



SAFETY DATA SHEET

WARCO RADIATOR FLUSH AND CLEANER

V#060314

SECTION 1: Product and Company Identification

WARCO Products, Inc
12505 SW HERMAN RD.
TUALATIN, OR 97062
503-783-0250
www.warcopro.com

Product Name
Product Code
CAS Numbers

Warco Radiator Flush and Cleaner
422
7732-18-5, 77-92-9, 1910-73-2. 68131-39-5. 2634-33-5,
2682-20-4, 26172-55-4
Cooling System Flush and Cleaner
Aqueous solution of cleaning chemicals
Substance
Chemtrec: 1-800-424-9300 (24 HRS)
814-726-1780
sales@warcopro.com

Synonyms
Generic Chemical Name
Product Type
Transportation Emergency Phone No.
WARCO Emergency Phone No.
MSDS E-Mail

SECTION 2: Hazards identification

Appearance
Odor
Signal Word
May cause skin irritation with prolonged contact.
May cause mild eye irritation
May cause respiratory tract irritation

Clear to slightly translucent light straw color
Slight odor
CAUTION!

OSHA Regulatory Status

Flush and cleaner automobile cooling system – consumer product

Route of Exposure

Dermal, Inhalation, Ingestion

Precautions

Inhalation

Avoid eye, skin contact

Eyes

Avoid breathing dust/fume/gas/mist/vapors/spray. Keep container tightly closed. Use only with adequate ventilation.

Skin

Avoid contact with eyes. Wash thoroughly after handling.

Avoid contact with skin and clothing. Wash thoroughly after handling.

Medical Conditions Aggravated by Exposure

Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product

Chronic Effects

See Section 11 for complete health hazard information

Environmental Effects

See Section 12 for complete ecological information

SECTION 3: Composition/Information on Ingredients

CAS No.	Component	Percent
7732-18-5	Dihydrogen Oxide	80-85%
77-92-9	2-Hydroxy-1,2,3-propanetricarboxylic Acid	10-15%
1910-73-2	Sodium Hydroxide	5-10%
GE Trade Secret	Polydimethylsiloxane plus plus proprietary additives	<0.035%
68131-39-5	Neodol 25-12	0.1-0.3%
2634-33-5	1,2-Benzothiazol-3(2H)-one	<0.017%
2682-20-4	2-Methylisothiazol-3(2H)-one	<0.01%
26172-55-4	5-Chloro-2-methyl-2H-isothiazol-3-one	<0.01%

Component Regulatory Information This product may be regulated, have exposure limits or other information identified as the following: (See Section 8)

SECTION 4: First aid measures

Eyes

Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately. Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Inhalation

Ingestion

DO NOT INDUCE VOMITING. If conscious, rinse out mouth with water. Get medical attention immediately.

Note to Physicians

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and clinical conditions. A serious potential effect is aspiration pneumonitis, which may lead to non-cardiogenic pulmonary edema. The patient should be observed for signs of ling injury if aspiration is suspected

SECTION 5: Fire-fighting measures

Flammable Properties

Not available

Extinguishing Media

Use dry chemical, CO₂, water spray (FOG) or foam

Specific Hazards Arising from Chemical

Elevated temperatures can lead to the formation of irritating fumes and vapors. Decomposition products may include the following materials: carbon dioxide, carbon monoxide and hydrocarbons

Protective Equipment and Precautions for Firefighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.



SECTION 6: Accidental release measures

Personal Precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental Precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution.

Methods for Containment

Stop leak if without risk.

Methods for Cleanup

Move containers from spill area. Approach release from upwind. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 7: Handling and storage

Handling Procedures

Shake or stir product container well before using. Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Use non-sparking tools.

Shipping and Storing Procedures

Store in accordance with local regulations. Store in a segregated and approved area. Keep in the original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. Do not store in unlabeled containers. Store and use away from heat, sparks, open flame or any other ignition source. Do not reuse container.

Warnings

Do not ingest. Contains petroleum distillates.

Avoid eye contact. Avoid contact with skin or clothing.

Avoid breathing vapors.

Use with adequate ventilation.

Wash exposed skin thoroughly with soap and water after use.

Keep container away from heat, sparks, flames and other sources of ignition.

Keep container closed when not in use.

Store in a cool, dry area away from heat, oxidizers, and all sources of ignition.

Empty containers retain product residue. Do not reuse empty containers

SECTION 8: Exposure controls/personal protection

Product Exposure Limits

ACGIH TLV:	TWA:	N/A ppm	TWA:	5 mg/m3	STEL:	N/A ppm	STEL:	10 mg/m3
OSHA PEL:	TWA:	N/A ppm	TWA:	5 mg/m3	STEL:	N/A ppm	STEL:	N/A mg/m3
NIOSH REL:	TWA:	N/A ppm	TWA:	N/A mg/m3	STEL:	N/A ppm	STEL:	N/A mg/m3
ACGIH TLV:	TWA:	N/A ppm	TWA:	N/A mg/m3	STEL:	N/A ppm	STEL:	N/A mg/m3
OSHA PEL:	TWA:	N/A ppm	TWA:	N/A mg/m3	STEL:	N/A ppm	STEL:	N/A mg/m3
NIOSH REL:	TWA:	N/A ppm	TWA:	N/A mg/m3	STEL:	N/A ppm	STEL:	N/A mg/m3



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OSHA PEL:	TWA:	N/A ppm	TWA:	N/A mg/m3	STEL:	N/A ppm	STEL:	N/A mg/m3
NIOSH REL:	TWA:	N/A ppm	TWA:	N/A mg/m3	STEL:	N/A ppm	STEL:	N/A mg/m3

Engineering Controls

Material should be handled in enclosed vessels and equipment. Use only in adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Eye/Face Protection
 Skin Protection**

Chemical goggles or face shield.
 Chemical resistant, impervious gloves complying with an approved standard should be worn at all times. Coveralls, apron, and boots as necessary to minimize contact.

