



RADCOLUBE® 9000
MATERIAL SAFETY DATA SHEET

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ISO 9001:2000 Certification Number: C2009-00209

CAGE# 1RVC4
www.Radcolube.com
Effective Date: 02/17/2009

Emergency Phone Numbers:

For chemical emergency, spill, leak, fire exposure, accident or medical emergency, call
CHEMTREC: North America 1-800-424-9300 International +1 703-527-3887
For shipping emergency or off-hours rush orders call: 1-630-232-7966 or 1-630-336-6728

Section I PRODUCT IDENTIFICATION

Product Name: RADCOLUBE® 9000 (Lubricating Oil, Shipboard Internal Combustion Engine, High Output Diesel)

Note: Meets Military Specification MIL-PRF-9000H
NSNs: **9150-00-181-8229, 9150-00-181-8097**

Section II COMPONENTS

	<u>CAS#</u>	% (by wt.)
Generic Chemical Name: Mixture		
p-Dodecylphenol	74499-35-7	From 0.1 to 0.9 percent N/E
Hazardous Ingredients	(N/E) - None established	No Carcinogen

Section III HAZARDS IDENTIFICATION

Principal Hazards: This material has no known health hazards. See Section 11 for complete health hazard information.

Section IV FIRST AID MEASURES

- Eyes:** Flush with water at least 30 minutes. Get medical attention if eye irritation develops or persists.
- Skin:** Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse.
- Inhalation:** Remove exposed person to fresh air if adverse effects observed.
- Oral:** DO NOT INDUCE VOMITING. Get immediate medical attention.
- Additional Information:** Note to physician: Treat symptomatically.
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Section V FIRST AID MEASURES

- Flash Point:** 262°C, 503.6°F COC (Typical)
- Extinguishing Media:** CO₂, dry chemical, or foam. Water can be used to cool and protect exposed material.
- Firefighting Procedures:** Recommend wearing self-contained breathing apparatus. Water may cause splattering.
- Unusual Fire & Explosion Hazards:** None known.
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Section VI ACCIDENTAL RELEASE MEASURE

- Spill Procedures:** Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate area if spilled in confined space or other poorly ventilated areas. Prevent entry into sewers and waterways. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.
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Section VII HANDLING AND STORAGE

- Pumping Temperature:** Ambient
- Maximum Handling Temperature:** 70°C, 158°F

Handling Procedures: Keep containers closed when not in use. Wash thoroughly after handling. Empty container contains product residue which may exhibit hazards of product.

Maximum Storage Temperature: Not determined.

Storage Procedures: No special storage precautions required.

Loading Temperature: Not determined.

Section VIII EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits: None established

Other Exposure Limits: Contains mineral oil. Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIH STEL of 10 mg per cubic meter.

Engineering Controls: Use with adequate ventilation.

Gloves Procedures: Nitrile.

Eye Protection: Safety Glasses.

Respiratory Protection: Under normal use conditions, respirator is not usually required. Use NIOSH/MSHA approved disposable dust/mist mask if the recommended exposure limit is exceeded.

Clothing Recommendation: Long sleeve shirt recommended. Launder contaminated clothing before reuse.

Section IX CHEMICAL AND PHYSICAL PROPERTIES

Flash Point: 262°C, 503.6°F COC (Typical)

Upper Flammable Limit: Not determined.

Lower Flammable Limit: Not determined.

Autoignition Point:	Not determined.
Explosion Data:	Material does not have explosive properties.
Vapor Pressure:	Not determined.
pH:	Not determined.
Specific Gravity:	0.9 (15.6°C)
Bulk Density:	Not determined.
Water Solubility:	Insoluble.
Percent Solid:	Not determined.
Percent Volatile:	Not determined.
Volatile Organic Compound:	Not determined.
Vapor Density:	Not determined.
Evaporation Rate:	Not determined.
Odor:	Mild
Appearance:	Amber liquid.
Viscosity:	148.8 Centistokes (40°C) 15.3 Centistokes (100°C)
Odor Threshold:	Not determined.
Boiling Point:	Not determined.
Pour Point Temperature:	-12°C, 10°F
Melting / Freezing Point:	Not determined.

The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted.

Section X STABILITY AND REACTIVITY

Stability:	Material is normally stable at moderately elevated temperatures and pressures.
Decomposition Temperature:	Not determined.
Incompatibility:	Oxidizing agents.
Polymerization:	Will not occur.
Thermal Decomposition:	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion.
Conditions to Avoid:	Not determined.

Section XI TOXICOLOGICAL INFORMATION

ACUTE EXPOSURE:

Eye Irritation: Not expected to cause eye irritation. Based on data from components or similar materials.

Section XI TOXICOLOGICAL INFORMATION (Continued)

ACUTE EXPOSURE (cont'd):

- Skin Irritation:** Not expected to be a primary skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.
- Respiratory Irritation:** If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract similar to that observed with mineral oil. Based on data from components or similar materials. Under good industrial hygiene practices where all exposure limits are observed, respiratory irritation should not be a problem.
- Dermal Toxicity:** The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials.
- Inhalation Toxicity;** Not expected to be a toxic inhalation hazard. Based on data available from components or similar materials.
- Oral Toxicity:** The LD50 in rats is > 5000 mg/kg. Based on data from components or similar materials.
- Dermal Sensitization:** No data available to indicate product or components may be a skin sensitizer.
- Inhalation Sensitization:** No data available to indicate product or components may be respiratory sensitizers.

