

# **Safety Data Sheet**

# MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Issue date: 2/2/2010 Revision date: 10/8/2024 Supersedes: 9/27/2024 Version: 13.0

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### **SECTION 1: Identification**

#### 1.1. Identification

Trade name RADCOLUBE® FR170

Specification: MIL-PRF-46170E Type I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Qualification Number (Date): HF-79 (11 March 2021)

HF-80 (16 March 2021) HF-82 (20 July 2021) HF-83 (20 July 2021)

HF-88 (9 September 2024)

NATO Code: H-544

National Stock Number(s) (NSN): 9150-01-332-7819 (Pint)

9150-00-111-6256 (Quart) 9150-00-111-6254 (Gallon) 9150-00-111-6255 (5 Gallon Pail)

9150-01-158-0462 (55 Gallon Drum)

## 1.2. Recommended use and restrictions on use

Use of the substance/mixture: This product is a synthetic hydrocarbon base hydraulic fluid for use in the -40°C to 200°C (-

40°F to 392°F) temperature range in recoil mechanisms and ground vehicle and

equipment hydraulic systems. This hydraulic fluid will not be used for aircraft systems,

aircraft ground support equipment, or the preservation of aircraft components.

Recommended use: Hydraulic fluids
Restrictions on use: Hydraulic fluids

## 1.3. Supplier

Manufacturer Manufacturer

Radco Industries Inc.Radco Industries Inc.CAGE Code 6ZS16CAGE Code 1RVC4700 Kingsland Drive39W930 Midan DriveBatavia, Illinois 60510LaFox, Illinois 60147

United States
T (630) 232-7966
www.radcoind.com
United States
T (630) 232-7966
www.radcoind.com

## 1.4. Emergency telephone number

Emergency number: For Chemical Emergency Call CHEMTREC 24hr/day 7days/week

Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970

(collect calls accepted)

#### MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

## SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

#### **GHS US classification**

Reproductive toxicity Category 2 H361 Suspected of damaging fertility.

Aspiration hazard Category 1 H304 May be fatal if swallowed and enters airways
Hazardous to the aquatic environment – Chronic Hazard H412 Harmful to aquatic life with long lasting effects

Category 3

Full text of H statements: see section 16

## 2.2. GHS Label elements, including precautionary statements

### **GHS US labeling**

Hazard pictograms (GHS US):



Signal word (GHS US): Danger

Hazard statements (GHS US): H304 - May be fatal if swallowed and enters airways

H361 - Suspected of damaging fertility.

H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS US): P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P273 - Avoid release to the environment.

P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER. P308+P313 - If exposed or concerned: Get medical advice/attention.

P331 - Do NOT induce vomiting.

P405 - Store locked up.

P501 - Dispose of contents/container to an approved waste disposal plant.

#### 2.3. Other hazards which do not result in classification

No additional information available

## 2.4. Unknown acute toxicity (GHS US)

Not applicable

# **SECTION 3: Composition/Information on ingredients**

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
Reaction products of 1-decene and 1-dodecene, hydrogenated	CAS-No.: 151006-60-9	0 – 55	Asp. Tox. 1, H304
1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated	CAS-No.: 68649-12-7	0 – 55	Asp. Tox. 1, H304
Reaction products of 1-decene, 1-dodecene and 1-octene,	CAS-No.: 163149-28-8	0 – 55	Asp. Tox. 1, H304
hydrogenated			
Synthetic hydrocarbon*	CAS-No.: Trade Secret	10 – 30	Aquatic Chronic 3, H412

10/8/2024 (Revision date) Page 2 of 14

#### MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Napthalenesulfonic acid, dinonyl-, barium salt (2:1)	CAS-No.: 25619-56-1	< 5	Aquatic Chronic 3, H412
Trade Secret #1*	CAS-No.: Trade Secret	≤ 5	Repr. 2, H361
			STOT RE 2, H373

<sup>\*</sup>Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements: see section 16

#### **SECTION 4: First-aid measures**

### 4.1. Description of first aid measures

First-aid measures general: Call a physician immediately.

