

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial Preparation Date: 04.10.2026

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Ceramic Tri-Foam (Mast)

SECTION 1: Identification

Product Identifier

Product Name: Ceramic Tri-Foam (Mast)

Product code: MS-400-B

Recommended Use of the Product and Restriction on Use

Relevant Identified Uses: Not determined or not applicable.

Uses Advised Against: Not determined or not applicable.

Reasons Why Uses Advised Against: Not determined or not applicable.

Manufacturer or Supplier Details

Manufacturer:

United States

Mast Solutions

430 North Franklin Street

Lancaster, PA 17602

631-255-9869

jonk@mastsolutionsinc.com

www.mastsolutionsinc.com

Emergency Telephone Number:

North America

CHEMTREC

800-424-9300 (24 hours)

SECTION 2: Hazard(s) Identification

GHS Classification:

Skin corrosion, category 1A

Serious eye damage, category 1

Flammable liquids, category 4

Carcinogenicity, category 1A

Reproductive toxicity, category 2

Specific target organ toxicity - single exposure, category 3, respiratory tract irritation

Specific target organ toxicity - single exposure, category 3, narcotic effects

Label elements

Hazard Pictograms:



Signal Word: Danger

Hazard statements:

H227 Combustible liquid

H314 Causes severe skin burns and eye damage

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- H318 Causes serious eye damage
- H350 May cause cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H335 May cause respiratory irritation
- H336 May cause drowsiness or dizziness

Precautionary Statements:

- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P264 Wash hands thoroughly after handling
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P202 Do not handle until all safety precautions have been read and understood
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P271 Use only outdoors or in a well-ventilated area
- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- P363 Wash contaminated clothing before reuse
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P308+P313 IF exposed or concerned: Get medical advice/attention
- P405 Store locked up
- P403+P233 Store in a well-ventilated place. Keep container tightly closed
- P501 It is the responsibility of the waste generator to characterize all waste material according to regulatory entities.

Hazards Not Otherwise Classified: None

SECTION 3: Composition/Information on Ingredients

Identification	Name	Weight %
CAS Number: 52-51-7	Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	<5
CAS Number: 1310-73-2	Sodium hydroxide	<50
CAS Number: 111-76-2	Ethylene Glycol Monobutyl Ether	<25
CAS Number: 9004-82-4	2-dodecoxyethyl hydrogen sulfate	<75
CAS Number: 84133-50-6	Alcohols, C12-14-secondary, ethoxylated	<10
CAS Number: 71750-80-6	Dimethylsiloxane, polymer, (((3-((2-aminoethyl)amino)propyl)-dimethoxysilyl)oxy)-terminated	<5
CAS Number: 68131-39-5	Alcohols, C12-15, ethoxylated	<5
CAS Number: 556-67-2	Octamethylcyclotetrasiloxane	<5

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CAS Number: 75-21-8	Ethylene oxide	<0.09
CAS Number: 123-91-1	1,4-dioxane	<0.09

Additional Information: None

SECTION 4: First Aid Measures

Description of First Aid Measures

General Notes:

Show this Safety Data Sheet to the doctor in attendance.

After Inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

After Skin Contact:

Treatment is urgent. Seek emergency medical treatment. Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse.

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

After Eye Contact:

Immediately rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. Seek immediate medical attention, preferably from an ophthalmologist.

After Swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. Seek immediate medical attention.

Most Important Symptoms and Effects, Both Acute and Delayed

Acute Symptoms and Effects:

Exposure to skin may result in redness, pain, burning, inflammation and tissue damage. Exposure to eyes may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision. Exposure via inhalation may result in cough, sore throat, burning sensation and shortness of breath. Exposure via ingestion may result in burns of the mouth and throat, abdominal pain, burning sensation in the throat and chest, nausea, vomiting, shock or collapse.

Eye contact may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision.

Product is combustible. Exposure to sources of ignition may cause physical injury.

Inhalation may have adverse effects on the respiratory tract. Symptoms may include cough, breathing difficulties, sore throat and inflammation of the mucous membrane lining the respiratory tract.

Delayed Symptoms and Effects:

Exposure may cause cancer. Effects are dependent on exposure (dose, concentration, contact time).

Long term exposure may affect fertility. Symptoms include, but are not limited to: menstrual problems, altered sexual behavior/fertility/ and pregnancy outcome. Long term exposure may also affect development of the unborn child. Symptoms include, but are not limited to: intrauterine growth

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retardation, pre-term birth, birth defects and postnatal death.

