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

BIO-CIRCLE®
MAKING GREEN WORK.

Trade name :	FOR CLEAN V		
Revision date :	15.02.2023	**Version (Revision) :**	3.0.5 (3.0.4)
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SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier
FOR CLEAN V

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses
PC 35 - Washing and cleaning products

1.3 Details of the supplier of the safety data sheet
Supplier
Bio-Circle Surface Technology GmbH

Street : Berensweg 200

Postal code/City : 33334 Gütersloh

Telephone : +49 5241 9443 0

Telefax : +49 5241 9443 44

Information contact : labor@bio-circle.de

1.4 Emergency telephone number
+49 5241 9443 51 during normal office hours
(Monday to Thursday from 8 am to 4 pm and Friday from 8 am to 3 pm)

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.

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 :	≥ 1 - < 5 %
Classification 1272/2008 [CLP] :	Eye Irrit. 2 ; H319 Substance with a common (EC) occupational exposure limit value.

ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; REACH No. : 01-0000016977-53-XXXX ; CAS No. : 164462-16-2

Weight fraction :	≥ 1 - < 5 %
Classification 1272/2008 [CLP] :	Met. Corr. 1 ; H290

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
Protect uninjured eye. 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.

Following ingestion
Rinse mouth thoroughly with water. Let 1 glass of water be drunken in little sips (dilution effect). Do NOT induce vomiting. 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_2) Sand Nitrogen Extinguishing blanket

Unsuitable extinguishing media
Full water jet

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_2)

5.3 Advice for firefighters
In case of fire: Wear self-contained breathing apparatus.

5.4 Additional information
The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

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. Do not allow to enter into soil/subsoil.

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. Treat the recovered material as prescribed in the section on waste disposal.

6.4 Reference to other sections
Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

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 .

Hints on joint storage

Storage class (TRGS 510) : 12

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) :	TRGS 900 (D)
Limit value :	10 ppm / 67 mg/m^3
Peak limitation :	1,5(I)
Remark :	Y
Version :	23.06.2022
Limit value type (country of origin) :	STEL (EC)
Limit value :	15 ppm / 101,2 mg/m^3
Version :	20.06.2019
Limit value type (country of origin) :	TWA (EC)
Limit value :	10 ppm / 67,5 mg/m^3
Version :	20.06.2019

DNEL-/PNEC-values

DNEL/DMEL

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

Limit value type :	DNEL worker (local)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	67,5 mg/m^3
Limit value type :	DNEL worker (local)
Exposure route :	Inhalation
Exposure frequency :	Short-term
Limit value :	101,2 mg/m^3
Limit value type :	DNEL worker (systemic)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	67,5 mg/m^3
Limit value type :	DNEL worker (systemic)
Exposure route :	Dermal
Exposure frequency :	Long-term
Limit value :	20 mg/kg

ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2

Limit value type :	DNEL worker (local)
Exposure route :	Inhalation
Exposure frequency :	Short-term
Limit value :	40 mg/m^3
Limit value type :	DNEL worker (local)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	4 mg/m^3

Limit value type :	DNEL worker (systemic)
Exposure route :	Inhalation
Exposure frequency :	Short-term
Limit value :	40 mg/m³
Limit value type :	DNEL worker (systemic)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	40 mg/m³

PNEC

ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2

Limit value type :	PNEC (Aquatic, freshwater)
Exposure route :	Water (Including sewage plant)
Limit value :	2 mg/l
Limit value type :	PNEC (Aquatic, marine water)
Exposure route :	Water (Including sewage plant)
Limit value :	0,2 mg/l
Limit value type :	PNEC (Sediment, freshwater)
Limit value :	24 mg/kg
Limit value type :	PNEC Soil, Freshwater
Exposure route :	Soil
Limit value :	2,5 mg/kg
Limit value type :	PNEC (Sewage treatment plant)
Exposure route :	Water (Including sewage plant)
Limit value :	100 mg/l

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.

Respiratory protection

Respiratory protection necessary at: exceeding exposure limit values

Suitable respiratory protection apparatus

Combination filtering device
Type : A

Remark

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

General information

Do not put any product-impregnated cleaning rags into your trouser pockets. When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes. P362+P364 - Take off contaminated clothing and wash it before reuse. P264 - Wash hands thoroughly after handling.

