

Section 7 ~ Handling and Storage

Handling Precautions: Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Use approved, original containers only. Keep containers closed when not in use. Do not expose containers to open flame, excessive heat, or direct sunlight. Do not puncture or drop containers. Handle with care and avoid spillage on the floor. Keep material out of reach of children. Keep material away from incompatible materials. Wash thoroughly after handling. Ensure adequate ventilation.

Storage Requirements: Keep away from heat, sparks and flames. Do not store in direct sunlight. Store away from strong acids, strong reducing agents, strong oxidizing agents, organic materials, chlorinated solvents, reactive metals (Zinc & Aluminum) and their alloys (Brass), galvanized surfaces, Copper and its alloys, Nickel and its alloys, Alkali metals (Lithium, Sodium, Potassium, etc.), Tin & Tin oxides, Lead, Iron, Ammonia, Cyanides, Activated Carbon, Nitro compounds (Nitromethane, etc.), Azides, Anhydrides and Halogens.

Section 8 ~ Exposure Controls/Personal Protection

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Personal Protective Equip

Eye/Face Protection: When using unheated material use safety glasses and compatible gloves according to HMIS PP, B. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin Protection: Handle with gloves made from Neoprene, Nitrile or Buna Rubber. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose of contaminated gloves according to applicable laws and laboratory practices.

Body Protection: Chemically resistant gloves and safety glasses are recommended. Type of protective equipment should be selected based on concentration amount and conditions of use of this material.

Respiratory Protection: Full-face dust/vapor respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds.

Control of Environmental Exposure: Prevent leakage or spillage if safe to do so. Do not let material enter drains.

Components with Workplace Control Parameters:

Component(s): 2-Butoxyethanol; Sodium Hydroxide

CAS-No(s): 111-76-2; 1310-73-2

USA NIOSH Recommended Exposure Limits (C): 2 mg/m³

USA NIOSH Recommended Exposure Limits (ST): 2 mg/m³

USA ACGIH (CEIL/TLV): 2 mg/m³

USA ACGIH (C/TLV): 2 mg/m³

USA OSHA Table Z-1 Limits for Air Contaminants (C): 2 mg/m³

USA OSHA Occupational Exposure Limits Table Z-1 Limits for Air Contaminants (TWA): 2 mg/m³

Biological Occupational Exposure Limits:

Component: 2-Butoxyethanol

CAS-No: 111-76-2

Parameters: Butoxyacetic acid (BAA) Biological Specimen: Urine

USA ACGIH Biological Exposure Indices: 200 mg/g

Section 9 ~ Physical and Chemical Properties

Appearance: Clear, purple liquid

Physical State: Liquid

Odor Threshold: Not determined

Particle Size: DNA

Spec Grav./Density: 1.085 g/ml (9.05 lbs/gal)

Viscosity: Not determined

Sat. Vap. Conc.: Not determined

Boiling Point: Not determined

Flammability: (solid, gas): Not determined

Partition Coefficient: Not determined

Vapor Pressure: (mm Hg @ 20 °C): Not determined

pH: @ 1%: 11.0 - 12.0

Evap. Rate: Not determined

Molecular Weight: MIXTURE

Decomp Temp: Not determined

Odor: Mild, glycol ether-like

Molecular Formula: MIXTURE

Solubility: 100%

Softening Point: DNA

Percent Volatile: 6.25%

Heat Value: Not determined

Freezing/Melting Pt.: Not determined

Flash Point: DNA

Octanol: Not determined

Vapor Density: (air = 1): 4.08

VOC: 57 g/L

Bulk Density: Not determined

Auto-Ignition Temp: Not determined

UFL/LFL: Not determined

Section 10 ~ Stability and Reactivity

Stability: Product is stable under normal conditions.

Conditions to Avoid: Incompatibilities, flames, ignition sources.

Materials to Avoid: Peroxides, Nitric Acid, strong acids, strong reducing agents, strong oxidizing agents, organic materials, chlorinated solvents, reactive metals (Zinc & Aluminum) and their alloys (Brass), galvanized surfaces, Alkali metals (Lithium, Sodium, Potassium, etc.), Tin & Tin oxides, Lead, Ammonia, Cyanides, Activated Carbon, Nitro compounds (Nitromethane, etc.), Azides, Anhydrides and Halogens.

Extended contact: Copper and its alloys, Nickel and its alloys and Iron.

Hazardous Decomposition Products: Carbon Oxides, Nitrogen Oxides (NO_x), Phosphorous Oxides, Sodium Oxides and Silicon Oxides.

Hazardous Polymerization: Will not occur.

