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

1.1 Product identifier

Trade name : terralin PAA base

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

Use of the Sub-stance/Mixture : Disinfectants and general biocidal products

Recommended restrictions on use : Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Producer : BIOXAL SA - AIR LIQUIDE Group
Route des Varennes - BP 72

71103 Chalon-sur-Saône Cedex
France
Telephone: + 33 (0) 3 85 92 30 00
Telefax: + 33 (0) 3 85 92 30 12

Supplier : Schülke & Mayr GmbH
Robert-Koch-Str. 2

22851 Norderstedt
Germany
Telephone: +49 (0)40/ 52100-0
Telefax: +49 (0)40/ 52100318
mail@schuelke.com
www.schuelke.com

E-mail address of person responsible for the SDS/Contact person : Application Department HI
+49 (0)40/ 521 00 544
ADHI@schuelke.com
(Schülke & Mayr UK Ltd.: +44-1142543500)

1.4 Emergency telephone number

Emergency telephone number : UK Poisons Emergency number: 0870 600 6266

Emergency telephone number : +49 (0)40 / 52 100 –0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Oxidizing liquids, Category 2	H272: May intensify fire; oxidizer.
Corrosive to metals, Category 1	H290: May be corrosive to metals.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin corrosion, Category 1	H314: Causes severe skin burns and eye damage.
Specific target organ toxicity - single exposure, Category 3	H335: May cause respiratory irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements	:		
		H272	May intensify fire; oxidizer.
		H290	May be corrosive to metals.
		H302	Harmful if swallowed.
		H314	Causes severe skin burns and eye damage.
		H335	May cause respiratory irritation.

Precautionary statements	:		
		P220	Keep/Store away from clothing/ combustible materials.
		P280	Wear protective gloves (e.g. butyl rubber) /protective clothing/eye protection/face protection.
		P303+P361+P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
		P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
		P305+P351+P338+P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
		P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Hazardous components which must be listed on the label:

79-21-0	Peracetic acid
7722-84-1	Hydrogen peroxide

Special labelling of certain mixtures : Labelling according to Regulation (EC) No. 648/2004: (< 5 % non-ionic surfactants,)

Further information : Use biocides safely. Always read the label and product information before use.

2.3 Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
Organic peroxide. Hazardous decomposition may occur.
Strong oxidizer. Contact with other material may cause fire.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Solution of the following substances with harmless additives.

Hazardous components

Chemical Name	Index-Number CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
Peracetic acid	607-094-00-8 79-21-0 201-186-8 01-2119531330-56-0006	Flam. Liq. 3; H226 Org. Perox. D; H242 Acute Tox. 3; H301 Acute Tox. 4; H312 Acute Tox. 4; H332 Skin Corr. 1A; H314 STOT SE 3; H335 Aquatic Acute 1; H400	5
Hydrogen peroxide	008-003-00-9 7722-84-1 231-765-0 01-2119485845-22-XXXX	Ox. Liq. 1; H271 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1A; H314 Aquatic Chronic 3; H412	10 - 20
Acetic acid	607-002-00-6 64-19-7 200-580-7 01-2119475328-22-XXXX	Flam. Liq. 3; H226 Skin Corr. 1A; H314	10 - 20

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Take off all contaminated clothing immediately. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

If inhaled : Move the victim to fresh air and keep him calm. If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with plenty of water. Call a physician immediately.

In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

If swallowed : Do NOT induce vomiting. Rinse mouth with water. Give small amounts of water to drink. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Treat symptomatically.,

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray jet, Foam, Dry powder
Unsuitable extinguishing media	:	Carbon dioxide (CO2), High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Cool closed containers exposed to fire with water spray.
Specific risk from the substance or the product itself, its combustion products or evolved gases	:	Fire may cause evolution of:, Oxygen, Carbon dioxide (CO2), Carbon monoxide

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapour. Remove all sources of ignition.

6.2 Environmental precautions

Environmental precautions	:	Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece). Unsuitable material for picking up: Absorbent material, organic Kieselguhr Sawdust Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly. Flush with water.

