

US. ACGIH Threshold Limit Values

	Type	Value
2-BUTOXYETHANOL (CAS 111-76-2)	TWA	20 ppm

Exposure guidelines**US - California OELs: Skin designation**

2-BUTOXYETHANOL (CAS 111-76-2) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-BUTOXYETHANOL (CAS 111-76-2) Skin designation applies.

US - Tennessee OELs: Skin designation

2-BUTOXYETHANOL (CAS 111-76-2) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2-BUTOXYETHANOL (CAS 111-76-2) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-BUTOXYETHANOL (CAS 111-76-2) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.

Skin protection

Hand protection Use protective gloves made of: Nitrile.

Other Wear suitable protective clothing and gloves. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Do not get in eyes, on skin, on clothing. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	AMBER
Physical state	Liquid.
Form	Liquid.
Color	Amber.
Odor	CHEMICAL
Odor threshold	Not available.
pH	Not Applicable
Melting point/freezing point	< 32 °F (< 0 °C)
Initial boiling point and boiling range	> 212 °F (> 100 °C)
Flash point	> 350 °F (> 160 °C) Cleveland Open Cup
Evaporation rate	Like water when diluted
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.

Relative density	Not available.
Solubility(ies)	100 % Water Miscible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
pH in aqueous solution	9.4 @ 5%
Specific gravity	0.98
VOC ASTM D2369	16 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Avoid contact with oxidizers or reducing agents.
Hazardous decomposition products	Smoke, fumes, and oxides of carbon

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	May be irritating to the skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May be harmful if swallowed and enters airways. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Components	Species	Test Results
2-BUTOXYETHANOL (CAS 111-76-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	400 mg/kg
<i>Inhalation</i>		
LC50	Mouse	700 ppm, 7 Hours
	Rat	450 ppm, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	1.2 g/kg
	Mouse	1.2 g/kg
	Rabbit	0.32 g/kg
	Rat	560 mg/kg
DIETHYLENE GLYCOL (CAS 111-46-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	11890 mg/kg

Components	Species	Test Results
<i>Oral</i>		
LD50	Cat	3300 mg/kg
	Dog	9000 mg/kg
	Guinea pig	8700 mg/kg
	Mouse	13.3 g/kg
	Rabbit	26.9 g/kg
	Rat	12565 mg/kg

SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM (CAS 64742-52-5)

Acute

Dermal

LD50 Rabbit > 5000 mg/kg

Inhalation

LC50 Rat 5.7 mg/l, 4 hours

Oral

LD50 Rat > 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation. Defatting, drying and cracking of skin.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

2-BUTOXYETHANOL (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment. Toxic to aquatic life with long lasting effects.

Components	Species	Test Results
2-BUTOXYETHANOL (CAS 111-76-2)		
Aquatic		
Fish	LC50	Inland silverside (<i>Menidia beryllina</i>) 1250 mg/l, 96 hours
DIETHYLENE GLYCOL (CAS 111-46-6)		
Aquatic		
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) > 32000 mg/l, 96 hours

Components	Species	Test Results
SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM (CAS 64742-52-5)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Fish > 100 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
 2-BUTOXYETHANOL 0.83

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

- Disposal instructions** Consult authorities before disposal. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
- Local disposal regulations** Dispose in accordance with all applicable regulations.
- Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
- Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
- Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

- DOT**
- UN number** Not Regulated
 - UN proper shipping name** Not Regulated
 - Transport hazard class(es)**
 - Class** Not Regulated
 - Subsidiary risk**
 - Label(s)** - Packing group**
 - Environmental hazards**
 - Marine pollutant** Not Regulated (See below) - Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
 - Special provisions**
 - Packaging exceptions**
 - Packaging non bulk**
 - Packaging bulk**
- Supplemental Information: 49CFR 171.4 excludes "non-bulk" packages (119 gallons or less) from Marine Pollutant Requirements unless all or part of the shipment is by vessel.

- IATA**
- UN number** Not regulated in small packages
 - UN proper shipping name**
 - Transport hazard class(es)**
 - Class**
 - Subsidiary risk** - Packing group**
 - Environmental hazards**
 - ERG Code**
 - Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

Other information**Passenger and cargo aircraft** Allowed.**Cargo aircraft only** Allowed.**IMDG****UN number** Not regulated (in small containers)**UN proper shipping name****Transport hazard class(es)****Class****Subsidiary risk****Packing group****Environmental hazards****Marine pollutant****EmS****Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.**General information****15. Regulatory information****US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. It may be reportable under the provisions of SARA Sections 311 and 312 if specific threshold criteria are met or exceeded.**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

2-BUTOXYETHANOL (CAS 111-76-2)

US. New Jersey Worker and Community Right-to-Know Act

2-BUTOXYETHANOL (CAS 111-76-2)

US. Pennsylvania Worker and Community Right-to-Know Law

2-BUTOXYETHANOL (CAS 111-76-2)

DIETHYLENE GLYCOL (CAS 111-46-6)

US. Rhode Island RTK

Not regulated.

California South Coast Air Quality Management District (SCAQMD) Rule 1144 (VOC Emissions)

This product is subject to SCAQMD Rule 1144; it is compliant and may be sold and used in the SCAQMD. The VOC content of the product is 105 g/L, measured by ASTM Method E-1868-10. This product has a specified use dilution VOC limit of 75 g/L, the maximum dilution concentration is 71 % to maintain compliance.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory or exempt (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date 02-18-2017

Revision date

Version # 01

Further information Not available.

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release 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 or in any process, unless specified in the text.

Revision Information OSHA Hazard Communication Standard 29 CFR 1910.1200 and GHS