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

Trade name :	GreeNox-M (Alias SURFOX-M)		
Revision date :	10.06.2024	**Version (Revision) :**	1.2.1 (1.2.0)
Print date :	13.08.2024		

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

1.1 Product identifier

GreeNox-M
(Alias SURFOX-M)

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

Relevant identified uses

PC 0.72 - Electrolyte

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

CITRIC ACID ; REACH No. : 01-2119457026-42-XXXX ; EC No. : 201-069-1; CAS No. : 77-92-9

Weight fraction : ≥ 1 - < 1,5 %

Classification 1272/2008 [CLP] : Eye Irrit. 2 ; H319 STOT SE 3 ; H335

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.

Following inhalation
Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician.

In case of skin contact
After contact with skin, wash immediately with plenty of water and soap. In case of skin reactions, consult a physician.

After eye contact
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist 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
Carbon dioxide (CO2) Foam Extinguishing powder Water spray jet

5.2 Special hazards arising from the substance or mixture
Do not inhale explosion and combustion gases.

5.3 Advice for firefighters
Cool down endangered containers with full water-jet. Use foam in high amounts. Contaminated tempering water is gathered separately and may not reach the sewage system. Use suitable 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. Use personal protection equipment.
See protective measures under point 7 and 8.

6.2 Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3 Methods and material for containment and cleaning up
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Clear spills immediately. 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

CITRIC ACID ; CAS No. : 77-92-9

Limit value type (country of origin) :	TRGS 900 (D)
Parameter :	E: inhalable fraction
Limit value :	2 mg/m^3
Peak limitation :	2(I)
Remark :	Y
Version :	23.06.2022
Limit value type (country of origin) :	TLV/STEL (D)
Limit value :	4 mg/m^3
Version :	
Limit value type (country of origin) :	TLV/TWA (D)
Limit value :	2 mg/m^3
Version :	

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

Wear protective gloves in case of longer lasting skin contact.

Suitable gloves type : EN 374.

Suitable material : NBR (Nitrile rubber)

Breakthrough time : 480 min.

Thickness of the glove material : 0.4 mm

Remark : The exact break trough time has to be requested from the protective glove manufacturer and limits has to be ensured.

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. 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

odourless

Safety characteristics

Initial boiling point and boiling range :	(1013 hPa)	approx.	100	°C	
Flash point :		>	60	°C	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)	<	24	hPa	
Density :	(20 °C)	approx.	1,02	g/cm³	
Solvent separation test :	(20 °C)		No data available		
Water solubility :	(20 °C)		completely miscible		
pH :	(20 °C)		3 - 3,5		
Flow time :	(20 °C)		No data available		DIN-cup 4 mm
Cinematic viscosity :	(20 °C)	<	30	mm²/s	
Relative vapour density :	(20 °C)		not determined		
Maximum VOC content (EC) :			0	Weight-%	
Maximum VOC content (Switzerland) :			0	Weight-%	

9.2 Other information

None

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 hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

Oxidizing agent.

10.6 Hazardous decomposition products

Thermal decomposition can lead to the escape of irritating gases and vapours.

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 (CITRIC ACID ; CAS No. : 77-92-9)
Exposure route :	Oral

Species : Rat
Effective dose : > 2000 mg/kg

Corrosion

Skin corrosion/irritation

No further relevant information available.

Serious eye damage/eye irritation

Parameter : Serious eye damage/eye irritation (CITRIC ACID ; CAS No. : 77-92-9)
Species : Rabbit
Result : Causes serious eye irritation
Method : OECD 405

No further relevant information available.

Irritation to respiratory tract

Parameter : Irritation to respiratory tract (CITRIC ACID ; CAS No. : 77-92-9)
Result : Irritant

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.

Additional information

Mixture 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 (CITRIC ACID ; CAS No. : 77-92-9)
Species : Leuciscus idus (golden orfe)

Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	440 mg/l
Exposure time :	48 h
Method :	OECD 203

Acute (short-term) toxicity to crustacea

Parameter :	EC50 (CITRIC ACID ; CAS No. : 77-92-9)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) toxicity to crustacea
Effective dose :	1535 mg/l
Exposure time :	24 h

Chronic (long-term) toxicity to aquatic algae and cyanobacteria

Parameter :	NOEC (CITRIC ACID ; CAS No. : 77-92-9)
Species :	Scenedesmus quadricauda
Evaluation parameter :	Chronic (long-term) toxicity to aquatic algae and cyanobacteria
Effective dose :	425 mg/l
Exposure time :	8 D
Method :	OECD 201

12.2 Persistence and degradability

Biodegradation

Parameter :	CO2 formation (% of the theoretical value) (CITRIC ACID ; CAS No. : 77-92-9)
Inoculum :	Biodegradation
Evaluation parameter :	Aerobic
Degradation rate :	97 %
Test duration :	28 D
Evaluation :	Readily biodegradable (according to OECD criteria).
Method :	OECD 301B
Parameter :	DOC reduction (CITRIC ACID ; CAS No. : 77-92-9)
Inoculum :	Biodegradation
Evaluation parameter :	Aerobic
Degradation rate :	100 %
Test duration :	19 D
Evaluation :	Readily biodegradable (according to OECD criteria).
Method :	OECD 301E

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

The waste codes are recommendations based on the schedule use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances.

13.1 Waste treatment methods

Directive 2008/98/EC (Waste Framework Directive)

Before intended use

Waste codes/waste designations according to EWC/AVV

11 01 99 (Wastes not otherwise specified)

13.2 Additional information

These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use.

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

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. : 75

National regulations

AT: Labelling according to Austrian regulations (Chemikaliengesetz/ChemV).
CH: Chemikalienverordnung (ChemV) and Chemikalien-Risikoreduktions-Verordnung (Chem RRV) are complied.

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

Chemical safety assessments for substances in this preparation were not carried out.

SECTION 16: Other information

16.1 Indication of changes

09. Information on basic physical and chemical 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
|-> 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.
H335	May cause respiratory 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.