CHRONIC EXPOSURE

- Chronic Toxicity:** No data available to indicate product or components present at greater than 1% are chronic health hazards.
- Carcinogenicity:** This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.
- Mutagenicity:** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Reproductive Toxicity:** This product contains para-dodecylphenol. Rats given high, repeated daily doses of paradodecylphenol by oral intubation experienced adverse reproductive effects. The relevance of these effects to humans is uncertain.

Section XI TOXICOLOGICAL INFORMATION (Continued)

CHRONIC EXPOSURE (cont'd):

Teratogenicity: This product contains para-dodecylphenol. Pregnant rats given high, repeated daily doses of para-dodecylphenol by oral intubation gave birth to pups with cleft palate and skeletal malformations. The relevance of these effects to humans is uncertain.

ADDITIONAL INFORMATION:

Other: No other health hazards known.

Section XII ECOLOGICAL INFORMATION

ENVIRONMENTAL TOXICITY

Freshwater Fish Toxicity: The acute LC50 is 100 - 1000 mg/L based on component data.

Freshwater Invertebrates Toxicity: The acute EC50 is 100 - 1000 mg/L based on component data.

Algal Inhibition: Not determined.

Saltwater Fish Toxicity: Not determined.

Saltwater Invertebrates Toxicity: Not determined.

Bacteria Toxicity: The acute EC50 is 100 - 1000 ppm based on component data.

Miscellaneous Toxicity: Not determined.

ENVIRONMENTAL FATE

Biodegradation: At least 25% of the components in this product show moderate biodegradation based on OECD 301-type test data. At least 25% of the components in this product show moderate biodegradation based on OECD 302-type test data.

Bioaccumulation: 10 – 25% of the components display no potential to bioconcentrate.

Soil Mobility: Not determined.

Section XIII DISPOSAL INFORMATION:

Waste Disposal: This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

Section XIV TRANSPORTATION INFORMATION:

ICAO/IATA I	Not regulated.
ICAO/IATA II	Not regulated.
IMDG	Not regulated.
IMDG EMS Fire	Not applicable.
IMDG EMS Spill	Not applicable.
IMDG MFAG	Not applicable.
MARPOL Annex II	Not determined.
USCG Compatibility	Not determined.
U.S. DOT Bulk	Not regulated.
U.S. DOT Non-Bulk	Not regulated.
DOT NAERG	Not applicable.
TDG Bulk	Not regulated.
TDG Non-Bulk	Not regulated.
Mexico	Not regulated.
Mexico Non-Bulk	Not regulated.
Bulk Quantity	85,000 liters, 22457 gal.
Non-Bulk Quantity	207.8 liters, 55 gal.

Review classification requirements before shipping materials at elevated temperatures.

Section XV REGULATORY INFORMATION

Global Chemical Inventories

USA	All components of this material are on the US TSCA Inventory or are exempt.
Other TSCA Reg.	None known.
EU	All components are in compliance with the EC Seventh amendment Directive 92/32/EEC.
Japan	All components are in compliance with the Chemical Substances Control Law of Japan.
Australia	All components are in compliance with chemical notification requirements in Australia.
New Zealand	May require notification before sale under New Zealand regulations.
Canada	All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.
Switzerland	All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.
Korea	All components are in compliance in Korea.
Philippines	All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).
China	All components of this product are listed on the Inventory of Existing Chemical Substances in China.

Section XV REGULATORY INFORMATION

Other U.S. Federal Regulations

SARA Ext. Haz. Subst.	This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.
SARA Section 313	This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.
SARA 311 Classifications	Acute Hazard No Chronic Hazard No Fire Hazard No Reactivity Hazard No
CERCLA Hazardous Substances	None known.
FDA Approval	Not applicable.

State Regulations

Cal. Prop. 65	This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects based on maximum impurity levels of components: < 0.01 ppm Benzene, CAS no. 71-43-2 < 0.05 ppm cadmium < 0.05 ppm lead < 0.05 ppm arsenic 0.003% Toluene, CAS no. 108-88-3
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Product Registrations

U.S. Fuel Registration	Not applicable.
U.S. Dept of Agriculture	This product has not been filed with the USDA to support H2 approvals.
NSF Nonfood Compounds Registration	This product has not been filed with the NSF to support H1 or H2 approvals.
Finnish Registration Number	Not Registered
Swedish Registration Number	Not Registered
Norwegian Registration Number	Not Registered
Danish Registration Number	Not Registered
Swiss Registration Number	Not Registered
Italian Registration Number	Not Registered
Korean Registration Number	Not Registered
Other / International	
TDG Regulated Limit.	None known.

Section XVI OTHER INFORMATION

US NFPA Codes	(N/E) - None established
Health Fire Reactivity Special	1 1 0 N/E
HMIS Codes Health Fire Reactivity	0 1 0

This material safety data sheet and the information it contains is offered in good faith as accurate. We have reviewed all information contained in this data sheet which we received from sources outside our company. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either expressed or implied.

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