



Chemical name:	<b>2-(2-butoxyethoxy)ethanol</b>
Content [%]:	< 2,5
Index number:	112-34-5
CAS:	203-961-6
EC number (EINECS):	603-096-00-8
REACH Registration number:	01-2119475104-44-00XX
Classification according to Directive 1272/2008/EU:	Eye Irrit. 2; H319
Specific concentration limits, M-factors:	Not Assigned
	Established Exposure limit EH40/2005 (WELs)

Chemical name:	<b>1-methylpyrrolidin-2-one</b>	<b>Mixture CMIT/MIT (3:1)</b>
Content [%]:	≤ 0,15	< 0,0015
Index number:	606-021-00-7	613-167-00-5
CAS:	872-50-4	55965-84-9
EC number (EINECS):	212-828-1	911-418-6
REACH Registration number:	01-2119472430-46-0XXX	01-2120764691-48-0XXX
Classification according to Directive 1272/2008/EU:	Repr. 1B; H360D Eye Irrit. 2; H319 STOT SE 3; H335 Skin Irrit. 2; H315	Acute Tox. 2; H330 Acute Tox. 2; H310 Acute Tox. 3; H301 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 EUH071

Specific concentration limits, M-factors:	STOT SE 3; H335: C ≥ 10 %	Skin Corr. 1C; H314: C ≥ 0,6 % Eye Dam. 1; H318: C ≥ 0,6 % Skin Irrit. 2; H315: 0,06 % ≤ C < 0,6 % Eye Irrit. 2; H319: 0,06 % ≤ C < 0,6 % Skin Sens. 1A; H317: C ≥ 0,0015 % M = 100 (acute) M = 100 (chronic)
---	---------------------------	--

Note: Established Exposure limit  
EH40/2005 (WELs)  
This mixture contains ≥ 1 % titanium dioxide. The classification of titanium dioxide according to Annex VI (as per Regulation (EC) No 1272/2008 of the European Parliament and of the Council) does not apply to this mixture according to Note 10.

Full text of H - phrases in Section 16

#### 4. Section 4: First aid measures

##### 4.1 Description of first aid measures

When providing first aid it is necessary to ensure safety of both victim and person rescuing. It is necessary to avoid chaotic behavior. Victim must be kept in mental and physical rest. Victim must be kept warm and must not get chilled. Take original container with label or safety data sheet with information about substance or mixture with you in case of medical examination.

Inhalation: Break exposure, move to fresh air protecting the victim from cold. Provide medical treatment especially if coughing, shortness of breath or other symptoms persist.

When on skin: Put away contaminated clothes and shoes, wash the contaminated spot with plenty of tepid water; if the skin is not irritated, soap can be used; seek doctor's advice, especially if the skin stays irritated.

Eye Contact: Rinse eyes with plenty of water (10 to 15 min). Keep eyes open (even by force if necessary). If the victim is wearing contact lenses remove them immediately. Seek medical attention.

Ingestion: Do not induce vomiting! Drink at least 0.5 liters of water with 5 to 10 tablets of crushed charcoal. In case of nausea contact the Toxicology Information Centre for need of medical treatment with information about composition of the mixture from the original container or SDS.

##### 4.2 Most important symptoms and effects, both acute and delayed

The product may have adverse effects through inhalation and if swallowed. It can irritate skin, mucous membranes and eyes.

##### 4.3 Indication of any immediate medical attention and special treatment needed:

Symptomatic treatment

#### 5. Section 5: Fire-fighting measures

- 5.1 Extinguishing media  
 Suitable extinguishing media: The product is not inflammable. Water spray (water mist), foam, carbon dioxide, dry powder.  
 Unsuitable extinguishing media: The strong water current. It can be spread fire.
- 5.2 Specific danger linked to the substance or mixture: Carbon monoxide and dioxide and carbon black can be produced while burning.
- 5.3 Advice for firefighters: wear a breathing apparatus and protective clothing.

