



BRULIN BREAKER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 1/16/2015 Revision date: 3/4/2024 Supersedes: 1/16/2015 Version: 2.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : BRULIN BREAKER
Product code : 121017

1.2. Recommended use and restrictions on use

Recommended use : Floor strip products
Restrictions on use : None known

1.3. Supplier

Brulin
P.O. Box 270
Indianapolis, IN 46206 - USA
T 1.800.776.7149 / +1.317.923.3211 - F 317.925.4596
Regulatory@brulin.com - www.brulin.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1.800.424.9300 or CHEMTREC (International) 1.703.527.3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 4	H227	Combustible liquid
Acute toxicity (inhalation:dust,mist) Category 4	H332	Harmful if inhaled
Skin corrosion/irritation Category 1	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Hazardous to the aquatic environment – Acute Hazard Category 3	H402	Harmful to aquatic life
Hazardous to the aquatic environment – Chronic Hazard Category 3	H412	Harmful to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H227 - Combustible liquid
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe mist, spray, vapors.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only in a well-ventilated area.

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P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P310 - Immediately call a poison center or doctor.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use carbon dioxide (CO₂), dry extinguishing powder, alcohol resistant foam to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
butyl glycoether	CAS-No.: 111-76-2	10 – 20
Ethanolamine	CAS-No.: 141-43-5	10 – 20
benzyl alcohol	CAS-No.: 100-51-6	5 – 10

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

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4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe mist, spray, vapors.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Use only in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe mist, spray, vapors.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available	
butyl glycolether (111-76-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	2-Butoxyethanol (EGBE)
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: Eye & URT irr. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans); BEI
Regulatory reference	ACGIH 2021
USA - ACGIH - Biological Exposure Indices	
Local name	2- BUTOXYETHANOL
BEI (BLV)	200 mg/g Kreatinin Parameter: Butoxyacetic acid (BAA) (with hydrolysis) - Medium: urine - Sampling time: End of shift
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	2-Butoxyethanol
OSHA PEL (TWA) [1]	240 mg/m ³
OSHA PEL (TWA) [2]	50 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Ethanolamine (141-43-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethanolamine
ACGIH OEL TWA [ppm]	3 ppm
ACGIH OEL STEL [ppm]	6 ppm
Remark (ACGIH)	TLV® Basis: Eye & skin irr
Regulatory reference	ACGIH 2023
USA - OSHA - Occupational Exposure Limits	
Local name	Ethanolamine
OSHA PEL (TWA) [1]	6 mg/m ³
OSHA PEL (TWA) [2]	3 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
benzyl alcohol (100-51-6)	
No additional information available	

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8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Goggles

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Opaque.
Color : Yellow Green
Odor : Citrus
Odor threshold : No data available
pH : 11.4
Melting point : 30 °F (-1.11 °C)
Freezing point : No data available
Boiling point : No data available
Flash point : 181 °F (82.8 °C) Pensky-Martens Closed Cup
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Not applicable.
Vapor pressure : No data available
Relative vapor density at 20°C : No data available
Relative density : 1
Solubility : Water: 100 %
Partition coefficient n-octanol/water (Log Pow) : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available
Explosive properties : Not explosive.
Oxidizing properties : Non oxidizing material.

9.2. Other information

VOC content : 29.99 %

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong acids. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Harmful if inhaled.

BRULIN BREAKER	
ATE US (dust, mist)	4.927 mg/l/4h
butyl glycolether (111-76-2)	
LD50 oral rat	1400 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 3.9 mg/l/4h
Ethanalamine (141-43-5)	
LD50 oral rat	1515 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male/female, Experimental value, Oral)
LD50 dermal rabbit	2504 mg/kg body weight (Equivalent or similar to OECD 402, 24 week(s), Rabbit, Male, Experimental value, Dermal)
LC50 Inhalation - Rat	1.3 mg/l/4h
benzyl alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg bw/day (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg (EPA OTS 798.1100, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))

Skin corrosion/irritation : Causes severe skin burns.
pH: 11.4

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Serious eye damage/irritation	: Causes serious eye damage. pH: 11.4
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

butyl glycoether (111-76-2)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

Ethanolamine (141-43-5)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure	: Not classified
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butyl glycoether (111-76-2)	
NOAEL (dermal,rat/rabbit,90 days)	> 150 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study), Remarks on results: other:

Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Harmful to aquatic life with long lasting effects.
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butyl glycoether (111-76-2)	
LC50 - Fish [1]	1474 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	≈ 1800 mg/l Test organisms (species): Daphnia magna
ErC50 algae	1840 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 100 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'

Ethanolamine (141-43-5)	
LC50 - Fish [1]	150 mg/l (96 h, Salmo gairdneri, Fresh water)
EC50 - Crustacea [1]	140 mg/l (24 h, Daphnia magna)

benzyl alcohol (100-51-6)	
LC50 - Fish [1]	460 mg/l (EPA OPP 72-1, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	230 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	770 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

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12.2. Persistence and degradability

butyl glycoether (111-76-2)	
Persistence and degradability	Readily biodegradable in water.
Ethanolamine (141-43-5)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.8 g O ₂ /g substance
Chemical oxygen demand (COD)	1.34 g O ₂ /g substance
ThOD	2.49 g O ₂ /g substance
BOD (% of ThOD)	0.32
benzyl alcohol (100-51-6)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.

12.3. Bioaccumulative potential

butyl glycoether (111-76-2)	
Partition coefficient n-octanol/water (Log Pow)	0.81 (Experimental value, BASF test, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Ethanolamine (141-43-5)	
BCF - Other aquatic organisms [1]	2.3 – 9.2 (BCFWIN, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	-1.91
Bioaccumulative potential	Not bioaccumulative.
benzyl alcohol (100-51-6)	
BCF - Fish [1]	1.37 l/kg (BCFBAF v3.01, Estimated value)
Partition coefficient n-octanol/water (Log Pow)	1 – 1.1 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

butyl glycoether (111-76-2)	
Surface tension	65.03 mN/m (20 °C, 2 g/l)
Partition coefficient n-octanol/water (Log Koc)	0.451 – 0.882 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.
Ethanolamine (141-43-5)	
Surface tension	0.05 N/m
Partition coefficient n-octanol/water (Log Koc)	1.16 (log Koc, Calculated value)
Ecology - soil	No (test)data on mobility of the substance available.
benzyl alcohol (100-51-6)	
Surface tension	39 mN/m (20 °C)
Partition coefficient n-octanol/water (Log Koc)	1.122 – 1.332 (log Koc, SRC PCKOCWIN v2.0, QSAR)

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benzyl alcohol (100-51-6)	
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with Department of Transport / Transportation of Dangerous Goods / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
UN2491	UN2491	2491	2491
14.2. Proper Shipping Name			
Ethanolamine solutions	ETHANOLAMINE SOLUTION	ETHANOLAMINE SOLUTION	Ethanolamine solution
14.3. Transport hazard class(es)			
8	8	8	8
			
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

DOT

DOT NA No : UN2491

DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

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DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 52 - Stow "separated from" acids

TDG

UN-No. (TDG)	: UN2491
Explosive Limit and Limited Quantity Index	: 5 L
Excepted quantities (TDG)	: E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 5 L
Emergency Response Guide (ERG) Number	: 153

IMDG

Special provision (IMDG)	: 223
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Colourless. Miscible with water. Corrosive to copper, copper compounds, copper alloys and rubber. Reacts violently with acids. Liquid and vapour cause burns to skin, eyes and mucous membranes.

IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 852
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 856
CAO max net quantity (IATA)	: 60L
Special provision (IATA)	: A3, A803
ERG code (IATA)	: 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

No additional information available

15.3. US State regulations

⚠ WARNING: This product can expose you to diethanolamine, which is known to the State of California to cause cancer, and ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
butyl glycolether(111-76-2)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Ethanolamine(141-43-5)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
benzyl alcohol(100-51-6)	U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Full text of H-phrases	
H227	Combustible liquid
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H332	Harmful if inhaled
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.