6.4 Reference to other sections

see Section 8 + 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Provide sufficient air exchange and/or exhaust in work rooms. Handle and open container with care. Never return unused material to storage receptacle.
Advice on protection against fire and explosion	:	Keep away from sources of ignition - No smoking. Keep away from combustible material. May cause or intensify fire; oxidiz-

er.

Hygiene measures : When using do not eat or drink. Take off all contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep only in the original container. Suitable container and packaging materials for safe storage Plastic container of HDPE Polyethylene glass Unsuitable materials for containers Metals Store in a receptacle equipped with a vent. Keep in a bunded area.

Further information on storage conditions : Keep away from heat. Keep away from direct sunlight. Store in cool place. Do not keep the container sealed. Store in upright position only. Recommended storage temperature: 5 - 30°C

Advice on common storage : Do not store together with metals.Do not store together with reducing agents.Do not store together with combustible substances.Do not store near acids.

7.3 Specific end use(s)

Specific use(s) : none

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Hydrogen peroxide	7722-84-1	Permissible exposure limit	0,5 ppm 0,71 mg/m3	DFG
		Permissible exposure limit	1 ppm 1,4 mg/m3	OSHA
Acetic acid	64-19-7	Permissible exposure limit	10 ppm 25 mg/m3	EC/2000/39
		Permissible exposure limit	10 ppm 25 mg/m3	OSHA

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrogen peroxide	Workers	Inhalation	Local effects, Short-term exposure	3 mg/m3
	Workers	Inhalation	Local effects, Long-term exposure	1,4 mg/m3
	Consumers	Inhalation	Local effects, Short-term exposure	1,93 mg/m3
	Consumers	Inhalation	Local effects, Long-term exposure	0,21 mg/m3
Acetic acid	Workers	Inhalation	Local effects, Acute effects, Short-term exposure	25 mg/m3

	Workers	Inhalation	Local effects, Chronic effects, Long-term exposure	25 mg/m3
	Consumers	Inhalation	Local effects, Acute effects, Short-term exposure	25 mg/m3
	Consumers	Inhalation	Local effects, Chronic effects, Long-term exposure	25 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Hydrogen peroxide	Fresh water	0,0126 mg/l
	Marine water	0,0126 mg/l
	Water	0,0138 mg/l
	Effects on waste water treatment plants	4,66 mg/l
Acetic acid	Fresh water	3,058 mg/l
	Marine water	0,3058 mg/l
	Fresh water sediment	11,36 mg/kg
	Marine sediment	1,136 mg/kg
	Water	30,58 mg/l
Remarks:	Intermittent use/release	
	Soil	0,478 mg/kg
	Effects on waste water treatment plants	85 mg/l

8.2 Exposure controls

Engineering measures

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166
Face-shield

Hand protection : Prolonged contact: Nitrile rubber gloves e.g. Camatril (>120 Min., layer thickness: 0,40 mm) or butyl rubber gloves e.g. Butoject (>480 Min., layer thickness: 0,70 mm) made by KCL or gloves from other manufacturers offering the same protection. Splash protection: disposable nitrile rubber gloves e.g. Dermatril (layer thickness: 0,11 mm) made by KCL or gloves from other manufacturers offering the same protection.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear as appropriate:
Chemical resistant apron
Boots

Neoprene

Respiratory protection : If the occupational exposure limits cannot be met, in exceptional cases suitable respiratory equipment should be worn only for a short period of time.
Combination filter:
A2B2E2K2 Hg NO P3 P D/ CO 20 P3 R D

Protective measures : Do not breathe vapour.
Avoid contact with skin and eyes.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	colourless
Odour	:	pungent
Odour Threshold	:	not determined
pH	:	< 1, 20 °C, concentrate
Melting point/freezing point	:	< -33 °C
Decomposition temperature	:	No data available
Boiling point/boiling range	:	ca. 105 °C
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	The product itself does not burn, but it is oxidising.
Upper explosion limit	:	Acetic acid: 17 %(V)
Lower explosion limit	:	Acetic acid: 6 %(V)
Vapour pressure	:	21 hPa, ca. 20 °C
Relative vapour density	:	No data available
Density	:	1,1 g/cm3, 20 °C
Solubility(ies)		
Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	Acetic acid: ca. 485 °C
Viscosity		
Viscosity, dynamic	:	No data available
Explosive properties	:	Not applicable
Oxidizing properties	:	oxidizing

9.2 Other information

Corrosive in contact with metals : , Corrosive to metals,

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

Self-Accelerating decomposition temperature (SADT): >60°C

10.3 Possibility of hazardous reactions

To avoid thermal decomposition, do not overheat.Keep away from combustible material.

