Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

High pH Pre-soak (Mast)

SECTION 1: Identification

Product Identifier

Product Name: High pH Pre-soak (Mast)
Product code: MS-410

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 3
Carcinogenicity, category 2
Specific target organ toxicity - repeated exposure, category 2

Label elements

Hazard Pictograms:

Signal Word: Danger

Hazard statements:

H226 Flammable liquid and vapor
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements:

P260 Do not breathe dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
P233 Keep container tightly closed
P242 Use only non-sparking tools
P202 Do not handle until all safety precautions have been read and understood
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
P314 Get medical advice/attention if you feel unwell
P405 Store locked up
P403+P235 Store in a well-ventilated place. Keep cool
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: 68515-73-1	D-Glucopyranose, oligomers, decyl octyl glycosides	<20
CAS Number: 5064-31-3	Trisodium nitrilotriacetate	<20
CAS Number: 1310-73-2	Sodium hydroxide	<15
CAS Number: 527-07-1	Sodium gluconate	<15
CAS Number: 7758-29-4	Pentasodium triphosphate	<15
CAS Number: 111-76-2	Ethylene Glycol Monobutyl Ether	<15
CAS Number: 9004-82-4	2-dodecoxyethyl hydrogen sulfate	<10
CAS Number: 84133-50-6	Alcohols, C12-14-secondary, ethoxylated	<6
CAS Number: 68131-40-8	Alcohols, secondary C11-15, ethoxylated	<9
CAS Number: 61789-40-0	1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	<5

CAS Number: 75-21-8	Ethylene oxide	<0.027
CAS Number: 50-00-0	Formaldehyde	<0.0135
CAS Number: 107-21-1	Ethane-1,2-diol	<0.0135
CAS Number: 123-91-1	1,4-dioxane	<0.0135
CAS Number: 79-43-6	Dichloroacetic acid	<0.0135

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.

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 flammable. Exposure to sources of ignition may cause physical injury.

Delayed Symptoms and Effects:

Effects are dependent on exposure (dose, concentration, contact time).

Suspected of causing cancer. Effects are dependent on exposure (dose, concentration, contact time).

May cause damage to organs through prolonged or repeated exposure. Effects are dependent on exposure (dose, concentration, contact time).

Immediate Medical Attention and Special Treatment

Specific Treatment:

Skin/eye burns require immediate treatment.

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

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.

Dry chemical, CO2, water spray or alcohol-resistant foam.

Unsuitable Extinguishing Media:

Do not use water jet.

Specific Hazards During Fire-Fighting:

Thermal decomposition may produce irritating/toxic fumes/gases.

Flammable 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.

Evacuate non-essential personnel. Ventilate closed spaces before entering. Consider initial evacuation for 300 meters in all directions. If tank/rail car is involved in the fire, ISOLATE for 800 meters in all directions. Fight fire from a maximum distance. Move containers from fire area if you can do it without risk. Use water spray/fog for cooling fire exposed containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles. If this is impossible, withdraw from area and let fire burn. Stand by, at a safe distance, with extinguisher ready for possible re-ignition. A vapor-suppressing foam may be used to reduce vapors. Avoid unnecessary run-off of extinguishing media which may cause pollution. Do not handle damaged containers unless specialized to do so.

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.

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. All equipment used when handling the product must be grounded. 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.

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

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).

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. A vapor-suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Avoid breathing dust, mist, fumes, vapors or spray. 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.

SECTION 7: Handling and Storage

Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Prevent skin contact. Do not get in eyes. Use only with adequate ventilation. Do not add water to the corrosive product. If it is necessary to mix a corrosive product with water, do so slowly adding the corrosive to cold water, in small amounts, and stir frequently. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use. Keep only in original packaging.
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.
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).

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. 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/m³
	Ethylene Glycol Monobutyl Ether	111-76-2	8-Hour TWA: 20 ppm
	Ethane-1,2-diol	107-21-1	8-Hour TWA: 25 ppm (vapor fraction)
	Ethane-1,2-diol	107-21-1	15-Minute STEL: 50 ppm (vapor fraction)
	Ethane-1,2-diol	107-21-1	15-Minute STEL: 10 mg/m³ (aerosol only, inhalable fraction)
	Dichloroacetic acid	79-43-6	8-Hour TWA: 0.5 ppm
	Ethylene oxide	75-21-8	8-Hour TWA: 1 ppm
	Formaldehyde	50-00-0	8-Hour TWA: 0.1 ppm
	Formaldehyde	50-00-0	15-Minute STEL: 0.3 ppm
	1,4-dioxane	123-91-1	8-Hour TWA: 20 ppm
OSHA	Sodium hydroxide	1310-73-2	8-Hour TWA-PEL: 2 mg/m³
	Ethylene Glycol Monobutyl Ether	111-76-2	8-Hour TWA-PEL: 240 mg/m³ (50 ppm)
	Ethylene oxide	75-21-8	8-Hour TWA: 1 ppm
	Formaldehyde	50-00-0	8-Hour TWA-PEL: 0.75 ppm (0.5 ppm Action Level)
	Formaldehyde	50-00-0	15-Minute STEL: 2 ppm (PEL)
	Ethane-1,2-diol	107-21-1	Ceiling Limit: 125 mg/m³ (50 ppm)
	1,4-dioxane	123-91-1	8-Hour TWA-PEL: 360 mg/m³ (100 ppm)
NIOSH	Sodium hydroxide	1310-73-2	IDLH: 10 mg/m³
	Ethylene Glycol Monobutyl Ether	111-76-2	IDLH: 700 ppm
	Ethylene Glycol Monobutyl Ether	111-76-2	REL-TWA: 24 mg/m³ (5 ppm [up to 10 hr])

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m³
	Ethylene oxide	75-21-8	8-Hour TWA: 0.1 ppm (0.18 mg/m3)
	Ethylene oxide	75-21-8	IDLH: 800 ppm
	Ethylene oxide	75-21-8	Ceiling Limit: 5 ppm (9 mg/m3)
	Formaldehyde	50-00-0	IDLH: 20 ppm
	Formaldehyde	50-00-0	REL-TWA: 0.016 ppm (up to 10 hr)
	Formaldehyde	50-00-0	Ceiling Limit: 0.1 ppm (15 min)
	Ethane-1,2-diol	107-21-1	Ceiling Limit: 50 ppm ((proposed ceilings))
	1,4-dioxane	123-91-1	IDLH: 500 ppm
	1,4-dioxane	123-91-1	Ceiling Limit: 3.6 mg/m³ (1 ppm [30-min])
United States(California)	Sodium hydroxide	1310-73-2	Ceiling Limit: 2 mg/m³
	Ethylene Glycol Monobutyl Ether	111-76-2	8-Hour TWA-PEL: 97 mg/m³ (20 ppm)
	Ethylene oxide	75-21-8	15-Minute STEL: 5 ppm
	Formaldehyde	50-00-0	8-Hour TWA-PEL: 0.75 ppm (0.5 ppm Action Level)
	Formaldehyde	50-00-0	15-Minute STEL: 2 ppm
	Ethane-1,2-diol	107-21-1	Ceiling Limit: 100 mg/m³ (40 ppm)
	1,4-dioxane	123-91-1	8-Hour TWA-PEL: 1 mg/m³ (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:

Use safety glasses with side shields or goggles. Consider the use of a face shield for splash protection. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Full body protection should be worn. 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).

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.

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. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

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

Information on Basic Physical and Chemical Properties

Appearance	Liquid
Odor	Std.
Odor threshold	Not determined or not available.
pH	12
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.

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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.
Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.
Extreme heat, open flames, hot surfaces, sparks, ignition sources, static electricity and incompatible materials. Vapor accumulation in low or confined areas.

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.

Substance Data:

Name	Route	Result
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])
Trisodium nitrilotriacetate	oral	LD50 Rat: 1740 mg/kg
	dermal	LD50 Rabbit: 2000 mg/kg
	inhalation	LC50 Rat: > 5 mg/L (4 hr [Aerosol])
D-Glucopyranose, oligomers, decyl octyl glycosides	oral	LD50 Rat: > 2000 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg

Name	Route	Result
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	oral	LD50 Rat: > 5000 mg/kg
	dermal	LD50 Rat: > 2000 mg/kg
Formaldehyde	Oral ATE	LD50 Rat: 500 mg/kg
	Inhalation ATE	LC50 Rat: 100 ppmV (4 hr [Gas])
	Dermal ATE	LD50 Rat: 300 mg/kg
Sodium hydroxide	oral	LD50 Rat: 325 mg/kg
	dermal	LD50 Rabbit: 1350 mg/kg
Ethane-1,2-diol	Oral ATE	LD50 Rat: 500 mg/kg
1,4-dioxane	oral	LD50 Rat: 5150 mg/kg
	dermal	LD50 Rabbit: 7600 mg/kg
Dichloroacetic acid	dermal	LD50 Rabbit: 797 mg/kg
	oral	LD50 Rat: 2820 mg/kg
Alcohols, secondary C11-15, ethoxylated	oral	LD50 Rat: >= 2000 mg/kg
	dermal	LD50 Rat: >2000 mg/kg
Pentasodium triphosphate	oral	LD50 Rat: >2000 mg/kg
	dermal	LD50 Rabbit: > 4640 mg/kg
	inhalation	LC50 Rat: > 0.39 mg/L (4 hr - Aerosol [highest achievable concentration])
2-dodecoxyethyl hydrogen sulfate	oral	LD50 Rat: 1600 mg/kg
Alcohols, C12-14-secondary, ethoxylated	oral	LD50 Rat: 2100 mg/kg
Ethylene oxide	inhalation	LC50 Rat: 660 ppmV (4 hr [Gas])
	oral	LD50 Rat: 270 mg/kg

Skin Corrosion/Irritation

Assessment:

Causes severe skin burns and eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
Sodium hydroxide	Causes severe skin burns.
Ethylene Glycol Monobutyl Ether	Causes skin irritation.
2-dodecoxyethyl hydrogen sulfate	Causes skin irritation.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Causes skin irritation.
Alcohols, C12-14-secondary, ethoxylated	Causes skin irritation.
Formaldehyde	Causes severe skin burns.

Name	Result
Ethylene oxide	Causes severe skin burns.
Dichloroacetic acid	Causes severe skin burns.
Pentasodium triphosphate	Causes skin irritation.

Serious Eye Damage/Irritation

Assessment:

Causes serious eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
Sodium hydroxide	Causes serious eye damage.
D-Glucopyranose, oligomers, decyl octyl glycosides	Causes serious eye damage.
Ethylene Glycol Monobutyl Ether	Causes serious eye irritation.
2-dodecoxyethyl hydrogen sulfate	Causes serious eye irritation.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Causes serious eye irritation.
Trisodium nitrilotriacetate	Causes serious eye irritation.
Alcohols, C12-14-secondary, ethoxylated	Causes serious eye damage.
Formaldehyde	Causes serious eye damage.
Ethylene oxide	Causes serious eye damage
1,4-dioxane	Causes serious eye irritation.
Dichloroacetic acid	Causes serious eye damage.
Pentasodium triphosphate	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:

Name	Result
Formaldehyde	May cause an allergic skin reaction.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	May cause an allergic skin reaction.

Carcinogenicity

Assessment:

Suspected of causing cancer.

Product Data: No data available.

Substance Data:

Name	Species	Result
Formaldehyde		May cause cancer.
Ethylene oxide		May cause cancer.
Trisodium nitrilotriacetate		Suspected of causing cancer.
1,4-dioxane		May cause cancer.
Dichloroacetic acid		Suspected of causing cancer.