Immediate Medical Attention and Special Treatment

Specific Treatment:

Skin/eye burns require immediate treatment.

If respiratory symptoms persist, seek medical attention.

Overexposure via inhalation requires urgent medical treatment.

In case of skin contact, seek prompt medical attention while rinsing is continued.

In case of ingestion, seek prompt medical attention.

Notes for the Doctor:

Treat symptomatically.

SECTION 5: Firefighting Measures

Extinguishing Media

Suitable Extinguishing Media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable Extinguishing Media:

Do not use water jet.

Specific Hazards During Fire-Fighting:

Combustible liquid. Will be easily ignitable by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation.

Special Protective Equipment 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.

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

Methods and Material for Containment and Cleaning Up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Reference to Other Sections:

For personal protective equipment see Section 8. For disposal see Section 13.

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SECTION 7: Handling and Storage

Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Do not get in eyes. Avoid contact with skin and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating and lighting equipment. Take action to prevent static discharges. Handle containers with caution. Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight and away from exit paths. Store in a corrosion-resistant container with a resistant inner liner. Inspect containers and storage area regularly for signs of leak and damage. Store containers at a convenient height for handling, below eye level if possible. High shelving increases the risk of dropping containers, personal injury and exposure. Ensure that appropriate fire fighting and spill-clean up equipment is readily available. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Store separately. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure Controls/Personal Protection

Only those substances with limit values have been included below.

Occupational Exposure Limit Values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
	Ethylene Glycol Monobutyl Ether	111-76-2	8-Hour TWA: 20 ppm
	Ethylene oxide	75-21-8	8-Hour TWA: 1 ppm
	1,4-dioxane	123-91-1	8-Hour TWA: 20 ppm
OSHA	Sodium hydroxide	1310-73-2	8-Hour TWA-PEL: 2 mg/m ³
	Ethylene Glycol Monobutyl Ether	111-76-2	8-Hour TWA-PEL: 240 mg/m ³ (50 ppm)
	Ethylene oxide	75-21-8	8-Hour TWA: 1 ppm
	1,4-dioxane	123-91-1	8-Hour TWA-PEL: 360 mg/m ³ (100 ppm)
NIOSH	Sodium hydroxide	1310-73-2	IDLH: 10 mg/m ³
	Ethylene Glycol Monobutyl Ether	111-76-2	IDLH: 700 ppm
	Ethylene Glycol Monobutyl Ether	111-76-2	REL-TWA: 24 mg/m ³ (5 ppm [up to 10 hr])
	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
	Ethylene oxide	75-21-8	8-Hour TWA: 0.1 ppm (0.18 mg/m ³)
	Ethylene oxide	75-21-8	IDLH: 800 ppm
	Ethylene oxide	75-21-8	Ceiling Limit: 5 ppm (9 mg/m ³)
	1,4-dioxane	123-91-1	IDLH: 500 ppm

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
	1,4-dioxane	123-91-1	Ceiling Limit: 3.6 mg/m ³ (1 ppm [30-min])
United States(California)	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m ³
	Ethylene Glycol Monobutyl Ether	111-76-2	8-Hour TWA-PEL: 97 mg/m ³ (20 ppm)
	Ethylene oxide	75-21-8	15-Minute STEL: 5 ppm
	1,4-dioxane	123-91-1	8-Hour TWA-PEL: 1 mg/m ³ (0.28 ppm)

Biological Limit Values:

Country (Legal Basis)	Substance	Identifier	Determinant	Specimen	Sampling time	Permissible limits
ACGIH	Ethylene Glycol Monobutyl Ether	111-76-2	Butoxyacetic acid (with hydrolysis)	Creatinine in Urine	End of shift	200 mg/g
	Ethylene oxide	75-21-8	S-(2-Hydroxyethyl)mercapturic acid (HEMA)	creatinine urine	End of Shift	5 µg/g

Information on Monitoring Procedures:

Not determined or not applicable.

