Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial Preparation Date: 06.19.2019

Revision date: 08.22.2023

Action Presoak (High pH)

SECTION 1: Identification

Product Identifier

Product Name: Action Presoak (High pH)

Product code: AT-102

Recommended Use of the Product and Restriction on Use

Relevant Identified Uses: High pH Presoak

Uses Advised Against: NA

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

Manufacturer or Supplier Details

Manufacturer:

United States

JBS Industries
2726 Henkle Drive
Lebanon, Ohio 45036
513-228-2800
SBAETEN@JBSINDUSTRIES.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
Carcinogenicity, category 2
Specific target organ toxicity - repeated exposure, category 2

Label elements

Hazard Pictograms:

Signal Word: Danger

Hazard statements:

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
P264 Wash contaminated area thoroughly with soap and water after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection
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
P310 Immediately call a POISON CENTER/doctor if difficulty in breathing occurs.
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
P314 Get medical advice/attention if you feel unwell
P405 Store locked up
P501 It is the responsibility of the waste generator to characterize all waste materials according to applicable regulatory entities.

Hazards Not Otherwise Classified: None

SECTION 3: Composition/Information on Ingredients

Identification	Name	Weight %
CAS Number: 1310-58-3	Potassium hydroxide	5-40
CAS Number: 68515-73-1	D-Glucopyranose, oligomers, decyl octyl glycosides	1-20
CAS Number: 68439-46-3	Alcohols, C9-11, branched and linear, ethoxylated	0.95-20
CAS Number: 9004-82-4	2-dodecoxyethyl hydrogen sulfate	0.58-15
CAS Number: 111-76-2	2-Butoxyethanol	<20
CAS Number: 1300-72-7	Sodium Xylenesulfonate	0.4-5
CAS Number: 64-17-5	Ethanol	<3.2
CAS Number: 5064-31-3	Trisodium nitrilotriacetate	<2
CAS Number: 68131-39-5	Alcohols, C12-15, ethoxylated	<10
CAS Number: 75-21-8	Ethylene oxide	<0.038
CAS Number: 123-91-1	1,4-dioxane	<0.038

Action Presoak (High pH)

CAS Number: 107-21-1	Ethane-1,2-diol	<0.0072

Additional Information: None

SECTION 4: First Aid Measures

Description of First Aid Measures

General Notes:

Show this Safety Data Sheet to attending Medical Professional.

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.

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 symptoms develop or persist, 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.

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

After Swallowing:

If Swallowed, DO NOT induce vomiting unless directed otherwise by a medical professional. Rinse mouth with water. Never give anything to an unconscious person. Seek medical attention.

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.

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. If symptoms develop or persist, seek medical advice/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.

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:

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:

Not determined or not applicable.

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:

Thermal decomposition may produce irritating/toxic fumes/gases.

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.

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. 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.

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).

Store in cool and dry location and out of direct sunlight. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Keep containers closed when not in use. Keep away from food and beverages. Protect from freezing and physical damage.

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	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m³

