



RADCOLUBE® FOG OIL SAFETY DATA SHEET
MIL-PRF-12070E(1) FOG OIL, MILITARY SYMBOL SGF-2 AND NATO CODE F-62.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RADCOLUBE® FOG OIL

This product meets Military Specification MIL-PRF-12070E(1).

ISO 9001:2015 Certification Number: C2018-00035

Recommended Use

For applications requiring one grade and type of fog oil with Military Symbol SGF-2 and NATO Code F-62. A refined mineral oil specifically prepared for use in smoke generators, characterized by its ability to be dispersed into the air as extremely small particles in the form of a smoke.

National Stock Numbers (NSN):

9150-00-261-7895 55-Gallon Drums

Company Identification

Headquarters and Manufacturing Facility (CAGE Code: 6ZS16)
Radco Industries, Inc.
700 Kingsland Drive
Batavia, IL 60510

Customer information number: 1-630-232-7966

EMERGENCY TELEPHONE NUMBER

Advisory Office in case of poisoning: Chemtrec

Chemtrec (North America): 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification of mixture

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Aspiration Hazard, Category 1

Hazard Pictograms:



Signal Word

Danger

Hazard Statements

H304:	May be fatal if swallowed and enters airways.
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Precautionary Statements:

P201 + P202:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
P260:	Do not breathe dust/fume/gas/mist/vapors/spray.
P270:	Do not eat, drink or smoke when using this product.
P362:	Take off contaminated clothing and wash before reuse.



P273:	Avoid release to the environment.
P281 +P280:	Use personal protective equipment as required. Wear protective gloves, protective clothing, eye protection, and face protection.
P303 + P352	IF ON SKIN (on hair): Wash with plenty of soap and water.
P305 + P351 + P338 + P313:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical advice/attention.
P308 + P313:	IF exposed or concerned: Get medical advice/attention.
P332 + P313:	If skin irritation occurs: Get medical advice/attention.
P405:	Store locked up.
P501:	Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	%Content	CAS Number
Distillates (petroleum), hydrotreated heavy naphthenic	100	64742-52-5

4. FIRST-AID MEASURES

Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. If safe to do so, remove any contact lenses. Get medical attention if irritation occurs.

Ingestion

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin

Wash exposed skin with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

Component	ACGIH TLV	OSHA PEL
Distillates (petroleum), hydrotreated heavy naphthenic, vapor and mist	5 mg/m ³	5 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:	Liquid
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Odor:	Colorless to light yellow
Odor threshold:	Petroleum
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Evaporation Rate (ASTM D972):	< 0.0372 (butyl acetate = 1)
Flash point Cleveland Open Cup (ASTM D92):	> 160°C (320°F)
Flash point Pensky-Martens (ASTM D93):	Not available.
Flammability (solid, gas):	Not available.
Lower flammability limit:	Not available.
Upper flammability limit:	Not available.
Initial boiling point and boiling range:	207 to 750°C (404.6 to 1382°F)
Melting point/freezing point:	Not available.
Partition coefficient (n-octanol/water), Log P _{ow} :	> 6
pH:	Not applicable
Solubility:	Insoluble in water.
Relative density (ASTM D1298) 15.6°C/15.6°C:	0.9
Vapor density:	Not available.
Vapor pressure:	0.0021 kPa (0.016 mm Hg) at room temperature
Viscosity (ASTM D445):	20 mm ² /s (cSt) at 40°C (104°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

Acute toxicity	Method	Species	Result
Distillates (petroleum), hydrotreated heavy naphthenic	Dermal	Rabbit	LD ₅₀ > 5000 mg/kg bodyweight
	Inhalation	Rat	LC ₅₀ > 5.53 mg/L air
	Oral	Rat	LD ₅₀ > 5000 mg/kg bodyweight

Aspiration hazard	Test Method	Species	Result
Distillates (petroleum), hydrotreated heavy naphthenic	OECD 403	Rat	Aspiration hazard

Carcinogenicity	Test Method	Species	Result
Distillates (petroleum), hydrotreated heavy naphthenic	Ames test	--	Non-carcinogenic

Eye damage / irritation	Test Method	Species	Results
Distillates (petroleum), hydrotreated heavy naphthenic	OECD 405	Rabbit	Not irritating

Germ cell mutagenicity	Test Method	Species	Results
Distillates (petroleum), hydrotreated heavy naphthenic	OECD 471	<i>S. typhimurium</i>	Not mutagenic



Reproductive toxicity	Test Method	Species	Results
Distillates (petroleum), hydrotreated heavy naphthenic	OECD 414	Rat	NOAEL = 30 mg/kg bw/day
	OECD 421	Rat	NOAEL ≥ 1000 mg/kg bw/day

Respiratory sensitization

No data available

Skin sensitization	Test Method	Species	Results
Distillates (petroleum), hydrotreated heavy naphthenic	OECD 406	Guinea pig	Not sensitizing

Skin corrosion/irritation	Test Method	Species	Results
Distillates (petroleum), hydrotreated heavy naphthenic	Read across	Rabbit	Not irritating

Specific target organ toxicity – repeated exposure (STOT-RE)	Test Method	Species	Results
Distillates (petroleum), hydrotreated heavy naphthenic	OECD 408	Rat	Oral NOAEL = 125 mg/kg/day
	OECD 411	Rat	Dermal NOAEL < 30 mg/kg bw/day
	Read across	Rat	Inhalation NOAEL = 220 mg/m ³ air

Specific target organ toxicity – single exposure (STOT-SE)

No data available

12. ECOLOGICAL CONSIDERATIONS

Aquatic Toxicity	Test Method	Species	Results
Distillates (petroleum), hydrotreated heavy naphthenic	OECD 201	<i>P. subcapitata</i>	NOEL ≥ 100 mg/L
	OECD 202	<i>D. magna</i>	NOEL ≥ 10,000 mg/L
	OECD 203	<i>P. promelas</i>	NOEL ≥ 100 mg/L after 96 hours
	OECD 211	<i>D. magna</i>	NOEL = 10 mg/L after 21 days
	QSAR	<i>O. mykiss</i>	NOELR ≥ 1000 mg/L after 14 days

Biodegradation	Test Method	Results
Distillates (petroleum), hydrotreated heavy naphthenic	OECD 301F	Inherently biodegradable: 31% biodegradation after 28 days

Bioconcentration Factor (BCF)

No data available

Partition Coefficient n-octanol / water (Log K_{ow})

No data available

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: 23 February 2018

Safety Data Sheet Revision Date: 8 October 2018

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