Appropriate Engineering Controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Personal Protection Equipment

Eye and Face Protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and Body Protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General Hygienic Measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and Chemical Properties

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Information on Basic Physical and Chemical Properties

Appearance	Liquid (Yellow)
Odor	Scented
Odor threshold	Not determined or not available.
pH	7-8
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	Not determined or not available.
Flash point (closed cup)	Not determined or not available.
Evaporation rate	Not determined or not available.
Flammability (solid, gas)	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.
Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	Not determined or not available.
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

SECTION 10: Stability and Reactivity

Reactivity:

Not reactive under recommended handling and storage conditions.

Chemical Stability:

Stable under recommended handling and storage conditions.

Possibility of Hazardous Reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Conditions to Avoid:

Avoid generation of aerosols and mists, extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Incompatible Materials:

None known.

Hazardous Decomposition Products:

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

SECTION 11: Toxicological Information

Acute Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data: No data available.

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Substance Data:

Name	Route	Result
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	dermal	LD50 Rat: 1600 mg/kg
	oral	LD50 Rat: 193 mg/kg
	inhalation	LC50 Rat: > 0.588 mg/L (4 hr [aerosol])
Alcohols, C12-15, ethoxylated	oral	LD50 Rat: >2000 mg/kg
	dermal	LD50 Rabbit: 2500 mg/kg
Ethylene Glycol Monobutyl Ether	Dermal ATE	LD50 Rat: >2000 mg/kg
	Oral ATE	LD50 Rat: 1200 mg/kg
	Inhalation ATE	LC50 Rat: 3 mg/L (4 hr [Vapor])
Sodium hydroxide	oral	LD50 Rat: 325 mg/kg
	dermal	LD50 Rabbit: 1350 mg/kg
2-dodecoxyethyl hydrogen sulfate	oral	LD50 Rat: 1600 mg/kg
Alcohols, C12-14-secondary, ethoxylated	oral	LD50 Rat: 2100 mg/kg
Octamethylcyclotetrasiloxane	oral	LD50 Rat: > 4800 mg/kg
	dermal	LD50 Rat: > 2375 mg/kg
	inhalation	LC50 Rat: 36 mg/L (4 hr [aerosol])
Ethylene oxide	inhalation	LC50 Rat: 660 ppmV (4 hr [Gas])
	oral	LD50 Rat: 270 mg/kg
1,4-dioxane	oral	LD50 Rat: 5150 mg/kg
	dermal	LD50 Rabbit: 7600 mg/kg

Skin Corrosion/Irritation

Assessment:

Causes severe skin burns and eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Causes skin irritation.
Sodium hydroxide	Causes severe skin burns.
2-dodecoxyethyl hydrogen sulfate	Causes skin irritation.
Ethylene Glycol Monobutyl Ether	Causes skin irritation.
Alcohols, C12-14-secondary, ethoxylated	Causes skin irritation.
Dimethylsiloxane, polymer, (((3-((2-aminoethyl)amino)propyl)-dimethoxysilyl)oxy)-terminated	Causes skin irritation.
Ethylene oxide	Causes severe skin burns.

Serious Eye Damage/Irritation

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Assessment:

Causes serious eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Causes serious eye damage.
Sodium hydroxide	Causes serious eye damage.
2-dodecoxyethyl hydrogen sulfate	Causes serious eye irritation.
Alcohols, C12-15, ethoxylated	Causes serious eye damage.
Ethylene Glycol Monobutyl Ether	Causes serious eye irritation.
Alcohols, C12-14-secondary, ethoxylated	Causes serious eye damage.
Dimethylsiloxane, polymer, (((3-((2-aminoethyl)amino)propyl)-dimethoxysilyl)oxy)-terminated	Causes serious eye irritation.
Ethylene oxide	Causes serious eye damage
1,4-dioxane	Causes serious eye irritation.

Respiratory or Skin Sensitization

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Carcinogenicity

Assessment:

May cause cancer.

Product Data: No data available.

Substance Data:

Name	Species	Result
Ethylene oxide		May cause cancer.
1,4-dioxane		May cause cancer.