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact: Wash skin with plenty of water.

First-aid measures after eye contact: Rinse eyes with water as a precaution.

First-aid measures after ingestion: Do not induce vomiting. Call a physician immediately.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation: Although no appropriate human or animal health effects data are known to exist, this

material is expected to be an inhalation hazard.

Symptoms/effects after skin contact: None under normal conditions.

Symptoms/effects after eye contact: None under normal conditions.

Symptoms/effects after ingestion: Risk of lung edema.

## 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## **SECTION 5: Fire-fighting measures**

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media: Do not use a heavy water stream.

## 5.2. Specific hazards arising from the chemical

Fire hazard: No fire hazard.

Explosion hazard: No direct explosion hazard. Hazardous decomposition products in case Toxic fumes may be released.

of fire:

## 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

10/8/2024 (Revision date) Page 3 of 14

#### MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### **SECTION 6: Accidental release measures**

## 6.1. Personal precautions, protective equipment and emergency procedures

General measures: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.

Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment: Wear recommended personal protective equipment.

Emergency procedures: Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further

information refer to section 8: "Exposure controls/personal protection".

Emergency procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

### 6.2. Environmental precautions

Avoid release to the environment.

## 6.3. Methods and material for containment and cleaning up

For containment: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to

prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or

public waters.

Other information: Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

## **SECTION 7: Handling and storage**

#### 7.1. Precautions for safe handling

Additional hazards when processed: Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling: Ensure good ventilation of the work station. Obtain special instructions before use. Do not

handle until all safety precautions have been read and understood. Wear personal

protective equipment.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

## 7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Keep in a cool, well-ventilated place away from heat.

Storage conditions: Store locked up.

Packaging materials: Store always product in container of same material as original container.

# **SECTION 8: Exposure controls/personal protection**

## 8.1. Control parameters

10/8/2024 (Revision date) Page 4 of 14

#### MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### **RADCOLUBE® FR170**

No additional information available

#### Reaction products of 1-decene and 1-dodecene, hydrogenated (151006-60-9)

No additional information available

#### 1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated (68649-12-7)

No additional information available

# Reaction products of 1-decene, 1-dodecene and 1-octene, hydrogenated (163149-28-8)

No additional information available

### Synthetic hydrocarbon

No additional information available

# Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)

USA - ACGIH -	Occupational	Exposure	Limits
---------------	--------------	----------	--------

Local name	Barium and soluble compounds
ACGIH OEL TWA	0.5 mg/m³
Remark (ACGIH)	TLV® Basis: Eye, skin, & GI irr; muscular stimulation. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024

#### **USA - OSHA - Occupational Exposure Limits**

Control Companion and Exposure Limits	
Local name	Barium, soluble compounds (as Ba)
OSHA PEL TWA	0.5 mg/m³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

#### Trade Secret #1

No additional information available

## **Monitoring methods**

lonitoring methods	A specific exposure sampling method is not available.
--------------------	---

#### 8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

# 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Wear recommended personal protective equipment.

10/8/2024 (Revision date) Page 5 of 14

## MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

**Respiratory protection:** 

[In case of inadequate ventilation] wear respiratory protection.

## Personal protective equipment symbol(s):







# **SECTION 9: Physical and chemical properties**

# 9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	Pale yellow or light brown oily liquid.
Color:	Light yellow to brown
Odor:	slight
Odor threshold:	No data available
рН:	No data available
Melting point:	Not applicable
Freezing point:	≤ -57 °C (ASTM D97 Pour point)
Boiling point:	No data available
Flash point:	≥ 222 °C (ASTM D92 Cleveland Open Cup Method)
Relative evaporation rate (butyl acetate=1):	No data available
Flammability:	Not applicable.
Vapor pressure:	< 0.01 mm Hg at 20°C
Relative vapor density at 20°C:	No data available
Relative density:	0.849 - 0.854
Solubility:	No data available
Partition coefficient n-octanol/water (Log Pow):	No data available

10/8/2024 (Revision date) Page 6 of 14

#### MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Auto-ignition temperature:	≥ 378 °C
Decomposition temperature:	No data available
Viscosity, kinematic:	15.2 – 16.8 mm²/s at 40°C (104°F)
Viscosity, dynamic:	No data available
Explosion limits:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

#### 9.2. Other information

No additional information available

# **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

## 10.2. Chemical stability

Stable under normal conditions.

