

**Section 1. Supplier Information**



**General Chemical Corp.**  
12336 Emerson Drive  
Brighton, MI 48116  
(248) 587-5600  
**Emergency Telephone: 1-800-424-9300**

**Section 2. Hazardous Ingredients**

<u>Hazardous Component(s)</u>	<u>CAS #</u>	<u>PEL TWA</u>	<u>PEL Ceiling</u>	<u>TLV TWA</u>	<u>TLV STEL</u>	<u>MFG Limits</u>	<u>WGT %</u>
2-Butoxyethanol	111-76-2	50 ppm#	N/E	25 ppm#	N/E	25 ppm#	40 - 80
2-Butoxyethanol acetate	112-07-2	N/E	N/E	N/E	N/E	25 ppm	10 - 30

N/A = Not Applicable; N/E = Not Established; \* = Mists; # = Skin; ' = Respirable Dust; " = Total Dust; ^ = Vapor; \*\* = Fumes; C = Ceiling Limit

All components of this product are listed on the Toxic Substances Control Act (TSCA) Inventory and the Canadian Domestic Substances List (DSL), or are exempt from the listing.

**Section 3. Hazards Identification**

**Primary Routes of Entry**

Inhalation: YES  
Skin: YES  
Ingestion: YES

**Hazardous Materials Information System (HMIS) Ratings**

Health:	* 2	0 = Minimal
Fire:	1	1 = Slight
Reactivity:	0	2 = Moderate
		3 = Serious
		4 = Severe
		* = Chronic Hazard

**Signs of Symptoms of Exposure:**

**INHALATION:** High vapor or mist concentrations may produce nose, throat, and respiratory irritation and may cause central nervous system (CNS) depression.

**SKIN:** Prolonged or repeated contact can cause irritation, defatting and dermatitis. Absorption through intact skin is possible.

**EYES:** Minimally irritating to the eyes. High vapor concentrations may be irritating.

**INGESTION:** Ingestion of large amounts causes gastric disturbances. Nausea and vomiting may result.

**Chemical Listed as Potential Carcinogens:**

NTP: NO

IARC: NO

OSHA: NO

Target Organs: Eyes, skin, and respiratory system.

**Section 4. Emergency And First Aid Procedures**

**INHALATION:** If adverse effects such as dizziness, nausea, or irritation are noted, move person

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to fresh air. If not breathing, give artificial respiration. Get medical attention!

SKIN: Immediately wash skin with large amounts of soap and water. Remove contaminated clothing and shoes; wash before reuse. Get medical attention if irritation persists after washing.

EYES: Flush eyes immediately with water for at least 15 minutes. If irritation persists, call a physician.

INGESTION: If victim is conscious, general precautionary measures suggest inducing vomiting immediately by giving two glasses of water and sticking finger down throat. Contact a physician immediately!

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**Section 5. Fire Fighting Measures**

Flash Point: > 200 ° F Method Used: Tagliabue Closed Cup

Flammable Limits in Air % by Volume: LEL: 0.5 UEL: 10.6

Extinguisher Media: Carbon dioxide, dry chemical, or foam.

Special Fire Fighting Procedures: Firefighters should wear a self-contained breathing apparatus with a full facepiece operated in pressure demand or other positive pressure mode, and protective clothing.

Unusual Fire And Explosion Hazards: In extreme fire conditions, this material may present a floating fire hazard. Concentrated vapors can be ignited by a high intensity ignition source.

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**Section 6. Accidental Release Measures**

If material is spilled, evacuate the area, ventilate, and avoid breathing vapors. Dike area to contain spill. Clean up area by mopping or with absorbent material and place in closed containers for disposal. Avoid contamination of ground and surface waters. Do not flush to sewer. If spill occurs indoors, turn off air conditioning and/or heating systems, to prevent vapors from contaminating entire building.

CERCLA (Superfund) Reportable Quantity (in lbs None).

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**Section 7. Handling and Storage**

Handling: Avoid contact with skin and eyes; wash thoroughly after handling. Avoid breathing vapor; use with adequate ventilation.

