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

Product identifier
Product Name
R&O #46 Turbine, Circulating & Compressor Oil

Other means of identification
Product Code 177
Revision Number 2185
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Lubricant.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
U.S. Lubricants A Division of U.S. Venture, Inc. 425 Better Way Appleton, WI 54915

Emergency telephone number
Company Phone Number 800-490-4900
24 Hour Emergency Phone Number 800-688-4005 DTG84-01-A-900043

2. HAZARDS IDENTIFICATION

Classification
Serious eye damage/eye irritation
Category 2B

Label elements

Emergency Overview

Warning

Hazard statements
Causes eye irritation

Appearance Viscous
Physical state Liquid
Odor Mild Petroleum

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses (if present and easy to do). Continue rinsing. If eye irritation persists: Get medical advice/attention

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum distillates, hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
<td>90-99</td>
<td>*</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

First aid measures

Eye contact  
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact  
If skin irritation persists, call a physician. Wash contaminated clothing before reuse. Wash with soap and water.

Inhalation  
Remove to fresh air.

Ingestion  
Do NOT induce vomiting. Get medical attention. Drink 1 or 2 glasses of water.

Most important symptoms and effects, both acute and delayed

Symptoms  
No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians  
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media  
Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical  
No information available.

Explosion data
Sensitivity to Mechanical Impact  
None.
Sensitivity to Static Discharge  
None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

UNUSUAL FIRE & EXPLOSION HAZARDS
Toxic Fumes may be evolved on burning or exposure to heat. Pressure may increase in overheated closed containers. Store below 120°F

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions  
Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Stop leak if you can do it without risk.

Environmental precautions

Environmental precautions  
See Section 12 for additional ecological information.

Methods and material for containment and cleaning up
Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Soak up with inert absorbent material. Prevent product from entering drains. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid breathing fume/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a dry, cool and well-ventilated place. Store at temperatures not exceeding 120°F.

Incompatible materials
Incompatible with oxidizing agents. Incompatible with strong acids and bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Wear protective nitrile or Neoprene™ gloves.

Respiratory protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General Hygiene Considerations
Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Viscous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Light amber</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Mild Petroleum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Essentially Neutral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>400°F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Evaporation rate: Less than 0.01 (@1ATM and 25°C).  
n-butyl acetate=1

Flammability (solid, gas)
No information available

Flammability Limit in Air
Upper flammability limit: 10% (Estimated Value)
Lower flammability limit: 1% (Estimated Value)

Vapor pressure: Less than 0.01 mm HG

Vapor density: Greater than 1 (Air=1)

Specific Gravity: 0.866 lbs/gal: 7.28

Water solubility: Insoluble in water

Solubility in other solvents: No information available

Partition coefficient: No information available

Autoignition temperature: No information available

Decomposition temperature: No information available

Kinematic viscosity: 44-48 cSt@ 40°C

Dynamic viscosity: No information available

Explosive properties: No information available

Oxidizing properties: No information available

Softening point: No information available

Molecular weight: No information available

VOC Content (%): Negligible

Density: No information available

Bulk density: No information available

10. STABILITY AND REACTIVITY

Reactivity
Not Applicable

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization: Hazardous polymerization does not occur.

Conditions to avoid
Strong oxidizing agents. Heat, flames and sparks.

Incompatible materials
Incompatible with oxidizing agents. Incompatible with strong acids and bases.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information: No data available

Inhalation: Avoid breathing vapors or mists. Inhalation of vapors in high concentration may cause irritation of respiratory system.

Eye contact: Contact with eyes may cause irritation.
Skin Contact  Prolonged contact may cause redness and irritation.

Ingestion  Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhea.

Information on toxicological effects

Symptoms  No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation  Irritating to skin.
Serious eye damage/eye irritation  Irritating to eyes.
Irritation  May cause skin and eye irritation. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION.

Sensitization  No information available.
Germ cell mutagenicity  No information available.
Carcinogenicity  No information available.
Reproductive toxicity  No information available.
STOT - single exposure  No information available.
STOT - repeated exposure  No information available.
Aspiration hazard  No information available.

Numerical measures of toxicity  - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

0.11% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum distillates, hydrotreated heavy paraffinic 64742-54-7</td>
<td>5000: 96 h Oncorhynchus mykiss mg/L LC50</td>
<td>1000: 48 h Daphnia magna mg/L EC50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability

Other adverse effects  No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes  Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging  Do not reuse container.

14. TRANSPORT INFORMATION
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>All components of this material are on the US TSCA Inventory or are exempt.</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>IECSC</td>
<td>Does not comply</td>
</tr>
<tr>
<td>KECL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Does not comply</td>
</tr>
</tbody>
</table>

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

- Acute health hazard: No
- Chronic Health Hazard: No
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations
California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

U.S. EPA Label Information
EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Issue Date 29-Mar-2010
Revision Date 29-Sept-2015
Revision Note No information available

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet