Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial Preparation Date: 05.15.2019

Revision date: 02.08.2024

Liquid Laundry Detergent

SECTION 1: Identification

Product Identifier

Product Name: Liquid Laundry Detergent

Product code: LD-5

Recommended Use of the Product and Restriction on Use

Relevant Identified Uses: Detergent

Uses Advised Against: NA

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

Manufacturer or Supplier Details

Manufacturer:

United States

Heiden Industries
1200 Veterans Blvd.
Kenner, LA. 70062
8008784913
TODD@HEIDENIND.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 1A
Reproductive toxicity, category 1B
Specific target organ toxicity - single exposure, category 3, respiratory tract irritation

Label elements

Hazard Pictograms:

Signal Word: Danger

Hazard statements:

H350 May cause cancer.
H360 May damage fertility or the unborn child.
H335 May cause respiratory irritation
H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

Precautionary Statements:

P202 Do not handle until all safety precautions have been read and understood
P280 Wear protective gloves/protective clothing/eye protection/face protection
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P271 Use only outdoors or in a well-ventilated area
P260 Do not breathe dust/fume/gas/mist/vapors/spray
P264 Wash hands thoroughly after handling
P308+P313 IF exposed or concerned: Get medical advice/attention
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
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
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
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 materials according to applicable regulatory entities.

Hazards Not Otherwise Classified: None

SECTION 3: Composition/Information on Ingredients

Identification	Name	Weight %
CAS Number: 68584-22-5	Benzenesulfonic acid, C10-16-alkyl derivatives	<35
CAS Number: 127087-87-0	4-Nonylphenol, branched, ethoxylated	<35
CAS Number: 527-07-1	Sodium gluconate	<25
CAS Number: 7758-29-4	Pentasodium triphosphate	<20
CAS Number: 68439-46-3	Alcohols, C9-11, branched and linear, ethoxylated	<10
CAS Number: 102-71-6	2,2',2''-Nitrilotriethanol	<9
CAS Number: 61789-40-0	1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	<5.27
CAS Number: 1300-72-7	Sodium Xylenesulfonate	<20
CAS Number: 7664-93-9	Sulfuric acid	<3.5
CAS Number: 68648-87-3	Benzene, C10-16-alkyl derivs	<3.5

CAS Number: 7722-88-5	Tetrasodium pyrophosphate	<1.2
CAS Number: 52-51-7	Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	<10
CAS Number: 56-81-5	Glycerol	<0.51
CAS Number: 7757-82-6	Sodium sulphate	<0.24
CAS Number: 50-00-0	Formaldehyde	<0.0153
CAS Number: 79-43-6	Dichloroacetic acid	<0.0153
CAS Number: 75-21-8	Ethylene oxide	<0.01
CAS Number: 123-91-1	1,4-dioxane	<0.01
CAS Number: 111-42-2	2,2'-iminodiethanol	<1

Additional Information: None

SECTION 4: First Aid Measures

Description of First Aid Measures

General Notes:

Not determined or not applicable.

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 symptoms develop or persist, seek medical advice/attention.

After Skin Contact:

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:

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 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.

Delayed Symptoms and Effects:

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

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

Immediate Medical Attention and Special Treatment

Specific Treatment:

If respiratory symptoms persist, seek medical attention.

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:

Not determined or not applicable.

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. 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). 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. 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	Sulfuric acid	7664-93-9	8-Hour TWA: 0.2 mg/m³ (thoracic fraction)
	Glycerol	56-81-5	TLV-TWA: 10 mg/m³ (8 hr, Particles, insoluble or poorly soluble, not otherwise specified, inhalable)
	Glycerol	56-81-5	TLV-TWA: 3 mg/m³ (8 hr, Particles, insoluble or poorly soluble, not otherwise specified, respirable)
	2,2',2''-Nitrilotriethanol	102-71-6	8-Hour TWA: 5 mg/m³
	Ethylene oxide	75-21-8	8-Hour TWA: 1 ppm
	1,4-dioxane	123-91-1	8-Hour TWA: 20 ppm
	Formaldehyde	50-00-0	15-Minute STEL: 0.3 ppm
	Formaldehyde	50-00-0	TLV-TWA: 0.1 ppm (8 hr)
	Dichloroacetic acid	79-43-6	8-Hour TWA: 0.5 ppm
	2,2'-iminodiethanol	111-42-2	TWA: 1 mg/m³
NIOSH	Sulfuric acid	7664-93-9	REL-TWA: 1 mg/m³ (10 hr)
	Sulfuric acid	7664-93-9	IDLH: 15 mg/m³
	Tetrasodium pyrophosphate	7722-88-5	REL-TWA: 5 mg/m³ (up to 10 hr)
	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])
	Formaldehyde	50-00-0	IDLH: 20 ppm
	Formaldehyde	50-00-0	Ceiling Limit: 0.1 ppm ([15-min])

Liquid Laundry Detergent

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Formaldehyde	50-00-0	REL: 0.016 ppm ([for up to a 10-hour workday)
	2,2'-iminodiethanol	111-42-2	TWA: 15 mg/m³ (3 ppm)
OSHA	Sulfuric acid	7664-93-9	8-Hour TWA-PEL: 1 mg/m³
	Glycerol	56-81-5	8-Hour TWA-PEL: 15 mg/m³ (Mist, total)
	Glycerol	56-81-5	8-Hour TWA-PEL: 5 mg/m³ (Mist, respirable fraction)
	Tetrasodium pyrophosphate	7722-88-5	8-Hour TWA-PEL: 5 mg/m³
	Ethylene oxide	75-21-8	8-Hour TWA-PEL: 1 ppm
	Ethylene oxide	75-21-8	15-Minute STEL: 5 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)
	Formaldehyde	50-00-0	STEL: 2 ppm
	Formaldehyde	50-00-0	TWA: 0.75 ppm
	2,2'-iminodiethanol	111-42-2	TWA: 15 mg/m³ (3 ppm)
United States(California)	Glycerol	56-81-5	8-Hour TWA-PEL: 10 mg/m³ (Particulates not otherwise regulated, total dust)
	Glycerol	56-81-5	8-Hour TWA-PEL: 5 mg/m³ (Particulates not otherwise regulated, respirable fraction)
	Sulfuric acid	7664-93-9	8-Hour TWA-PEL: 0.1 mg/m³
	Sulfuric acid	7664-93-9	15-Minute STEL: 3 mg/m³
	Tetrasodium pyrophosphate	7722-88-5	8-Hour TWA-PEL: 5 mg/m³
	2,2',2''-Nitrilotriethanol	102-71-6	8-Hour TWA: 5 mg/m³
	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)
	1,4-dioxane	123-91-1	8-Hour TWA-PEL: 1 mg/m³ (0.28 ppm)
	Formaldehyde	50-00-0	15-Minute STEL: 2 ppm
	Formaldehyde	50-00-0	8-Hour TWA-PEL: 0.75 ppm
	Formaldehyde	50-00-0	REL: 55 ug/m³ (Acute Inhalation)
	Formaldehyde	50-00-0	REL: 9 ug/m³ (Chronic Inhalation)
	2,2'-iminodiethanol	111-42-2	PEL: 2 mg/m³ (0.46 ppm)

Biological Limit Values:

Country (Legal Basis)	Substance	Identifier	Determinant	Specimen	Sampling time	Permissible limits

Country (Legal Basis)	Substance	Identifier	Determinant	Specimen	Sampling time	Permissible limits
ACGIH	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:

Not determined or not applicable.

Skin and Body Protection:

Not determined or not applicable.

