Radiator Super Flush

Safety Data Sheet

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

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SECTION 1: Identification

1.1. Identification

Product form : Mixture

Trade name : Radiator Super Flush

Product code : 8119

1.2. Relevant identified uses of the substance or mixture and uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Bardahl Manufacturing Corporation
1400 NW 52nd Street
Seattle, WA 98107
T 206-783-4851 - F 206-784-3219
jackie.leung@bardahl.com - www.bardahl.com

1.4. Emergency telephone number

Emergency number : 800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral), Category 4	Harmful if swallowed
Skin corrosion/irritation, Category 2	Causes skin irritation
Serious eye damage/eye irritation, Category 2A	Causes serious eye irritation

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : Harmful if swallowed
Causes skin irritation
Causes serious eye irritation

Precautionary statements (GHS-US) : Wash hands thoroughly after handling
Do not eat, drink or smoke when using this product
Wear eye protection, protective gloves
If swallowed: Call a POISON CENTER if you feel unwell
If on skin: Wash with plenty of water
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Specific treatment (see supplemental first aid instruction on this label)
Rinse mouth
If skin irritation occurs: Get medical advice/attention
If eye irritation persists: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
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

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Isopropyl Alcohol	(CAS No) 67-63-0	5 - 20	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Nonylphenol Ethoxylate	(CAS No) 127087-87-0	5 - 20	Eye Dam. 1, H318 Aquatic Chronic 3, H412
Tetrapotassium Pyrophosphate	(CAS No) 7320-34-5	1 - 10	Eye Irrit. 2B, H320

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 poison center or a doctor if you feel unwell.

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 occurs: Get medical advice/attention.

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 : Rinse mouth. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

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

Symptoms/injuries after skin contact : Irritation.

Symptoms/injuries after eye contact : Eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable. Non combustible.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

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.

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. Wear personal protective equipment.

Hygiene measures : 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Isopropyl Alcohol (67-63-0)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	400 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr; CNS impair
OSHA	OSHA PEL (TWA) (mg/m³)	980 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	400 ppm

Tetrapotassium Pyrophosphate (7320-34-5)
Not applicable

Nonylphenol Ethoxylate (127087-87-0)
Not applicable

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

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.

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : clear

Odour : mild

Odour threshold : No data available

pH : 10 - 11

Melting point : Not applicable

Freezing point : No data available

Boiling point : 100 °C

Flash point : No data available

Relative evaporation rate (butylacetate=1) : No data available

Flammability (solid, gas) : Not applicable.

Vapour pressure : No data available

Relative vapour density at 20 °C : No data available

Relative density : 1.025

Solubility : Soluble in 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
Explosive limits	:	No data available
Explosive properties	:	No data available
Oxidising 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

Strong acids.

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: Harmful if swallowed.

Radiator Super Flush	
ATE US (oral)	500.000 mg/kg bodyweight

Isopropyl Alcohol (67-63-0)	
LD50 dermal rabbit	12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit)
LC50 inhalation rat (mg/l)	73 mg/l/4h (Rat)
ATE US (dermal)	12870.000 mg/kg bodyweight
ATE US (vapours)	73.000 mg/l/4h
ATE US (dust,mist)	73.000 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
pH: 10 - 11

Serious eye damage/irritation : Causes serious eye irritation.
pH: 10 - 11

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Isopropyl Alcohol (67-63-0)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after skin contact : Irritation.

Symptoms/injuries after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Isopropyl Alcohol (67-63-0)	
LC50 fish 2	9640 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 2	13299 mg/l (EC50; Other; 48 h; Daphnia magna)
Threshold limit algae 1	> 1000 mg/l (EC50; UBA; 72 h; Scenedesmus subspicatus)

12.2. Persistence and degradability

Isopropyl Alcohol (67-63-0)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	1.19 g O_2/g substance
Chemical oxygen demand (COD)	2.23 g O_2/g substance
ThOD	2.40 g O_2/g substance

12.3. Bioaccumulative potential

Isopropyl Alcohol (67-63-0)	
Log Pow	0.05 (Weight of evidence approach; Other; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

Isopropyl Alcohol (67-63-0)	
Surface tension	0.021 N/m (25 °C)

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

TDG

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Isopropyl Alcohol (67-63-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations

Isopropyl Alcohol (67-63-0)
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

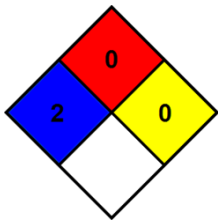
Full text of H-statements:

H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H336	May cause drowsiness or dizziness
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard - Materials that will not burn

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.

SDS US (GHS HazCom 2012)

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