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Strong acids and strong bases, Reducing agents, Acid chlorides, Aldehydes, Metals

10.6 Hazardous decomposition products

Oxygen

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1325 mg/kg, Estimation of acute oral toxicity, in accordance with the calculation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1), Harmful if swallowed.
Acute inhalation toxicity	:	Acute toxicity estimate: 21 mg/l, in accordance with the calculation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1)
Acute dermal toxicity	:	Acute toxicity estimate: > 10000 mg/kg, in accordance with the calculation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1)

Skin corrosion/irritation

Product:

Causes severe skin burns and eye damage., Calculation method

Serious eye damage/eye irritation

Product:

Causes severe skin burns and eye damage., Calculation method

Respiratory or skin sensitisation

Components:

Peracetic acid:
Did not cause sensitisation on laboratory animals.Guinea pig
Hydrogen peroxide:
Did not cause sensitisation on laboratory animals.Guinea pig
Acetic acid:
No data available

Germ cell mutagenicity

Components:

Peracetic acid:

Genotoxicity in vitro	:	Ames test, negative
Germ cell mutagenicity- Assessment	:	Animal testing did not show any mutagenic effects.

Hydrogen peroxide:

Genotoxicity in vitro	:	Ames test, negative
Genotoxicity in vivo	:	in vivo assay, not mutagenic

Germ cell mutagenicity- Assessment : Not mutagenic in Ames Test

Acetic acid:

Genotoxicity in vitro : Ames test, negative

Germ cell mutagenicity- Assessment : Not mutagenic in Ames Test

Carcinogenicity

Components:

Peracetic acid:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Hydrogen peroxide:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Acetic acid:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Components:

Peracetic acid:

Effects on fertility : Rat, Oral, NOAEL: 200 mg/l, F1: 200 mg/l

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

Hydrogen peroxide:

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

Acetic acid:

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

STOT - single exposure

Product:

May cause respiratory irritation.

STOT - repeated exposure

No data available

Repeated dose toxicity

Components:

Hydrogen peroxide:

Rat, NOAEL: 26 mg/kg, Oral, 3 months, No adverse effect has been observed in chronic toxicity tests.

Rat, NOAEL: 0,0029 mg/l, inhalation (vapour), OECD Test Guideline 407

Acetic acid:

Rat, NOAEL: 1.800 mg/kg, Oral

Aspiration toxicity

No data available

Further information

Product:

The product has not been tested.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Peracetic acid:

Toxicity to fish	:	LC50 : 13 mg/l, 96 h, semi-static test, OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 3,3 mg/l, 48 h, OECD Test Guideline 202
Toxicity to algae	:	No data available

Hydrogen peroxide:

Toxicity to fish	:	LC50 (Fish): 16,4 - 37,4 mg/l, 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 2,4 mg/l, 48 h
Toxicity to algae	:	ErC50 (Skeletonema costatum (marine diatom)): 1,38 mg/l, 72 h NOEC (Skeletonema costatum (marine diatom)): 0,63 mg/l, 72 h

Acetic acid:

Toxicity to fish	:	LC50 (Gambusia affinis (Mosquito fish)): 251 mg/l, 96 h, static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 95 mg/l, 24 h
Toxicity to algae	:	EC100 (Euglena gracilis): 720 mg/l, 0,25 h

12.2 Persistence and degradability

Components:

Peracetic acid:

Biodegradability	:	Totally biodegradable, OECD Test Guideline 301

Hydrogen peroxide:

Biodegradability	:	Totally biodegradable, OECD Test Guideline 301

Acetic acid:

Biodegradability	:	Totally biodegradable, OECD 301D / EEC 84/449 C6

12.3 Bioaccumulative potential

Components:

Peracetic acid:

Bioaccumulation	:	Does not bioaccumulate.