International Agency for Research on Cancer (IARC):

Name	Classification
Sodium gluconate	Not Applicable
Alcohols, C12-14-secondary, ethoxylated	Not Applicable
Ethane-1,2-diol	Not Applicable
Sodium hydroxide	Not Applicable
D-Glucopyranose, oligomers, decyl octyl glycosides	Not Applicable
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Not Applicable
Ethylene oxide	Group 1
Dichloroacetic acid	Group 2B
Trisodium nitrilotriacetate	Group 2B
Pentasodium triphosphate	Not Applicable
Ethylene Glycol Monobutyl Ether	Group 3
2-dodecoxyethyl hydrogen sulfate	Not Applicable
Alcohols, secondary C11-15, ethoxylated	Not Applicable
Formaldehyde	Group 1
1,4-dioxane	Group 2B

National Toxicology Program (NTP):

Name	Classification
Sodium gluconate	Not Applicable
Alcohols, C12-14-secondary, ethoxylated	Not Applicable
Ethane-1,2-diol	Not Applicable
Sodium hydroxide	Not Applicable
D-Glucopyranose, oligomers, decyl octyl glycosides	Not Applicable
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Not Applicable
Dichloroacetic acid	Reasonably anticipated to be human carcinogens

Name	Classification
Trisodium nitrilotriacetate	Not Applicable
Pentasodium triphosphate	Not Applicable
Ethylene Glycol Monobutyl Ether	Not Applicable
2-dodecoxyethyl hydrogen sulfate	Not Applicable
Alcohols, secondary C11-15, ethoxylated	Not Applicable
Ethylene oxide	Known to be human carcinogens
Formaldehyde	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
Formaldehyde	50-00-0	Yes

Germ Cell Mutagenicity

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

Product Data:

No data available.

Substance Data:

Name	Result
Formaldehyde	Suspected of causing genetic defects.
Ethylene oxide	May cause genetic defects.

Reproductive Toxicity

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

Product Data:

No data available.

Substance Data:

Name	Result
Ethylene oxide	May damage fertility or the unborn child.
Dichloroacetic acid	May damage fertility or the unborn child.
	May cause harm to breast-fed children.

Specific Target Organ Toxicity (Single Exposure)

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

Product Data:

No data available.

Substance Data:

Name	Result
Ethylene oxide	May cause respiratory irritation.
	May cause drowsiness or dizziness.
1,4-dioxane	May cause respiratory irritation.
Pentasodium triphosphate	May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure)

Assessment:

May cause damage to organs through prolonged or repeated exposure.

Product Data:

No data available.

Substance Data:

Name	Result
Ethane-1,2-diol	May cause damage to Kidneys through prolonged or repeated oral exposure.
Ethylene oxide	Cause damage to organs through prolonged or repeated exposure.
Dichloroacetic acid	May cause damage to organs (brain, liver, testes) 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
Ethylene Glycol Monobutyl Ether	Aquatic Invertebrates EC50 Daphnia magna: 1550 mg/L (48 hr [mobility])
	Fish LC50 Oncorhynchus mykiss: 1474 mg/L (96 hr)
	Aquatic Plants EC50 Raphidocelis subcapitata: 1840 mg/L (72 hr [Growth rate])
Ethane-1,2-diol	Aquatic Invertebrates EC50 Daphnia magna: > 100 mg/L (48 hr [immobilisation])
	Fish LC50 Pimephales promelas: 53,000 mg/L (96 hr)
Sodium hydroxide	Aquatic Invertebrates EC50 Ceriodaphnia sp.: 40.4 mg/L (48 hr [immobilization])
	Fish LC50 Fish: 35 - 189 mg/L (96 hr)
D-Glucopyranose, oligomers, decyl octyl glycosides	Fish LC50 Danio rerio: 100.81 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: > 100 mg/L (48 hr [mobility])
	Aquatic Plants EC50 Desmodesmus subspicatus: 27.22 mg/L (72 hr [growth rate])