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 : viscous

Colour : colourless

Odour

like: Ether

Safety characteristics

Melting point/freezing point :	(1013 hPa)	approx.	0	°C	
Initial boiling point and boiling range :	(1013 hPa)	approx.	100	°C	
Flash point :			not relevant		DIN EN ISO 13736
Auto-ignition temperature :			none		
Flammability :			non-flammable		
Lower explosion limit :			not relevant		
Upper explosion limit :			not relevant		
Vapur pressure :	(20 °C)	<	25	hPa	Calculated
Density :	(20 °C)		1,03	g/cm^3	
Solvent separation test :	(20 °C)		not relevant		
Water solubility :	(20 °C)		completely miscible		
pH :	(20 °C)		10		
Cinematic viscosity :	(20 °C)	<	30	mm^2/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

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is considered to be non-reactive under normal use conditions.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

No known hazardous decomposition products.
Decomposition products in case of fire: see section 5.

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
Parameter :	LD50 (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Exposure route :	Oral
Species :	Rat
Effective dose :	> 4000 mg/kg

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
Parameter :	LD50 (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Exposure route :	Dermal
Species :	Rat
Effective dose :	> 4000 mg/kg
Method :	OECD 402

Acute inhalation toxicity

Parameter :	LC50 (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Exposure route :	Inhalation
Species :	Rat
Effective dose :	> 5 mg/l

Corrosion

Skin corrosion/irritation

No further relevant information available.

Serious eye damage/eye irritation

No further relevant information available.

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

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
Parameter :	LC50 (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Species :	Danio rerio (zebrafish)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	> 110 mg/l
Exposure time :	96 h
Method :	Regulation (EC) No. 440/2008, Annex C.1

Chronic (long-term) fish toxicity

Parameter :	NOEC (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Species :	Oncorhynchus mykiss (Rainbow trout)
Evaluation parameter :	Chronic (long-term) fish toxicity
Effective dose :	= 100 mg/l
Exposure time :	28 D
Method :	OECD 204

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
Parameter :	EC50 (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) toxicity to crustacea
Effective dose :	> 100 mg/l
Exposure time :	48 h
Method :	Regulation (EC) No. 440/2008, Annex C.2

Chronic (long-term) toxicity to aquatic invertebrate

Parameter :	NOEC (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Chronic (long-term) toxicity to aquatic invertebrate
Effective dose :	>= 100 mg/l
Exposure time :	21 D
Method :	Regulation (EC) No. 440/2008, Annex C.20

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
Effective dose :	> 100 mg/l
Exposure time :	48 h
Method :	OECD 201
Parameter :	EC50 (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Species :	Scenedesmus subspicatus
Evaluation parameter :	Acute (short-term) toxicity to algae and cyanobacteria
Effective dose :	> 200 mg/l
Exposure time :	72 h

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

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
Parameter :	BOD (% of ThOD) (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)
Inoculum :	Degree of elimination
Evaluation parameter :	Aerobic
Degradation rate :	> 80 - 90 %
Test duration :	28 D
Evaluation :	Readily biodegradable (according to OECD criteria).
Method :	OECD 301F
Parameter :	DOC reduction (ALANINE N,N-BIS(CARBOXYMETHYL), -TRINATRIUMSALT IN WATER ; CAS No. : 164462-16-2)

Inoculum :	Degree of elimination
Evaluation parameter :	Aerobic
Degradation rate :	> 90 - 100 %
Test duration :	28 D
Method :	OECD 301F

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 further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Directive 2008/98/EC (Waste Framework Directive)

Before intended use

Waste codes/waste designations according to EWC/AVV

20 01 29* (Detergents containing hazardous substances)

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 EEC, specific to the industry and process.

SECTION 14: Transport information

14.1 UN number

No dangerous good in sense of these transport regulations.

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

not relevant

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. : 40, 55, 75

Restrictions of occupation

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Other regulations (EU)

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

< 5 % anionic surfactants
< 5 % non-ionic surfactants

National regulations

Technische Anleitung zur Reinhaltung der Luft (TA-Luft)

Weight fraction (Number 5.2.5. I) : < 5 %

Water hazard class

Classification according to AwSV - Class : 1 (Slightly hazardous to water)

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

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

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 Classifiaction and Labelling of Chemicals)
IATA: Internationale Luftverkehrs-Vereinigung (International Air Transport Association)
ICAO: Internationale Zivilluftfahrtorganisation (International Civil Aviation Organization)
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
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)

H290	May be corrosive to metals.
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.