Respiratory Protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicated this is necessary. Respirator selection must be based on known or anticipated exposure levels.

General Hygiene

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing.

SECTION 9: Physical and chemical properties

Appearance	Clear to translucent light straw liquid	Vapor Pressure (mm Hg at 20°C)	Not Determined
pH	8-10	Water Soluble	Yes
Physical State	Liquid	Specific Gravity (15.6°C)	1.05
Boiling Point (°F)	215	Density (lbs/gal)	8.7
		Freezing Point(°F)	32
Viscosity, cSt (40°C)	1	Percent Volatile	<1

SECTION 10: Stability and reactivity

**Stability
 Polymerization
 Incompatibility
 Conditions to Avoid
 Hazardous Decomposition Products**

Stable under normal conditions
 No polymerization
 Strong acids and oxidizing materials
 Excessive heat
 Smoke, carbon monoxide, carbon dioxide, hydrocarbons and other products of incomplete combustion



SECTION 11: Toxicological information

Acute Exposure Respiratory Irritation	May cause respiratory tract irritation. If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.
Eye Irritation	May cause eye irritation. Vapors formed from heating may cause eye irritation.
Skin Irritation	May cause skin irritation. Prolonged or repeated direct exposure to the skin may result in symptoms of irritation and redness.
Sensitization	Not expected to cause skin or respiratory sensitization.
Component Analysis – LD50 / LC50	
Acute Toxicity Estimate (ATE) Values for Product:	
Inhalation LC50 Rat	Not established (NE) mg/L 1 HR
Oral LD50 Rat	NE mg/kg
Dermal LD50 Rabbit	NE mg/kg
Chronic Exposure Target Organ Effects	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Carcinogenicity	The components greater than 0.1% are not listed as carcinogenic by IARC, NTP, ACGIH, or OSHA..
Mutagenicity	No data available to indicate product or any components present at greater than .1% are mutagenic or genotoxic.
Reproductive Toxicity	No data available to indicate either product or components present at greater than .1% may cause reproductive toxicity.
Teratogenicity	No data available to indicate product or any components contained at greater than .1% may cause birth defects

SECTION 12: Ecological information

Component Analysis- Ecotoxicity – Aquatic Life	
Duration/Test/Species	Concentration/Conditions
96-h/LC50/Rainbow Trout	Not Available mg/L
96-h/LC50/Fathead Minnow	Not Available mg/L
96-h/LC50/Fathead Minnow	Not Available Mg/L
Acute Toxicity	May be toxic to animal/aquatic life.
Chronic Toxicity	Do not dispose of in waterways or wetlands.
Degradability	Not determined
Bioaccumulation	Not determined
Soil Mobility	Not determined
Photodegradation	Not determined
Partition Coefficient (log Kow)	Not determined
Stability in Water	Stable to hydrolysis

SECTION 13: Disposal considerations

Disposal Instructions
The generation of waste should be avoided or minimized wherever possible. Treatment, storage, transportation and



disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

SECTION 14: Transport information

Emergency Response Guide No.	128		<i>North American Emergency Response Guide Book</i>
UN Number	Shipping Name (technical name)	Hazard Class	Packing Group
U.S. DOT Bulk			
U.S. DOT Non-Bulk			

SECTION 15: Regulatory information

SARA Extremely Hazardous Substances (Sections 302 & 304) This product does not contain greater than 1% of any “extremely hazardous substances” listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

SARA Section 313 This product does not contain greater than 1.0% of the substances 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.

SARA Section 311 & 312 Classifications	Acute Hazard	N/A
Chronic Hazard		N/A
Fire Hazard		N/A
Reactivity Hazard		N/A

Global Chemical Inventories

Inventories Inventory	Component
	All components
US TSCA	Present
EU	
Japan	
Australia	
New Zealand	
Canada	
Switzerland	
Korea	
Philippines	
China	
Taiwan	



SECTION 16: Other information

US NFPA Ratings

Health	Fire	Reactivity
1	0	0

HMIS Ratings

Health	Fire	Reactivity
1	0	0

Precautionary Labels

Signal Word

CAUTION!
May cause skin irritation
May cause eye irritation
May cause respiratory tract irritation

Preparation/Revision Date

2/5/2014

Revision Reason

New Format

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Always consult your owner's manual for correct application of oil to be used.

HANDLING AND SAFETY INFORMATION – Refer to WARCO (MSDS) Material Safety Data Sheets for proper handling and safety information. Use the same care and handling as for any petroleum product. Nothing herein shall be deemed to constitute a warranty, express or implied, that said information or data are correct or that the products described are merchantable or fit for a particular purpose, or that said information, data or products can be used without infringing patents of third parties

