

SAFETY DATA SHEET

Preparation Date: 02/13/2015

Revision Date: 10/10/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: B1177
Product Name: 2-BUTOXYETHANOL

Other means of identification

Synonyms: Ethylene glycol monobutyl ether
CAS #: 111-76-2
RTECS # KJ8575000
Cl#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2
Reproductive toxicity	Category 2
Flammable liquids	Category 4

Label elements

Danger

Hazard statements

Harmful if swallowed
 Toxic in contact with skin

Toxic if inhaled
Causes mild skin irritation
Causes serious eye irritation
Suspected of damaging fertility or the unborn child
May cause respiratory irritation
Combustible liquid



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep cool
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

In case of fire: Use CO₂, dry chemical, or foam to extinguish.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
2-Butoxyethanol	111-76-2	100

4. FIRST AID MEASURES

First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately. Toxic in contact with skin.
- Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Causes eye irritation
 - Eye contact may result in redness or pain
 - Causes skin irritation
 - Skin contact may result in redness, pain, inflammation, itching, scaling
 - Harmful if swallowed
 - May cause irritation of respiratory tract
 - Toxic by inhalation and in contact with skin

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

- Suitable Extinguishing Media:** Carbon dioxide (CO₂). Dry chemical. Water spray. Alcohol-resistant foam.
- Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

- Hazardous Combustion Products:** Carbon Oxides.
- Specific hazards:** Combustible material. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. When heated, vapors may form explosive mixtures with air: indoors, outdoors and

sewers explosion hazards.

Special Protective Actions for Firefighters

Specific Methods:

Water mist may be used to cool closed containers. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Dike fire-control water for later disposal; do not scatter the material.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. Should not be released into the environment.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Keep away from heat and sources of ignition. Store in a segregated and approved area.

Incompatible Materials:

Alkalis

Oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
2-Butoxyethanol	111-76-2	50 ppm TWA 240 mg/m ³ TWA	5 ppm TWA 24 mg/m ³ TWA	20 ppm TWA	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
2-Butoxyethanol	111-76-2	20 ppm TWA 97 mg/m ³ TWA	20 ppm TWA	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
2-Butoxyethanol	111-76-2	50 ppm STEL 242 mg/m ³ STEL 20 ppm TWA 96.9 mg/m ³ TWA	26 ppm TWA 120 mg/m ³ TWA 75 ppm STEL 360 mg/m ³ STEL

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

- Eye protection:** Goggles or Safety glasses with side-shields.
- Skin and body protection:** Long sleeved clothing
Chemical resistant apron
Gloves
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid

Appearance:
No information available.

Color:
Colorless.

Odor:
Ethereal. Pleasant.

Taste:
No information available.

Formula:
C₆H₁₄O₂

Molecular/Formula weight (g/mole):

Product code: B1177

Product name: 2-BUTOXYETHANOL

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118.18	Flammability: No information available	Flashpoint (°C/°F): 61.0°C/141.8°F
Flash Point Tested according to: Closed cup	Autoignition Temperature (°C/°F): 244.0°C/471.2°F	Lower Explosion Limit (%): 1.1
Upper Explosion Limit (%): 12.7	Melting point/range(°C/°F): -70.0°C/-94.0°F	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): 171.5°C/340.7°F	Bulk density: No information available	Density (g/cm3): No information available
Specific gravity: 0.9012	pH: No information available	Vapor pressure @ 20°C (kPa): 0.1
Evaporation rate: No information available	Vapor density: 4.07	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): 0.8	Viscosity: No information available
Miscibility: No information available	Solubility: Soluble in diethyl ether Partially soluble in cold water	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with alkalis
Reactive with oxidizing agents

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Alkalis
Oxidizing agents

Hazardous decomposition products: Carbon oxides.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Eyes. Ingestion. Inhalation. Skin.

Acute Toxicity

Component Information

2-Butoxyethanol	
CAS-No.	111-76-2

LD50/oral/rat = = 470 mg/kg Oral LD50 Rat
LD50/oral/mouse = 1230 mg/kg oral LD50 mouse
LD50/dermal/rabbit = 220 mg/kg Dermal LD50Rabbit
LD50/dermal/rat = = 99 mg/kg Dermal LD50
LC50/inhalation/rat = 450 ppm Inhalation LC50 Rat 4 h
2900 mg/m³ inhalation LC50 7 h 486 ppm Inhalation LC50
LC50/inhalation/mouse = 700 ppm inhalation LC50 mouse 7 h
3380 mg/m³ inhalation LC50 mouse 7 h
Other LD50 or LC50 information = 300 mg/kg oral LD50 rabbit
230 uLkg dermal LD50 guinea pig

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 470 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 1230 mg/kg

