



RADCOLUBE® FR257 HYDRAULIC FLUID

SAFETY DATA SHEET

**MIL-PRF-87257B HYDRAULIC FLUID, FIRE RESISTANT, LOW TEMPERATURE, SYNTHETIC HYDROCARBON BASE, AIRCRAFT AND MISSILE,
NATO CODE NUMBER H-538**

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RADCOLUBE® FR257 HYDRAULIC FLUID, FIRE RESISTANT

This product meets Military Specification MIL-PRF-87257B, NATO Code Number H-538.

Qualification# AFPET/PTPT 14-006 Date of Approval: 2 May 2014

ISO 9001:2008 Certification Number: C2015-00068

Recommended Use

Synthetic hydrocarbon base hydraulic fluid for use in the -54°C to +200°C (-65°F to 392°F) temperature range in aircraft and missile hydraulic systems.

This hydraulic fluid is identified by NATO Code No. H-538.

National Stock Numbers (NSN):

9150-01-388-7769	Quart
9150-01-386-6687	Gallon
9150-01-391-2087	5 Gallon Pail
9150-01-387-4577	55 Gallon Drum

Company Identification

Headquarters
Radco Industries, Inc.
700 Kingsland Drive
Batavia, IL 60510

Manufacturing Facility
Radco Industries, Inc.
39W930 Midan Drive
LaFox, IL 60147

Customer information number: 1-630-232-7966

EMERGENCY TELEPHONE NUMBER

Advisory Office in case of poisoning: Chemtrec

Chemtrec (North America):	1-800-424-9300
Chemtrec (International):	1-703-527-3887

2. HAZARDS IDENTIFICATION

Classification of mixture:

Acute Aquatic Toxicity, Category 2
Aspiration hazard, Category 1



Hazard Pictograms:



Signal Word:

DANGER

Hazard Statements:

H304:	May be fatal if swallowed and enters airways.
H315 + H320:	Causes skin and eye irritation.
H401:	Toxic to aquatic life.

Precautionary Statements:

P243:	Take precautionary measures against static discharge
P273:	Avoid release to the environment.
P301 + P315 +P331:	IF SWALLOWED: Do NOT induce vomiting. Get immediate medical advice/attention.
P305 + P351:	IF IN EYES: Rinse cautiously with water for several minutes.
P350:	Gently wash with soap and water.
P362:	Take off contaminated clothing and wash before reuse.
P405:	Store locked up.
P501:	Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Components</u>	<u>%Content</u>	<u>CAS Number</u>
Polyalphaolefin	Proprietary	Proprietary
Ester mixture	Proprietary	Proprietary
Additive Package	Proprietary	Proprietary

4. FIRST-AID MEASURES

Eyes

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

Ingestion

If swallowed, drink plenty of water, DO NOT induce vomiting. Immediately call a doctor.

Inhalation

Move to fresh air. If unconscious place in recovery position and seek medical advice. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. Remove from further exposure. Immediately call a doctor.

Skin

Wash exposed skin with soap and water.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

For small fires use carbon dioxide, dry chemical or foam.
For large fires use alcohol-type foam, universal type foam or water fog.

Fire-Fighting Equipment



Firefighter should wear normal protective equipment (full bunker gear) and positive-pressure contained breathing apparatus. Water can be used to cool fire-exposed containers, to protect personnel and to disperse vapors and spills. Water runoff can cause environmental damage. Dike and collect water used to fight fires.

Special Fire-Fighting Procedures

Use water spray to cool fire-exposed containers and structures. If a rail or tank truck is involved in a fire, isolate for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from the area and let the fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire.

6. ACCIDENTAL RELEASE MEASURES

Wear protective clothing when taking up spill. Eliminate sources of ignition. This product is insoluble in water and will float on the surface. Prevent from entering sewers or drains. Should this product enter sewers or drains, it should be pumped out into an open vessel.

7. HANDLING AND STORAGE

Handling

Do not breathe vapors/dust. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.

Storage

Do not store in open or unlabeled containers. Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

Component	CAS Number	TWA
Hydrogenated polyalphaolefin vapor	None established	1 mg/m ³

Respiratory Protection

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

Hand Protection

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

Eye Protection

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

Other Protection

Do not eat, drink, or smoke when handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Transparent, red liquid
Odor:	Odorless
Odor threshold:	Not Determined
Auto-ignition temperature:	340°C (644°F)
Decomposition temperature:	Not Determined
Evaporation Rate (ASTM D972):	14% after 6.5 hours at 135°C (275°F)



Flash point Cleveland Open Cup (ASTM D92):	172°C (341.6°F)
Flash point Pensky-Martens (ASTM D93):	Not Determined
Flammability (solid, gas):	Non-flammable
Lower flammability limit:	Not Determined
Upper flammability limit:	Not Determined
Initial boiling point and boiling range:	> 200°C (392°F)
Melting point/freezing point:	Not Determined
Partition coefficient (n-octanol/water), Log P _{ow} :	Not Determined
pH:	Not applicable
Solubility:	Water insoluble
Relative density (ASTM D1298) 15.6°C/15.6°C:	0.84
Vapor density:	Not Determined
Vapor pressure:	< 0.1 mmHg at 20°C (68°F)
Viscosity (ASTM D445):	2.1 mm ² /s (cSt) at 100°C (212°F) 6.8 mm ² /s (cSt) at 40°C(104°F) 470 mm ² /s (cSt) at -40°C (-40°F) 2,350 mm ² /s (cSt) at -54°C (65.2°F)

10. STABILITY AND REACTIVITY INFORMATION

Materials to avoid

Exposure to materials which are highly oxidizing should be avoided.

Hazardous polymerization

Does not occur.

Hazardous decomposition products

Incomplete combustion may give various cracked and oxidized hydrocarbons.

Stability

Stable

11. TOXICOLOGICAL INFORMATION

Aspiration toxicity

May be fatal if swallowed and enters airways. Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

Eye

This product causes eye irritation.

Skin

This product causes skin irritation.

Carcinogenity

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).

Biodegradability/Bioaccumulation.

No data is available.



12. ECOLOGICAL CONSIDERATIONS

Toxic to aquatic life based on components.

13. DISPOSAL INFORMATION

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

Do not allow product to reach ground water, water course, or sewage systems.

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.

“Empty” containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition; they may explode and cause injury or death. Do not attempt to clean since residue is difficult to remove and even a trace of remaining material constitutes as explosive hazard. “Empty” drums should be completely drained, properly bunged, and promptly returned to a drum recycler. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

14. TRANSPORT INFORMATION

U.S. Dept. of Transportation Shipping Name

Not regulated.

Canadian Transportation of Dangerous Goods Shipping Name

Not regulated.

European Rail/Road (ADR/RID) Shipping Name

Not regulated.

Air (ICAO/IATA) Shipping Name

Not regulated.

Sea (IMO/IMDG)

Not regulated.

15. REGULATORY INFORMATION

California (Proposition 65)

This product does not contain any of the substances known to the State of California to cause cancer, birth defects, or reproductive harm.

CERCLA Reportable Quantity

This product is not reportable under 40 CFR Part 302.4.

Environmental Protection Agency

None of the ingredients are listed

National Toxicology Program (NTP)

None of the ingredients are listed.



OSHA Hazard Communication Standard

Not hazardous per 29 CFR 1910.1200(d).

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.

Australia Inventory (AICS)

Listed on inventory.

Canada Inventory (DSL)

All of the ingredients are listed.

China (CICS)

None of the ingredients are listed.

EC Inventory (EINECS/ELINCS)

In Compliance

International Agency for Research on Cancer (IARC)

None of the ingredients are listed.

Japan Inventory (MITI)

Listed on inventory.

Korea Inventory (ECL)

Listed on inventory.

16. OTHER INFORMATION

Safety Data Sheet Creation Date: 2 February 2010

Safety Data Sheet Revision Date: 9 March 2015

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