Radiator Relief™ Flush

Safety Data Sheet

according to Federal Register / Vol. 89, No. 98 / Monday, May 20, 2024 / Rules and Regulations, Canada Hazardous Products Regulations (HPR) / Règlement sur les produits dangereux (RPD)
Issue date: 11/16/2026 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Name : Radiator Relief™ Flush

1.2. Other means of identification

No additional information available.

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Cleaning automotive cooling systems.
Restrictions on use : Any use not specified.

1.4. Supplier's details

Design Engineering Inc.
604 Moore Road
Avon Lake, Ohio 44012
Tel.: +1 (440) 930-7940 (Monday - Friday, 8:30 am - 5:00 pm Eastern)
Email: mikeb@designengineering.com
+1 (800) 255-3924 (7 days a week, 24 hours a day)

1.5. Emergency phone number

Emergency number : +1 (800) 255-3924 (7 days a week, 24 hours a day)

SECTION 2: Hazard Identification

2.1. Classification of the substance or mixture

GHS classification

Not classified

2.2. Label elements

GHS labeling

No labeling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

1.25% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
1.83% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

Name	Product identifier	%	GHS classification
Diammonium carbonate	CAS-No.: 506-87-6	0.5 – 1.5	Acute Tox. 4 (Oral), H302 Aquatic Chronic 3, H412

Exact concentrations are withheld as trade secret.
Full text of hazard classes and H-statements : see section 16.

SECTION 4: First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

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

First-aid measures after skin contact : Wash skin with mild soap and water.

First-aid measures after eye contact : Rinse eyes with water as a precaution. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/effects after inhalation : None under normal conditions.

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

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

Symptoms/effects after ingestion : None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

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 : Exercise caution when fighting any chemical fire. Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. 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. Absorb spillage to prevent material-damage. Notify authorities if product enters sewers or public waters.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate unnecessary personnel. Ventilate spillage area.

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". Equip cleanup crew with proper protection.

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

Environmental precautions : Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

For containment	:	Stop leak, if possible without risk. Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	:	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
Other information	:	Dispose of materials or solid residues at an authorized site.

For further information refer to section 13, See Heading 8, Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Provide good ventilation in process area to prevent formation of vapor. Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions	:	Keep cool. Protect from sunlight. Keep container closed when not in use.
Incompatible products	:	Strong bases. Strong acids.
Packaging materials	:	Always store product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available.

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Industrial and professional. Perform risk assessment prior to use. Ensure good ventilation of the work station.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment. Avoid all unnecessary exposure.

Hand protection:
Wear protective gloves. Wear water impervious gloves.

Eye protection:
Chemical goggles or safety glasses.

Respiratory protection:
None under normal use.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Opaque
Color	:	Yellow

Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Flammability (solid, gas)	:	Non flammable
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

Diammonium carbonate	
Particle characteristics	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

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

Strong acids. Strong bases.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

Likely routes of exposure : Skin and eye contact.

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Radiator Relief™ Flush	
Unknown acute toxicity (GHS)	1.25% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 1.83% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

Diammonium carbonate (506-87-6)	
ATE (oral)	500 mg/kg body weight

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
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

Radiator Relief™ Flush	
Viscosity, kinematic	No data available

Diammonium carbonate (506-87-6)	
Viscosity, kinematic	No data available

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : None under normal conditions.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : None under normal conditions.

SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : Not classified

Diammonium carbonate (506-87-6)	
LC50 fish	34.7 mg/l 96 h

12.2. Persistence and degradability

Radiator Relief™ Flush	
Persistence and degradability	Not established.

Diammonium carbonate (506-87-6)	
Persistence and degradability	Rapidly degradable.

12.3. Bioaccumulative potential

Radiator Relief™ Flush	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Fluorinated greenhouse gases : No.
Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	:	Dispose in a safe manner in accordance with local/national regulations.
Additional information	:	Do not re-use empty containers.
Ecology - waste materials	:	Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	:	Not regulated.
Proper Shipping Name (TDG)	:	Not regulated.
Proper Shipping Name (IMDG)	:	Not regulated.
Proper Shipping Name (IATA)	:	Not regulated.

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not regulated.

TDG

Transport hazard class(es) (TDG) : Not regulated.

IMDG

Transport hazard class(es) (IMDG) : Not regulated.

IATA

Transport hazard class(es) (IATA) : Not regulated.

14.4. Packing group

Packing group (DOT)	:	Not regulated.
Packing group (TDG)	:	Not regulated.
Packing group (IMDG)	:	Not regulated.
Packing group (IATA)	:	Not regulated.

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not regulated.

TDG

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

SECTION 15: Regulatory information

15.1. 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
Diammonium carbonate	506-87-6	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.

Diammonium carbonate (506-87-6)	
CERCLA RQ	5000 lb

15.2. International regulations

CANADA

Diammonium carbonate (506-87-6)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available.

National regulations

Diammonium carbonate (506-87-6)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory) Listed on KECL/KECI (Korean Existing Chemicals Inventory)

15.3. 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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Issue date : 11/16/2026

Data sources : Information from published literature and internal company data.

Other information : None.

Full text of H-phrases	
H302	Harmful if swallowed
H412	Harmful to aquatic life with long lasting effects

Abbreviations and acronyms	
ATE	Acute Toxicity Estimate
CAS-No.	Chemical Abstract Service number

Abbreviations and acronyms	
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
Log Pow	Partition coefficient n-octanol/water (Log Pow)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.