Hydrogen peroxide:

Bioaccumulation	:	Does not bioaccumulate.

Acetic acid:

Bioaccumulation	:	Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

Peracetic acid:

Mobility	:	Water Hydrolyses readily.

Hydrogen peroxide:

Mobility	:	Water Hydrolyses readily.

Acetic acid:

Mobility	:	No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

12.6 Other adverse effects

Product:

Additional ecological information : The product has not been tested.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of the product according to the defined EWC (European Waste Code) No. Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Take empty packaging to the recycling plant.

Waste key for the unused product : EWC 160903

Waste key for the unused product(Group) : peroxides, e.g. hydrogen peroxide

SECTION 14: Transport information

14.1 UN number

ADR : UN 3149

IMDG : UN 3149

IATA : UN 3149

14.2 UN proper shipping name

ADR : HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

IMDG : HYDROGEN PEROXIDE AND PEROXIACETIC ACID MIXTURE, STABILIZED

IATA : Hydrogen peroxide and peroxyacetic acid mixture, stabilized

14.3 Transport hazard class(es)

ADR : 5.1 (8, 11)

IMDG : 5.1 (8, 11)

IATA : 5.1 (8, 11)

14.4 Packing group

ADR

Packing group : II

Classification Code : OC1

Hazard Identification Number : 58

Labels : 5.1 (8, 11)

Tunnel restriction code : E

IMDG

Packing group	:	II
Labels	:	5.1 (8, 11)
EmS Code	:	F-H, S-Q

IATA

Packing instruction (cargo aircraft)	:	554
Packing group	:	II
Labels	:	Oxidizer, Corrosive, above

14.5 Environmental hazards

ADR

Environmentally hazardous	:	no

IMDG

Marine pollutant	:	no

14.6 Special precautions for user

For personal protection see section 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Legislation on the control of major-accident hazards involving dangerous substances	:	The product belongs to at least one of the categories 1 through 11 mentioned in Annex 1 of the Directive 1996/82/EC concerning the control of major accident hazards.

15.2 Chemical Safety Assessment

Exempt

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapour.
H242	:	Heating may cause a fire.
H271	:	May cause fire or explosion; strong oxidizer.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H400	:	Very toxic to aquatic life.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity

Flam. Liq.	:	Flammable liquids
Org. Perox.	:	Organic peroxides
Ox. Liq.	:	Oxidizing liquids
Skin Corr.	:	Skin corrosion
STOT SE	:	Specific target organ toxicity - single exposure

(Q)SAR - (Quantitative) Structure Activity Relationship; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

Further information

Changes compared with the previous edition!!!

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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

1.1 Product identifier

Trade name : terralin PAA additive

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

Use of the Substance/Mixture : Additive

Recommended restrictions on use : Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Manufacturer/ Supplier :
BIOXAL SA - AIR LIQUIDE Group
Route des Varennes - BP 72

71103 Chalon-sur-Saône Cedex
France
Telephone: + 33 (0) 3 85 92 30 00
Telefax: + 33 (0) 3 85 92 30 12

Supplier :
Schülke & Mayr GmbH
Robert-Koch-Str. 2

22851 Norderstedt
Germany
Telephone: +49 (0)40/ 52100-0
Telefax: +49 (0)40/ 52100318
mail@schuelke.com
www.schuelke.com

E-mail address of person responsible for the SDS/Contact person :
Application Department HI
+49 (0)40/ 521 00 544
ADHI@schuelke.com
(Schülke & Mayr UK Ltd.: +44-1142543500)

1.4 Emergency telephone number

Emergency telephone number : UK Poisons Emergency number: 0870 600 6266

Emergency telephone number : +49 (0)40 / 52 100 –0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1	H290: May be corrosive to metals.
Skin corrosion, Category 1	H314: Causes severe skin burns and eye damage.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary statements :

P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338+P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

Hazardous components which must be listed on the label:

1310-58-3 Potassium hydroxide

Special labelling of certain mixtures : Labelling according to Regulation (EC) No. 648/2004: (< 5 % Phosphates)

2.3 Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
No special risks known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Solution of the following substances with harmless additives.

