Safety Data Sheet

Shell Ondina Oil 32

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Product Code</th>
<th>001A0782</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infosafe No.</td>
<td>ACMP5 CN/eng/C</td>
</tr>
<tr>
<td>Issued Date</td>
<td>2005-12-6</td>
</tr>
<tr>
<td>Product Type/Use</td>
<td>Process oil.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Shell (China) Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone Numbers</td>
<td></td>
</tr>
<tr>
<td>Emergency Tel.</td>
<td>0532 83889090</td>
</tr>
<tr>
<td>Telephone/Fax Number</td>
<td>Tel: 010 65058880</td>
</tr>
<tr>
<td></td>
<td>Fax: 010 65055452</td>
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</table>

<table>
<thead>
<tr>
<th>Other Names Name Code</th>
<th>Shell Ondina Oil 32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>140001902323</td>
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</tbody>
</table>

2. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation Description
Highly refined mineral oils. The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

3. HAZARDS IDENTIFICATION

Human Health Hazards
No specific hazards under normal use conditions. Prolonged or repeated exposure may cause dermatitis. Used oil may contain harmful impurities.

Safety Hazards
Not classified as flammable, but will burn.

Environmental Hazards
Not classified as dangerous for the environment.

Route(s) of Entry
Not applicable.

4. FIRST AID MEASURES

Symptoms and Effects
Not expected to give rise to an acute hazard under normal conditions of use.
Inhalation
In the unlikely event of dizziness or nausea, remove casualty to fresh air. If symptoms persist, obtain medical attention.

Skin
Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. 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.

Eye
Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion
Wash out mouth with water and obtain medical attention. Do not induce vomiting.

Advice to Doctor
Treat symptomatically. Aspiration into the lungs may result in chemical pneumonitis. Dermatitis may result from prolonged or repeated exposure. High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue damage and loss of function.

5. FIRE FIGHTING MEASURES

Specific Hazards
Combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide and unidentified organic and inorganic compounds.

Extinguishing Media
Foam and dry chemical powder. Carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media
Water in jet. Use of halon extinguishers should be avoided for environmental reasons.

Protective Equipment
Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

Hazardous Combustion Products
Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Avoid contact with skin and eyes. Wear PVC, Neoprene or nitrile rubber gloves. Wear rubber knee length safety boots and PVC Jacket and Trousers. Wear safety glasses or full face shield if splashes are likely to occur.

Environmental Precautions
Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Inform local authorities if this cannot be prevented.

Clean-up Methods - Small Spillages
Absorb liquid with sand or earth. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.

Clean-up Methods - Large Spillages
Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Dispose of as for small spills.
7. HANDLING AND STORAGE

Handling
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Avoid prolonged or repeated contact with skin. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Prevent spillages. Cloth, paper and other materials that are used to absorb spills present a fire hazard. Avoid their accumulation by disposing of them safely and immediately. In addition to any specific recommendations given for controls of risks to health, safety and the environment, an assessment of risks must be made to help determine controls appropriate to local circumstances.

Storage
Keep in a cool, dry, well-ventilated place. Use properly labelled and closeable containers. Avoid direct sunlight, heat sources, and strong oxidizing agents.

Storage Temperatures
0ºC Minimum, 50ºC Maximum.

Recommended Materials
For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials
For containers or container linings, avoid PVC.

Other Information
Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>Regulations</th>
<th>Exposure Duration</th>
<th>Exposure Limit</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil mist, mineral</td>
<td>ACGIH</td>
<td>TWA</td>
<td>5</td>
<td>mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>10</td>
<td>mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

ACGIH ACGIH Threshold Limit Values.

Exposure Controls
Use local exhaust ventilation if there is a risk of inhalation of vapours, mists or aerosols.

Respiratory Protection
Not normally required. If oil mist cannot be controlled, a respirator fitted with an organic vapour cartridge combined with a particulate pre-filter should be used.

Hand Protection
PVC or nitrile rubber gloves.

Eye Protection
Wear safety glasses or full face shield if splashes are likely to occur.

Body Protection
Minimise all forms of skin contact. Overalls and shoes with oil resistant soles should be worn. Launder overalls and undergarments regularly.