# 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

## 10.5. Incompatible materials

No additional information available

## 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# **SECTION 11: Toxicological information**

# 11.1. Information on toxicological effects

Acute toxicity (oral):	Not classified
Acute toxicity (dermal):	Not classified
Acute toxicity (inhalation):	Not classified
Skin corrosion/irritation:	Not classified
Carcinogenicity:	Not classified
Aspiration hazard:	May be fatal if swallowed and enters airways.
Viscosity, kinematic:	15.2 – 16.8 mm²/s at 40°C (104°F)
Symptoms/effects after inhalation:	Although no appropriate human or animal health effects data are known to exist, this
Symptoms/enects after initialation.	material is expected to be an inhalation hazard.
Symptoms/effects after skin contact:	None under normal conditions.

10/8/2024 (Revision date) Page 7 of 14

# MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

STOT-single exposure:  STOT-repeated exposure:  Reproductive toxicity:  Susp  Reaction products of 1-decene and 1-dodece  LD50 dermal rat:  LC50 Inhalation - Rat:  > 5 m  1-Decene, tetramer, mixed with 1-decene tr  LD50 dermal rat:  > 200  LC50 Inhalation - Rat:  > 5.0  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat:  > 200    200   2	mg/I (OECD 403 method)  rimer, hydrogenated (68649-12-7)  100 mg/kg body weight (OECD 402 method)  106 mg/I/4h (OECD 403 method)	
STOT-repeated exposure:  Reproductive toxicity:  Susp  Reaction products of 1-decene and 1-dodece  LD50 dermal rat:  LC50 Inhalation - Rat:  1-Decene, tetramer, mixed with 1-decene tr  LD50 dermal rat:  > 200  LC50 Inhalation - Rat:  > 5 m  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat:  > 200  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat:  > 200	classified pected of damaging fertility.  cene, hydrogenated (151006-60-9)  000 mg/kg body weight (OECD 402 method)  mg/l (OECD 403 method)  rimer, hydrogenated (68649-12-7)  000 mg/kg body weight (OECD 402 method)  06 mg/l/4h (OECD 403 method)  e and 1-octene, hydrogenated (163149-28-8)	
Reaction products of 1-decene and 1-dodece  LD50 dermal rat: > 200  LC50 Inhalation - Rat: > 5 m  1-Decene, tetramer, mixed with 1-decene tr  LD50 dermal rat: > 200  LC50 Inhalation - Rat: > 5.0  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat: > 200  Reaction products of 1-decene, 1-dodecene	pected of damaging fertility.  cene, hydrogenated (151006-60-9)  000 mg/kg body weight (OECD 402 method)  mg/I (OECD 403 method)  rimer, hydrogenated (68649-12-7)  100 mg/kg body weight (OECD 402 method)  106 mg/I/4h (OECD 403 method)  108 and 1-octene, hydrogenated (163149-28-8)	
Reaction products of 1-decene and 1-dodece  LD50 dermal rat: > 200  LC50 Inhalation - Rat: > 5 m  1-Decene, tetramer, mixed with 1-decene tr  LD50 dermal rat: > 200  LC50 Inhalation - Rat: > 5.0  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat: > 200  Reaction products of 1-decene, 1-dodecene	cene, hydrogenated (151006-60-9)  100 mg/kg body weight (OECD 402 method)  100 mg/l (OECD 403 method)  100 mg/kg body weight (68649-12-7)  100 mg/kg body weight (OECD 402 method)  106 mg/l/4h (OECD 403 method)  108 and 1-octene, hydrogenated (163149-28-8)	
LD50 dermal rat: > 200  LC50 Inhalation - Rat: > 5 m  1-Decene, tetramer, mixed with 1-decene tr  LD50 dermal rat: > 200  LC50 Inhalation - Rat: > 5.0  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat: > 200	mg/I (OECD 403 method)  rimer, hydrogenated (68649-12-7)  100 mg/kg body weight (OECD 402 method)  106 mg/I/4h (OECD 403 method)  108 and 1-octene, hydrogenated (163149-28-8)	
LC50 Inhalation - Rat: > 5 m  1-Decene, tetramer, mixed with 1-decene tr LD50 dermal rat: > 200 LC50 Inhalation - Rat: > 5.0  Reaction products of 1-decene, 1-dodecene LD50 dermal rat: > 200	rimer, hydrogenated (68649-12-7) 100 mg/kg body weight (OECD 402 method) 106 mg/l/4h (OECD 403 method) 108 and 1-octene, hydrogenated (163149-28-8)	
1-Decene, tetramer, mixed with 1-decene tr  LD50 dermal rat: > 200  LC50 Inhalation - Rat: > 5.0  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat: > 200	rimer, hydrogenated (68649-12-7) 100 mg/kg body weight (OECD 402 method) 106 mg/l/4h (OECD 403 method) 108 and 1-octene, hydrogenated (163149-28-8)	
LD50 dermal rat: > 200  LC50 Inhalation - Rat: > 5.0  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat: > 200	200 mg/kg body weight (OECD 402 method) 206 mg/l/4h (OECD 403 method) 20 and 1-octene, hydrogenated (163149-28-8)	
LC50 Inhalation - Rat: > 5.0  Reaction products of 1-decene, 1-dodecene  LD50 dermal rat: > 200	26 mg/l/4h (OECD 403 method) e and 1-octene, hydrogenated (163149-28-8)	
Reaction products of 1-decene, 1-dodecene  LD50 dermal rat: > 200	e and 1-octene, hydrogenated (163149-28-8)	
LD50 dermal rat: > 200		
	000 mg/kg body weight (OECD 402 method)	
Synthetic hydrocarbon		
LD50 oral rat: > 158	800 mg/kg body weight (OECD 401 method)	
LD50 dermal rabbit: > 794	40 mg/kg body weight (OECD 402 method)	
LC50 Inhalation - Rat: > 5.7	7 mg/l/4h (OECD 403 method)	
Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)		
LD50 dermal rabbit: 3000	0 mg/kg body weight	
ATE US (dermal): 3000	O mg/kg body weight	
Trade Secret #1		
LD50 oral rat: > 500	100 mg/kg body weight (OECD 401 method)	
LD50 dermal rat: > 200	000 mg/kg body weight (OECD 402 method)	
Reaction products of 1-decene and 1-dodecene, hydrogenated (151006-60-9)		
Serious eye damage/irritation: Not o	classified	
1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated (68649-12-7)		
Serious eye damage/irritation:	classified	
Reaction products of 1-decene, 1-dodecene and 1-octene, hydrogenated (163149-28-8)		
Serious eye damage/irritation:	classified	
Synthetic hydrocarbon		
Serious eye damage/irritation: Not o	classified	

10/8/2024 (Revision date) Page 8 of 14

# MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)		
Serious eye damage/irritation:	Not classified	
Trade Secret #1		
Serious eye damage/irritation:	Not classified	
Reaction products of 1-decene and 1-d	lodecene, hydrogenated (151006-60-9)	
Respiratory or skin sensitization:	Not classified	
1-Decene, tetramer, mixed with 1-dec	ene trimer, hydrogenated (68649-12-7)	
Respiratory or skin sensitization:	Not classified	
Reaction products of 1-decene, 1-dode	ecene and 1-octene, hydrogenated (163149-28-8)	
Respiratory or skin sensitization:	Not classified	
Synthetic hydrocarbon		
Respiratory or skin sensitization:	Not classified	
Napthalenesulfonic acid, dinonyl-, bar	ium salt (2:1) (25619-56-1)	
Respiratory or skin sensitization:	Not classified	
Trade Secret #1		
Respiratory or skin sensitization:	Not classified	
Reaction products of 1-decene and 1-d	lodecene, hydrogenated (151006-60-9)	
Germ cell mutagenicity:	Not classified	
1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated (68649-12-7)		
Germ cell mutagenicity:	Not classified	
Reaction products of 1-decene, 1-dodecene and 1-octene, hydrogenated (163149-28-8)		
Germ cell mutagenicity:	Not classified	
Synthetic hydrocarbon		
Germ cell mutagenicity:	Not classified	
Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)		
Germ cell mutagenicity:	Not classified	
Trade Secret #1		
Germ cell mutagenicity:	Not classified	
Synthetic hydrocarbon	Synthetic hydrocarbon	
LOAEL (animal/male, F0/P):	2102 mg/kg body weight (OECD 415 method)	

10/8/2024 (Revision date) Page 9 of 14

# MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Synthetic hydrocarbon			
LOAEL (animal/female, FO/P):	2399 mg/kg body weight (OECD 415 method)		
LOAEL (animal/male, F1):	2102 mg/kg body weight (OECD 415 method)		
LOAEL (animal/female, F1):	2399 mg/kg body weight (OECD 415 method)		
NOAEL (animal/male, F1):	178 mg/kg body weight (OECD 415 method)		
NOAEL (animal/female, F1):	203 mg/kg body weight (OECD 415 method)		
Trade Secret #1			
NOAEL (animal/male, F0/P):	18 – 54 mg/kg body weight (OECD 443 method)		
NOAEL (animal/female, F0/P):	18 – 54 mg/kg body weight (OECD 443 method)		
NOAEL (animal/male, F1):	18 – 167 mg/kg body weight (OECD 443 method)		
NOAEL (animal/female, F1):	18 – 167 mg/kg body weight (OECD 443 method)		
Additional data:	Reproduction NOAEL, oral, rat: 225 mg/kg bw/day (28 days, (OECD 422 method)),Parental NOAEL, oral, rat: 25 mg/kg bw/day (28 days, (OECD 422 method))		
Synthetic hydrocarbon	Synthetic hydrocarbon		
NOAEL (subchronic,oral,animal/male,90 days):	200 mg/kg body weight (OECD 408 method)		
NOAEL (subchronic,oral,animal/female,90 days):	387 mg/kg body weight (OECD 408 method)		
Trade Secret #1			
NOAEL (oral,rat,90 days):	25 mg/kg body weight (OECD 422 method)		
STOT-repeated exposure:	May cause damage to organs (liver) through prolonged or repeated exposure (oral).		

# **SECTION 12: Ecological information**

# 12.1. Toxicity

EC50 - Crustacea [1]:

NOEC chronic fish:

Ecology - general: Harmful to aquatic life with long lasting effects.

Synthetic hydrocarbon	
LC50 - Fish [1]: > 45 mg/l (Species: Oryzias latipes)	
EC50 - Crustacea [1]:	> 48 mg/l (Species: Daphnia magna)
Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)	
LC50 - Fish [1]: 0.28 mg/l 96 Hours	

10/8/2024 (Revision date) Page 10 of 14

78 mg/l EC50 48h - Daphnia magna [mg/l]

0.27 mg/l 48 Hours

## MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Trade Secret #1	
LC50 - Fish [1]:	100 mg/l Brachydanio rerio (zebra-fish)
EC50 - Crustacea [1]:	51 mg/l Daphnia magna (Water flea)

# 12.2. Persistence and degradability

Synthetic hydrocarbon	
Persistence and degradability:	Readily biodegradable in water.
Chemical oxygen demand (COD):	2.72 g O₂/g substance

# 12.3. Bioaccumulative potential

Synthetic hydrocarbon		
BCF - Fish [1]:	27 (28 day(s), Lepomis macrochirus, Flow-through system, Freshwater, Read-across)	
Partition coefficient n-octanol/water (Log Pow):	8.12 Quantitative structure-activity relationship (QSAR)	
Bioaccumulative potential:	The substance has low potential for bioaccumulation.	

Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)		
Partition coefficient n-octanol/water (Log	6.7 at 20°C	
Kow):		

# 12.4. Mobility in soil

Synthetic hydrocarbon	
Organic Carbon Normalized Adsorption Coefficient (Log Koc):	5.2853 Quantitative structure-activity relationship (QSAR)
Ecology - soil:	Potential for mobility in soil is slight.

Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)	
Mobility in soil:	5.24 QSAR

## 12.5. Other adverse effects

No additional information available

# **SECTION 13: Disposal considerations**

# 13.1. Disposal methods

Regional waste regulation: Disposal must be done according to official regulations.

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting

instructions.

 $Sewage\ disposal\ recommendations:$ 

Product/Packaging disposal

Disposal must be done according to official regulations. Disposal must be done according to official regulations.

recommendations:

10/8/2024 (Revision date) Page 11 of 14

#### MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Additional information:

Do not re-use empty containers.

# **SECTION 14: Transport information**

In accordance with DOT / TDG / IMDG / IATA / ICAO / ADN / RID / ADG

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
Transport document description	Transport document description		
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

#### 14.6. Special precautions for user

#### DOT

No data available

#### **TDG**

No data available

## IMDG

No data available

#### IATA

No data available

# 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

# **SECTION 15: Regulatory information**

# 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

10/8/2024 (Revision date) Page 12 of 14

#### MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Trade Secret #1	CAS-No.	≤ 5%
-----------------	---------	------

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

#### 15.2. International regulations

#### **CANADA**

## Reaction products of 1-decene and 1-dodecene, hydrogenated (151006-60-9)

Listed on the Canadian DSL (Domestic Substances List)

## 1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated (68649-12-7)

Listed on the Canadian DSL (Domestic Substances List)

## Reaction products of 1-decene, 1-dodecene and 1-octene, hydrogenated (163149-28-8)

Listed on the Canadian DSL (Domestic Substances List)

## Synthetic hydrocarbon

Listed on the Canadian DSL (Domestic Substances List)

## Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)

Listed on the Canadian DSL (Domestic Substances List)

### **EU-Regulations**

No additional information available

#### **National regulations**

# Napthalenesulfonic acid, dinonyl-, barium salt (2:1) (25619-56-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

## 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

#### **SECTION 16: Other information**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 10/08/2024

Full toyt o	f hazard	claccoc and	H-statements
FUII TEXT O	it nazard	ciasses and	H-statements

H304 May be fatal if swallowed and enters airways

10/8/2024 (Revision date) Page 13 of 14

#### MIL-PRF-46170E TYPE I Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of hazard classes and H-statements	
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H412 Harmful to aquatic life with long lasting effects	

NFPA health

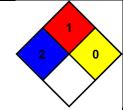
2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual

hazard

injury.

NFPA fire hazard 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health 2 Moderate Hazard - Temporary or minor injury may occur

1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids Flammability

having a flash point above 200 F. (Class IIIB)

Physical 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water,

polymerize, decompose, condense, or self-react. Non-Explosives.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any particular process or for any particular purpose. Such information stated is to the best of Radco's knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made to its accuracy, reliability, or completeness, purchasers, users and distributors are not relying on any promise, representation, or recommendation made by Radco, and Radco does not accept liability for any loss or damage that may occur from the use of this information. Final determination of suitability of any material is the sole responsibility of the user. All material should be used with caution to guard against unknown hazards. Although certain hazards are described herein, Radco does not guarantee that these are the only hazards that exist.

10/8/2024 (Revision date) Page 14 of 14