**6. Section 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures: Appropriate protective gloves, goggles, appropriate clothing, or respirator.
- 6.1.1 For workers except for those intervening in emergency cases - instructions in case of accidental spill and leak of substance or mixture:
- use of appropriate protection (including personal protective equipment according to part 8 BL), in order to avoid any skin, eyes or personal clothing contamination;
  - removing possible sources of ignition, providing proper ventilation, control of dust - not relevant
  - emergency measures, for example necessary evacuation from dangerous area or consultation with an expert - not relevant
- 6.1.2 For workers intervening in emergency cases - instructions for appropriate materials of personal protective suits (see part 8 BL)
- 6.2 Environmental precautions: Prevent environmental pollution - leakage into drains, surface water, groundwater or soil.
- 6.3 Methods and materials for limitation of leaks and for cleaning:
- 6.3.1 Instructions for leak limitation of spilled substance or mixture
- enclose the spilled mixture, cover the canalization;
  - seal the damaged package
- 6.3.2 Instructions for removal of spilled substance or mixture  
 Absorb with appropriate agent, hand over to authorized person for disposal.
- 6.4 Reference to other sections: See also section 7., 8 and 13.

**7. Section 7: Handling and storage**

- 7.1 Measures for safe manipulation:
- 7.1.1 Recommendations:
- Workers handling the product have to get familiar with health and safety rules for work and have to obey these rules. Secure escape routes (enclosing of leaked mixture, sealing of damaged packages and so on), for fire prevention (remove ignition sources, non-sparkling tools and so on) and limit the production of aerosol and dust.
  - Obey measures for prevention of manipulation with incompatible substances or mixtures (see part 10) in common areas.
  - Store in original closed packages in temperature from +5 to +25 °C, do not expose to temperature under 0 °C (not even in short term). Do not expose to direct sunlight or other heat sources.
  - Prevent the contamination of environment, i.e. leak into canalization, surface or underground water and soil.
- 7.1.2 Instructions for general hygiene of work:
- Do not eat, drink or smoke on work areas.
  - After working with product wash your hands with soap and water, eventually use regeneration hand cream.
  - Before entering dining areas, remove contaminated clothing and protective equipment.
- 7.2 Conditions for safe storage of substances and mixtures including incompatible substances and mixtures: Store in dry and well-ventilated storages in original closed packages in temperatures from +5 to +25 °C, do not expose to temperature under 0 °C (not even in short term). Do not expose to direct sunlight or other heat sources. Prevent any contact with oxidizing substances, strong acids and bases. Do not store with food, drinks and feed. The product is not a flammable liquid according to ČSN 65 0201.
- 7.3 Specific end use: see part 1.2; coating procedure and recommendations are listed in technical list of the product, or in other product documentation.

**8. Section 8: Exposure controls / personal protection**

- 8.1 Control parameters:

Exposure limits EH40/2005 (WELs):

Chemical name:	<b>2-(2-butoxyethoxy)ethanol</b>	<b>1-methylpyrrolidin-2-one</b>
CAS:	112-34-5	872-50-4
Long-term exposure limit [mg/m <sup>3</sup> ] (TWA/8 h)	67,5 (10 ppm)	40 (10 ppm)
Short-term exposure limit [mg/m <sup>3</sup> ] (15 minut)	101,2 (15 ppm)	80 (20 ppm)
Note:	Not Assigned	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

**2-(2-butoxyethoxy)ethanol [ES: 203-961-6]:**

DNEL (Workers, Hazard via inhalation route, Systemic effects, Long term exposure)	67,5 mg/m <sup>3</sup>
DNEL (Workers, Hazard via inhalation route, Systemic effects, Acute/short term exposure)	101,2 mg/m <sup>3</sup>
DNEL (Workers, Hazard via dermal route, Systemic effects, Long term exposure)	83 mg/kg bw/day

NOAEL (Workers, Hazard via dermal route, Systemic effects, Long term exposure)	2000 mg/kg bw/day
DNEL (General Population, Hazard via inhalation route, Systemic effects, Long term exposure)	40,5 mg/m <sup>3</sup>
DNEL (General Population, Hazard via inhalation route, Systemic effects, Acute/short term exposure)	60,7 mg/m <sup>3</sup>
DNEL (General Population, Hazard via dermal route, Systemic effects, Long term exposure)	50 mg/kg bw/day
NOAEL (General Population, Hazard via dermal route, Systemic effects, Long term exposure)	2000 mg/kg bw/day
DNEL (General Population, Hazard via oral route, Systemic effects, Long term exposure)	5 mg/kg bw/day
NOAEL (General Population, Hazard via oral route, Systemic effects, Long term exposure)	200 mg/kg bw/day
PNEC aqua (freshwater)	1,1 mg/L
PNEC aqua (marine water)	0,11 mg/L
PNEC STP	200 mg/L
PNEC sediment (freshwater)	4,4 mg/kg sediment dw
PNEC sediment (marine water)	0,44 mg/kg sediment dw
PNEC soil	0,32 mg/kg soil dw
PNEC oral (Hazard for predators)	56 mg/kg food

**1-methylpyrrolidin-2-one [ES: 212-828-1]:**

DNEL (Workers, Hazard via inhalation route, Systemic effects, Long term exposure)	40 mg/m <sup>3</sup>
DNEL (Workers, Hazard via inhalation route, Systemic effects, Acute/short term exposure)	80 mg/m <sup>3</sup>
DNEL (Workers, Hazard via dermal route, Systemic effects, Long term exposure)	19,8 mg/kg bw/day
NOAEL (Workers, Hazard via dermal route, Systemic effects, Long term exposure)	237 mg/kg bw/day
DNEL (Workers, Hazard via dermal route, Systemic effects, Acute/short term exposure)	208 mg/kg bw/day
NOAEL (Workers, Hazard via dermal route, Systemic effects, Acute/short term exposure)	2500 mg/kg bw/day
PNEC aqua (freshwater)	0,25 mg/L
PNEC aqua (marine water)	0,025 mg/L
PNEC STP	10 mg/L
PNEC sediment (freshwater)	1,42 mg/kg sediment dw
PNEC sediment (marine water)	0,142 mg/kg sediment dw
PNEC soil	0,138 mg/kg soil dw
PNEC oral (Hazard for predators)	2 mg/kg food

8.2 Exposure controls

Ensure adequate ventilation. Ensure protective equipment is worn while working with the product. Contaminated work clothes can be reused after thorough cleaning. Wash your hands and face with soap and water after use. Do not eat, drink or smoke while working with the product.

8.2.1 Appropriate engineering controls: Observe the usual precautions to protect the health and well-ventilated.

8.2.2 Individual protection measures, such as personal protective equipment:

Occupational exposure is governed by Directive 89/686/EEC therefore any use of personal protective equipment must be in accordance with this Regulation.

a) Eyes and face protection: Suitable safety goggles (EN 166), face shield.

b) Skin protection: Common safety clothing with long sleeve and shoes; take off the contaminated clothing and wash your skin with soap and water.

b-1) Hands protection: suitable protective gloves (made from rubber - according to EN 374), wash your hands with soap and water after work,

c) Airways protection: with proper area ventilation not required. When spraying, face half-shielded is recommended for gas filtration (EN 405) or quarter-shielded with gas filter (EN 140, EN 141).

d) Heat hazard: Special attention must be paid to construction of personal protective measures, when specifying protective measures for protection against materials, which are considered to be heat hazard. Not relevant for this product.

8.2.3 Environmental exposure controls: Avoid infiltration of surface and groundwater and soil.

**9. Section 9: Physical and chemical properties**

9.1. Information on basic physical and chemical properties

a) State	viscous liquid
b) Color	color shown on the cover
c) Odour:	characteristic of acrylic dispersion
Odor threshold:	Not specified
d) Melting/Freezing point (temperature range) (°C):	approximately 0
e) Boiling point or initial boiling point and boiling range (°C)	approximately 100

f) Combustibility:	non-flammable liquid
g) Explosion limits: upper limit (% volume):	Not specified
lower limit (% volume):	Not specified
h) Point of ignition:	Not specified
i) Temperature of self-ignition:	Not specified
j) Temperature of decomposition (°C):	Not specified
k) pH (23 °C)	8,5 - 10,5
l) Kinematic viscosity:	Not specified
m) Solubility (23 °C)	
- with water:	unlimited miscibility
- with fats:	Not specified
n) Partition coefficient n - octanol/water:	Not specified
o) Steam pressure (20 °C):	2,3 kPa
p) Density and/or relative density (20 °C):	approximately 1,30.cm <sup>-3</sup>
q) Relative viscosity of steam (at °C):	Not specified
r) Particles characteristics:	Not specified
9.2 Other information:	
9.2.1 Information about class of physical hazard:	is not relevant
9.2.2 Other safety characteristics	
Evaporation rate:	Not specified
Dynamic viscosity:	Not specified
Explosive properties:	Not specified
Oxidizing properties:	Not specified
VOC (g/L):	61,2

#### 10. Section 10: Stability and reactivity

Product is stable under recommended storage and handling conditions.