Action Presoak (High pH)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	2-Butoxyethanol	111-76-2	8-Hour TWA: 20 ppm
	Ethanol	64-17-5	15-Minute STEL: 1000 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)
	Ethylene oxide	75-21-8	8-Hour TWA: 1 ppm
	1,4-dioxane	123-91-1	8-Hour TWA: 20 ppm
NIOSH	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m³
	2-Butoxyethanol	111-76-2	IDLH: 700 ppm
	2-Butoxyethanol	111-76-2	REL-TWA: 24 mg/m³ (5 ppm [up to 10 hr])
	Ethanol	64-17-5	REL-TWA: 1900 mg/m³ (1000 ppm [up to 10 hr.])
	Ethanol	64-17-5	IDLH: 3300 ppm
	Ethylene oxide	75-21-8	IDLH: 800 ppm
	Ethylene oxide	75-21-8	Ceiling Limit: 9 mg/m³ (5 ppm [10-min/day])
	Ethylene oxide	75-21-8	REL-TWA: 0.18 mg/m³ (0.1 ppm [up to 10 hr])
	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])
OSHA	2-Butoxyethanol	111-76-2	8-Hour TWA-PEL: 240 mg/m³ (50 ppm)
	Ethanol	64-17-5	8-Hour TWA-PEL: 1900 mg/m³ ([1000 ppm])
	Ethylene oxide	75-21-8	8-Hour TWA-PEL: 1 ppm
	Ethylene oxide	75-21-8	15-Minute STEL: 5 ppm
	Ethane-1,2-diol	107-21-1	Ceiling Limit: 125 mg/m³ (50 ppm)
	Ethylene oxide	75-21-8	8-Hour TWA: 0.5 ppm (Action level)
	1,4-dioxane	123-91-1	8-Hour TWA-PEL: 360 mg/m³ (100 ppm)
United States(California)	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m³
	2-Butoxyethanol	111-76-2	8-Hour TWA-PEL: 97 mg/m³ (20 ppm)
	Ethanol	64-17-5	8-Hour TWA-PEL: 1900 mg/m³ ([1000 ppm])
	Ethylene oxide	75-21-8	15-Minute STEL: 5 ppm
	Ethylene oxide	75-21-8	8-Hour TWA-PEL: 2 mg/m³ (1 ppm)
	Ethylene oxide	75-21-8	8-Hour TWA: 0.5 ppm (Action level)

Action Presoak (High pH)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Ethane-1,2-diol	107-21-1	Ceiling Limit: 100 mg/m³ (40 ppm)
	Ethane-1,2-diol	107-21-1	REL: 400 ug/m³ (Chronic Inhalation)
	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	2-Butoxyethanol	111-76-2	Butoxyacetic acid (with hydrolysis)	Creatinine in Urine	End of shift	200 mg/g
	Ethylene oxide	75-21-8	N-(2-hydroxyethyl)-valine (HEV) hemoglobin adducts	Hemoglobin adducts	Not critical	5000 pmol/g
	Ethylene oxide	75-21-8	S-(2-hydroxyethyl) mercapturic acid (HEMA)	Creatinine in 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	14
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.
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.

Substance Data:

Name	Route	Result
Potassium hydroxide	oral	LD50 Rat: 333 mg/kg
Trisodium nitrilotriacetate	oral	LD50 Rat: 1100 mg/kg
	dermal	LD50 Rabbit: >2000 mg/kg
	inhalation	LC50 Rat: >5 mg/L (4 hr - Aerosol)
2-Butoxyethanol	dermal	LD50 Rabbit: 1060 mg/kg
	Oral ATE	LD50 Rat: 1200 mg/kg (Annex VI to the CLP)
	oral	LD50 Rat: 470 mg/kg
	Inhalation ATE	LC50 Rat: 11 mg/L (4 hr [Vapor])
Ethanol	oral	LD50 Rat: 10,470 mg/kg
	inhalation	LC50 Rat: 116.9 mg/L (4 hr [vapor])
	dermal	LD50 Rabbit: 17,100 mg/kg
D-Glucopyranose, oligomers, decyl octyl glycosides	oral	LD50 Rat: > 2000 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg
2-dodecoxyethyl hydrogen sulfate	oral	LD50 Rat: 500 mg/kg
Alcohols, C12-15, ethoxylated	oral	LD50 Rat: > 2000 mg/kg
Ethane-1,2-diol	dermal	LD50 Mouse: > 3500 mg/kg
	Oral ATE	LD50 Rat: 500 mg/kg (Converted acute toxicity point estimate)
Ethylene oxide	Inhalation ATE	LC50 Rat: 700 ppmV (4 hr (Gas))
	Oral ATE	LD50 Rat: 100 mg/kg

Action Presoak (High pH)

Name	Route	Result
1,4-dioxane	oral	LD50 Rat: 5150 mg/kg
	dermal	LD50 Rabbit: 7600 mg/kg
	inhalation	LC50 Rat: 9158 ppmV (4 hr - Vapor)
Sodium Xylenesulfonate	dermal	LD50 Rabbit: >= 2000 mg/kg
	oral	LD50 Rat: >= 3346 mg/kg
Alcohols, C9-11, branched and linear, ethoxylated	Oral ATE	LD50 Rat: 500 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg
	inhalation	LC50 Rat: >1.6 mg/m³ (4 hr [Aerosol])

Skin Corrosion/Irritation

Assessment:

Causes severe skin burns and eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
Potassium hydroxide	Causes severe skin burns.
2-Butoxyethanol	Causes skin irritation.
2-dodecoxyethyl hydrogen sulfate	Causes skin irritation.
Alcohols, C12-15, ethoxylated	Causes skin irritation.
Ethylene oxide	Causes severe skin burns.

Serious Eye Damage/Irritation

Assessment:

Causes serious eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
Potassium hydroxide	Causes serious eye damage.
D-Glucopyranose, oligomers, decyl octyl glycosides	Causes serious eye damage.
Trisodium nitrilotriacetate	Causes serious eye irritation.
2-Butoxyethanol	Causes serious eye irritation.
2-dodecoxyethyl hydrogen sulfate	Causes serious eye irritation.
Sodium Xylenesulfonate	Causes serious eye irritation.
Ethanol	Causes serious eye irritation.
Alcohols, C12-15, ethoxylated	Causes serious eye damage.
Ethylene oxide	Causes serious eye damage.
1,4-dioxane	Causes serious eye irritation.
Alcohols, C9-11, branched and linear, ethoxylated	Causes serious eye damage.

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:

Suspected of causing cancer.

Product Data: No data available.

Substance Data:

Name	Species	Result
Ethylene oxide		May cause cancer.
Trisodium nitrilotriacetate		Suspected of causing cancer.
1,4-dioxane		May cause cancer. 1,4-dioxane is characterized as "likely to be carcinogenic to humans." This characterization is based on the following findings: (1) inadequate evidence of carcinogenicity in humans, and (2) sufficient evidence in animals (i.e., hepatic tumors in multiple species [three strains of rats, two strains of mouse, and in guinea pigs] mesotheliomas of the peritoneum, mammary, and nasal tumors have also been observed in rats following 2 years of oral exposure to 1,4- dioxane). U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS).

International Agency for Research on Cancer (IARC):

Name	Classification
Ethanol	Not Applicable
Potassium hydroxide	Not Applicable
D-Glucopyranose, oligomers, decyl octyl glycosides	Not Applicable
2-dodecoxyethyl hydrogen sulfate	Not Applicable
Alcohols, C12-15, ethoxylated	Not Applicable
Ethane-1,2-diol	Not Applicable
Ethylene oxide	Group 1
2-Butoxyethanol	Group 3
Sodium Xylenesulfonate	Not Applicable
Trisodium nitrilotriacetate	Group 2B
1,4-dioxane	Group 2B
Alcohols, C9-11, branched and linear, ethoxylated	Not Applicable

National Toxicology Program (NTP):

Name	Classification
Potassium hydroxide	Not Applicable
D-Glucopyranose, oligomers, decyl octyl glycosides	Not Applicable

Action Presoak (High pH)

Name	Classification
Ethanol	Not Applicable
2-dodecoxyethyl hydrogen sulfate	Not Applicable
Ethane-1,2-diol	Not Applicable
Ethylene oxide	Known to be human carcinogens
2-Butoxyethanol	Not Applicable
Sodium Xylenesulfonate	Not Applicable
Alcohols, C12-15, ethoxylated	Not Applicable
Trisodium nitrilotriacetate	Not Applicable
1,4-dioxane	Reasonably anticipated to be human carcinogens
Alcohols, C9-11, branched and linear, ethoxylated	Not Applicable

OSHA Carcinogens: Not applicable

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

Product Data:
No data available.

Substance Data:

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

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.

Specific Target Organ Toxicity (Repeated Exposure)

Assessment:

May cause damage to organs through prolonged or repeated exposure.

Product Data:
No data available.

Substance Data:

Action Presoak (High pH)

Name	Result
Ethane-1,2-diol	May cause damage to Kidney through prolonged or repeated oral exposure.
Ethylene oxide	Studies on the effects of Ethylene oxide have concluded not only neurotoxic symptoms in humans, but also measured effects on nerve conduction velocities indicative of sensorimotor neuropathy, and axonal degeneration observed in nerve biopsies of exposed workers.

