

Section 3. Composition / Information on Ingredients

Pure Substance / Mixture: Mixture

<u>Chemical Name</u>	<u>CAS#</u>	<u>Concentration (% by Weight)</u>
Benzyl Alcohol	100-51-6	15-40
2-aminoethanol	141-43-5	15-40
1-butoxy-2-propanol	5131-66-8	7-13

Section 4. First Aid Measures

- Eye Contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
- Skin Contact:** Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
- Ingestion:** Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Inhalation:** Remove to fresh air. Treat symptomatically. Get medical attention.

Most Important Symptoms/Effects, Acute and Delayed

Potential Acute Health Effects

- Eye Contact:** Causes serious eye damage.
- Skin Contact:** Causes severe skin burns.
- Ingestion:** Causes digestive tract burns.
- Inhalation:** May cause nose, throat, and lung irritation.

Over-Exposure Signs/Symptoms

- Eye Contact:** Redness, pain, watering or irritation
- Skin Contact:** Redness, pain, blistering or irritation
- Ingestion:** Abdominal / stomach pain
- Inhalation:** Respiratory irritation, cough

Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary

- Notes to Physician:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific Treatments:** No specific treatment.
- First-Aider Protection:** If potential for exposure exists refer to Section 8 for specific personal protective equipment. No action shall be taken involving any personal risk without suitable training.

See Toxicological Information (Section 11) for more detailed information on health effects and symptoms.

Section 5. Fire-Fighting Measures

- Suitable Extinguishing Media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable Extinguishing Media:** None known.
- Specific Hazards During Fire-fighting:** Not flammable or combustible. High heat or fire may cause container to melt or burst due to a pressure increase.
- Hazardous Combustion Products:** Decomposition products may include carbon oxides, nitrogen oxides, sulfur oxides, phosphorus oxides.

Fire-Fighter Special Protective Equipment: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Fire-Fighter Special Precautions: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk without suitable training. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Methods and Materials for Containment and Cleaning Up

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. See Section 13 for additional disposal information.

Environmental Precautions

Do not allow contact with soil, surface or ground water.

Section 7. Handling and Storage

Precautions for Safe Handling

Protective Measures: Put on appropriate personal protective equipment (see Section 8).

Advice on Safe Handling: Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe vapour or mist. Use only with adequate ventilation. Wash hands thoroughly after handling. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See Section 8 for additional information on hygiene measures.

Conditions for Safe Storage: Keep out of reach of children. Keep container tightly closed. Store in suitably labelled original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Do not store near acids.

Section 8. Exposure Controls / Personal Protection

Components with Workplace Control Parameters

Ingredient	List Name	TWA (8 hours)			STEL (15 minutes)			Ceiling			Notations
		ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
2-aminoethanol	US ACGIH 2/2010	3	7.5	-	6	15	-	-	2	-	-
	AB 4/2009	3	7.5	-	6	15	-	-	2	-	(3)
	BC 9/2010	3	-	-	6	-	-	-	2	-	-
	ON 7/2010	3	7.5	-	6	15	-	-	2	-	-
	QC 6/2008	3	7.5	-	6	15	-	-	-	-	-

(3) Skin sensitization.

Appropriate Engineering Controls

Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal Protective Equipment

- Eye Protection:** Use chemical splash goggles. For continued or severe exposure, wear a face shield.
- Hand Protection:** Wear chemical resistant, impervious gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Skin Protection:** Wear other protective equipment / clothing as necessary to prevent skin contact.
- Respiratory Protection:** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section 9. Physical and Chemical Properties

Appearance:

- Physical State:** Liquid
- Colour :** Clear yellow
- Odour:** Mild Lemon / Solvent
- Odour Threshold:** No data available
- pH:** 12.3-13.3
- Melting Point/Freezing Point :** No data available
- Initial Boiling Point/Boiling Range:** >100°C
- Flash Point (Closed Cup):** Not applicable. (Product does not sustain combustion.)
- Evaporation Rate:** No data available
- Flammability (Solid, Gas):** Not applicable (liquid)
- Upper Explosive (Flammable) Limit :** No data available
- Lower Explosive (Flammable) Limit :** No data available
- Vapour Pressure:** No data available
- Vapour Density:** No data available
- Relative Density:** 1.03
- Solubility:** Soluble in water
- Partition Coefficient (n-octanol/water):** No data available
- Auto-Ignition Temperature:** No data available
- Decomposition Temperature:** No data available
- Viscosity:** <25 cps

Section 10. Stability and Reactivity

Reactivity:	No specific test data related to reactivity available for this product or its ingredients
Chemical stability:	Stable under normal conditions
Possibility of Hazardous Reactions:	Under normal storage and use conditions, hazardous reactions will not occur
Conditions to Avoid:	None known
Incompatible Materials:	Acids
Hazardous Decomposition Products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Decomposition products during combustion may include carbon oxides, nitrogen oxides, sulfur oxides, phosphorus oxides.