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. 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	6-8
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.
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
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])
2,2'-iminodiethanol	oral	LD50 Rat: 1100 mg/kg
Benzenesulfonic acid, C10-16-alkyl derivatives	inhalation	LC50 Rat: >1.9 mg/L (4 h [aerosol])
	Dermal ATE	LD50 Rabbit: 1100 mg/kg
	Oral ATE	LD50 Rat: 500 mg/kg
Sulfuric acid	oral	LD50 Rat: 2140 mg/kg

Name	Route	Result
Glycerol	oral	LD50 Rat: 27,200 mg/kg
	dermal	LD50 Guinea Pig: 56,750 mg/kg
	inhalation	LC50 Rat: > 5.85 mg/L (4 hr [Aerosol])
Sodium sulphate	oral	LD50 Rat: > 2000 mg/kg
	inhalation	LC50 Rat: > 2.4 mg/L (4 hr [Dust])
Pentasodium triphosphate	oral	LD50 Rat: >2000 mg/kg
	dermal	LD50 Rabbit: > 4640 mg/kg
	inhalation	LC50 Rat: 0.39 mg/L (4 hr [Aerosol])
Tetrasodium pyrophosphate	oral	LD50 Rat: 300 - 2000 mg/kg
	dermal	LD50 Rabbit: >2000 mg/kg
	inhalation	LC50 Rat: >0.58 mg/L (4 hr - Dust)
2,2',2''-Nitrilotriethanol	oral	LD50 Rat: 6400 mg/kg
	dermal	LD50 Rabbit: >2000 mg/kg
Ethylene oxide	Inhalation ATE	LC50 Rat: 700 ppmV (4 hr (Gas))
	Oral ATE	LD50 Rat: 100 mg/kg
1,4-dioxane	oral	LD50 Rat: 5150 mg/kg
	dermal	LD50 Rabbit: 7600 mg/kg
	inhalation	LC50 Rat: 9158 ppmV (4 hr - Vapor)
Alcohols, C9-11, branched and linear, ethoxylated	oral	LD50 Rat: 3488 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg
	inhalation	LC50 Rat: >1.6 mg/m³ (4 hr [aerosol])
Formaldehyde	oral	LD50 Rat: 100 mg/kg
	inhalation	LC50 Rat: 3 mg/L (4 hr [vapor])
	dermal	LD50 Rat: 300 mg/kg
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
Dichloroacetic acid	dermal	LD50 Rabbit: 797 mg/kg
	oral	LD50 Rat: 2820 mg/kg
4-Nonylphenol, branched, ethoxylated	oral	LD50 Rat: 657.2 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.
2,2'-iminodiethanol	Causes skin irritation.

Name	Result
Benzenesulfonic acid, C10-16-alkyl derivatives	Causes severe skins burns.
Sulfuric acid	Causes severe skin burns.
Ethylene oxide	Causes severe skin burns.
Formaldehyde	Causes severe skin burns.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Causes skin irritation.
Dichloroacetic acid	Causes severe skin burns.
4-Nonylphenol, branched, ethoxylated	Causes skin irritation.

Serious Eye Damage/Irritation

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.
2,2'-iminodiethanol	Causes serious eye damage.
Sodium Xylenesulfonate	Causes serious eye irritation.
Benzenesulfonic acid, C10-16-alkyl derivatives	Causes serious eye damage.
Sulfuric acid	Causes serious eye damage.
Tetrasodium pyrophosphate	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.
Formaldehyde	Causes serious eye damage.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Causes serious eye irritation.
Dichloroacetic acid	Causes serious eye damage.
4-Nonylphenol, branched, 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:

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:

May cause cancer.

Product Data: No data available.

Substance Data:

Name	Species	Result
Ethylene oxide		May cause 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).
Formaldehyde		May cause cancer.
Dichloroacetic acid		Suspected of causing cancer.

International Agency for Research on Cancer (IARC):

Name	Classification
Glycerol	Not Applicable
Sodium sulphate	Not Applicable
Sodium Xylenesulfonate	Not Applicable
Benzenesulfonic acid, C10-16-alkyl derivatives	Not Applicable
Sulfuric acid	Group 1
Benzene, C10-16-alkyl derivs	Not Applicable
Pentasodium triphosphate	Not Applicable
Tetrasodium pyrophosphate	Not Applicable
2,2',2''-Nitrilotriethanol	Group 3
Sodium gluconate	Not Applicable
Ethylene oxide	Group 1
1,4-dioxane	Group 2B
Alcohols, C9-11, branched and linear, ethoxylated	Not Applicable
Formaldehyde	Group 1