International Agency for Research on Cancer (IARC):

Name	Classification
Alcohols, C12-14-secondary, ethoxylated	Not Applicable
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Not Applicable
Sodium hydroxide	Not Applicable
Ethylene Glycol Monobutyl Ether	Group 3
2-dodecoxyethyl hydrogen sulfate	Not Applicable

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Name	Classification
Dimethylsiloxane, polymer, (((3-((2-aminoethyl)amino)propyl)-dimethoxysilyl)oxy)-terminated	Not Applicable
Alcohols, C12-15, ethoxylated	Not Applicable
Octamethylcyclotetrasiloxane	Not Applicable
Ethylene oxide	Group 1
1,4-dioxane	Group 2B

National Toxicology Program (NTP):

Name	Classification
Alcohols, C12-14-secondary, ethoxylated	Not Applicable
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Not Applicable
Sodium hydroxide	Not Applicable
Ethylene Glycol Monobutyl Ether	Not Applicable
2-dodecoxyethyl hydrogen sulfate	Not Applicable
Dimethylsiloxane, polymer, (((3-((2-aminoethyl)amino)propyl)-dimethoxysilyl)oxy)-terminated	Not Applicable
Alcohols, C12-15, ethoxylated	Not Applicable
Octamethylcyclotetrasiloxane	Not Applicable
Ethylene oxide	Known to be human carcinogens
1,4-dioxane	Reasonably anticipated to be human carcinogens

OSHA Carcinogens:

Ingredient Name	CAS	OSHA Carcinogens Status
Ethylene oxide	75-21-8	Yes

Germ Cell Mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data:

Name	Result
Ethylene oxide	May cause genetic defects.

Reproductive Toxicity

Assessment:

Suspected of damaging fertility or the unborn child.

Product Data:

No data available.

Substance Data:

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Name	Result
Octamethylcyclotetrasiloxane	Suspected of damaging fertility.
Ethylene oxide	May damage fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure)

Assessment:

May cause respiratory irritation.

May cause drowsiness or dizziness.

Product Data:

No data available.

Substance Data:

Name	Result
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	May cause respiratory irritation.
Ethylene oxide	May cause respiratory irritation.
	May cause drowsiness or dizziness.
1,4-dioxane	May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure)

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data:

Name	Result
Ethylene oxide	Cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Information on Likely Routes of Exposure:

No data available.

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics:

No data available.

Other Information:

No data available.

SECTION 12: Ecological Information

Acute (Short-Term) Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data: No data available.

Substance Data:

Name	Result
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Aquatic Invertebrates EC50 Daphnia magna: 0.69 mg/L (48 hr [mortality])
	Aquatic Plants EC50 Desmodemus subspicatus: 0.026 mg/L (72 hr [growth rate])

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Name	Result
Alcohols, C12-15, ethoxylated	Aquatic Invertebrates EC50 <i>Acartia tonsa</i> : 0.88 mg/L (48 hr [mortality])
	Aquatic Plants EC50 <i>Raphidocelis subcapitata</i> : 0.031 mg/L (72 hr [growth rate])
	Fish LC50 <i>Pimephales promelas</i> : 0.628 mg/L (96 hr [QSAR substance data])
Ethylene Glycol Monobutyl Ether	Aquatic Invertebrates EC50 <i>Daphnia magna</i> : 1550 mg/L (48 hr [mobility])
	Fish LC50 <i>Oncorhynchus mykiss</i> : 1474 mg/L (96 hr)
	Aquatic Plants EC50 <i>Raphidocelis subcapitata</i> : 1840 mg/L (72 hr [Growth rate])
Sodium hydroxide	Aquatic Invertebrates EC50 <i>Ceriodaphnia</i> sp.: 40.4 mg/L (48 hr [immobilization])
	Fish LC50 Fish: 35 - 189 mg/L (96 hr)
Octamethylcyclotetrasiloxane	Fish LC50 <i>Oncorhynchus mykiss</i> : > 0.022 mg/L (96 hr)
	Aquatic Invertebrates EC50 <i>Daphnia magna</i> : > 0.015 mg/L (48 hr [mobility])
	Aquatic Plants EC50 <i>Raphidocelis subcapitata</i> : > 0.022 mg/L (96 hr [growth rate])
Ethylene oxide	Aquatic Plants EC50 <i>Raphidocelis subcapitata</i> : 240 mg/L (96 hr [growth rate, Read-across substance data])
	Aquatic Invertebrates EC50 <i>Daphnia magna</i> : 350 mg/L (48 hr [mobility, Read-across substance data])
	Fish LC50 <i>Oncorhynchus mykiss</i> : 52 mg/L (96 hr [Read-across substance data])
1,4-dioxane	Fish LC50 <i>Pimephales promelas</i> : 9850 mg/L (96 hr)
	Aquatic Invertebrates EC50 <i>Daphnia magna</i> : >1000 mg/L (48 hr [mobility])
	Aquatic Plants EC50 <i>Pseudokirchneriella subcapitata</i> : >1000 mg/L (72 hr [growth rate])

Chronic (Long-Term) Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data: No data available.

