



RADCOLUBE® Biobased CLP

Safety Data Sheet

MIL-PRF-63460F TYPE B Biobased Cleaner, Lubricant, and Preservative for Weapons and Weapons Systems

Issue date: 2/23/2022

Revision date: 3/17/2022

Supersedes: 2/25/2022

Version: 4.0

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

SECTION 1: Identification

1.1. Identification

| | |
|---------------------------------|--|
| Trade name | RADCOLUBE® Biobased CLP |
| Specification: | MIL-PRF-63460F Type B Biobased Cleaner, Lubricant, and Preservative for Weapons and Weapons Systems |
| Qualification Number (Date): | AR-22-02 (22 February 2022) |
| Military Symbol: | CLP |
| NATO Code: | S-758 |
| National Stock Number(s) (NSN): | 9150-01-663-4635 (0.50 fl oz. Bottle) 9150-01-663-3879 (4 fl oz. Bottle) 9150-01-663-4643 (1 Pint Bottle with Trigger) 9150-01-663-4623 (1 Liter Bottle with Trigger) 9150-01-663-4610 (1 Gallon Plastic Bottle) |

1.2. Recommended use and restrictions on use

| | |
|-------------------------------|--|
| Use of the substance/mixture: | This product is for use in cleaning, lubricating and short-term preservation of small and large caliber military weapons, operating in the temperature range of -51°C to + 71°C (-60°F to +160°F). (See MIL-PRF-63460F paragraph 6.1.) |
|-------------------------------|--|

1.3. Supplier

Radco Industries Inc.
CAGE Code 6ZS16
700 Kingsland Drive
Batavia, Illinois 60510
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) |
|-------------------|--|

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

| | |
|--|--|
| Skin sensitization, Category 1 | H317 May cause an allergic skin reaction |
| 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):

Warning

Hazard statements (GHS US):

H317 - May cause an allergic skin reaction

Precautionary statements (GHS US):

P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear protective clothing, eye protection.

P302+P352 - If on skin: Wash with plenty of soap and water.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P363 - Wash contaminated clothing before reuse.

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 |
|---|-----------------------|--------------|---|
| Calcium Sulfonate Type 1* (Additive) | CAS-No.: Trade Secret | 1 – 10 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 |
| Calcium Sulfonate Type 2* (Additive) | CAS-No.: Trade Secret | 1 – 10 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 |
| Proprietary Component A* (Additive) | CAS-No.: Trade Secret | Trade Secret | Skin Sens. 1B, H317 |
| Proprietary Component B* (Additive) | CAS-No.: Trade Secret | Trade Secret | Skin Sens. 1B, H317 Aquatic Acute 3, H402 Aquatic Chronic 3, H412 |
| Proprietary Component C* (Additive) | CAS-No.: Trade Secret | Trade Secret | Skin Sens. 1B, H317 |

*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 after inhalation:

Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact:

Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact:

Rinse eyes with water as a precaution.

First-aid measures after ingestion:

Call a poison center/doctor/physician if you feel unwell.

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

Symptoms/effects after skin contact: May cause an allergic skin reaction.

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.

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. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

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. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.

Hygiene measures: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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 in a well-ventilated place. Keep cool.

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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 |
| 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 brown |
| Odor: | Characteristic odour |
| Odor threshold: | No data available |
| pH: | No data available |
| Melting point: | Not applicable |
| Freezing point: | ≤ -69 (Pour point) |
| Boiling point: | No data available |
| Flash point: | 202 °C |
| Relative evaporation rate (butyl acetate=1): | No data available |
| Flammability (solid, gas): | Not applicable. |

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| | |
|--|---|
| Vapor pressure: | No data available |
| Relative vapor density at 20 °C: | No data available |
| Relative density: | No data available |
| Solubility: | No data available |
| Partition coefficient n-octanol/water (Log Pow): | No data available |
| Auto-ignition temperature: | No data available |
| Decomposition temperature: | No data available |
| Viscosity, kinematic: | 15.2 mm ² /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: | Not classified |
| Viscosity, kinematic: | 15.2 mm ² /s at 40°C (104°F) |

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| | |
|--------------------------------------|--------------------------------------|
| Symptoms/effects after skin contact: | May cause an allergic skin reaction. |
| STOT-single exposure: | Not classified |
| STOT-repeated exposure: | Not classified |
| Reproductive toxicity: | Not classified |

| Calcium Sulfonate Type 1 | |
|---------------------------------|-------------------------|
| LD50 oral rat: | > 2500 mg/kg |
| LD50 dermal rabbit: | 10000 mg/kg |
| LC50 Inhalation - Rat: | 9000 mg/l (1 Hour) |
| ATE US (dermal): | 10000 mg/kg body weight |
| ATE US (vapors): | 9000 mg/l/4h |
| ATE US (dust, mist): | 9000 mg/l/4h |

| Proprietary Component B | |
|--------------------------------|-------------------------|
| LD50 oral rat: | 11.3 g/kg |
| ATE US (oral): | 11300 mg/kg body weight |

| Calcium Sulfonate Type 2 | |
|---------------------------------|---------------|
| LD50 oral rat: | > 2500 mg/kg |
| LD50 dermal rat: | > 10000 mg/kg |
| LC50 Inhalation - Rat: | > 9 mg/l |

| Proprietary Component C | |
|--------------------------------|--|
| LD50 oral rat: | > 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity) |
| LD50 dermal rat: | > 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity) |

| Calcium Sulfonate Type 1 | |
|---------------------------------|--------------------|
| Corrosivity | Negative |
| Skin corrosion/irritation | Irritating to skin |

| Proprietary Component C | |
|--|------------------------|
| Skin corrosion/irritation, In vitro, Human Skin Model (HSM) test | Not irritating to skin |

| | |
|--------------------------------|----------------|
| Serious eye damage/irritation: | Not classified |
|--------------------------------|----------------|

| Calcium Sulfonate Type 1 | |
|---------------------------------|------------|
| Serious eye damage/irritation | Irritating |

| Proprietary Component C | |
|---------------------------------|--|
| Eye irritation, In vivo, rabbit | Not irritating to eyes ((OECD 405 method)) |

| | |
|------------------------------------|--------------------------------------|
| Respiratory or skin sensitization: | May cause an allergic skin reaction. |
|------------------------------------|--------------------------------------|

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| Calcium Sulfonate Type 2 | |
|--|--|
| Skin sensitization | Not expected to be a skin sensitizer ((OECD 429 method)) |
| Proprietary Component C | |
| Skin sensitization, In vivo, Guinea pig | Skin sensitization, category 1B ((OECD 406 method)) |
| Germ cell mutagenicity: | Not classified |
| Calcium Sulfonate Type 2 | |
| Additional information | :: :: : |
| Proprietary Component C | |
| Germ cell mutagenicity, In vitro, Chinese hamster lung fibroblasts | Mutagenicity tests are negative |
| Calcium Sulfonate Type 2 | |
| IARC group: | Not classified |
| National Toxicity Program (NTP) Status: | Not classified |
| Proprietary Component B | |
| NOAEL (animal/male, F0/P): | 1000 mg/kg |
| NOAEL (animal/male, F1): | 1000 mg/kg |
| Calcium Sulfonate Type 2 | |
| NOAEL (animal/male, F0/P): | 893 mg/kg |
| Proprietary Component C | |
| NOAEL (animal/male, F0/P): | 100 mg/kg body weight (OECD 422 method) |
| NOAEL (animal/female, F0/P): | 100 mg/kg (OECD 422 method) |
| NOAEL (animal/male, F1): | 100 – 1000 mg/kg body weight (OECD 422 method) |
| Calcium Sulfonate Type 2 | |
| NOAEL (oral,rat): | 95 mg/kg body weight OECD 422 (solid) |
| Proprietary Component C | |
| NOAEL (oral,rat,90 days): | 300 mg/kg bodyweight/day (OECD 408 method) |

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.

| Proprietary Component B | |
|--------------------------------|---------------------|
| LC50 - Fish [1]: | 5.5 mg/l 96 hours |
| EC50 - Crustacea [2]: | 0.315 mg/l 48 hours |
| ErC50 algae: | 0.58 mg/l 72 hours |

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| Proprietary Component B | |
|--------------------------|--|
| NOEC (chronic): | > 1000 mg/l 3 hours |
| Calcium Sulfonate Type 2 | |
| EC50 - Crustacea [1]: | 2.2 – 10 mg/l 21 days (Daphnia) |
| NOEC chronic crustacea: | 10 mg/l 21 days OECD 211 |
| Proprietary Component C | |
| LC50 - Fish [1]: | > 10 mg/l Test organisms (species): Leuciscus idus |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

| Proprietary Component B | |
|--|------------------|
| Partition coefficient n-octanol/water (Log Kow): | > 2.47 |
| Calcium Sulfonate Type 2 | |
| BCF - Fish [1]: | 3.16 mg/l (QSAR) |
| Partition coefficient n-octanol/water (Log Pow): | > 6.6 |

12.4. Mobility in soil

No additional information available

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 ADR / IMDG / IATA / ADN / RID

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 |

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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

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 |
|--------------------------|---------|-------------|-------------------|-------|
| Calcium Sulfonate Type 1 | | Not present | - | |
| Proprietary Component A | | Not present | - | |
| Proprietary Component B | | Not present | - | |
| Calcium Sulfonate Type 2 | | Present | Active | |

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| | | | | |
|-------------------------|--|---------|--------|--|
| Proprietary Component C | | 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

Calcium Sulfonate Type 2

Listed on the Canadian DSL (Domestic Substances List)

Proprietary Component C

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Proprietary Component C

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 | |
|------------------------|---|
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H402 | Harmful to aquatic life |
| H412 | Harmful to aquatic life with long lasting effects |

| Abbreviations and acronyms | |
|----------------------------|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |

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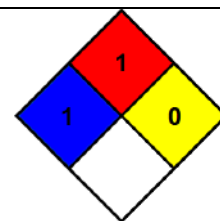
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| Abbreviations and acronyms | |
|----------------------------|--|
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

NFPA health hazard 1 - Materials that, under emergency conditions, can cause significant irritation.

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 1 Slight Hazard - Irritation or minor reversible injury possible

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 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.

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