Name	Classification
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	Not Applicable
Dichloroacetic acid	Group 2B
4-Nonylphenol, branched, ethoxylated	Not Applicable
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Not Applicable
2,2'-iminodiethanol	Group 2B

National Toxicology Program (NTP):

Name	Classification
Glycerol	Not Applicable
Sodium sulphate	Not Applicable
Sodium Xylenesulfonate	Not Applicable
Benzenesulfonic acid, C10-16-alkyl derivatives	Not Applicable
Sulfuric acid	Known to be human carcinogens
Benzene, C10-16-alkyl derivs	Not Applicable
Pentasodium triphosphate	Not Applicable
Tetrasodium pyrophosphate	Not Applicable
2,2',2''-Nitrilotriethanol	Not Applicable
Sodium gluconate	Not Applicable
Ethylene oxide	Known to be human carcinogens
1,4-dioxane	Reasonably anticipated to be human carcinogens
Alcohols, C9-11, branched and linear, ethoxylated	Not Applicable
Formaldehyde	Known to be human carcinogens
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
4-Nonylphenol, branched, ethoxylated	Not Applicable
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Not Applicable
2,2'-iminodiethanol	Not Applicable

OSHA Carcinogens:

Ingredient Name	CAS	OSHA Carcinogens Status
Formaldehyde	50-00-0	Yes
2,2'-iminodiethanol	111-42-2	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.
Formaldehyde	Suspected of causing genetic defects.

Reproductive Toxicity

Assessment:
May damage fertility or the unborn child.

Product Data:
No data available.

Substance Data:

Name	Result
Ethylene oxide	May damage fertility. Suspected of damaging the unborn child.
Dichloroacetic acid	May damage fertility or the unborn child.
	May cause harm to breast-fed children.
2,2'-iminodiethanol	Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure)

Assessment:
May cause respiratory irritation.

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.
Formaldehyde	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
2,2'-iminodiethanol	May cause damage to organs through prolonged or repeated exposure.
Sulfuric acid	Repeated or prolonged inhalation may damage the lungs. Risk of tooth erosion upon repeated or prolonged exposure to an aerosol of this substance.

Name	Result
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.
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
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Aquatic Invertebrates EC50 Daphnia magna: 1.4 mg/L (48 hr [mobility])
	Fish LC50 Lepomis macrochirus: 11 mg/L (96 hr)
	Aquatic Plants EC50 Desmodesmus subspicatus: 0.026 mg/L (72 hr [growth rate])
2,2'-iminodiethanol	Fish LC50 Oncorhynchus mykiss: 460 mg/L (96 hr)
	Aquatic Invertebrates EC50 Ceriodaphnia dubia: 30.1 mg/L (48 hr [mobility])
	Aquatic Plants EC50 Raphidocelis subcapitata: 9.5 mg/L (72 hr [growth rate])
Glycerol	Fish LC50 Oncorhynchus mykiss: 54,000 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: >10,000 mg/L (24 hr [mobility])
Sodium sulphate	Fish LC50 Pimephales promelas: 7960 mg/L (96 hr)
	Aquatic Invertebrates LC50 Daphnia magna: 1766 mg/L (48 hr)
Sulfuric acid	Aquatic Plants EC50 Algae: >100 mg/L (72 hr [growth rate])
	Fish LC50 Lepomis macrochirus: >16 - <28 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: >100 mg/L (48 hr [mobility])
Pentasodium triphosphate	Fish LC50 Danio rerio: >1850 mg/L (24 hr)
	Aquatic Invertebrates EC50 Daphnia magna: >100 mg/L (48 hr [immobilisation])