Storage: KEEP FROM FREEZING! Store in a dry location at room temperature. Keep container closed and maintain all original markings and labels. Product is corrosive to zinc, aluminum, tin, and alloys of these metals.

Other: CAUTION! Do not use cutting or welding torches on containers, even when empty. Containers, even those that have been emptied, will retain product residue and vapors. Do not reuse container without recycling or reconditioning. Handle empty containers as if they were full.

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**Section 8. Exposure Controls and Personal Protection**

Respiratory Protection: Use NIOSH / MSHA approved respirator where high vapor or mist concentrations are present.

Local Exhaust: Special ventilation is suggested at points where vapors can be expected to escape to the workplace air.

Mechanical Exhaust: Mechanical ventilation should be sufficient to maintain exposure levels below exposure limits.

Protective Gloves: Wear chemical resistant gloves.

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**Eye Protection:** Safety glasses with side shields. Do NOT wear contact lenses. Chemical goggles and/or faceshield should be worn where splashing is possible.

**Other Protection:** Eye wash and safety shower should be readily available. Wear a chemical resistant apron and boots where splashing is possible.

**Hygienic Practices:** Protective equipment and clothing should be selected, used and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer. Do not eat, drink, or smoke while using this product. Wash hands prior to eating, drinking, smoking, or using restrooms. Cleanse skin thoroughly after contact, before breaks and meals, and at the end of the work shift.

**Section 9. Physical and Chemical Properties**

Boiling Point:	212 ° F (initial)	Degree of water solubility:
Specific Gravity (H <sub>2</sub> O=1):	0.93-0.94	Negligible = Less than 0.1%
Vapor Pressure (mm Hg):	< 1 mm Hg	Slight = 0.1% - 1%
Vapor Density (air=1)	> 1	Moderate = 1% - 10%
Solubility in Water:	Appreciable.	Appreciable = More than 10%
Reactivity in Water:	None.	Complete = 100%
Weight per Gallon (lb/gal):	7.8 - 7.9 lbs/gal	
% Volatile by Volume:	94-96%	
% Solid by Weight:	4-6%	
Appearance and Odor:	Clear, colorless liquid with a mild odor.	
Theoretical VOC: (>0.1 mm Hg @ 20 ° C)	4.6 - 4.7 lbs/gal	
Analytical VOC : (EPA method 24)	6.2 - 6.3 lbs/gal	
pH:	5.7 - 6.7	

**Section 10. Stability and Reactivity**

**Stability:** Stable. Hazard Polymerization: Will not occur.

**Conditions to Avoid:** Heat, sparks, or open flame.

**Incompatibility (Materials to Avoid):** Strong acid, strong oxidizers, strong bases, salts of strong bases at elevated temperatures, and aluminum surfaces.

**Hazardous Decomposition Products:** Smoke and oxides of carbon.

**Section 11. Toxicological Information**

2-butoxyethanol [CASRN 000111-76-2]

**ACUTE TOXICITY**

Oral LD50 (guinea pig) = 1.4 g/kg Eye irritation (rabbit): severe.  
Dermal LD50 (guinea pig) > 2 g/kg Skin irritation (rabbit): moderate.  
Inhalation LC50 (guinea pig) > 633 ppm, 1 hr

**Reproductive and Developmental Toxicity:** Inhalation exposure of pregnant rabbits caused some lethality to the dam and fetus at 200 ppm, but there were no effects at 100 ppm and below. In another study by the same route irritancy was noted in the dams and a related fetotoxicity was observed at 100 and 200 ppm, but there were no effects 50 ppm and below. Birth defects were not

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noted in either study.

Other Testing: Exposure of rats by inhalation to 2-butoxyethanol caused hemolysis, hemoglobinuria (blood in the urine) and a slight increase in liver weight. Other species, including man, were much less sensitive to hemolysis. The hemolytic effect seen in rats was transitory and/or reversible and not considered to be relevant to human health.

Carcinogenicity: The National Toxicology Program (NTP, 1998) has conducted lifetime inhalation bioassays in rats and mice at concentrations up to 125 ppm and 250 ppm 2-butoxyethanol, respectively. NTP found no evidence of carcinogenic activity in male rats, equivocal evidence in female rats based on adrenal tumors, and some evidence in male and female mice based on liver hemangiosarcoma and forestomach tumors. The relevance of these findings to humans is questionable. NTP concludes that the human carcinogenic potential of this material cannot be determined at this time. [18,7-1,14-082400]

2-butoxyethyl acetate [CASRN 000112-07-2]

**ACUTE TOXICITY:**

Oral LD50 (rat) = 7.46 ml/kg Skin irritation (guinea pig): slight  
Oral LD50 (rat, male) = 3.0 g/kg Eye irritation (rabbit, unwashed): very slight  
Oral LD50 (rat, female) = 2.4 g/kg Eye irritation (rabbit, washed): very slight  
Oral LD50 (mouse) = 3.2 g/kg  
Dermal LD50 (rabbit) = 1.5 - 1.58 g/kg  
Inhalation LC50 (rat) > 450 ppm (6 hours) [highest concentration obtainable]

**Subchronic Toxicity Data:**

Inhalation study (1 month, male rat): LOEL = 400 ppm (minor target organ effects: blood)  
Inhalation study (1 month, female rat): LOEL = 400 ppm (minor target organ effects: blood, kidney)  
Inhalation study (1 month, rabbit): LOEL = 400 ppm (target organ effects: blood, kidney)  
Inhalation study (10 months, rat): NOEL = 100 ppm (highest concentration tested)  
Inhalation study (10 months, rabbit): NOEL = 100 ppm (highest concentration tested)

Metabolism data (in vitro): This product is metabolized to 2-butoxyethanol. [4-4,4,1,0-031799]

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**Section 12. Ecological Information**

2-butoxyethanol [CASRN 000111-76-2]

**ECOTOXICITY**

48 h LC50 (Daphnia) > 1,000 mg/l 24 h TLm Brine shrimp = 1,000 mg/l  
96 h LC50 Fathead minnow = 1,700 mg/l IC50 bacteria > 5,000 mg/l

**DEGRADATION**

BOD 5 = 26 % (O2 consumption) COD (measured) = 2.25 mg/mg  
BOD10 = 74 % ThOD (calculated) = 2.10 - 2.30 mg/mg  
BOD20 = 88 % Kow (measured) = 0.83  
28 d Sturm test = 90% (CO2 evolved) [20,2-1,2,18-011701]

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2-butoxyethyl acetate [CASRN 000112-07-2]

**ECOTOXICITY**

96 hr - LC50 (fathead minnow) = 22 - 31 mg/l    IC50 (bacterial) = 2,800 mg/l  
48 hr - LC50 (cladoceran)            = 142.5 mg/l    48 hr - EC50 (cladoceran) = 180 mg/l

**ENVIRONMENTAL FATE**

BOD - Day 5    53 %    STURM (% Carbon dioxide evolved) - Day 28    77 %  
BOD - Day 10    69 %    Theoretical Oxygen Demand (THOD): 2.10 mg/mg (calculated)  
BOD - Day 20    72 %    [20,2-1,2,0-011601]

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**Section 13. Disposal Considerations**

Waste Disposal Methods (Federal, State, Local):

In accordance with all federal, state and local requirements.

RCRA Hazardous Waste Number: N/A

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**Section 14. Transport Information**

Hazardous Material Description:

(Proper shipping name, hazard class, hazard ID#, packing group)

Domestic ground non-bulk: NOT REGULATED

Domestic ground bulk:        NOT REGULATED

International:                 NOT REGULATED

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**Section 15. Regulatory Information**

SARA 313 Information

This product contains the following chemical(s) above deminis concentrations and may be subject to reporting under section 313:

Reportable Category: Certain glycol ethers, 60 - 100 %.

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**Section 16. Other Information**

This MSDS contains revisions in the following sections: New product

Prepared by: Andrew J. Thomas    Chemist

Revised by:

The development of this Material Safety Data Sheet (MSDS) relies upon information provided to us by each of our raw material suppliers. This MSDS will be updated as changes occur to their MSDS(s).

We believe the recommendations and technical information contained herein to be accurate. However, they are given without warranty or guarantee, expressed or implied, and we assume no responsibility for losses or damage, direct or indirect, as a result of their use.