Name	Result
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Fish LC50 Danio rerio: 2 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: 6.4 mg/L (48 hr [mobility])
	Aquatic Plants EC50 Ulva lactuca: 30 mg/L (48 hr [biomass])
Ethylene oxide	Aquatic Plants EC50 Raphidocelis subcapitata: 240 mg/L (96 hr [growth rate, Read-across substance data])
	Aquatic Invertebrates EC50 Daphnia magna: 350 mg/L (48 hr [mobility, Read-across substance data])
	Fish LC50 Oncorhynchus mykiss: 52 mg/L (96 hr [Read-across substance data])
Dichloroacetic acid	Fish LC50 Marine water fish: >2000 mg/L (96 h)
	Aquatic Plants EC50 Marine water algae: 148.2 mg/L (72 h [cell number])
Alcohols, secondary C11-15, ethoxylated	Aquatic Plants EC50 Raphidocelis subcapitata: 2.01 mg/L (72 hr [growth rate])
	Fish LC50 Oncorhynchus mykiss: 1.53 mg/L (96 hr [LL50])
	Aquatic Invertebrates EC50 Daphnia magna: 5.66 mg/L (48 hr [EL50])
Trisodium nitrilotriacetate	Fish LC50 Pimephales promelas: 114 mg/L (96 hr)
	Aquatic Plants EC50 Desmodesmus subspicatus: >91.5 mg/L (72 hr [biomass and growth rate])
	Aquatic Invertebrates EC50 Daphnia magna: 560 - 1000 mg/L (48 hr [mortality])
Pentasodium triphosphate	Aquatic Invertebrates EC50 Daphnia magna: > 100 mg/L (48 hr)
Formaldehyde	Fish LC50 Morone saxatilis: 6.7 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia pulex: 5.8 mg/L (48 hr [mobility])
	Aquatic Plants EC50 Desmodesmus subspicatus: 6.61 mg/L (72 hr [growth rate])
1,4-dioxane	Fish LC50 Pimephales promelas: 9850 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: >1000 mg/L (48 hr [mobility])
	Aquatic Plants EC50 Pseudokirchneriella subcapitata: >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
Ethylene Glycol Monobutyl Ether	Fish NOEC Danio rerio: > 100 mg/L (21 d [markers for endocrine disruptive effects])
	Aquatic Invertebrates NOEC Daphnia magna: 100 mg/L (21 d [reproduction])
Ethane-1,2-diol	Fish NOEC Menidia peninsulae: > 40 mg/L (28 d [weight and mortality, Read-across substance data])
	Aquatic Invertebrates NOEC Daphnia magna: > 15,000 mg/L (21 d [reproduction])

Name	Result
D-Glucopyranose, oligomers, decyl octyl glycosides	Fish NOEC Danio rerio: 1.8 mg/L (28 d [mortality, Read-across substance data])
	Aquatic Invertebrates NOEC Daphnia magna: 2 mg/L (21 d [Reproduction, Read-across substance data])
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Aquatic Invertebrates NOEC Daphnia magna: 0.9 mg/L (21 d [reproduction])
Alcohols, secondary C11-15, ethoxylated	Fish EC10 Pimephales promelas: 0.87 mg/L (32 d [egg survival; QSAR substance data])
	Aquatic Invertebrates NOEC Daphnia: 0.2 mg/L (21 d [mortality, QSAR substance data])
Trisodium nitrilotriacetate	Aquatic Invertebrates NOEC Daphnia magna: 100 mg/L (21 d [mortality])
	Fish LC50 Oncorhynchus mykiss: 90.5 - 114 mg/L (27 d)
Formaldehyde	Aquatic Invertebrates NOEC Daphnia magna: >= 6.4 mg/L (21 d [reproduction])
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
D-Glucopyranose, oligomers, decyl octyl glycosides	The substance is readily biodegradable in water. 100% degradation, measured by DOC removal, after 28 days.
Ethane-1,2-diol	The substance is readily biodegradable. 90-100% degradation in water, measured by DOC removal, after 10 days.
Formaldehyde	The substance is readily biodegradable. 99% degradation in water, measured by DOC removal, after 28 days.
1,4-dioxane	The substance is not readily biodegradable in water. 1% degradation in water, measured by CO2 evolution, after 60 days.
Dichloroacetic acid	The substance is readily biodegradable. 93% degradation, measured by Oxygen consumption, after 15 days.
Alcohols, secondary C11-15, ethoxylated	The substance is readily biodegradable. 65% degradation in water, measured by O2 consumption, after 28 days.
Trisodium nitrilotriacetate	The substance is readily biodegradable. 96% degradation in water, measured by DOC removal, after 28 days.
Sodium hydroxide	Persistence assessment based on biodegradability is not relevant for inorganic compounds such as this substance.
Pentasodium triphosphate	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 CO2 evolution, after 28 days.