Name	Result
Tetrasodium pyrophosphate	Aquatic Plants EC50 Desmodesmus subspicatus: >100 mg/L (72 hr [growth rate])
	Fish LC50 Oncorhynchus mykiss: >100 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnla magna: >100 mg/L (48 hr [Immobilization])
2,2',2''-Nitrilotriethanol	Fish LC50 Pimephales promelas: 11,800 mg/L (96 hr)
	Aquatic Invertebrates EC50 Ceriodaphnia dubia: 609.88 mg/L (48 hr [mortality])
	Aquatic Plants EC50 Desmodesmus subspicatus: 216 mg/L (72 hr [growth rate])
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)
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])
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: 3.48 mg/L (72 hr [biomass])
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])
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])
4-Nonylphenol, branched, ethoxylated	Fish LC50 Oryzias latipes: 11.6 mg/L (96 hr [Read-across substance data])
	Aquatic Invertebrates EC50 Daphnia magna: 14 mg/L (48 hr [mortality and mobility, Read-across substance data])
	Aquatic Plants EC50 Desmodesmus subspicatus: 19.485 mg/L (72 hr [growth rate, QSAR substance data])
Benzenesulfonic acid, C10-16-alkyl derivatives	Aquatic Invertebrates EC50 Daphnia magna: >1000 mg/L (48hr [mobility] Read-across)
	Aquatic Plants EC50 Raphidocelis subcapitata: >1000 mg/L (72 hr [growth rate] Read-across)

Chronic (Long-Term) Toxicity

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

Product Data: No data available.

Substance Data:

Name	Result
2,2'-iminodiethanol	Aquatic Invertebrates NOEC Daphnia magna: 0.78 mg/L (21 d [reproduction])
Sodium sulphate	Aquatic Invertebrates EC50 Ceriodaphnia dubia: 1698 mg/L (7 d [reproduction])
2,2',2''-Nitrilotriethanol	Aquatic Invertebrates NOEC Daphnia magna: 16 mg/L (21 d [mortality])
	Fish NOEC Fish: > 1 mg/L ([Calculation (Q)SAR])
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 Pimephales promelas: 0.28 mg/L (30 d [mortality, Read-across substance data])
	Aquatic Invertebrates NOEC Daphnia magna: 0.77 mg/L (21 d [reproduction, Read-across substance data])
Formaldehyde	Aquatic Invertebrates NOEC Daphnia magna: 1.04 mg/L (21 d)
	Fish LC50 Danio rerio: 6.9 mg/L (6 d)
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])
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	Fish NOEC Oncorhynchus mykiss: 2.61 mg/L (28 d [mortality])
	Aquatic Invertebrates NOEC Daphnia magna: 0.27 mg/L (21 d [appearance of first brood, Immobility, number of unhatched eggs])

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 CO2 evolution, after 28 days.
Benzenesulfonic acid, C10-16-alkyl derivatives	Under test conditions no biodegradation observed.
Glycerol	The substance is readily biodegradable. 94% degradation in water, measured by TOC removal, after 1 day.
Pentasodium triphosphate	Persistence assessment based on biodegradability is not relevant for inorganic compounds such as this substance.
Tetrasodium pyrophosphate	Biodegradation studies are not applicable to inorganic substances.
2,2',2''-Nitrilotriethanol	The substance is readily biodegradable. 100% degradation measured by CO2 evolution, after 5 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).
Alcohols, C9-11, branched and linear, ethoxylated	The substance is readily biodegradable. 72% degradation in water, measured by inorganic C analysis, after 28 days (Read-across substance data)..
Formaldehyde	Substance is readily biodegradable 99% degradation measured by DOC removal after 28 days.

Name	Result
Dichloroacetic acid	The substance is readily biodegradable. 93% degradation, measured by Oxygen consumption, after 15 days.
4-Nonylphenol, branched, ethoxylated	The substance is readily biodegradable. 99% degradation in water, measured by TOC removal after 28 days.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is readily biodegradable. > 90% degradation (test mat. analysis), after 5 days.
2,2'-iminodiethanol	The substance is readily biodegradable. 93% degradation in water, measured by O2 consumption, after 28 days.

Bioaccumulative Potential

Product Data: No data available.