Environmental Exposure Controls
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

Exposure Measurement Methods
Not applicable.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Clear, Colourless</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid at ambient temperature</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>pH Value</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Expected to be less than 0.5 Pa at 20°C</td>
</tr>
<tr>
<td>Initial Boiling Point</td>
<td>Expected to be above 280°C</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Negligible</td>
</tr>
<tr>
<td>Density</td>
<td>865 kg/m3 at 15°C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>210°C (COC)</td>
</tr>
<tr>
<td>Flammable Limits - Upper</td>
<td>10% V/V (typical) (based on mineral oil)</td>
</tr>
<tr>
<td>Flammable Limits - Lower</td>
<td>1% V/V (typical) (based on mineral oil)</td>
</tr>
<tr>
<td>Auto-Ignition Temperature</td>
<td>Expected to be above 320°C</td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>32 mm2/s at 40°C</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Data not available</td>
</tr>
<tr>
<td>Vapour Density (Air=1)</td>
<td>Greater than 1</td>
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<tr>
<td>Partition co-efficient, n-octanol/water</td>
<td>Log Pow expected to be greater than 6.</td>
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<tr>
<td>Pour Point</td>
<td>-12°C</td>
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</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Hazardous decomposition products are not expected to form during normal storage.

Hazardous Polymerization
Not applicable.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment
Toxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the toxicology of similar products.

Acute Toxicity - Oral
LD50 expected to be > 2000 mg/kg.

Acute Toxicity - Dermal
LD50 expected to be > 2000 mg/kg.

Acute Toxicity - Inhalation
Not considered to be an inhalation hazard under normal conditions of use.

Eye Irritation
Expected to be slightly irritating.

Skin Irritation
Expected to be slightly irritating.
Respiratory Irritation
If mists are inhaled, slight irritation of the respiratory tract may occur.

Skin Sensitisation
Not expected to be a skin sensitizer.

Carcinogenicity
Product is based on mineral oils of types shown to be non-carcinogenic in animal skin-painting studies.

Mutagenicity
Not considered to be a mutagenic hazard.

Reproductive Toxicity
Not considered to be toxic to reproduction.

Other Information
Prolonged and/or repeated contact with this product can result in defatting of the skin, particularly at elevated temperatures. This can lead to irritation and possibly dermatitis, especially under conditions of poor personal hygiene. Skin contact should be minimised. High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed. Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

12. ECOLOGICAL INFORMATION

Basis for Assessment
Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Mobility
Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.

Persistence / Degradability
Not expected to be readily biodegradable. Expected to be inherently biodegradable.

Bioaccumulation
Has the potential to bioaccumulate.

Ecotoxicity
Poorly soluble mixture. May cause physical fouling of aquatic organisms. Product is expected to be practically non-toxic to aquatic organisms, LL/EL50 >100 mg/l. (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

Other Adverse Effects
Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential. Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities.

Non-biodegradation
Not applicable.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations
Not applicable.
Waste Disposal
Recycle or dispose of in accordance with prevailing regulations, by a recognised collector or contractor. The competence of the contractor to deal satisfactorily with this type of product should be established beforehand. Do not pollute the soil, water or environment with the waste product.

Product Disposal
As for waste disposal.

Container Disposal
Recycle or dispose of in accordance with the legislation in force with a recognised collector or contractor.

14. TRANSPORT INFORMATION

Transport Information
Not dangerous for transport under UN, IMO, and IATA/ICAO codes.

ADR/RID Class
None Allocated

ADR/RID Packing Group
None Allocated

IMDG Hazard Class
None Allocated

IMDG Packing Group
None Allocated

IATA Hazard Class
None Allocated

IATA Packing Group
None Allocated

Special Shipping Information
Not applicable.

15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>EC Symbols</th>
<th>None.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC Risk Phrase</td>
<td>Not classified.</td>
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<tr>
<td>EC Safety Phrase</td>
<td>Not classified.</td>
</tr>
<tr>
<td>EINECS</td>
<td>All components listed or polymer exempt.</td>
</tr>
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</table>

National Legislation
GB 16483-2000: General Rules for Preparation of Chemical Safety Data Sheets
GB 6944-2005: Classification, Article Name and Serial Number of Dangerous Goods
GB 13690-92: Classification, Labelling and Marking of Commonly-Used Dangerous Chemicals.
GB/T 15098-94: Principles for Classifying Transportation Packaging of Dangerous Chemicals.

Packaging & Labelling
Safety data sheet available for professional user on request.
16. OTHER INFORMATION

Revisions Highlighted
Not applicable (first issue).

Restrictions
This product must not be used in applications other than recommended without first seeking the advice of the SHELL technical department.

Further Information
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 does not constitute a guarantee for any specific property of the product.

... End Of SDS ...