Name	Result
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is readily biodegradable .>90% degradation in water, measured by test mat. analysis, after 5 days.
Ethylene oxide	The substance is readily biodegradable. 107% degradation in water, measured by O2 consumption, after 28 days.

Bioaccumulative Potential

Product Data: No data available.

Substance Data:

Name	Result
Ethylene Glycol Monobutyl Ether	The substance is not expected to bioaccumulate (log Kow = 0.83).
Ethane-1,2-diol	The substance is not expected to bioaccumulate (log Pow: -1.36).
Dichloroacetic acid	This substance has low potential for bioaccumulation.
D-Glucopyranose, oligomers, decyl octyl glycosides	The substance is not expected to bioaccumulate (log Pow: 1.72 at 40 °C, Read-across substance data).
Trisodium nitrilotriacetate	The substance is not expected to Bioaccumulate. (BCF (aquatic species): 3 L/kg ww).
Sodium hydroxide	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for inorganic compounds such as this substance.
Pentasodium triphosphate	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for inorganic compounds such as this substance.
Alcohols, secondary C11-15, ethoxylated	Standard bioaccumulation studies are not applicable to UVCB substances.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Standard bioaccumulation studies are not applicable to UVCB substances.
Ethylene oxide	The substance is not expected to bioaccumulate (log Pow: -0.3 at 25 °C).
Formaldehyde	The substance is not expected to bioaccumulate (BCF= < 1 dimensionless).
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
Ethane-1,2-diol	The end point is not applicable because the the substance has a low octanol water partition coefficient and its relevant degradation products decompose rapidly.
Formaldehyde	The substance is mobile, therefore, there is low potential for adsorption to soil and sediment (log Koc = 1.202) [calculation method]
Dichloroacetic acid	This substance will not adsorb at all to soils or sediments should these environmental compartments be exposed to it.
D-Glucopyranose, oligomers, decyl octyl glycosides	The substance is mobile, therefore, there is low potential for adsorption to soil and sediment (log Koc: 1.7 at 25 °C, Read-across substance data).
Trisodium nitrilotriacetate	The substance has a low potential for adsorption to soil and sediment. log Kp (sediment-water): 1.6 L/kg

Name	Result
Sodium hydroxide	Mobility in soil assessment based on KOC/Kd values are not relevant for inorganic compounds such as this substance.
Pentasodium triphosphate	The substance is moderately mobile, therefore, there is moderate potential for adsorption to soil and Sediment (Log Koc: 2.15).
Alcohols, secondary C11-15, ethoxylated	Standard adsorption/desorption studies are not applicable to UVCB substances.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is mobile, therefore, there is low potential for adsorption to soil and sediment (log Koc: 1.812 dimensionless at 25 °C, Read-across substance data).
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:

D-Glucopyranose, oligomers, decyl octyl glycosides	The substance is not PBT.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is not PBT.
Trisodium nitrilotriacetate	The substance is not PBT.
Ethylene Glycol Monobutyl Ether	The substance is not PBT.
Ethane-1,2-diol	The substance is not PBT.
Formaldehyde	The substance is not PBT.
Dichloroacetic acid	The substance is not PBT.
Alcohols, secondary C11-15, ethoxylated	The substance is not PBT.
Sodium hydroxide	PBT assessment does not apply to inorganic compounds such as this substance.
Pentasodium triphosphate	PBT assessment does not apply to inorganic substances.
Ethylene oxide	The substance is not PBT.
1,4-dioxane	The substance is not PBT.

vPvB assessment:

D-Glucopyranose, oligomers, decyl octyl glycosides	The substance is not vPvB.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is not vPvB.
Trisodium nitrilotriacetate	The substance is not vPvB.

Ethylene Glycol Monobutyl Ether	The substance is not vPvB.
Ethane-1,2-diol	The substance is not vPvB.
Formaldehyde	The substance is not PBT.
Dichloroacetic acid	The substance is not vPvB.
Alcohols, secondary C11-15, ethoxylated	The substance is not vPvB.
Sodium hydroxide	vPvB assessment does not apply to inorganic compounds such as this substance.
Pentasodium triphosphate	vPvB assessment does not apply to inorganic substances.
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 properly characterize all waste materials according to applicable regulatory entities

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport Information

United States Transportation of Dangerous Goods (49 CFR DOT)

UN Number	1824
UN Proper Shipping Name	Sodium Hydroxide Solution
UN Transport Hazard Class(es)	8 
Packing Group	II
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

High pH Pre-soak (Mast)

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): None of the ingredients are listed.

SARA Section 302 Extremely Hazardous Substances:

75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	Listed

SARA Section 313 Toxic Chemicals:

111-76-2	Ethylene Glycol Monobutyl Ether	Listed
107-21-1	Ethane-1,2-diol	Listed
5064-31-3	Trisodium nitrilotriacetate	Listed
75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	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
107-21-1	Ethane-1,2-diol	Listed	5000 lbs
75-21-8	Ethylene oxide	Listed	10 lbs
50-00-0	Formaldehyde	Listed	100 lbs
123-91-1	1,4-dioxane	Listed	100 lbs

RCRA:

75-21-8	Ethylene oxide	Listed	U115
50-00-0	Formaldehyde	Listed	U122
123-91-1	1,4-dioxane	Listed	U108

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

75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	Listed

Massachusetts Right to Know:

107-21-1	Ethane-1,2-diol	Listed
1310-73-2	Sodium hydroxide	Listed
5064-31-3	Trisodium nitrilotriacetate	Listed
7758-29-4	Pentasodium triphosphate	Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	Listed
123-91-1	1,4-dioxane	Listed

High pH Pre-soak (Mast)

New Jersey Right to Know:

107-21-1	Ethane-1,2-diol	Listed
1310-73-2	Sodium hydroxide	Listed
79-43-6	Dichloroacetic acid	Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	Listed
123-91-1	1,4-dioxane	Listed

New York Right to Know:

107-21-1	Ethane-1,2-diol	Listed
1310-73-2	Sodium hydroxide	Listed
79-43-6	Dichloroacetic acid	Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	Listed
123-91-1	1,4-dioxane	Listed

Pennsylvania Right to Know:

107-21-1	Ethane-1,2-diol	Listed
1310-73-2	Sodium hydroxide	Listed
7758-29-4	Pentasodium triphosphate	Listed
111-76-2	Ethylene Glycol Monobutyl Ether	Listed
75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	Listed
123-91-1	1,4-dioxane	Listed

California Proposition 65:

⚠ **WARNING:** This product can expose you to chemicals including Formaldehyde and 1,4-dioxane; which are known to the State of California to cause cancer; and Ethane-1,2-diol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ **WARNING:** This product can expose you to chemicals including Dichloroacetic acid and Ethylene oxide; which are 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

Initial Preparation Date: 04.10.2026

End of Safety Data Sheet