



Safety Data Sheet

Issue Date: 22-Oct-2012

Revision Date: 14-April-2015

Version 1

1. IDENTIFICATION

Product Identifier

Product Name PURUS Turbine Oil

Other means of identification ISO 22, ISO 32, ISO 46, ISO 68, ISO 100, ISO 150, ISO 220, ISO 320, ISO 460
SDS # SP-010

Recommended use of the chemical and restrictions on use

Recommended Use Hydraulic and circulating oil

Details of the supplier of the safety data sheet

Supplier Address

Warren Oil Company
915 E. Jefferson Ave.
West Memphis, AR 72301

Manufactured for:

AIOD
P.O. BOX 1861
Montrose, CO 81402-1861
970-249-6336 www.purusproducts.com

Emergency Telephone Number

Company Phone Number 1-800-428-9284
Emergency Telephone (24 hr) Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Appearance Light amber, viscous liquid **Physical State** Viscous liquid **Odor** Typical petroleum

Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% |
|--|------------|----------|
| Petroleum distillates, hydrotreated heavy paraffinic | 64742-54-7 | 90-100 |
| Non-Hazardous Materials | Various | <3 |

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact Flush eyes with large amounts of water, for at least 15 minutes, until irritation subsides. If irritation persists get medical attention.

| | |
|---------------------|--|
| Skin Contact | No treatment is necessary under ordinary circumstances. Remove contaminated clothing and shoes. Wash contaminated area thoroughly with soap and water. If redness or irritation occurs and persists, seek medical attention. 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 seek immediate medical attention. |
| Inhalation | Remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention. |
| Ingestion | If swallowed, do not induce vomiting. If victim exhibits signs of lung aspiration such as coughing or choking, seek immediate medical attention. |

Most important symptoms and effects

| | |
|-----------------|---|
| Symptoms | Expected to be a minor eye irritant. Repeated or prolonged skin contact may cause dermatitis. |
|-----------------|---|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Notes to Physician | Treat symptomatically. |
|---------------------------|------------------------|

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use dry chemical, foam, carbon dioxide or water fog.

Unsuitable Extinguishing Media While carbon dioxide and inert will extinguish the fire, they can also displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.

Specific Hazards Arising from the Chemical

This material can burn but will not readily ignite. This material will release vapors when heated above the flashpoint temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flashpoint. Dense smoke may be generated while burning.

Hazardous Combustion Products Carbon monoxide. Carbon dioxide (CO₂). Aldehydes. Ketones. Combustion products of sulfur and nitrogen.

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. Avoid breathing smoke and vapor. Water may be used to cool containers exposed to heat or flame.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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|-----------------------------|--|
| Personal Precautions | Use personal protective equipment as required. |
|-----------------------------|--|

Methods and material for containment and cleaning up

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|--------------------------------|--|
| Methods for Containment | Remove sources of ignition. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. |
|--------------------------------|--|

| | |
|-----------------------------|---|
| Methods for Clean-Up | Take up small spills with absorbent pads. Large spills may be taken up with pump or vacuum. |
|-----------------------------|---|

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store at ambient conditions. Store at atmospheric pressure. Keep container tightly closed. Store in a cool, well-ventilated place. Keep away from heat, sparks, and flame. Empty containers retain product residues.

Incompatible Materials This product may react with strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--|--|---|---------------------------------------|
| Severely Hydrotreated Heavy Naphthenic Petroleum Oil 64742-52-5 | TWA: 5 mg/m ³ (oil mist) STEL: 10 mg/m ³ (oil mist) | TWA: 5mg/m ³ (oil mist) STEL: none estab. | TWA: none estab. STEL: none estab. |

Appropriate engineering controls

Engineering Controls Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces. If product is heated above 70 C (155 F) in the presence of water, hydrogen sulfide vapors may be released. Ventilation should be sufficient to keep hydrogen sulfide levels below recommended exposure limits. Eye wash fountains are recommended.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses. Wear chemical goggles or face shield if splash or mist occurs.

Skin and Body Protection Use impervious gloves for prolonged contact. Wear oil-impervious garments if contact is unavoidable.

Respiratory Protection If mist is generated (heating, spraying) and engineering controls are not sufficient, wear approved organic vapor respirator suitable for oil mist.

General Hygiene Considerations Use good hygiene when handling petroleum product. Launder contaminated clothing before reuse. Excessive misting may cause slippery floors - wear appropriate footwear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|------------------------------|-----------------------|-------------------------|-------------------|
| Physical State | Liquid | Odor | Typical petroleum |
| Appearance | Light amber | Odor Threshold | Not determined |
| Color | Light amber | | |
| Property | Values | Remarks • Method | |
| pH | Not available | | |
| Melting Point/Freezing Point | Not available | | |
| Boiling Point/Boiling Range | Not available | | |
| Flash Point | 202 °C / 396 °F | ASTM D-92 | |
| Evaporation Rate | Not available | | |
| Flammability (Solid, Gas) | Liquid-Not applicable | | |
| Upper Flammability Limits | Not determined | | |
| Lower Flammability Limit | Not determined | | |
| Vapor Pressure | Not available | | |

| | | |
|-------------------------------------|-------------------|-------------------------|
| Vapor Density | >1 | (Air=1) |
| Specific Gravity | 0.87 | |
| Water Solubility | insoluble | |
| Solubility in other solvents | Not determined | |
| Partition Coefficient | Not available | |
| Property | Values | Remarks • Method |
| Auto-ignition Temperature | No data available | |
| Decomposition Temperature | Not determined | |
| Kinematic Viscosity | Not determined | |
| Dynamic Viscosity | Not determined | |
| Explosive Properties | Not determined | |
| Oxidizing Properties | Not determined | |

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to Avoid

Avoid formation of mists. Extreme heat, open flames or sparks. Keep separated from incompatible substances.

Incompatible Materials

This product may react with strong oxidizing agents.

Hazardous Decomposition Products

Decomposition of this product may yield oxides of boron, calcium, magnesium, nitrogen, phosphorus, sulfur including hydrogen sulfide and zinc as well as carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Do not inhale.

Ingestion Do not ingest.

Component Information

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

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

Carcinogenicity

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|----------------------|--|----------------------------|------------------------------------|
| Petroleum distillates, hydrotreated heavy paraffinic 64742-54-7 | | 5000: 96 h Oncorhynchus mykiss mg/L LC50 | | 1000: 48 h Daphnia magna mg/L EC50 |

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Not determined

Other Adverse Effects

Not determined

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

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

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Not regulated

IATA

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION

International Inventories

| Chemical Name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|---------------|------|-----|------|--------|--------|------|-------|------|-------|------|
| Chemical Name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |

| | | | | | | | | | | |
|--|---------|---|--|---------|--|---------|---|---------|---|---|
| Petroleum distillates, hydrotreated heavy paraffinic | Present | X | | Present | | Present | X | Present | X | X |
|--|---------|---|--|---------|--|---------|---|---------|---|---|

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

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).

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 |

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

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)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

16. OTHER INFORMATION

| | | | | |
|--------------------|-----------------------|---------------------|-------------------------|----------------------------|
| <u>NFPA</u> | Health Hazards | Flammability | Instability | Special Hazards |
| | 0 | 1 | 0 | Not determined |
| <u>HMIS</u> | Health Hazards | Flammability | Physical Hazards | Personal Protection |
| | 1 | 1 | 0 | Not determined |

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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