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
2-Butoxyethanol	Aquatic Invertebrates EC50 Daphnia magna: 1550 mg/L (48 hr [mobility])
	Fish LC50 Oncorhynchus mykiss: 1474 mg/L (96 hr)
	Aquatic Plants EC50 Freshwater algae: 1840 mg/L (72 hr [growth rate])
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])
Ethanol	Fish LC50 Pimephales promelas: 15,300 mg/L (96 hr)
	Aquatic Invertebrates LC50 Ceriodaphnia dubia: 5012 mg/L (48 hr)
	Aquatic Plants EC50 Chlorella vulgaris: 275 mg/L (72 hr [growth rate])
	Bacteria LC50 Paramaecium caudatum: 5,800 mg/L (4 hr)
Alcohols, C12-15, ethoxylated	Aquatic Invertebrates EC50 Acartia tonsa: 0.88 mg/L (48 hr [mortality])
	Aquatic Plants EC50 Raphidocelis subcapitata: 0.031 mg/L (72 hr [growth rate])
	Fish LC50 Pimephales promelas: 0.628 mg/L (96 hr, QSAR)
Ethane-1,2-diol	Aquatic Plants EC50 Raphidocelis subcapitata: 6500 - 13,000 mg/L (96 hr [growth rate])
	Aquatic Invertebrates EC50 Daphnia magna: > 100 mg/L (48 hr)
	Fish LC50 Pimephales promelas: 72,860 mg/L (96 hr)

Action Presoak (High pH)

Name	Result
Ethylene oxide	Aquatic Plants EC50 Pseudokirchneriella subcapitata: 240 mg/L (96 h, read-across substance data)
	Aquatic Invertebrates LC50 Daphnia magna: 212 mg/L (48 h)
	Fish LC50 Pimephales promelas: 84 mg/L (96 h)
Sodium Xylenesulfonate	Aquatic Plants EC50 Selenastrum capricornutum: >=758 mg/L (96 hr [growth rate; read-across])
	Fish LC50 Oncorhynchus mykiss: >=1580 mg/L (96 hr [read-across])
	Aquatic Invertebrates EC50 Daphnia magna: >1020 mg/L (48 hr [mobility; read-across])
Trisodium nitrilotriacetate	Fish LC50 Pimephales promelas: 114 mg/L (96 hr)
	Aquatic Plants EC50 Desmodesmus subspicatus: >100 mg/L (72 hr [growth rate])
	Aquatic Invertebrates EC50 Daphnia magna: 560 mg/L (96 hr [mortality])
1,4-dioxane	Fish LC50 Pimephales promelas: 9850 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: >1000 mg/L (48 hr)
	Aquatic Plants EC50 Pseudokirchneriella subcapitata: >1000 mg/L (72 hr)
Alcohols, C9-11, branched and linear, ethoxylated	Fish LC50 Oncorhynchus mykiss: 5 - 7 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: 2.5 mg/L (48 hr [mobility])
	Aquatic Plants EC50 Raphidocelis subcapitata: 1.4 mg/L (96 hr [cell number])

Chronic (Long-Term) Toxicity

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

Product Data: No data available.

Substance Data:

Name	Result
D-Glucopyranose, oligomers, decyl octyl glycosides	Fish NOEC Danio rerio: 1.8 mg/L (28 d [read-across])
	Aquatic Invertebrates NOEC Daphnia magna: 2 mg/L (21 d [read-across])
2-Butoxyethanol	Fish LC50 Poecilia reticulata: 983 mg/L (7 d)
	Aquatic Invertebrates EC50 Daphnia magna: 297 mg/L (21 d [reproduction])
Alcohols, C12-15, ethoxylated	Aquatic Invertebrates NOEC Daphnia magna: 0.036 mg/L (21 d [mortality])
Ethane-1,2-diol	Fish NOEC Menidia peninsulae: > 40 mg/L (28 d [mortality])
	Aquatic Invertebrates NOEC Daphnia magna: > 15,000 mg/L mg/L (21 d [reproduction])
Ethanol	Aquatic Invertebrates NOEC Daphnia Magna: 9.6 mg/L (10 d [reproduction])
Trisodium nitrilotriacetate	Aquatic Invertebrates LC50 Pagurus longicarpus: 1875 mg/L (7 d)
1,4-dioxane	Fish NOEC Pimephales promelas: 145 mg/L (32 d)
	Aquatic Invertebrates NOEC Daphnia magna: 1000 mg/L (21 d)
Alcohols, C9-11, branched and linear, ethoxylated	Fish NOEC Lepomis macrochirus: > 0.33 mg/L (30 d [mortality])
	Aquatic Invertebrates NOEC Daphnia magna: 0.77 mg/L (21 d [reproduction])

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.
Ethanol	This substance is readily biodegradable in water (84% degradation after 20 days, O2 consumption).
Potassium hydroxide	The study on degradability does not need to be conducted as the substance is inorganic.
2-Butoxyethanol	Readily biodegradable (90.4% degradation after 28 days, measured by CO2 evolution).
Ethane-1,2-diol	This substance is Readily biodegradable. 90-100% degradation in water, measured by DOC removal, after 10 days.
Ethylene oxide	Readily biodegradable (96% degradation after 28 days, measured by TOC removal).
1,4-dioxane	Not readily biodegradable (< 10 % degradation after 29 days, measured by CO2 evolution).
Sodium Xylenesulfonate	The substance is readily biodegradable. 83 - 85% degradation, measured by CO2 evolution, after 28 days.
Alcohols, C12-15, ethoxylated	This substance is readily biodegradable. > 60 - <= 100% degradation in water, after 28 days.
Trisodium nitrilotriacetate	Substance is readily biodegradable. >95% degradation in water, measured by DOC removal, after 28 days.
Alcohols, C9-11, branched and linear, ethoxylated	Substance is Readily biodegradable. 72% degradation in water, measured by inorganic C analysis, after 28 days.

Bioaccumulative Potential

Product Data: No data available.

Substance Data:

Name	Result
Ethanol	Accumulation in organisms is not to be expected (estimated BCF: 3).
Potassium hydroxide	Not expected to bioaccumulate, as it completely dissociates in water.
2-Butoxyethanol	Not expected to bioaccumulate (log Kow = 0.83).
Ethane-1,2-diol	This substance is not expected to bioaccumulate (log Pow=: -1.93).
Ethylene oxide	Low potential for bioaccumulation (logKow = -0.3).
Alcohols, C12-15, ethoxylated	This substance has the potential to bioaccumulate significantly (log Pow=5.79).
Trisodium nitrilotriacetate	Bioaccumulation is not expected. BCF (aquatic species): 3 L/kg ww
1,4-dioxane	Does not accumulate in aquatic organisms (mean BCF: 0.45).
Alcohols, C9-11, branched and linear, ethoxylated	The substance has the potential to bioaccumulate (log Pow=3.3 - 3.73).

Mobility in Soil

Product Data: No data available.

Substance Data:

Name	Result
Ethanol	This substance is highly mobile; therefore, adsorption to soil is not expected (log Koc: 0.2).

Action Presoak (High pH)

Name	Result
Potassium hydroxide	Low potential for adsorption. If emitted to surface water, sorption to sediment will be negligible.
D-Glucopyranose, oligomers, decyl octyl glycosides	Substance is expected to be mobile (log Koc: 1.7); therefore, adsorption to soil is not expected.
Ethane-1,2-diol	Adsorption to the solid soil phase is not expected.
Alcohols, C12-15, ethoxylated	This substance is moderately to hardly mobile therefore, adsorption to soil is expected ((log Koc=2.301 to 3.352 (MCI method) and log Koc=3.7 to 4.8 (Van Compernolle et al. (2006) method.))
Trisodium nitrilotriacetate	The substance has a low potential for adsorption to soil and sediment. log Kp (sediment-water): 1.6 L/kg
1,4-dioxane	Significant adsorption to solid soil phase is not expected (calculated log Koc: 0.51 at 25 °C).
Alcohols, C9-11, branched and linear, ethoxylated	The substance is moderately mobile (log Koc: 1.575 - 2.365).