Hazardous components

Chemical Name	Index-Number CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
Potassium hydroxide	019-002-00-8 1310-58-3 215-181-3 01-2119487136-33-XXXX	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1A; H314	5 - 15

Benzotriazole	- - - 95-14-7 202-394-1 01-21199790779-20-XXXX	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Chronic 2; H411	1 - 5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Take off all contaminated clothing immediately.

If inhaled : Move the victim to fresh air and keep him calm.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Protect unharmed eye. Obtain medical attention.

If swallowed : Do NOT induce vomiting. Rinse mouth with water. Give small amounts of water to drink. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Treat symptomatically.,

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray jet, Dry powder, Foam, Carbon dioxide (CO2)

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : none

Specific risk from the substance or the product itself, its combustion products or evolved gases : Fire may cause evolution of:, Carbon monoxide, Carbon dioxide (CO2)

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Increased risk of slipping in the presence of leaked / spilled product.

6.2 Environmental precautions

Environmental precautions : Avoid subsoil penetration.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Neutralize with hydrochloric or sulphuric acids.
Clean contaminated surface thoroughly.
Flush with water.

6.4 Reference to other sections

see Section 8 + 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Handle and open container with care. Never return unused material to storage receptacle.

Advice on protection against fire and explosion : No special protective measures against fire required.

Hygiene measures : Keep away from food and drink. Take off all contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store at room temperature in the original container.

Further information on storage conditions : Keep away from heat. Keep away from direct sunlight. Keep container tightly closed. Recommended storage temperature: 5 - 30°C

Advice on common storage : Do not store near acids.

7.3 Specific end use(s)

Specific use(s) : none

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

none

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Benzotriazole	Workers	Skin contact	Long-term systemic effects	1,08 mg/kg
	Workers	Inhalation	Long-term systemic effects	19 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Benzotriazole	Fresh water	0,0194 mg/l
	Marine water	0,0194 mg/l
	Marine sediment	0,00375 mg/kg
	Fresh water sediment	0,00375 mg/kg
	Soil	0,003 mg/kg
	Effects on waste water treatment plants	39,4 mg/kg
	Intermittent use/release	0,158 mg/l

8.2 Exposure controls

Engineering measures

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166
Face-shield

Hand protection : Splash protection: disposable nitrile rubber gloves e.g. Dermatril (layer thickness: 0,11 mm) made by KCL or gloves from other manufacturers offering the same protection. Prolonged contact: Nitrile rubber gloves e.g. Camatril (>480 Min., layer thickness: 0,40 mm) or butyl rubber gloves e.g. Butoject (>480 Min., layer thickness: 0,70 mm) made by KCL or gloves from other manufacturers offering the same protection.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear as appropriate:
Chemical resistant apron
Boots

Protective measures : Avoid contact with skin and eyes.
When using do not eat or drink.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	yellow
Odour	:	odourless
Odour Threshold	:	not determined
pH	:	> 13, 20 °C, concentrate
Melting point/freezing point	:	< -5 °C
Decomposition temperature	:	Not applicable
Boiling point/boiling range	:	ca. 100 °C
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit	:	Not applicable

Lower explosion limit	:	Not applicable
Vapour pressure	:	23 hPa, 20 °C
Relative vapour density	:	Not applicable
Density	:	ca. 1,2 g/cm3, 20 °C
Solubility(ies)		
Water solubility	:	in all proportions , 20 °C
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	Not applicable
Viscosity		
Viscosity, dynamic	:	No data available
Explosive properties	:	Not applicable
Oxidizing properties	:	Not applicable

9.2 Other information

Corrosive in contact with metals	:	, Corrosive to metals,

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

reaction with acidsGives off hydrogen by reaction with metals.

10.4 Conditions to avoid

Protect from frost, heat and sunlight.

10.5 Incompatible materials

Possible incompatibility with alkali sensitive materials.,

10.6 Hazardous decomposition products

none

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: 2879 mg/kg, Estimation of acute oral toxicity, in accordance with the calculation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1)
Acute inhalation toxicity	:	Acute toxicity estimate: > 50 mg/l, in accordance with the calculation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1)
Acute dermal toxicity	:	Acute toxicity estimate: > 5000 mg/kg, in accordance with the calculation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1)

Skin corrosion/irritation

Product:

Causes severe skin burns and eye damage., Calculation method

Serious eye damage/eye irritation

Product:

Causes severe skin burns and eye damage., Calculation method

Respiratory or skin sensitisation

Components:

Potassium hydroxide:
Did not cause sensitisation on laboratory animals.Guinea pig
Benzotriazole:
Did not cause sensitisation on laboratory animals.Maximisation Test (GPMT), Guinea pig

Germ cell mutagenicity

Components:

Potassium hydroxide:

Genotoxicity in vitro	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Germ cell mutagenicity- Assessment	:	Animal testing did not show any mutagenic effects.

Benzotriazole:

Germ cell mutagenicity- Assessment	:	Experiments showed mutagenic effects in cultured bacterial cells.

Carcinogenicity

Components:

Potassium hydroxide:

Carcinogenicity - Assessment	:	No data available

Benzotriazole:

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Components:

Potassium hydroxide:

Reproductive toxicity - Assessment	:	No data available

Benzotriazole:

Reproductive toxicity - Assessment	:	According to experience not expected

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information

Product:

The product has not been tested.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Potassium hydroxide:

Toxicity to fish	:	LC50 (Gambusia affinis (Mosquito fish)): 80 mg/l, 96 h
Toxicity to daphnia and other aquatic invertebrates	:	No data available
Toxicity to algae	:	No data available

Benzotriazole:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 26 mg/l, 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 91 mg/l, 48 h, OECD Test Guideline 202
Toxicity to algae	:	IC50 (Desmodesmus subspicatus (green algae)): 231 mg/l, 72 h

12.2 Persistence and degradability

Components:

Potassium hydroxide:

Biodegradability	:	The methods for determining biodegradability are not applicable to inorganic substances.

Benzotriazole:

Biodegradability	:	Biodegradable

12.3 Bioaccumulative potential

Components:

Potassium hydroxide:

Bioaccumulation	:	Does not bioaccumulate.

Benzotriazole:

Bioaccumulation	:	Accumulation in aquatic organisms is unlikely.
Partition coefficient: n-octanol/water	:	Pow: 1,34 (22,7 °C), Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.

12.4 Mobility in soil

Components:

Potassium hydroxide:

Mobility	:	Mobile in soils

Benzotriazole:

Mobility	:	No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

12.6 Other adverse effects

Product:

Additional ecological information	:	The product has not been tested.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of the product according to the defined EWC (European Waste Code) No. Dispose of as hazardous waste in compliance with local and national regulations.
Contaminated packaging	:	Take empty packaging to the recycling plant.
Waste key for the unused product	:	European waste catalog (EWC) 070601
Waste key for the unused product(Group)	:	Waste material of HZVA from fats, lubricants, soaps, detergents, disinfectants and personal protection products.

SECTION 14: Transport information

14.1 UN number

ADR	:	UN 1814
IMDG	:	UN 1814
IATA	:	UN 1814

14.2 UN proper shipping name

ADR	:	POTASSIUM HYDROXIDE, SOLUTION
IMDG	:	POTASSIUM HYDROXIDE, SOLUTION
IATA	:	Potassium hydroxide, solution

14.3 Transport hazard class(es)

ADR	:	8
IMDG	:	8
IATA	:	8

14.4 Packing group

ADR

Packing group	:	II
Classification Code	:	C5
Hazard Identification Number	:	80
Labels	:	8
Tunnel restriction code	:	E

IMDG

Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B

IATA

Packing instruction (cargo aircraft)	:	855
Packing group	:	II
Labels	:	Corrosive

14.5 Environmental hazards

ADR
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

For personal protection see section 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Legislation on the control of major-accident hazards involving dangerous substances : Directive 96/82/EC does not apply

15.2 Chemical Safety Assessment

Exempt

SECTION 16: Other information

Full text of H-Statements

H290	:	May be corrosive to metals.
H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H319	:	Causes serious eye irritation.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Eye Irrit.	:	Eye irritation
Met. Corr.	:	Corrosive to metals
Skin Corr.	:	Skin corrosion

(Q)SAR - (Quantitative) Structure Activity Relationship; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardi-

zation; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

Further information

Changes compared with the previous edition!!!

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.