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = 220 mg/kg

LD50/dermal/rat
VALUE -Acute Tox Dermal = 99 mg/kg

LC50/inhalation/rat
VALUE-Vapor = 450 ppm (4-hr)
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = 700 ppm (7-hr)
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Mild skin irritation. Also toxic in contact with skin.
Eye Contact: Causes serious eye irritation.
Inhalation Toxic by inhalation. May cause irritation of respiratory tract.
Ingestion Harmful if swallowed.
Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity No information available.
Sensitization: No information available.
Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
2-Butoxyethanol	111-76-2	Monograph 88 [2006]	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: May impair fertility
May cause harm to the unborn child

Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

2-Butoxyethanol - 111-76-2

Freshwater Fish Species Data: 1490 mg/L LC50 *Lepomis macrochirus* 96 h static 1 2950 mg/L LC50 *Lepomis macrochirus* 96 h 1

Water Flea Data: 1000 mg/L EC50 *Daphnia magna* 48 h 1698 - 1940 mg/L EC50 *Daphnia magna* 24 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
2-Butoxyethanol	111-76-2	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN2810
Proper Shipping Name: Toxic liquids, organic, n.o.s. (ethylene glycol monobutyl ether)
Hazard Class: 6.1
Subsidiary Class: No information available
Packing group: III
Emergency Response Guide Number: No information available
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): [DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.
Description: UN2810, Toxic liquids, organic, n.o.s. ,6.1,PG III

TDG (Canada)

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No Information available
Description: UN2810, TOXIC LIQUID, ORGANIC, N.O.S.,6.1,PG III

ADR

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
Description: UN2810 Toxic liquid, organic, n.o.s.,6.1,III

IMO / IMDG

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No information available
EMS: F-A

RID

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: UN2810 Toxic liquid, organic, n.o.s.,6.1,III

ICAO

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: UN2810, Toxic liquid, organic, n.o.s., 6.1, PG III

IATA

UN-No: UN2810
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 6L
Special Provisions: No information available
Description: UN2810, Toxic liquid, organic, n.o.s., 6.1, PG III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
2-Butoxyethanol	111-76-2	Present ACTIV E	Present KE-04134	Present	Present (7)-97,(2)-407	Present	Present	Present 203-905-0

U.S. Regulations

2-Butoxyethanol

- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 0275
- Pennsylvania RTK: Present
- Minnesota - Hazardous Substance List: Present
- California Directors List of Hazardous Substances: Present

FDA - Direct Food Additives 21 CFR 173.315
FDA - 21 CFR - Total Food Additives 173.315, 175.105, 176.210, 177.1650, 178.1010
 - List Sourced from EAFUS

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
2-Butoxyethanol	111-76-2	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
2-Butoxyethanol	111-76-2	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
2-Butoxyethanol	111-76-2	Not Applicable	Not Applicable

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
2-Butoxyethanol
111-76-2 (100)

WHMIS 2015 Hazard Classification
Flammable liquids - Category 3: H226 Flammable liquid and vapour.; Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.; Acute toxicity - Dermal - Category 3: H311 Toxic in contact with skin.; Acute toxicity - Inhalation - Category 3: H331 Toxic if inhaled.; Skin corrosion/irritation - Category 2: H315 Causes skin irritation.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Specific target organ toxicity - Single exposure - Category 3: H335 May cause respiratory irritation.; Specific target organ toxicity - Repeated exposure - Category 1: H372 Causes damage to organs through prolonged or repeated exposure.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Components	WHMIS Ingredient Disclosure List -
2-Butoxyethanol	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
2-Butoxyethanol	111-76-2	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
2-Butoxyethanol	111-76-2	Present
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
2-Butoxyethanol	111-76-2	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
2-Butoxyethanol	111-76-2	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Acute toxicity - Dermal - Acute Tox. 4: H312 Harmful in contact with skin. (Minimum classification); Acute toxicity - Inhalation - Acute Tox. 4: H332 Harmful if inhaled. (Minimum classification); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation.; Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation.603-014-00-0

EU - CLP (1272/2008)

R-phrases(s)

R20 - Harmful by inhalation.

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R21 - Harmful in contact with skin.
R22 - Harmful if swallowed.
R36 - Irritating to eyes.
R38 - Irritating to skin.

S -phrase(s)

S36 - Wear suitable protective clothing.
S37 - Wear suitable gloves.
S46 - If swallowed, seek medical advice immediately and show this container or label.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
2-Butoxyethanol	111-76-2	Xn; R20/21/22 Xi; R36/38	No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful.
Xi - Irritant.

16. OTHER INFORMATION

Preparation Date: 02/13/2015
Revision Date: 10/10/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet