



RADCOLUBE® 6085

Safety Data Sheet

MIL-PRF-6085E Lubricating Oil Instrument, Aircraft, Low Volatility

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

SECTION 1: Identification

1.1. Identification

Trade name: RADCOLUBE® 6085
Specification: MIL-PRF-6085E Lubricating Oil Instrument, Aircraft, Low Volatility
Qualification Number (Date): AFPET/PTPT 20-002 (5 February 2020)

Military Symbol: OAI
NATO Code: 0-147

National Stock Number(s) (NSN):
9150-00-223-4129 Quart
9150-01-311-5640 Oblong Gallon
9150-01-018-8959 5 Gallon Pail

1.2. Recommended use and restrictions on use

Use of the substance/mixture: This product is designed for use in aircraft instruments, electronic equipment or where low-evaporation oil is required for both high and low-temperature applications and where oxidation and corrosion resistance is desirable.

Use of the substance/mixture: Lubricant

Recommended use: Lubricants, Greases and Release Products

1.3. Supplier

Manufacturer	Manufacturer
Radco Industries Inc.	Radco Industries Inc.
CAGE Code 6ZS16	CAGE Code 1RVC4
700 Kingsland Drive	39W930 Midan Drive
Batavia, Illinois 60510	Elburn, Illinois 60147
United States	United States
T (630) 232-7966	T (630) 232-7966
www.radcoind.com	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)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Aspiration hazard Category 1 H304 May be fatal if swallowed and enters airways
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

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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

Precautionary statements (GHS US):

P301+P310 - If swallowed: Immediately call a poison center or doctor.

P331 - Do NOT induce vomiting.

P405 - Store locked up.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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
Synthetic Hydrocarbon #1* (Base Stock)	CAS-No.: Trade Secret	> 75	Asp. Tox. 1, H304
Synthetic Hydrocarbon #2* (Base Stock)	CAS-No.: Trade Secret	Trade Secret	Aquatic Acute 3, H402
Barium sulfonate* (Additive)	CAS-No.: Trade Secret	Trade Secret	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

*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 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.

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5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Take up liquid spill into absorbent material.

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

Precautions for safe handling: Ensure good ventilation of the work station. 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

Storage conditions: Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information 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

Hand protection:
Protective gloves
Eye protection:
Safety glasses

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Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	Liquid.
Color:	Light yellow
Odor:	Petroleum-like odour
Odor threshold:	No data available
pH:	No data available
Melting point:	Not applicable
Freezing point:	≤ -66 °C (ASTM D97 Pour Point)
Boiling point:	No data available
Flash point:	222 °C (ASTM D92)
Relative evaporation rate (butyl acetate=1):	No data available
Flammability (solid, gas):	Not applicable.
Vapor pressure:	No data available
Relative vapor density at 20 °C:	No data available
Relative density:	0.848 at 15.6°C (water =1)
Density:	7.08 lb/gal at 15.6°C
Solubility:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	9.4 mm ² /s at 54°C
Viscosity, dynamic:	No data available
Explosion limits:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

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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

Synthetic Hydrocarbon #1

LD50 dermal rat: > 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

LC50 Inhalation - Rat: > 5.2 mg/l/4h Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Synthetic Hydrocarbon #2

LD50 oral rat: > 15800 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 7 day(s))

LD50 dermal rabbit: > 7940 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))

LC50 Inhalation - Rat: > 5.7 mg/l/4h (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Read-across, Inhalation, 14 week(s))

Barium sulfonate

LD50 dermal rabbit: 3000 mg/kg body weight Animal: rabbit

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Synthetic Hydrocarbon #2

LOAEL (animal/male, F0/P): 2102 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 415 (One-Generation Reproduction Toxicity Study)

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Synthetic Hydrocarbon #2	
LOAEL (animal/female, F0/P):	2399 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 415 (One-Generation Reproduction Toxicity Study)
LOAEL (animal/male, F1):	2102 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 415 (One-Generation Reproduction Toxicity Study)
LOAEL (animal/female, F1):	2399 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 415 (One-Generation Reproduction Toxicity Study)
NOAEL (animal/male, F1):	178 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 415 (One-Generation Reproduction Toxicity Study)
NOAEL (animal/female, F1):	203 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 415 (One-Generation Reproduction Toxicity Study)

STOT-single exposure: Not classified

STOT-repeated exposure: Not classified

Synthetic Hydrocarbon #2	
NOAEL (subchronic,oral,animal/male,90 days):	200 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEL (subchronic,oral,animal/female,90 days):	387 mg/kg body weight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard: May be fatal if swallowed and enters airways.

Viscosity, kinematic: 9.4 mm²/s at 54°C

Symptoms/effects after ingestion: Risk of lung edema.

SECTION 12: Ecological information**12.1. Toxicity**

Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Synthetic Hydrocarbon #2	
LC50 - Fish [1]:	> 45 mg/l Test organisms (species): <i>Oryzias latipes</i>
EC50 - Crustacea [1]:	> 48 mg/l Test organisms (species): <i>Daphnia magna</i>

Barium sulfonate	
LC50 - Fish [1]:	0.28 mg/l 96 hours
EC50 - Crustacea [1]:	78 mg/l Test organisms (species): <i>Daphnia magna</i>
NOEC chronic fish:	0.27 mg/l 48 hours

12.2. Persistence and degradability

Synthetic Hydrocarbon #2	
Persistence and degradability:	Readily biodegradable in water.
Chemical oxygen demand (COD):	2.72 g O ₂ /g substance

12.3. Bioaccumulative potential

Synthetic Hydrocarbon #2	
BCF - Fish [1]:	27 (28 day(s), <i>Lepomis macrochirus</i> , Flow-through system, Fresh water, Read-across)
Partition coefficient n-octanol/water (Log Pow):	8.12 (QSAR)

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Synthetic Hydrocarbon #2	
Bioaccumulative potential:	Low potential for bioaccumulation (BCF < 500).
Barium sulfonate	
Partition coefficient n-octanol/water (Log Kow):	6.7 at 20°C (68°F)

12.4. Mobility in soil

Synthetic Hydrocarbon #2	
Organic Carbon Normalized Adsorption Coefficient (Log Koc):	5.2853 (log Koc, Other, QSAR)
Ecology - soil:	Low potential for mobility in soil.
Barium sulfonate	
Mobility in soil:	5.24 QSAR

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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

SECTION 14: Transport information

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

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT): Not applicable
Proper Shipping Name (TDG): Not applicable
Proper Shipping Name (IMDG): Not applicable
Proper Shipping Name (IATA): Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT): Not applicable
:

TDG

Transport hazard class(es) (TDG): Not applicable

IMDG

Transport hazard class(es) (IMDG): Not applicable

IATA

Transport hazard class(es) (IATA): Not applicable

14.4. Packing group

Packing group (DOT): Not applicable
Packing group (TDG): Not applicable

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Packing group (IMDG): Not applicable

Packing group (IATA): Not applicable

14.5. Environmental hazards

Other information: 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

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Synthetic Hydrocarbon #1		Present	Active	XU
Synthetic Hydrocarbon #2		Present	Active	
Barium sulfonate		Present	Active	

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

Synthetic Hydrocarbon #1

Listed on the Canadian DSL (Domestic Substances List)

Synthetic Hydrocarbon #2

Listed on the Canadian DSL (Domestic Substances List)

Barium sulfonate

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Synthetic Hydrocarbon #1

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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Barium sulfonate
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

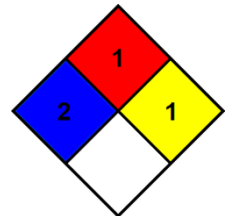
SECTION 16: Other information

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Full text of H-phrases	
H304	May be fatal if swallowed and enters airways
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard 1 - Materials that must be preheated before ignition can occur.
NFPA reactivity 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Hazard Rating

Health 2 Moderate Hazard - Temporary or minor injury may occur
Flammability 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
Physical 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

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.