

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : BIO-CIRCLE L Evo  
Revision date : 12.10.2023  
Print date : 27.03.2024

Version (Revision) : 2.1.2 (2.1.0)

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

### 1.1 Product identifier

BIO-CIRCLE L Evo  
Unique Formula Identifier : SKH0-U0YU-F00T-G0K6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

#### Relevant identified uses

PC 35 - Washing and cleaning products

#### Sectors of use [SU]

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
Industrial uses

### 1.3 Details of the supplier of the safety data sheet

#### Supplier

Bio-Circle Surface Technology AG

Street : Aahusweg 16

Postal code/City : 6403 Küssnacht am Rigi

Telephone : 0041 41 878 1166

Telefax : 0041 41 878 1347

Information contact : service@bio-circle.ch

### 1.4 Emergency telephone number

+41 (0)442515151  
Schweizerisches Toxikologisches Informationszentrum, 145

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

None

### 2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Special rules for supplemental label elements for certain mixtures

EUH210 Safety data sheet available on request.

#### Additional information

The surfactant contained in this mixture complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents.

### 2.3 Other hazards

None

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous ingredients

2-(2-BUTOXYETHOXY)ETHANOL ; REACH No. : 01-2119475104-44-XXXX ; EC No. : 203-961-6; CAS No. : 112-34-5

Weight fraction :  $\geq 1 - < 3 \%$

Classification 1272/2008 [CLP] : Eye Irrit. 2 ; H319  
Substance with a common (EC) occupational exposure limit value.

#### Further ingredients

The preparation contains micro-organisms.  
The used micro-organisms are a mixed culture classified in accordance with 2000/54/EC into risk group 1.

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Risk group 1 = No risk for human beings and vertebrate animals, according to the current state of the art.

#### Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

When in doubt or if symptoms are observed, get medical advice. Never give anything by mouth to an unconscious person or a person with cramps.

#### Following inhalation

Remove casualty to fresh air and keep warm and at rest.

#### In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Rub greasy ointment into the skin.

#### After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

#### Following ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Call a physician immediately.

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

No information available.

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

None

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water Foam Extinguishing powder Carbon dioxide (CO<sub>2</sub>) Sand Nitrogen Extinguishing blanket

### 5.2 Special hazards arising from the substance or mixture

#### Hazardous combustion products

In case of fire may be liberated: Carbon monoxide , Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Special danger of slipping by leaking/spilling product.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains. Before discharge into sewage plants the product normally needs to be neutralised.

### 6.3 Methods and material for containment and cleaning up

Clear spills immediately. Wipe up with absorbent material (eg. cloth, fleece). Wash with plenty of water.

### 6.4 Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Keep container tightly closed.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep/Store only in original container. Protect against Frost

### 7.3 Specific end use(s)

Observe technical data sheet. Observe instructions for use.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limit values

2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5

Limit value type (country of origin) : KZGW ( CH )

Limit value : 15 ppm / 101 mg/m<sup>3</sup>

Remark : SSc

Version :

Limit value type (country of origin) : MAK ( CH )

Limit value : 10 ppm / 67 mg/m<sup>3</sup>

Remark : SSc

Version :

Limit value type (country of origin) : STEL ( EC )

Limit value : 15 ppm / 101,2 mg/m<sup>3</sup>

Version : 20.06.2019

Limit value type (country of origin) : TWA ( EC )

Limit value : 10 ppm / 67,5 mg/m<sup>3</sup>

Version : 20.06.2019

#### DNEL-/PNEC-values

##### DNEL/DMEL

2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5

Limit value type : DNEL Consumer (systemic)

Exposure route : Oral

Exposure frequency : Long-term

Limit value : 6,25 mg/kg bw/day

Limit value type : DNEL worker (local)

Exposure route : Inhalation

Exposure frequency : Short-term

Limit value : 101,2 mg/m<sup>3</sup>

Limit value type : DNEL worker (systemic)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 67,5 mg/m<sup>3</sup>

##### PNEC

2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5

Limit value type : PNEC (Aquatic, freshwater)

Limit value : 1,1 mg/l

Limit value type : PNEC (Aquatic, intermittent release)

Limit value : 11 mg/l

Limit value type : PNEC (Aquatic, marine water)

Limit value : 0,11 mg/l

Limit value type : PNEC (Sediment, freshwater)

Limit value : 4,4 mg/kg dw

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Limit value type : PNEC (Sediment, marine water)  
Limit value : 0,44 mg/kg dw  
Limit value type : PNEC (Soil)  
Limit value : 0,32 mg/kg dw  
Limit value type : PNEC (Secondary poisoning)  
Limit value : 56 mg/kg food

## 8.2 Exposure controls

### Personal protection equipment

#### Eye/face protection



Wear suitable safety goggles in case of splash.

#### Suitable eye protection

EN 166.

#### Skin protection

##### Hand protection



Suitable gloves type : EN 374.

Suitable material : NBR (Nitrile rubber)

Breakthrough time : 480 min.

Thickness of the glove material : 0.4 mm

**Remark** : The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

#### General information

When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately.

## 8.3 Additional information

No tests have been performed. Selection made for preparations according to the best available knowledge and information on ingredients. In the case of preparations the resistance of glove materials cannot be calculated in advance so it has to be tested before use.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state : Liquid

Colour : colourless

#### Odour

characteristic

#### Safety characteristics

Melting point/freezing point : ( 1013 hPa ) not determined

Initial boiling point and boiling range ( 1013 hPa ) approx. 100 °C

Flash point : not applicable

Auto-ignition temperature : none

DIN EN ISO 13736

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Flammability :		non-flammable
Lower explosion limit :		not applicable
Upper explosion limit :		not applicable
Vapour pressure :	( 50 °C )	not determined
Density :	( 20 °C )	1,002 g/cm <sup>3</sup>
Water solubility :	( 20 °C )	completely miscible
pH :	( 20 °C )	approx. 8
Cinematic viscosity :	( 20 °C )	< 30 mm <sup>2</sup> /s
Relative vapour density :	( 20 °C )	not determined
Maximum VOC content (EC) :		0 Weight-%
Maximum VOC content (Switzerland) :		2,5 Weight-%
Taxable VOC content (Switzerland) :		2,5 Weight-%

## 9.2 Other information

CH : This product is not under the liability for taxation of VOC acc. VOCV (<= 3 % VOC).

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No information available.

### 10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

### 10.3 Possibility of hazardous reactions

No information available.

### 10.4 Conditions to avoid

No information available.

### 10.5 Incompatible materials

No information available.

### 10.6 Hazardous decomposition products

No information available.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

##### Acute oral toxicity

Parameter :	LD50 ( 2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5 )
Exposure route :	Oral
Species :	Mouse
Effective dose :	5530 mg/kg
Method :	OECD 401

##### Acute dermal toxicity

Parameter :	LD50 ( 2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5 )
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	2764 mg/kg
Method :	OECD 402

#### Corrosion

##### Skin corrosion/irritation

No further relevant information available.

##### Serious eye damage/eye irritation

No further relevant information available.

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## Respiratory or skin sensitisation

### Skin sensitisation

No further relevant information available.

### Sensitisation to the respiratory tract

No further relevant information available.

## CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

### Carcinogenicity

No further relevant information available.

### Germ cell mutagenicity

No further relevant information available.

### Reproductive toxicity

No further relevant information available.

## STOT-single exposure

No further relevant information available.

## STOT-repeated exposure

No further relevant information available.

## Aspiration hazard

No further relevant information available.

## 11.2 Information on other hazards

### Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

### Toxicokinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

### Other adverse effects

Frequently or prolonged contact with skin may cause dermal irritation. Has degreasing effect on the skin.

### Additional information

Preparation not tested. The statement is derived from the properties of the single components.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity

##### Acute (short-term) fish toxicity

Parameter : LC50 ( 2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5 )  
Species : Lepomis macrochirus (Bluegill)  
Evaluation parameter : Acute (short-term) fish toxicity  
Effective dose : 1300 mg/l  
Exposure time : 96 h  
Method : OECD 203

##### Acute (short-term) toxicity to crustacea

Parameter : EC50 ( 2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5 )  
Species : Daphnia magna (Big water flea)  
Evaluation parameter : Acute (short-term) toxicity to crustacea  
Effective dose : > 100 mg/l  
Exposure time : 48 h  
Method : OECD 202

##### Acute (short-term) toxicity to algae and cyanobacteria

Parameter : EC50 ( 2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5 )  
Species : Scenedesmus subspicatus  
Evaluation parameter : Acute (short-term) toxicity to algae and cyanobacteria

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Effective dose : > 100 mg/l  
Exposure time : 48 h  
Method : OECD 201

#### Toxicity to microorganisms

Parameter : EC10 ( 2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5 )  
Species : Toxicity to microorganisms  
Effective dose : > 1995 mg/l  
Exposure time : 30 min

## 12.2 Persistence and degradability

The surfactant contained in this mixture complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Technically correct releases of minimal concentrations to adapted biological sewage plants, will not disturb the biodegradability of activated sludge. Before discharge into sewage plants the product normally needs to be neutralised.

#### Biodegradation

Parameter : BOD (% of COD) ( 2-(2-BUTOXYETHOXY)ETHANOL ; CAS No. : 112-34-5 )  
Inoculum : Biodegradation  
Evaluation parameter : Aerobic  
Degradation rate : 95 %  
Test duration : 28 D  
Evaluation : Readily biodegradable (according to OECD criteria).  
Method : OECD 301C

## 12.3 Bioaccumulative potential

No indication of bioaccumulation potential.