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:

Potassium hydroxide	The substance is not PBT.
D-Glucopyranose, oligomers, decyl octyl glycosides	The substance is not PBT.
Trisodium nitrilotriacetate	The substance is not PBT.
Alcohols, C12-15, ethoxylated	This substance is not PBT.
2-Butoxyethanol	The substance is not PBT.
Ethanol	This substance is not PBT.
Ethane-1,2-diol	The substance is not PBT.
Ethylene oxide	This substance is not PBT.
Sodium Xylenesulfonate	The substance is not PBT.
1,4-dioxane	Under assessment as Persistent, Bioaccumulative and Toxic (PBT list).
Alcohols, C9-11, branched and linear, ethoxylated	The substance is not PBT.

vPvB assessment:

Potassium hydroxide	The substance is not vPvB.
D-Glucopyranose, oligomers, decyl octyl glycosides	The substance is not vPvB.
Trisodium nitrilotriacetate	The substance is not vPvB.
Alcohols, C12-15, ethoxylated	This substance is not vPvB.
2-Butoxyethanol	The substance is not vPvB.
Ethanol	This substance is not vPvB.
Ethane-1,2-diol	The substance is not vPvB.
Ethylene oxide	This substance is not vPvB.
Sodium Xylenesulfonate	The substance is not vPvB.

1,4-dioxane	This substance is not vPvB.
Alcohols, C9-11, branched and linear, ethoxylated	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 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	1814
UN Proper Shipping Name	Potassium 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
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.

Action Presoak (High pH)

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

SARA Section 313 Toxic Chemicals:

111-76-2	2-Butoxyethanol	Listed
107-21-1	Ethane-1,2-diol	Listed
75-21-8	Ethylene oxide	Listed
5064-31-3	Trisodium nitrilotriacetate	Listed
123-91-1	1,4-dioxane	Listed

CERCLA:

1310-58-3	Potassium hydroxide	Listed	1000 lb
111-76-2	2-Butoxyethanol	Listed	N/A
64-17-5	Ethanol	Listed	100 lb
107-21-1	Ethane-1,2-diol	Listed	5000 lbs
75-21-8	Ethylene oxide	Listed	10 lbs
123-91-1	1,4-dioxane	Listed	100 lbs

RCRA:

64-17-5	Ethanol	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):

107-21-1	Ethane-1,2-diol	Listed
75-21-8	Ethylene oxide	Listed

Massachusetts Right to Know:

1310-58-3	Potassium hydroxide	Listed
64-17-5	Ethanol	Listed
107-21-1	Ethane-1,2-diol	Listed
75-21-8	Ethylene oxide	Listed
111-76-2	2-Butoxyethanol	Listed
5064-31-3	Trisodium nitrilotriacetate	Listed
123-91-1	1,4-dioxane	Listed

New Jersey Right to Know:

1310-58-3	Potassium hydroxide	Listed
64-17-5	Ethanol	Listed
107-21-1	Ethane-1,2-diol	Listed
75-21-8	Ethylene oxide	Listed
111-76-2	2-Butoxyethanol	Listed
123-91-1	1,4-dioxane	Listed

New York Right to Know:

1310-58-3	Potassium hydroxide	Listed
64-17-5	Ethanol	Listed

Action Presoak (High pH)

107-21-1	Ethane-1,2-diol	Listed
75-21-8	Ethylene oxide	Listed
111-76-2	2-Butoxyethanol	Listed
123-91-1	1,4-dioxane	Listed

Pennsylvania Right to Know:

1310-58-3	Potassium hydroxide	Listed
64-17-5	Ethanol	Listed
107-21-1	Ethane-1,2-diol	Listed
75-21-8	Ethylene oxide	Listed
111-76-2	2-Butoxyethanol	Listed
123-91-1	1,4-dioxane	Listed

California Proposition 65:

⚠**WARNING:** This product can expose you to 1,4-dioxane; which is 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 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

Initial Preparation Date: 06.19.2019

Revision date: 08.22.2023

End of Safety Data Sheet