Substance Data:

Name	Result
2,2'-iminodiethanol	The substance is not expected to bioaccumulate (BCF= 9.16 L/kg & log Pow= -2.46 at 25 °C).
Glycerol	The substance is not expected to bioaccumulate (log Pow= -1.75 at 25 °C).
Sodium sulphate	The substance is not expected to bioaccumulate. It dissociates in water and the sulfate ion is easily reduced in the sulfur cycle.
Pentasodium triphosphate	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for inorganic compounds such as this substance.
Tetrasodium pyrophosphate	Tetrasodium pyrophosphate is hydrolysed to orthophosphate and sodium ions in aqueous and biological systems. The degradation products of tetrasodium pyrophosphate are essential nutrients (food elements) for plants, and stimulate the growth of water plants (macrophytes) and/or algae (phytoplankton) and are ubiquitous in the environment. The potential for bioaccumulation is therefore considered to be minimal.
2,2',2''-Nitrilotriethanol	Significant accumulation in organisms is not to be expected (BCF: < 3.9 L/kg).
Ethylene oxide	Low potential for bioaccumulation (logKow = -0.3).
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 & BCF= 237 L/kg, Read-across substance data).
Formaldehyde	Accumulation in aquatic organisms is not to be expected [BCF (aquatic species): 0.396 dimensionless].
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is not expected to bioaccumulate significantly (estimated BCF: 70.79 L/kg).
Dichloroacetic acid	This substance has low potential for bioaccumulation.
4-Nonylphenol, branched, ethoxylated	The substance is not expected to bioaccumulate (BCF= > 9.09 - < 16 L/kg, Read-across substance data).
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).

Mobility in Soil

Product Data: No data available.

Substance Data:

Name	Result
2,2'-iminodiethanol	The substance is expected to be highly mobile, therefore, adsorption to soil is not expected (calculated log Koc= 1).
Sodium sulphate	The substance is not expected to adsorb onto soil or sediment. It dissociates in water and the sulfate ion is easily reduced in the sulfur cycle.
Pentasodium triphosphate	The substance is moderately mobile, therefore, slight adsorption to soil is expected (log Koc=2.15)
2,2',2''-Nitrilotriethanol	Substance is slightly mobile with high potential for adsorption to soil and sediment. (log Koc: 3.65 dimensionless).
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, therefore, moderate adsorption to soil is expected (log Koc=2.7 - 3.5 at 25 °C, QSAR substance data).
Formaldehyde	Adsorption to solid soil phase is possible. [Koc at 20 °C: 15.9]
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is mobile to moderately mobile (experimental log Koc: 1.812 dimensionless; calculated Koc: 648 L/kg); therefore, moderate adsorption to soil can be expected.
Dichloroacetic acid	This substance will not adsorb at all to soils or sediments should these environmental compartments be exposed to it.
4-Nonylphenol, branched, ethoxylated	The substance is moderately mobile, therefore, slight adsorption to soil is expected (log Koc= 2.631 dimensionless at 25 °C).
Sulfuric acid	The substance is highly mobile then it has a low potential for adsorption to soil and sediment [Koc at 20 °C: 1].
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	The substance is highly mobile; therefore, adsorption to soil is not expected (Koc= 1 L/kg at 25 °C, QSAR substance data).

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:

2,2'-iminodiethanol	The substance is not PBT.
Sodium sulphate	The PBT assessment does not apply to inorganic substances.
Sulfuric acid	The PBT assessment does not apply to inorganic substances.
Glycerol	The substance is not PBT.
Pentasodium triphosphate	PBT assessment does not apply to inorganic compounds such as this substance.
Tetrasodium pyrophosphate	PBT Assessment does not apply to inorganic substances.
2,2',2''-Nitrilotriethanol	The substance is not PBT.
Ethylene oxide	This 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.
Formaldehyde	Not a PBT substance.