Section 11 ~ Toxicological Information

Component(s): 2-Butoxyethanol; Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-; Triphosphoric acid, pentasodium salt; Sodium Hydroxide

CAS No(s): 111-76-2; 9016-45-9; 7758-29-4; 1310-73-2

Acute Toxicity:

LD50 Oral - Rat: 470 mg/kg

LC50 Inhalation - Rat: 450 ppm (4 h) LD50 Dermal - Rabbit: 220 mg/kg LD50 Intraperitoneal - Rat: 220 mg/kg LD50 Intravenous - Rat: 307 mg/kg

Skin Corrosion/Irritation: Rabbit skin - Causes severe burns (24 h).

Serious Eye Damage/Eye Irritation: Rabbit eyes - Corrosive (24 h).

Respiratory or Skin Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals (Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-).

Germ Cell Mutagenicity: No data available.

Carcinogenicity:

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (2-Butoxyethanol).

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals (2-Butoxyethanol).

Specific Target Organ Toxicity - Single Exposure: No data available.

Specific Target Organ Toxicity - Repeated Exposure: No data available.

Aspiration Hazard: No data available.

Additional Information:

Component: 2-Butoxyethanol; RTECS: KJ8575000
 Component: Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-; RTECS: AX0247000
 Component: Triphosphoric acid, pentasodium salt; RTECS: YK4570000
 Component: Sodium Hydroxide; RTECS: WB4900000

Section 12 ~ Ecological Information

Component(s): 2-Butoxyethanol; Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-; Triphosphoric acid, pentasodium salt; Sodium Hydroxide

CAS No(s): 111-76-2; 9016-45-9; 7758-29-4; 1310-73-2

Toxicity:

Toxicity to fish:

LC50 - other fish: 220 mg/l (96 h)
 LC50 - Oncorhynchus mykiss (Rainbow Trout): 45.4 mg/l (96 h) LC50 - Gambusia affinis (Mosquito Fish): 125.0 mg/l (96 h) LC50 - Lepomis macrochirus (Bluegill Sunfish): 1.0 mg/l (96 h)

Mortality LOEC - Pimephales promelas (Fathead Minnow): 2.0 mg/l (144 h)

Mortality NOEC - Pimephales promelas (Fathead Minnow): 1.8 mg/l (144 h)

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna (Water Flea): 12.2 - 17.0 mg/l (48 h) Mortality NOEC - Daphnia magna (Water Flea): 10.0 mg/l (144 h) Mortality LOEC - Daphnia magna (Water Flea): 20.0 mg/l (144 h) Immobilization EC50 - Daphnia: 40.38 mg/l (48 h)

Toxicity to Algae:

EC50 - Desmodesmus subspicatus (Green Algae): 6.8 mg/l (24 h)

Growth Inhibition LOEC - Pseudokirchneriella subcapitata: 16.0 mg/l (96 h) Growth Inhibition NOEC - Pseudokirchneriella subcapitata: 8.0 mg/l (96 h)

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Results of PBT and vPvB assessment: Not required/conducted.

Other Adverse Effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects

Section 13 ~ Disposal Considerations

Product: Hazardous wastes shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution, release into the environment or damage to people and animals. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

Section 14 ~ Transportation Information

DOT Class: Not regulated

DOT (US) Non-regulated material, liquid

IMDG Not dangerous goods

IATA Not dangerous goods

Section 15 ~ Regulatory Information

COMPONENT / (CAS/PERC) / CODES

*2-Butoxyethanol (111762 <8%) HAP, MASS, NJHS, OSHAWAC, PA, SARA311/312, SARA313, TSCA, TXAIR

*Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy- (9016459 <8%) MA, NJHS, PA, SARA311/312, TSCA

*Triphosphoric acid, pentasodium salt (7758294 <5%) MASS, NJHS, PA, TSCA

*Sodium hydroxide (1310732 <5%) CERCLA, CSWHS, MASS, NJHS, OSHAWAC, PA, SARA311/312, TSCA, TXAIR

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance

CSWHS = Clean Water Act Hazardous substances

HAP = Hazardous Air Pollutants

MASS = MA Massachusetts Hazardous Substances List

NJHS = New Jersey Right to Know Hazardous Substances

OSHAWAC = OSHA Workplace Air Contaminants

PA = PA Right-To-Know List of Hazardous Substances

SARA311/312 = SARA 311/312 Toxic Chemicals

SARA313 = SARA 313 Title III Toxic Chemicals

TSCA = Toxic Substances Control Act

TXAIR = TX Air Contaminants with Health Effects Screening Level

Section 16 ~ Other Information

	NFPA	HMIS	Key
HEALTH	1	1	4= Severe
FLAMMABILITY	0	0	3= Serious
REACTIVITY	0	0	2= Moderate
OTHER/PROTECTION	-	B	1= Slight 0= Minimal B= Safety Glasses, Gloves

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