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

1.1 Product identifier

Trade name **Oxygen activator liquid**

SDS-Ref 07535S

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

Relevant identified uses Water treatment chemical
Professional use
Consumer use (private households)

1.3 Details of the supplier of the safety data sheet

Steinbach International GmbH
L. Steinbach Platz 1
4311 Schwertberg
Austria
Telephone: +43 7262 61431 1000
e-Mail: info@steinbach-group.com
e-Mail (competent person): sdb@steinbach-group.com

1.4 Emergency telephone number

Country	Name	Postal code/city	Telephone	Opening hours
Austria	Vergiftungsinformationszentrale	1090 Wien	+43 1 406 4343 (24h)	
Ireland	National Poisons Information Centre	Dublin 9	+353 1 809 2166 / 2566 (24h)	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

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

- Signal word Warning
- Pictograms

GHS09

- Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

- Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P312 Call a POISON CENTRE/doctor if you feel unwell.
P391 Collect spillage.
P501 Dispose of contents/container to hazardous or special waste collection point.

- Hazardous ingredients for labelling N,N-Dimethyl-2-hydroxypropylammoniumchloride-polymer

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Classification acc. to GHS	Pictograms	Wt%
N,N-Dimethyl-2-hydroxypro-pylammoniumchloride-poly-mer solution	CAS No 25988-97-0	Acute Tox. 4 / H302 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		10 – < 25

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
N,N-Dimethyl-2-hy-droxypropylammoni-umchloride-polymer solution	-	M-factor (acute) = 10	1,672 $^{mg}/_{kg}$	oral

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Take off immediately all contaminated clothing. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Self-protection of the first aider.

Following inhalation

Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth with water (only if the person is conscious). Let be drunken in little sips: 0,1-0,2l Water. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

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 spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Hydrogen chloride (HCl)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: Kieselgur (diatomite), Sand, Universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use only in well-ventilated areas. Use local and general ventilation.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Control of effects

- Protect against external exposure, such as

High temperatures, Frost, UV-radiation/sunlight

Packaging compatibilities

Professional use: Only packagings which are approved (e.g. acc. to ADR) may be used. Consumer use (private households): Keep only in original container.

Conditions of storage

Keep container tightly closed in a cool place. Protect from sunlight. Keep away from children.

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)
this information is not available

8.2 Exposure controls (professional use)

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

- Eye/face protection

Use safety goggle with side protection (EN 166).

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

Type of material

PVC: polyvinyl chloride, NR: natural rubber, latex

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection

In case of inadequate ventilation wear respiratory protection: Full face mask (DIN EN 136).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	blue
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	100 °C
Flammability	not relevant (fluid)
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	not determined
pH (value)	4 – 7 (in aqueous solution: 100 % ($^{w}/_{w}$), 20 °C)
Kinematic viscosity	not determined
Particle characteristics	no data available
Oxidising properties	none

Vapour pressure

Vapour pressure	32 Pa at 25 °C

Density and/or relative density

Density	1.017 $^{g}/_{cm^3}$ at 20 °C
Relative vapour density	information on this property is not available

Other safety parameters

Solubility(ies)

Water solubility	miscible in any proportion

Partition coefficient

n-Octanol/water (log KOW)	this information is not available

9.2 Other information

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics

Miscibility: Completely miscible with water.

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Name of substance	CAS No	Exposure route	End-point	Value	Species
N,N-Dimethyl-2-hydroxypropyl-ammoniumchloride-polymer solution	25988-97-0	oral	LD50	1,672 $^{mg}/_{kg}$	rat
N,N-Dimethyl-2-hydroxypropyl-ammoniumchloride-polymer solution	25988-97-0	dermal	LD50	>2,000 $^{mg}/_{kg}$	rabbit

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	LC50	0.077 mg/l	rainbow trout	96 h
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	EC50	0.14 mg/l	daphnia magna	48 h
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	EC50	0.08 mg/l	daphnia magna	48 h
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	ErC50	0.13 mg/l	freshwater algae	72 h
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	EbC50	0.09 mg/l	freshwater algae	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	LC50	>1,000 mg/l	microorganisms	28 d
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	EC50	>1,000 mg/l	microorganisms	14 d

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Notes
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	biotic/abiotic	81 %	28 d		10mg/l

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Notes
N,N-Dimethyl-2-hydroxypropylammonium-chloride-polymer solution	25988-97-0	biotic/abiotic	28 %	28 d		20mg/l

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
N,N-Dimethyl-2-hydroxypropylammoniumchloride-polymer solution	25988-97-0		-3.13	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Other disposal recommendations

Dispose of contents/container to hazardous or special waste collection point. Waste treatment of containers/packagings: Mixed municipal waste.

Relevant provisions relating to waste

List of wastes (EU), Decision 2000/532/EC on the list of waste

Product Code/ Type of waste: 16 05 08*

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number	3082
ADR/RID/ADN	UN 3082
IMDG-Code	UN 3082
ICAO-TI	UN 3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
ADR/RID/ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
ICAO-TI	Environmentally hazardous substance, liquid, n.o.s.
Technical name (hazardous ingredients)	N,N-Dimethyl-2-hydroxypropylammoniumchloride-polymer solution
14.3 Transport hazard class(es)	
ADR/RID/ADN	9
IMDG-Code	9
ICAO-TI	9
14.4 Packing group	III (substance presenting low danger)
ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III
14.5 Environmental hazards	hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

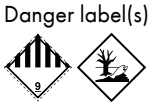
Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Classification code	M6
Danger label(s)	9, fish and tree

Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information

Classification code	M6
Danger label(s)	9, fish and tree



Environmental hazards	yes (hazardous to water)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Hazard identification No	90

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	yes (hazardous to the aquatic environment)
Danger label(s)	9, fish and tree

Special provisions (SP)	274, 335, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-F
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, fish and tree

Special provisions (SP)	A97, A158, A197, A215
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

No	Name of substance	CAS No	Type of registration
3	Oxygen activator liquid		1907/2006/EC annex XVII

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

No	Dangerous substance/hazard categories
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)

Deco-Paint Directive

VOC content	0.0009 %

Industrial Emissions Directive (IED)

VOC content	0.0009 %

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the ingredients are listed.

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	CAS No	Listed in	Remarks
N,N-Dimethyl-2-hydroxypropylammoniumchloride-polymer solution		a)	

Legend

A) Indicative list of the main pollutants

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National inventories

Country	Inventory	Status
EU	REACH Reg.	not all ingredients are listed

Legend

REACH Reg. REACH registered substances

15.2 Chemical Safety Assessment

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

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
3.2		Description of the mixture: change in the listing (table)	yes
3.2		Description of the mixture: change in the listing (table)	yes
8.1		Relevant DNELs of components of the mixture: change in the listing (table)	yes
11.1		Acute toxicity: change in the listing (table)	yes
12.1		Aquatic toxicity (acute) of components of the mixture: change in the listing (table)	yes
12.1		Aquatic toxicity (chronic) of components of the mixture: change in the listing (table)	yes
12.3		Bioaccumulative potential of components of the mixture: change in the listing (table)	yes
15.1		List of pollutants (WFD): change in the listing (table)	yes
16		Abbreviations and acronyms: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Acute	hazardous to the aquatic environment - acute hazard
Aquatic Chronic	hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-octanol/water
M-factor	means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
SVHC	Substance of Very High Concern
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.