing Chemical Substances (IECSC) Listed
Mexico Not listed
New Zealand. Inventory of Chemical Substances Listed
Switzerland Listed
Taiwan. National Existing Chemical Inventory (NECI) Not listed

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65

Components
- Benzene
- Benzene, ethyl-

CAS-No.
- 71-43-2
- 100-41-4
**ODC-15 Drilling Fluid Base Oil**

**SECTION 16 OTHER INFORMATION**

**HAZARD RATINGS**

<table>
<thead>
<tr>
<th>HMIS®</th>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard/Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>NFPA</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

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