SAFETY DATA SHEET

Zerex™ RADIATOR SUPER SEALER

Version: 2.0 Revision Date: 12.09.2023 Print Date: 11/19/2026

SECTION 1: Identification of the hazardous chemical and of the supplier

Product identifier

Product name	:	Zerex™ RADIATOR SUPER SEALER
Product code	:	889694

Manufacturer or supplier's details

Company	:	Valvoline Global Operations
Address	:	100 Valvoline Way Lexington, KY 40509 United States of America (USA)
Telephone	:	1-800-TEAMVAL (1-800-832-6825)
Emergency telephone number	:	+1-800-VALVOLINE (+1-800-825-8654)
E-mail address	:	SDS@valvolineglobal.com

SECTION 2: Hazards identification

Classification of the hazardous chemical

Carcinogenicity	:	Category 1A

Label elements

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H350 May cause cancer.
Precautionary statements	:	**Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3: Composition and information of the ingredients of the hazardous chemical

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
CELLULOSE	9004-34-6	>= 3 -< 5
SODIUM METABORATE, anhydrous	7775-19-1	< 1
QUARTZ / SAND	14808-60-7	>= 0.1 -< 1

SECTION 4: First aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed	:	May cause cancer. No symptoms known or expected.
Notes to physician	:	No hazards which require special first aid measures. Treat symptomatically.

SECTION 5: Firefighting measures

Extinguishing media

Unsuitable extinguishing media	:	High volume water jet

Physicochemical hazards arising from the chemical

Hazardous combustion products	:	No hazardous combustion products are known

Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Specific extinguishing methods	:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Handling

Precautions for safe handling

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Storage

Conditions for safe storage, including any incompatibilities

Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8: Exposure controls and personal protection

Control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
CELLULOSE	9004-34-6	TWA	10 mg/m3	MY PEL
		TWA	10 mg/m3	ACGIH
SODIUM METABORATE, anhydrous	7775-19-1	TWA (Inhalable particulate matter)	2 mg/m3 (Borate)	ACGIH
		STEL (Inhalable particulate matter)	6 mg/m3 (Borate)	ACGIH
QUARTZ / SAND	14808-60-7	TWA (Respirable fraction)	0.1 mg/m3	MY PEL
		PEL (Respirable dust)	0.1 mg/m3	MY PEL
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH

Individual protection measures, such as personal protective equipment

Eye/face protection	:	Eye wash bottle with pure water Tightly fitting safety goggles

Skin protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hand protection		
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Hygiene measures	:	Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

Appearance	:	liquid
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	100 °C (1,013.333333 hPa) Calculated Phase Transition Liquid/Gas
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	23.3333333 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available

Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10: Stability and reactivity

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	Exposure to sunlight. UV light.
Incompatible materials	:	Acids Bases Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11: Toxicological information

Information on likely routes of exposure : None known.

Acute toxicity

Not classified based on available information.

Components:

CELLULOSE:

Acute oral toxicity	:	LD50 (Rat): > 5 g/kg
Acute inhalation toxicity	:	LC50 (Rat): > 5.8 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity	:	LD50 (Rabbit): > 2 g/kg Assessment: The substance or mixture has no acute dermal toxicity

SODIUM METABORATE, anhydrous:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity Remarks: The toxicological data has been taken from products of similar composition. No mortality observed at this dose.
Acute inhalation toxicity	:	LC50 (Rat): > 2.04 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Assessment: The substance or mixture has no acute inhalation toxicity Remarks: The toxicological data has been taken from products of similar composition. No mortality observed at this dose.
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity Remarks: The toxicological data has been taken from products of similar composition. No mortality observed at this dose.

Skin corrosion/irritation

Not classified based on available information.

Components:

CELLULOSE:

Result	:	No skin irritation

SODIUM METABORATE, anhydrous:

Species	:	Rabbit
Result	:	Slight, transient irritation

QUARTZ / SAND:

Result	:	Slight, transient irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

CELLULOSE:

Result	:	No eye irritation

SODIUM METABORATE, anhydrous:

Species	:	Rabbit
Result	:	Irritating to eyes.

QUARTZ / SAND:

Result	:	Slight, transient irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

SODIUM METABORATE, anhydrous:

Test Type	:	Buehler Test
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Remarks	:	The toxicological data has been taken from products of similar composition.

Germ cell mutagenicity

Not classified based on available information.

Components:

CELLULOSE:

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative

Carcinogenicity

May cause cancer.

Reproductive toxicity

Not classified based on available information.

Components:

SODIUM METABORATE, anhydrous:

Reproductive toxicity - Assessment	:	Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Components:

QUARTZ / SAND:

Exposure routes	:	inhalation (dust/mist/fume)
Target Organs	:	Respiratory system, Kidney
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

Components:

QUARTZ / SAND:

Remarks	:	Lung

SECTION 12: Ecological information

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

Components:

CELLULOSE:

Ecotoxicology Assessment

Acute aquatic toxicity	:	Not classified based on available information.
Chronic aquatic toxicity	:	Not classified based on available information.

SODIUM METABORATE, anhydrous:

Toxicity to fish	:	LC50 (Fish): > 100 mg/l Exposure time: 96 h Remarks: The toxicological data has been taken from products of similar composition.
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 133 mg/l Exposure time: 48 h Test Type: static test Remarks: The toxicological data has been taken from products of similar composition.
Toxicity to algae/aquatic plants	:	NOEC (Dunaliella tertiolecta (marine algae)): 50 mg/l End point: Growth inhibition Exposure time: 240 h Test Type: static test Remarks: Information refers to the main component.
Toxicity to fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): 13 mg/l Exposure time: 4 d Remarks: Information refers to the main component.
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Aquatic invertebrates): 16.6 mg/l Exposure time: 28 d Test Type: flow-through test Remarks: Information refers to the main component.

Ecotoxicology Assessment

Acute aquatic toxicity	:	Not classified based on available information.
Chronic aquatic toxicity	:	Not classified based on available information.

QUARTZ / SAND:

Ecotoxicology Assessment

Acute aquatic toxicity	:	Not classified based on available information.
Chronic aquatic toxicity	:	Not classified based on available information.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information	:	No data available

SECTION 13: Disposal information

Disposal methods

Waste from residues	:	Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14: Transport information

International Regulations

UNRTDG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable

IATA-DGR

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable

Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15: Regulatory information

Safety, health, and environmental regulations specific for the hazardous chemical

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.
Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

The components of this product are reported in the following inventories:

TCSI	:	Not in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	Not in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory

PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

Inventories
AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

SECTION 16: Other information

Revision Date	:	12.09.2023
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
MY PEL	:	Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.
MY PEL	:	Malaysia. Factories and Machinery (Mineral Dust) Regulations - Permissible Exposure Limit
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
MY PEL / TWA	:	Eight-hour time-weighted average airborne concentration
MY PEL / PEL	:	Permissible exposure limit (PEL)

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from

Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

MY / EN

Internal information : R0296917