Substance Data:

Name	Result
Alcohols, C12-15, ethoxylated	Aquatic Invertebrates NOEC <i>Daphnia magna</i> : 0.036 mg/L (21 d [mortality])
	Fish EC10 <i>Pimephales promelas</i> : 0.265 mg/L (28 d [reproduction, QSAR substance data])
Ethylene Glycol Monobutyl Ether	Fish NOEC <i>Danio rerio</i> : > 100 mg/L (21 d [markers for endocrine disruptive effects])
	Aquatic Invertebrates NOEC <i>Daphnia magna</i> : 100 mg/L (21 d [reproduction])
Octamethylcyclotetrasiloxane	Fish NOEC <i>Oncorhynchus mykiss</i> : >= 0.0044 mg/L (93 d [embryo viability, hatching success, larval survival and growth])
	Aquatic Invertebrates NOEC <i>Daphnia magna</i> : >= 0.015 mg/L (21 d [growth and reproduction])

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Name	Result
1,4-dioxane	Fish NOEC Pimephales promelas: 145 mg/L (32 d [mortality])
	Aquatic Invertebrates NOEC Daphnia magna: 1000 mg/L (21 d [reproduction])
	Aquatic Plants NOEC Pseudokirchneriella subcapitata: 1000 mg/L (72 hr [growth rate])

Persistence and Degradability

Product Data: No data available.

Substance Data:

Name	Result
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	The substance is readily biodegradable. 70 - 80% degradation in water, measured by CO ₂ evolution, after 28 days.
Octamethylcyclotetrasiloxane	The substance is not readily biodegradable. 3.7% degradation in water, measured by CO ₂ evolution, after 29 days.
Sodium hydroxide	Persistence assessment based on biodegradability is not relevant for inorganic compounds such as this substance.
Ethylene Glycol Monobutyl Ether	The substance is readily biodegradable. 90.4% degradation, measured by CO ₂ evolution, after 28 days.
Alcohols, C12-15, ethoxylated	Standard biodegradability studies are not applicable to UVCB substances.
Ethylene oxide	The substance is readily biodegradable. 107% degradation in water, measured by O ₂ consumption, after 28 days.
1,4-dioxane	The substance is not readily biodegradable in water. 1% degradation in water, measured by CO ₂ evolution, after 60 days.

Bioaccumulative Potential

Product Data: No data available.

Substance Data:

Name	Result
Ethylene Glycol Monobutyl Ether	The substance is not expected to bioaccumulate (log K _{ow} = 0.83).
Octamethylcyclotetrasiloxane	The substance has the potential to bioaccumulate significantly (BCF: 19,000 L/kg and log P _{ow} :6.98 at 21.7 °C).
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	The substance is not expected to bioaccumulate (BCF=3.9 L/kg basis-whole body w.w., QSAR substance data).
Sodium hydroxide	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for inorganic compounds such as this substance.
Alcohols, C12-15, ethoxylated	Standard bioaccumulation studies are not applicable to UVCB substances.
Ethylene oxide	The substance is not expected to bioaccumulate (log P _{ow} : -0.3 at 25 °C).
1,4-dioxane	The substance is not expected to bioaccumulate (BCF: 0.3 - 0.7).

Mobility in Soil

Product Data: No data available.

Substance Data:

Name	Result
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	The substance is highly mobile; therefore, adsorption to soil is not expected (K _{oc} = 1 L/kg at 25 °C, QSAR substance data).
Sodium hydroxide	Mobility in soil assessment based on K _{OC} /K _d values are not relevant for inorganic compounds such as this substance.

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Name	Result
Alcohols, C12-15, ethoxylated	Standard adsorption/desorption studies are not applicable to UVCB substances.
Octamethylcyclotetrasiloxane	The substance is hardly mobile, therefore, there is a high potential for adsorption to soil and sediment (log Koc: 4.22).
Ethylene oxide	The substance is highly mobile, therefore, adsorption to soil and sediment is not expected (log Koc: 0.51 dimensionless, QSAR substance data).
1,4-dioxane	The substance is highly mobile, therefore, adsorption to soil and sediment is not expected (Log Koc: 0.42 L/Kg at 25 °C).