1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is not PBT.
Dichloroacetic acid	The substance is not PBT.
4-Nonylphenol, branched, ethoxylated	The substance is not PBT.
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	The substance is not PBT.

vPvB assessment:

2,2'-iminodiethanol	The substance is not vPvB.
Sodium sulphate	The vPvB assessment does not apply to inorganic substances.
Sulfuric acid	The vPvB assessment does not apply to inorganic substances.
Glycerol	The substance is not vPvB.
Pentasodium triphosphate	vPvB assessment does not apply to inorganic compounds such as this substance.
Tetrasodium pyrophosphate	vPvB Assessment does not apply to inorganic substances.
2,2',2''-Nitrilotriethanol	The substance is not vPvB.
Ethylene oxide	This substance is not vPvB.
1,4-dioxane	This substance is not vPvB.
Alcohols, C9-11, branched and linear, ethoxylated	The substance is not vPvB.
Formaldehyde	Not a vPvB substance.
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	The substance is not vPvB.
Dichloroacetic acid	The substance is not vPvB.
4-Nonylphenol, branched, ethoxylated	The substance is not vPvB.
Bronopol (INN) 2-bromo-2-nitropropane-1,3-diol	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

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): None of the ingredients are listed.

SARA Section 302 Extremely Hazardous Substances:

7664-93-9	Sulfuric acid	Listed
75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	Listed

SARA Section 313 Toxic Chemicals:

7664-93-9	Sulfuric acid	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed
50-00-0	Formaldehyde	Listed
127087-87-0	4-Nonylphenol, branched, ethoxylated	Listed
111-42-2	2,2'-iminodiethanol	Listed

CERCLA:

7664-93-9	Sulfuric acid	Listed	1000 lbs
75-21-8	Ethylene oxide	Listed	10 lbs
123-91-1	1,4-dioxane	Listed	100 lbs
50-00-0	Formaldehyde	Listed	100 lb

111-42-2	2,2'-iminodiethanol	Listed	100 lbs

RCRA:

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

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

7664-93-9	Sulfuric acid	Listed
75-21-8	Ethylene oxide	Listed
50-00-0	Formaldehyde	Listed

Massachusetts Right to Know:

7757-82-6	Sodium sulphate	Listed
7664-93-9	Sulfuric acid	Listed
56-81-5	Glycerol	Listed
7758-29-4	Pentasodium triphosphate	Listed
7722-88-5	Tetrasodium pyrophosphate	Listed
102-71-6	2,2',2''-Nitrilotriethanol	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed
50-00-0	Formaldehyde	Listed
111-42-2	2,2'-iminodiethanol	Listed

New Jersey Right to Know:

7664-93-9	Sulfuric acid	Listed
56-81-5	Glycerol	Listed
7722-88-5	Tetrasodium pyrophosphate	Listed
102-71-6	2,2',2''-Nitrilotriethanol	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed
50-00-0	Formaldehyde	Listed
79-43-6	Dichloroacetic acid	Listed
111-42-2	2,2'-iminodiethanol	Listed

New York Right to Know:

7757-82-6	Sodium sulphate	Listed
7664-93-9	Sulfuric acid	Listed
7758-29-4	Pentasodium triphosphate	Listed
7722-88-5	Tetrasodium pyrophosphate	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed
50-00-0	Formaldehyde	Listed
79-43-6	Dichloroacetic acid	Listed
111-42-2	2,2'-iminodiethanol	Listed

Pennsylvania Right to Know:

7757-82-6	Sodium sulphate	Listed

7664-93-9	Sulfuric acid	Listed
56-81-5	Glycerol	Listed
7758-29-4	Pentasodium triphosphate	Listed
7722-88-5	Tetrasodium pyrophosphate	Listed
102-71-6	2,2',2''-Nitrilotriethanol	Listed
75-21-8	Ethylene oxide	Listed
123-91-1	1,4-dioxane	Listed
50-00-0	Formaldehyde	Listed
111-42-2	2,2'-iminodiethanol	Listed

California Proposition 65:

⚠**WARNING:** This product can expose you to chemicals including Strong inorganic acid mists containing sulfuric acid, 1,4-dioxane, Formaldehyde and 2,2'-iminodiethanol 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 chemicals including Ethylene oxide and Dichloroacetic acid; 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

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End of Safety Data Sheet