- 10.1 Reactivity: Product is not reactive under recommended storage and handling conditions.
- 10.2 Chemical stability: Product is stable under recommended storage and handling conditions.
- 10.3 Possibility of hazardous reactions: In case of contact with substances reacting dangerously with water.
- 10.4 Conditions to avoid: Temperatures below 0 °C and above 100 °C cause degradation of the product. Temperatures above recommended storage temperature reduce life of the product.
- 10.5 Incompatible materials: Substances reacting with water.
- 10.6 Hazardous Decomposition Products: Carbon monoxide and dioxide and carbon black may form during burning.

#### 11. Section 11: Toxicological information

11.1 Information about hazard classes according to (ES) č. 1272/2008

a) acute toxicity:

- LD<sub>50</sub>, oral, rat (mg.kg<sup>-1</sup>):

- LD<sub>50</sub>, dermal, rat or rabbit (mg.kg<sup>-1</sup>):

- LC<sub>50</sub>, inhalation, rat, for aerosols or particles (mg.kg<sup>-1</sup>):

- LC<sub>50</sub>, inhalation, rat, for gases and vapours (mg.kg<sup>-1</sup>):

b) corrosivity/skin irritation:

c) serious eye damage / eyes irritation:

d) sensitivity of airways / sensitivity of skin:

e) germ cells mutagenicity:

f) carcinogenicity:

g) toxicity for reproduction:

h) toxicity for specific organs - single exposure:

i) toxicity for specific organs - multiple exposures:

j) hazards while inhaled:

Human experience:

Tests on animals:

11.1.1 Information for each hazard class or breakdown:

11.1.2 Toxicological properties of mixture

2-(2-butoxyethoxy)ethanol [ES: 203-961-6] and 1-methylpyrrolidin-2-one [ES: 212-828-1]

11.1.3 If enough information from substance/mixture trials exist, it might be necessary to sum up results of used studies, for example according to exposure run

11.1.4 If the classification criteria are not met for specific hazard class, information explaining the justification should be stated.

11.1.5 Information about likely exposure run

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

the classification criteria are not met based on available information

No detrimental effects were found upon compliance with the prescribed safety measures.

Were not performed

see above

not available

see part 8

not relevant

relevant concentration limits were not exceeded

no effects on human health are known

11.1.6	Symptoms corresponding to physical, chemical and toxicological features	no effects on human health are known
11.1.7	Belated and immediate effects and chronic effects of short/long term exposure	no effects on human health are known
11.1.8	Interactive effects	unknown
11.1.9	Lack of specific data	not relevant
11.1.10	Mixtures	see part 8
11.1.11	Mixtures information compared to substance information	
	1) Substances in the mixture can react with each other inside of a body and can cause different levels of absorption, metabolism and secretion.	
	2) It is necessary to consider, if concentration of each substance is sufficient to contribute to mixture's effects on health. For each substance	
	a) if the information are doubled, they are listed only once for a substance as a whole, for example when two different substances are causing vomiting and diarrhea;	Not relevant for this mixture.
	b) if it is not likely the effects will appear with current concentrations, for example when weak irritating substance is dissolved in non-irritating solution to a level under certain concentration;	Not relevant for this mixture.
	c) if the information about mutual effects of substances in the mixture are unavailable, no assumptions will be listed and instead effects on health of each substance will be listed.	see part 8
11.1.12	Other information	None
11.2	Other hazards information	
11.2.1	Features causing disruption of endocrinal system	Not relevant for this mixture.
11.2.2	Additional data:	None
<b>12.</b>	<b>Section 12: Ecological information</b>	
12.1	Toxicity	
	Acute toxicity for water organisms:	
	- LC <sub>50</sub> , 96 hours, fish (mg/kg):	Not set
	- LC <sub>50</sub> , 48 hours, fish (mg/kg):	Not set
	- IC <sub>50</sub> , 72 hours, algae (mg/kg):	Not set
12.2	Persistence and degradability:	Not set
12.3	Bioaccumulative potential:	Not set
12.4	Mobility in soil:	It was not determined, the blend is miscible with water.
12.5	Results of PBT and vPvB	The mixture does not meet the criteria for classification as PBT or vPvB.
12.6	Features causing disruption of endocrinal system	Unknown for this mixture
12.7	Other adverse effects:	See Section 2
	Additional data:	The product must not leak to surface and groundwater. Notify competent authorities immediately in case of accident.
<b>13.</b>	<b>Section 13: Disposal considerations</b>	
13.1	Methods of waste management:	
	a) Appropriate methods of substance, mixture and contaminated packaging disposal: Product remnants and packaging with product remnants must be incinerated in a hazardous waste incinerator or kept at a hazardous waste landfill.	
	b) Physical / chemical properties that can affect means of waste handling: Liquid mixture is completely miscible with water.	
	c) Avoidance of disposal through sewer: It is necessary to prevent leakage of both components and hardened mixture into drains.	
	d) Special precautions for the recommended waste management: Avoid contact with skin and eyes.	
<b>14.</b>	<b>Section 14: Transport information</b>	
14.1	UN number or ID number	Not specified
	Required shipping label:	
	ADR/RID/ADN:	Not specified
	IMDG:	Not specified
	ICAO TI:	Not specified
14.2	Proper name of the United Nations for the shipment	
	Ground transport ADR/RID/ADN:	Not specified
	Naval transport IMDG:	Not specified
	Air transport ICAO TI:	Not specified
14.3	Transport hazard class(es):	
	ADR/RID/ADN:	Not specified
	IMDG:	Not specified
	ICAO TI:	Not specified
14.4	Packing group:	
	ADR/RID/ADN:	Not specified

IMDG:	Not specified
ICAO TI:	Not specified
14.5 Environmental hazards:	Not specified
14.6 Special precautions for user:	See Section 8
Special provisions (ADR):	Not specified
14.7 Naval mass-transport according to instrument IMO:	Not applicable
Notes:	None
Additional data:	None

## 15. Section 15: Regulatory information

15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture. Regulation of the European Parliament and Council Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals establishing a European Chemicals Agency, as amended Regulation of the European Parliament and Council Regulation (EC) No 1272/2008 (CLP) as amended Commission directive (EU) No. 878/2020 EH40/2005 Workplace exposure limits (second edition, published 2011). Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations (as amended)	
15.2	Assessment chemical safety of mixture:	Were not performed

## 16. Section 16: Other informations

Information stated in this safety data sheet is based on the current knowledge of EU legislation. It is recommendation in terms of health and safety as well as recommendation related to ecological matters that are essential to safe usage of the product.

a) New edition.

b) key or legend for abbreviations and acronyms used in the safety data sheet:

LD <sub>50</sub>	The lethal dose for 50 % mortality of the test population relative to a control sample.
LC <sub>50</sub>	Lethal concentration for 50 % mortality of the test population relative to a control sample.
EC <sub>50</sub>	Effective concentration for 50 % mortality of the test population relative to a control sample.
EC <sub>10</sub>	Effective concentration for 10 % mortality of the test population relative to a control sample.
IC <sub>50</sub>	Inhibitory concentration to reduce the growth or growth rate of 50% of the test population relative to a control sample.
LL <sub>50</sub>	Lethal loading doses of test substance resulting in 50% mortality
EL <sub>50</sub>	Effective loading doses of test substance resulting in 50% mortality
PBT	Persistent, bioaccumulative and toxic substances.
vPvB	Very persistent and very bioaccumulative substances.
DNEL	Derived No Effect Level - derived concentration of the substance without adverse effects
DMEL	Derived Minimum Effect Level - derived minimum level at which the adverse effects
NOAEL	No Observed Adverse Effect Level - no negative effect was observed
PNEC	Predicted No Effect Concentration - an estimate of the concentration of the substance without adverse effects
NOELR	No Observed Effect Loading Rate - dosage rate without observed effect
NOEC	No Observed Effect Concentration - concentration without observed effect
NOEL	No Observed Effect Level - level without observed effect
LOEC	Lowest Observed Effect Concentration - lowest concentrations with observable effects
ADR	European Agreement concerning the international carriage of dangerous goods by road.
RID	Regulations concerning the international carriage of dangerous goods by rail.
IMDG	International maritime code of dangerous goods.
ICAO	The International Civil Aviation Organization.
IATA	International Air Transport Association.
GHS	Globally Harmonized System of Classification and Labelling of Chemical substances.

c) important references to literature and data sources

Initial data sources are safety data sheets of the inherent (components).

d) in case of mixture, statement about evaluation method used for classification according to article 9 of directive (ES) number 1272/2008

For evaluation purposes, principles of extrapolation were used. Calculation methods.

e) List of H-sentences, whose full form is not listed in other parts.

H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H360D	May damage the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH071	Causes burns to the respiratory tract.

Guidelines for training:

As required by national legislation.

Recommended restrictions on use (i. e. non-statutory recommendations by supplier):

Product should not be used for other purposes than specified (see section 1.2). Because specific conditions of use are beyond supplier's control it is responsibility of the user to adapt notifications to local law and regulations. Safety information describe the product with regard to safety and can not be considered technical information about the product.