Results of PBT and vPvB assessment

Product Data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance Data:

PBT assessment:

Alcohols, C12-15, ethoxylated	The substance is not PBT.
Ethylene Glycol Monobutyl Ether	The substance is not PBT.
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	The substance is not PBT.
Sodium hydroxide	PBT assessment does not apply to inorganic compounds such as this substance.
Octamethylcyclotetrasiloxane	The substance is a PBT.
Ethylene oxide	The substance is not PBT.
1,4-dioxane	The substance is not PBT.

vPvB assessment:

Alcohols, C12-15, ethoxylated	The substance is not vPvB.
Ethylene Glycol Monobutyl Ether	The substance is not vPvB.
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	The substance is not vPvB.
Sodium hydroxide	vPvB assessment does not apply to inorganic compounds such as this substance.
Octamethylcyclotetrasiloxane	The substance is a vPvB.
Ethylene oxide	The substance is not vPvB.
1,4-dioxane	The substance is not vPvB.

Other Adverse Effects: No data available.

SECTION 13: Disposal Considerations

Disposal Methods:

It is the responsibility of the waste generator to characterize all waste material according to regulatory entities.

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport Information

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United States Transportation of Dangerous Goods (49 CFR DOT)

UN Number	Not Regulated
UN Proper Shipping Name	Not regulated
UN Transport Hazard Class(es)	None
Packing Group	None
Environmental Hazards	None
Special Precautions for User	None

International Maritime Dangerous Goods (IMDG)

UN Number	Not regulated
UN Proper Shipping Name	Not regulated
UN Transport Hazard Class(es)	None
Packing Group	None
Environmental Hazards	None
Special Precautions for User	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN Number	Not regulated
UN Proper Shipping Name	Not regulated
UN Transport Hazard Class(es)	None
Packing Group	None
Environmental Hazards	None
Special Precautions for User	None

SECTION 15: Regulatory Information

United States Regulations

Inventory Listing (TSCA): All ingredients are listed-active or exempt.

Significant New Use Rule (TSCA Section 5): None of the ingredients are listed.

Export Notification under TSCA Section 12(b):

1310-73-2	Sodium hydroxide	Not Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Not Listed
84133-50-6	Alcohols, C12-14-secondary, ethoxylated	Not Listed
71750-80-6	Dimethylsiloxane, polymer, (((3-((2-aminoethyl)amino)propyl)-dimethoxysilyl)oxy)-terminated	Not Listed
52-51-7	Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Not Listed
9004-82-4	2-dodecoxyethyl hydrogen sulfate	Not Listed
68131-39-5	Alcohols, C12-15, ethoxylated	Not Listed
556-67-2	Octamethylcyclotetrasiloxane	Listed

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75-21-8	Ethylene oxide	Not Listed
123-91-1	1,4-dioxane	Not Listed

SARA Section 302 Extremely Hazardous Substances:

75-21-8	Ethylene oxide	Listed
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SARA Section 313 Toxic Chemicals:

111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed

CERCLA:

1310-73-2	Sodium hydroxide	Listed	1000 lb
111-76-2	Ethylene Glycol Monobutyl Ether	Listed	N/A
556-67-2	Octamethylcyclotetrasiloxane	Listed	100 lbs
75-21-8	Ethylene oxide	Listed	10 lbs
123-91-1	1,4-dioxane	Listed	100 lbs

RCRA:

556-67-2	Octamethylcyclotetrasiloxane	Listed	D001
75-21-8	Ethylene oxide	Listed	U115
123-91-1	1,4-dioxane	Listed	U108

Section 112(r) of the Clean Air Act (CAA):

75-21-8	Ethylene oxide	Listed
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Massachusetts Right to Know:

1310-73-2	Sodium hydroxide	Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed

New Jersey Right to Know:

1310-73-2	Sodium hydroxide	Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed


New York Right to Know:

1310-73-2	Sodium hydroxide	Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed

Pennsylvania Right to Know:

1310-73-2	Sodium hydroxide	Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed

California Proposition 65:

 **WARNING:** This product can expose you to chemicals including Strong inorganic acid mists

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containing sulfuric acid and 1,4-dioxane which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

⚠ WARNING: This product can expose you to Ethylene oxide; which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Additional information: Not determined.

SECTION 16: Other Information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal 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, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

NFPA: 0-0-0

HMIS: 0-0-0

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End of Safety Data Sheet