Section 11. Toxicological Information

Information on Likely Routes of Exposure: Eye contact, Skin contact, Ingestion, Inhalation

Potential Acute Health Effects

Eye Contact:	Causes serious eye damage.
Skin Contact:	Causes severe skin burns.
Ingestion:	Causes digestive tract burns.
Inhalation:	May cause nose, throat, and lung irritation.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Eye Contact:	Redness, pain, watering or irritation
Skin Contact:	Redness, pain, blistering or irritation
Ingestion:	Abdominal / stomach pain
Inhalation:	Respiratory irritation, cough

Delayed and Chronic Effects from Short and Long Term Exposure: No known significant effects or critical hazards.

Toxicity

Product Acute Oral Toxicity Estimate:	2560 mg/kg
Product Acute Dermal Toxicity Estimate:	2130 mg/kg
Product Acute Inhalation Toxicity Estimate:	No data available
Aspiration Toxicity:	No data available
Respiratory or Skin Sensitization:	No data available
Carcinogenicity:	No known significant effects or critical hazards
Reproductive Toxicity:	No known significant effects or critical hazards
Mutagenicity:	No known significant effects or critical hazards
Teratogenicity:	No known significant effects or critical hazards
Developmental Effects:	No known significant effects or critical hazards
Specific Target Organ Toxicity (single exposure):	No known significant effects or critical hazards
Specific Target Organ Toxicity (repeated exposure):	No known significant effects or critical hazards

FULL FORCE

Toxicity Data for Ingredients

Ingredient	Test	Route	Result	Species
benzyl alcohol	LD ₅₀	Dermal	2000 mg/kg	Rabbit
	LD ₅₀	Oral	1620 mg/kg	Rat
	LC ₅₀	Inhalation	>4 mg/L	Rat
2-aminoethanol	LD ₅₀	Dermal	1 mL/kg	Rabbit
	LD ₅₀	Dermal	1020 mg/kg	Rabbit
	LD ₅₀	Oral	1000 mg/kg	Rabbit
	LD ₅₀	Oral	1720 mg/kg	Rat
	LD ₅₀	Oral	700 mg/kg	Mouse
	LD ₅₀	Oral	620 mg/kg	Guinea Pig
1-butoxy-2-propanol	LD ₅₀	Oral	2940 mg/kg	Rat
	LD ₅₀	Oral	3300 mg/kg	Rat
	LD ₅₀	Oral	4975 mg/kg	Rat
	LD ₅₀	Oral	5230 mg/kg	Rat
	LD ₅₀	Dermal	1340 mg/kg	Rabbit
	LD ₅₀	Dermal	3130 mg/kg	Rabbit
	LD ₅₀	Dermal	>2000 mg/kg	Rabbit

Section 12. Ecological Information

Ecotoxicity

Product/Ingredient Name	Result	Species	Exposure
Benzyl alcohol	Acute LC50 10 mg/l	Fish – Bluegill (<i>Lepomis macrochirus</i>)	96 hours
	Acute LC50 460 mg/l	Fish- Fathead minnow (<i>Pimephales promelas</i>)	96 hours
	Acute EC50 55 mg/l	Daphnia – <i>Daphnia magna</i>	24 hours
2-aminoethanol	Acute EC50 8.42 mg/l Fresh water	Algae – <i>Desmodesmus subspicatus</i>	72 hours
	Acute LC50 >100000 µg/l Marine water	Crustaceans - <i>Crangon crangon</i> – Adult	48 hours
	Acute LC50 150 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i> -Yolk-sac fry	96 hours

Persistence and Degradability

Product/Ingredient Name	Aquatic Half-Life	Photolysis	Biodegradability
Benzyl alcohol	No data available	No data available	Readily biodegradable

Bioaccumulative Potential

Ingredient Name	LogP _{ow}	BCF	Potential
2-aminoethanol	-1.31	-	Low

Mobility in Soil

No data available

Other Adverse Effects

No known significant effects or critical hazards

Section 13. Disposal Considerations

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and any local, provincial/state and federal regulations. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Empty containers may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land Transport (TDG)

UN Number: 3267
Proper Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (monoethanolamine)
Class: 8
Packing Group: II
Environmentally hazardous: No

Sea Transport (IMDG/IMO)

UN Number: 3267
Proper Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (monoethanolamine)
Class: 8
Packing Group: II
Environmentally hazardous: No

Section 15. Regulatory Information

Canadian Domestic Substances List (DSL)

All components of this product are listed or exempted.

United States TSCA Inventory

All components of this product are listed or exempted.

Hazardous Material Information System: **Health: 3** **Flammability: 0** **Physical Hazards: 0**

National Fire Protection Association: **Health: 3** **Flammability: 0** **Instability: 0** **Special Hazard: -**

Section 16. Other Information

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To the best of our knowledge, the information provided in this Safety Data Sheet is accurate at the date of its publication. However, neither the above-named manufacturer or supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.