

RADCOLUBE® FR170 HYDRAULIC FLUID
MATERIAL DATA SAFETY SHEET

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ISO 9001:2000 Certification Number: C2003-00109

CAGE# 1RVC4
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Effective Date: 01/03/2006

Section I PRODUCT IDENTIFICATION

Product Name: RADCOLUBE® FR170 HYDRAULIC FLUID, FIRE RESISTANT

Note: Meets Military Specification **MIL-PRF-46170C (Type I)**

Qualification# HF-50 Dated: 07 AUG 2003

NSNs: 9150-00-111-6255, 9150-00-111-6254, 9150-00-111-6256, 9150-01-158-0462, 9150-01-332-7819

Section II COMPONENTS

	<u>CAS#</u>	<u>% by Wt.</u>
Mixture of Synthetic Hydrocarbons	68037-01-4	50-75 %
Adipate Ester	1330-86-5	20-30 %
Proprietary Additive Package	None Established	0.05 – 2.5 %

Section III HAZARDS IDENTIFICATION

Emergency Overview: Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation. Harmful if aspirated into the lungs.

Potential Health Effects:

Eye Contact:	No significant irritation expected.
Skin Contact:	No significant irritation expected.
Inhalation:	Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.
Ingestion:	Significant adverse health effects are not expected if small amounts (less than a mouthful) are swallowed.

HMIS Code: (Health: 1) (Flammability: 1) (Reactivity: 0)

NFPA Code: (Health: 1) (Flammability: 1) (Reactivity: 0)

Section IV FIRST AID MEASURES

Eye: Immediately flush eyes with plenty of water for at least 15 minutes.

Skin: Wash exposed skin with soap and water.

Section IV FIRST AID MEASURES (CONT)

Inhalation: If adverse effects occur, remove to uncontaminated area.

Ingestion: If swallowed, drink plenty of water, DO NOT induce vomiting.

Section V FIRE FIGHTING MEASURES / FIRE DATA

Flashpoint : 218 °C(min) (COC)
Fire Point : 246 °C (min) (COC)
Autoignition Temperature: > 343 °C
UEL: Not Determined
LEL: Not Determined

Flammability Classification: Not Flammable

Extinguishing Media: Agents approved for Class B hazards (e.g., dry chemical, carbon dioxide, foam, steam) or water fog.

Unusual Fire And Explosion Hazards: None Identified.

Fire Fighting Equipment: Firefighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.

Section VI ACCIDENTAL RELEASE MEASURES

Prevent spreading by diking, ditching, or absorbing on inert materials. Keep out of sewers and waterways.

Section VII HANDLING AND STORAGE

Handling: Do not breath vapors. Avoid ingestion.

Storage: Store at temperatures between 10°C and 50°C.

Section VIII EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye: Safety glasses, chemical goggles, or face shields recommended to prevent contact.

Skin: Wear clothing and gloves that cannot be penetrated by chemicals or oil.

Inhalation: Use with adequate ventilation. Avoid breathing vapor. If heated and ventilation is inadequate, use NIOSH certified respirator, which will protect against organic vapor.

Section VIII EXPOSURE CONTROLS/PERSONAL PROTECTION (CONT)

Engineering Controls: Local exhaust ventilation is recommended at bulk vessel openings when handling heated materials.

Exposure Guidelines:

<u>Component</u>	<u>CAS #</u>	<u>Exposure Limits</u>
Mixture of Synthetic Hydrocarbons	68037-01-4	None Established
Adipate Ester	1330-86-5	None Established
Proprietary Additive Package	Proprietary	None Established

Section IX CHEMICAL AND PHYSICAL PROPERTIES

Appearance And Odor:	Liquid. Clear. Odorless.
pH:	Not Determined
Vapor Pressure:	< 1 mm Hg at 20 C.
Vapor Density:	Not Determined
Boiling Point:	Not Determined
Melting Point:	Not Determined
Solubility In Water:	Negligible, <0.1%
Specific Gravity:	0.85 at 15.6 C
Viscosity:	3.0 – 4.0 cSt at (100 C)
Pour Point:	< - 60 C

Section X STABILITY AND REACTIVITY

Stability: Stable

Conditions To Avoid: Temperature sources which induce thermal decomposition.

Materials To Avoid: Avoid contact with strong oxidizing agents

Hazardous Decomposition: Incomplete burning can produce carbon monoxide and/or carbon dioxide and other harmful products.

Hazardous Polymerization: Will not occur.

Section XI TOXICOLOGICAL INFORMATION**ACUTE TOXICITY DATA:**

Eye Irritation: Testing not conducted. See other Toxicity Data.

Section XI TOXICOLOGICAL INFORMATION (CONT)

Skin Irritation: Testing not conducted. See other Toxicity Data.
Dermal LD50: Testing not conducted. See other Toxicity Data.
Oral LD50: Testing not conducted. See other Toxicity Data.
Inhalation LD50: Testing not conducted. See other Toxicity Data.
Other Toxicity Data: Toxicity data available upon request.

No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program, the U.S. Occupational safety And Health Act, or the International Agency on Research on Cancer (IARC).

Section XII ECOLOGICAL INFORMATION

Ecological testing has not been conducted on this product.

Section XIII DISPOSAL INFORMATION

Disposal must be in accordance with applicable federal, state, or local regulations.

RCRA: This unused material, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however, it could be considered hazardous if it meets criteria for being toxic, corrosive, ignitable, or reactive according to U.S. EPA definitions (40 CFR Subpart C). This material could also become hazardous waste if it is mixed with or comes into contact with a listed hazardous waste. If it is a hazardous waste, regulations in 40 CFR 262-266, 268, 270, and 279 may apply.

Section XIV TRANSPORTATION INFORMATION

U.S. Dept. Of Transportation Shipping Name:	Not Regulated
International Information: Sea (IMO/IMDG):	Not Regulated
Air (ICAO/IATA) Shipping Name:	Not Regulated
European Rail/Road (ADR/RID) Shipping Name:	Not Regulated
Canadien Transportation of Dangerous Goods Shipping Name:	Not Regulated

Section XV REGULATORY INFORMATION

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4): This product is not reportable under 40 CFR Part 302.4.

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR Part 355): This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA Title III Sections 311/312 Hazardous Categorization (40 CFR Part 370): Hazardous categories for this product are: Acute=no; Chronic=no; Fire=no; Pressure=no; Reactive=no.

SARA Title III Section 313 (40 CFR Part 372): This product is not regulated under Section 313 of SARA and 40 CFR Part 372.

U.S. Inventory (TSCA):	Listed on inventory.
OSHA Hazard Communication Standard:	Not hazardous per 29CFR 1910.1200(d).
WHMIS Controlled Product Classification:	Not a controlled Product under Canada's Workplace Hazardous Material Information System.
EC Inventory (EINECS/ELINCS):	In compliance.
Japan Inventory (MITI):	Listed on inventory.
Australia Inventory (AICS):	Listed on inventory.
Korea Inventory (ECL):	Listed on inventory.
Canada Inventory (DSL):	All of the components of this product are listed on the DSL.
Philippine Inventory (PICCS):	Not determined.

Section XVI OTHER INFORMATION

This product, to the best of our knowledge, does not contain and is not manufactured with any Class I or II Ozone Depleting Chemicals. (ODCs).

This product does not contain chemicals listed by the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as causing cancer or reproductive toxicity.

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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