



RADCOLUBE® C937-4

Safety Data Sheet

MIL-PRF-87937E TYPE IV Heavy Duty, Water Dilutable Cleaning Compound, Aerospace Equipment

Issue date: 4/8/2025

Revision date: 9/29/2025

Supersedes: 9/22/2025

Version: 4.0

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Identification

Trade name	RADCOLUBE® C937-4
Radco Product Code:	C937-4 (25078-A)
Specification:	MIL-PRF-87937E Type IV Heavy Duty, Water Dilutable Cleaning Compound, Aerospace Equipment
Qualification Number (Date):	AFPET/PTPS 25-010 (24 September 2025)
National Stock Number(s) (NSN):	6850-01-461-0060 (24 oz with Sprayer) 6850-01-429-2368 (1 Gallon) 6850-01-433-0873 (5 Gallon) 6850-01-429-2371 (55 Gallon)

1.2. Recommended use and restrictions on use

Use of the substance/mixture: This is a heavy duty, biodegradable, water dilutable, environmentally safe cleaning compounds for use on aerospace equipment that includes aircraft, aerospace ground equipment (AGE) and AGE engines.

1.3. Supplier

Manufacturer	Manufacturer
Radco Industries L.L.C.	Radco Industries L.L.C.
CAGE Code 6ZS16	CAGE Code 1RVC4
700 Kingsland Drive	39W930 Midan Drive
Batavia, Illinois 60510	LaFox, 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

Serious eye damage/eye irritation, Category 2 H319 Causes serious eye irritation.
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):

H319 - Causes serious eye irritation

Precautionary statements (GHS US):

P264 - Wash hands, forearms and face thoroughly after handling.

P280 - Wear protective clothing, eye and face protection.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 - If eye irritation persists: Get medical attention.

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	CAS-No.	%	GHS US classification
2-Methyloxirane polymer with oxirane, mono[2-(6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethyl] ether	174955-61-4	10 – 50	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
Triethanolamine	102-71-6	1 – 5	Not classified
modified carboxylate*	Trade Secret	< 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Alcohols, C6-10, ethoxylated propoxylated	68987-81-5	< 5	Eye Irrit. 2, H319 Aquatic Chronic 3, H412
mixed amine carboxylate*	Trade Secret	< 5	Eye Irrit. 2, H319

*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:

If you feel unwell, seek medical advice.

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 cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

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 inhalation: None under normal conditions.
Symptoms/effects after skin contact: None under normal conditions.
Symptoms/effects after eye contact: Eye irritation.
Symptoms/effects after ingestion: None under normal conditions.

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 of fire: Toxic fumes may be released.

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.

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. Avoid contact with skin and eyes.

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.

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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.
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. Avoid contact with skin and eyes. 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:	Keep cool. Protect from sunlight.
Packaging materials:	Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

RADCOLUBE® C937-4	
No additional information available	
modified carboxylate	
No additional information available	
2-Methyloxirane polymer with oxirane, mono[2-(6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethyl] ether (174955-61-4)	
No additional information available	
Alcohols, C6-10, ethoxylated propoxylated (68987-81-5)	
No additional information available	
mixed amine carboxylate	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	5 mg/m ³
	3 ppm

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ACGIH® TLV® STEL	6 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH	30 ppm
Triethanolamine (102-71-6)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Triethanolamine
ACGIH® TLV® TWA	5 mg/m ³
Remark (ACGIH)	TLV® Basis: Eye & skin irr
Regulatory reference	ACGIH 2022

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.

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
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Appearance:	Clear liquid.
Color:	Colourless to white
Odor:	There may be no odor warning properties, odor is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odor: Sweet Ether-like odour Mild odour Ammonia odour
Odor threshold:	No data available
pH:	8 – 9
Melting point:	Not applicable
Freezing point:	< 0 °C
Boiling point:	≥ 100 °C
Flash point:	> 100 °C
Relative evaporation rate (butyl acetate=1):	No data available
Flammability:	Not applicable.
Vapor pressure:	No data available
Relative vapor density at 20°C:	No data available
Relative density:	No data available
Solubility:	Soluble 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:	No data available
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.

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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 pH: 8 – 9
Carcinogenicity:	Not classified
Aspiration hazard:	Not classified
Viscosity, kinematic:	No data available
Symptoms/effects after inhalation:	None under normal conditions.
Symptoms/effects after skin contact:	None under normal conditions.
Symptoms/effects after eye contact:	Eye irritation.
Symptoms/effects after ingestion:	None under normal conditions.
STOT-single exposure:	Not classified
STOT-repeated exposure:	Not classified
Reproductive toxicity:	Not classified

2-Methyloxirane polymer with oxirane, mono[2-(6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethyl] ether (174955-61-4)

ATE US (oral):	500 mg/kg body weight
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mixed amine carboxylate

LD50 oral rat:	4400 mg/kg
LD50 dermal rat:	2100 mg/kg
ATE US (oral):	4400 mg/kg body weight
ATE US (dermal):	2100 mg/kg body weight

Triethanolamine (102-71-6)

LD50 oral rat:	6400 mg/kg body weight (OECD 401 method)
LD50 dermal rat:	> 5000 mg/kg