## 12.4 Mobility in soil

No information available.

## 12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

## 12.6 Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

## 12.7 Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Ordinance on the avoidance and disposal of waste (ADWO) SR 814.600.

##### Before intended use

##### Waste code according to the lists for the movement of waste

20 01 30 (Detergents other than those mentioned in 20 01 29)

##### Other disposal recommendations

Dispose of waste according to applicable legislation. Dispose of contents/container to an appropriate recycling or disposal facility. Contaminated packages must be completely emptied and can be re-used following proper cleaning. Handle contaminated packages in the same way as the substance itself.

### 13.2 Additional information

The allocation of waste identity numbers/waste descriptions must be carried out according to the VVEA, specific to the industry and process.

## SECTION 14: Transport information

### 14.1 UN number

No dangerous good in sense of these transport regulations.

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## 14.2 UN proper shipping name

No dangerous good in sense of these transport regulations.

## 14.3 Transport hazard class(es)

No dangerous good in sense of these transport regulations.

## 14.4 Packing group

No dangerous good in sense of these transport regulations.

## 14.5 Environmental hazards

No dangerous good in sense of these transport regulations.

## 14.6 Special precautions for user

None

## 14.7 Maritime transport in bulk according to IMO instruments

No transport as bulk according to IBC Code.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU legislation

##### Authorisations and/or restrictions on use

##### Restrictions on use

Use restriction according to REACH annex XVII, no. : 55, 75

##### Other regulations (EU)

##### Labelling for contents according to regulation (EC) No. 648/2004

< 5 % non-ionic surfactants  
perfumes

##### National regulations

##### Other regulations, restrictions and prohibition regulations

##### Switzerland

Chemicals Ordinance, ChemO (SR 813.11)  
Chemical Risk Reduction Ordinance, ORRChem (SR 814.81)

### 15.2 Chemical Safety Assessment

No information available.

## SECTION 16: Other information

### 16.1 Indication of changes

09. Information on basic physical and chemical properties · 11. Endocrine disrupting properties · 12. Endocrine disrupting properties · 13. Disposal considerations

### 16.2 Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (Europäisches Übereinkommen über die Beförderung gefährlicher Güter auf der Straße)

AOX: adsorbierbare organisch gebundene Halogene

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen

CAS: Chemical Abstracts Service (Unterabteilung der American Chemical Society)

CLP: Verordnung (EG) Nr. 1272/2008 über die Einstufung, Kennzeichnung und Verpackung von Stoffen und Gemischen (Classification Labelling and Packaging)

EAK / AVV: europäischer Abfallartenkatalog / Abfallverzeichnis-Verordnung

ECHA: Europäische Chemikalienagentur (European Chemicals Agency)

EINECS: : Altstoffverzeichnis (European Inventory of Existing Commercial Chemical Substances)

GHS: Global harmonisiertes System zur Einstufung und Kennzeichnung von Chemikalien (Globally Harmonized System of Classification and Labelling of Chemicals)

IATA: Internationale Luftverkehrs-Vereinigung (International Air Transport Association)

ICAO: Internationale Zivilluftfahrtorganisation (International Civil Aviation Organization)



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IMDG: Gefahrgutkennzeichnung für gefährliche Güter im Seeschiffverkehr (International Maritime Code for Dangerous Goods)  
RID: Regelung zur internationalen Beförderung gefährlicher Güter im Schienenverkehr (Règlement concernant le transport international ferroviaire de marchandises dangereuses)  
TRGS: Technische Regel für den Umgang mit Gefahrstoffen  
VbF: Verordnung über brennbare Flüssigkeiten  
VOC: flüchtige organische Verbindung (volatile organic compound)  
VVEA: Verordnung über die Vermeidung und die Entsorgung von Abfällen  
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe  
WGK: Wassergefährdungsklasse

### 16.3 Key literature references and sources for data

DGUV: GESTIS-Stoffdatenbank  
ECHA: Classification And Labelling Inventory  
ECHA: Pre-registered Substances  
ECHA: Registered Substances  
EC Safety Data Sheet of Suppliers  
ESIS: European Chemical Substances Information System  
GDL: Gefahrstoffdatenbank der Länder  
UBA Rigoletto: Wassergefährdende Stoffe  
Regulation (EC) No. 1907/2006 of the European Parliament and of the Council  
|-> COMMISSION REGULATION (EU) 2020/878 of 18 June 2020  
Regulation (EC) No. 1272/2008 of the European Parliament and of the Council

### 16.4 Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

### 16.5 Relevant H- and EUH-phrases (Number and full text)

H319 Causes serious eye irritation.

### 16.6 Training advice

None

### 16.7 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.