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LD50 dermal rabbit:	> 2000 mg/kg body weight (OECD 402 method)
ATE US (oral):	6400 mg/kg body weight
modified carboxylate	
Serious eye damage/irritation:	Causes serious eye irritation.
2-Methyloxirane polymer with oxirane, mono[2-(6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethyl] ether (174955-61-4)	
Serious eye damage/irritation:	Causes serious eye irritation.
Alcohols, C6-10, ethoxylated propoxylated (68987-81-5)	
Serious eye damage/irritation:	Causes serious eye irritation.
mixed amine carboxylate	
Serious eye damage/irritation:	Causes serious eye irritation.
Triethanolamine (102-71-6)	
Serious eye damage/irritation:	Causes serious eye irritation.
modified carboxylate	
Respiratory or skin sensitization:	Not classified
2-Methyloxirane polymer with oxirane, mono[2-(6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethyl] ether (174955-61-4)	
Respiratory or skin sensitization:	Not classified
Alcohols, C6-10, ethoxylated propoxylated (68987-81-5)	
Serious eye damage/eye irritation, Bovine cornea	Irritating ((OECD 437 method))
Respiratory or skin sensitization:	Not classified
mixed amine carboxylate	
Respiratory or skin sensitization:	Not classified
Triethanolamine (102-71-6)	
Respiratory or skin sensitization:	Not classified
modified carboxylate	
Germ cell mutagenicity:	Not classified
2-Methyloxirane polymer with oxirane, mono[2-(6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethyl] ether (174955-61-4)	
Germ cell mutagenicity:	Not classified
Alcohols, C6-10, ethoxylated propoxylated (68987-81-5)	
Germ cell mutagenicity:	Not classified

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mixed amine carboxylate	
Germ cell mutagenicity:	Not classified
Triethanolamine (102-71-6)	
Germ cell mutagenicity:	Not classified
Triethanolamine (102-71-6)	
NOAEL (chronic,oral,animal/male,2 years):	63 mg/kg body weight (OECD 451 method)
IARC group:	Not classified
Triethanolamine (102-71-6)	
NOAEL (animal/male, F0/P):	1000 mg/kg body weight (OECD 416 method)
NOAEL (animal/female, F0/P):	300 mg/kg body weight (OECD 416 method)
Triethanolamine (102-71-6)	
NOAEL (oral,rat,90 days):	1000 mg/kg body weight (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.

Alcohols, C6-10, ethoxylated propoxylated (68987-81-5)	
EC50 - Crustacea [1]:	59.9 mg/l Daphnia magna (Water flea) (OECD 202 method)
ErC50 algae:	10.4 mg/l Raphidocelis subcapitata <tx:_OECD_201)
mixed amine carboxylate	
LC50 - Fish [1]:	200 – 13000 mg/l Species: Pimephales promelas
EC50 - Crustacea [1]:	65 – 1386 mg/l Species: Daphnia magna (Water flea)
Triethanolamine (102-71-6)	
LC50 - Fish [1]:	11800 mg/l Species: Pimephales promelas
EC50 - Crustacea [1]:	609.88 mg/l Species: Ceriodaphnia dubia
ErC50 algae:	216 mg/l (DIN 38412-9, 72 Hours, Scenedesmus subspicatus, Fresh water, Experimental data, Nominal concentration)
NOEC chronic fish:	> 1 mg/l

12.2. Persistence and degradability

RADCOLUBE® C937-4	
Persistence and degradability:	Readily biodegradable in water. Readily biodegradable in the soil.

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BOD (% of ThOD):	> 85 % ThOD
Alcohols, C6-10, ethoxylated propoxylated (68987-81-5)	
Persistence and degradability:	Readily biodegradable in the soil. Readily biodegradable in water.
Biodegradation:	80.3 % (OECD 301B method)
mixed amine carboxylate	
Persistence and degradability:	Readily biodegradable.
Triethanolamine (102-71-6)	
Persistence and degradability:	Readily biodegradable in water.
Biochemical oxygen demand (BOD):	0.02 g O ₂ /g substance
Chemical oxygen demand (COD):	1.5 g O ₂ /g substance
ThOD:	2.04 g O ₂ /g substance
BOD (% of ThOD):	0.02

12.3. Bioaccumulative potential

Triethanolamine (102-71-6)	
BCF - Fish [1]:	< 3.9 (Species: Cyprinus carpio (Common carp))
Partition coefficient n-octanol/water (Log Pow):	-2.53 – -1.32
Bioaccumulative potential:	Not bioaccumulative.

12.4. Mobility in soil

Triethanolamine (102-71-6)	
Organic Carbon Normalized Adsorption Coefficient (Log K _{oc}):	1.06 – 1.27 (Source: PCKOCWIN v1.66, Calculated value)
Ecology - soil:	No (test) data on mobility of the component(s) available.

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:	Disposal must be done according to official regulations.

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Product/Packaging disposal recommendations: Disposal must be done according to official regulations.
Additional information: Do not re-use empty containers.

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
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

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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:

modified carboxylate	CAS-No.	< 5%
2-Methyloxirane polymer with oxirane, mono[2-(6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethyl] ether	CAS-No. 174955-61-4	10 – 50%

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

2-Methyloxirane polymer with oxirane, mono[2-(6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethyl] ether (174955-61-4)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Alcohols, C6-10, ethoxylated propoxylated (68987-81-5)

Listed on the Canadian NDSL (Non-Domestic Substances List)

mixed amine carboxylate

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Triethanolamine (102-71-6)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

mixed amine carboxylate

Listed on ELINCS (European List of Notified Chemical Substances)

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National regulations

Alcohols, C6-10, ethoxylated propoxylated (68987-81-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

mixed amine carboxylate

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Triethanolamine (102-71-6)

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 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

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Full text of hazard classes and H-statements	
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H412	Harmful to aquatic life with long lasting effects

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.