

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

1.1. Product identifier

Trade name or designation of the mixture Mucapur EnzymePower

Issue date 14-November-2013

Version number 1.0

Revision date 14-November-2013

Product use Professional use

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

Identified uses Cleaning compound for automated reprocessing

Uses advised against None known

1.3. Details of the supplier of the safety data sheet

Company name Schülke & Mayr GmbH

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22851 Norderstedt
Germany

Telephone number +49 (0)40 521 00 0

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e-mail mail@schuelke.com
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Telephone number +49 (0)40 521 00 544

e-mail pab@schuelke.com

Emergency telephone number Poison Center Berlin: +49 (0)30 19240

Emergency telephone number +49 (0)40 52 100 0

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification Xn;R20/22, Xi;R41, R43

The full text for all R-phrases is displayed in section 16.

Hazard summary

Physical hazards Not classified for physical hazards.

Health hazards Harmful by inhalation and if swallowed. Risk of serious damage to eyes. May cause sensitisation by skin contact. Occupational exposure to the substance or mixture may cause adverse health effects.

Environmental hazards Not classified for hazards to the environment.

Specific hazards Risk of serious damage to eyes. Harmful by inhalation and if swallowed. May cause sensitisation by skin contact. Do not breathe dust/fume/gas/mist/vapors/spray.

Main symptoms Irritation of eyes and mucous membranes. Permanent eye damage including blindness could result.

2.2. Label elements

Label according to Directive 67/548/EEC or 1999/45/EC as amended

Contains: 3(2h)-isothiazolone, 5-chloro-2-methyl-, Mixt. With 2-methyl-3(2h)-isothiazolone

EC number -

EC label

Harmful

R-phrases

R20/22 Harmful by inhalation and if swallowed.
 R41 Risk of serious damage to eyes.
 R43 May cause sensitisation by skin contact.

S-phrases

S13 Keep away from food, drink and animal feeding stuffs.
 S20 When using do not eat or drink.
 S23 Do not breathe gas/fumes/vapour/spray.
 S24/25 Avoid contact with skin and eyes.
 S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 S60 This material and its container must be disposed of as hazardous waste.

Authorisation number

Not available.

Supplemental label information

Not applicable.

2.3. Other hazards

Not assigned.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Ethane-1,2-diol	<= 20	107-21-1 203-473-3	-	603-027-00-1	#
Classification:	DSD: Xn;R22 CLP: Acute Tox. 4;H302				
Hydrogen chloride	<= 0.4	7647-01-0 231-595-7	-	-	#
Classification:	DSD: T;R23, C;R35 CLP: Press. Gas;H280, Skin Corr. 1A;H314, Eye Dam. 1;H318, Acute Tox. 3;H331				
SUBTILISIN	<= 0.14	9014-01-1 232-752-2	-	647-012-00-8	
Classification:	DSD: Xi;R37/38-41, R42 CLP: Skin Irrit. 2;H315, Eye Dam. 1;H318, Resp. Sens. 1;H334, STOT SE 3;H335				
3(2h)-isothiazolone, 5-chloro-2-methyl-, Mixt. With 2-methyl-3(2h)-isothiazolone	<= 0.005	55965-84-9 -	-	613-167-00-5	
Classification:	DSD: T;R23/24/25, C;R34, R43, N;R50/53 CLP: Acute Tox. 3;H301, Acute Tox. 3;H311, Skin Corr. 1B;H314, Skin Sens. 1;H317, Acute Tox. 3;H331, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				
Polymeric phosphonic acid	<= 2,5		-	-	
Classification:	DSD: Xi;R41 CLP: Eye Dam. 1;H318				

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

#: This substance has been assigned Community workplace exposure limit(s).

Composition comments

The full text for all R-phrases is displayed in Section 16. The full text for all R- and H-phrases is displayed in section 16.

SECTION 4: First aid measures

General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Take off contaminated clothing and shoes immediately. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.
4.1. Description of first aid measures	
Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.
Skin contact	Remove and isolate contaminated clothing and shoes. Immediately flush skin with plenty of water. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately.
Ingestion	If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
4.2. Most important symptoms and effects, both acute and delayed	Irritation of eyes and mucous membranes. Permanent eye damage including blindness could result.
4.3. Indication of any immediate medical attention and special treatment needed	Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards	Not available.
5.1. Extinguishing media	
Suitable extinguishing media	Water fog. Carbon dioxide (CO ₂). Alcohol resistant foam. Powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire. Water.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Wear suitable protective equipment.
Special fire fighting procedures	Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the MSDS.
6.2. Environmental precautions	Prevent further leakage or spillage if safe to do so. Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	Remove sources of ignition. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. For waste disposal, see section 13.
6.4. Reference to other sections	For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. When using do not eat or drink.
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7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits****UK. EH40 Workplace Exposure Limits (WELs)**

Components	Type	Value	Form
Ethane-1,2-diol (107-21-1)	STEL	104 mg/m ³	Vapor.
		40 ppm	Vapor.
	TWA	52 mg/m ³	Vapor.
		10 mg/m ³	Particulate.
Hydrogen chloride (7647-01-0)	STEL	20 ppm	Vapor.
		8 mg/m ³	Gas and aerosol mists.
	TWA	5 ppm	Gas and aerosol mists.
		2 mg/m ³	Gas and aerosol mists.
SUBTILISIN (9014-01-1)	TWA	1 ppm	Gas and aerosol mists.
		0.00004 mg/m ³	

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
Ethane-1,2-diol (107-21-1)	STEL	104 mg/m ³
		40 ppm
	TWA	52 mg/m ³
		20 ppm
Hydrogen chloride (7647-01-0)	STEL	15 mg/m ³
		10 ppm
	TWA	8 mg/m ³
		5 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Follow standard monitoring procedures.

8.2. Exposure controls**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment**General information**

Eye wash fountain is recommended.

Eye/face protection

Avoid contact with eyes. Face-shield.

Skin protection**- Hand protection**

Wear protective gloves.

- Other

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Avoid contact with the skin. Wear chemical protective equipment that is specifically recommended by the manufacturer. Wear protective gloves.

Respiratory protection

Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Thermal hazards

Not available.

Hygiene measures

When using, do not eat, drink or smoke. Wash hands after handling.

Environmental exposure controls

Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance****Physical state**

Liquid.

Form

liquid

Colour

Yellow.

Odour	Slight.
Odour threshold	Not available.
pH	6.5 - 7.5 @ 20°C
Melting point/freezing point	< 0 °C (< 32 °F)
Initial boiling point and boiling range	> 100 °C (> 212 °F)
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	Not available.
Solubility(ies)	miscible
Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not available.
Oxidizing properties	Not available.

9.2. Other information

Density	1.06 - 1.07 g/cm ³ @ 20°C
VOC (Weight %)	0 %

SECTION 10: Stability and reactivity

10.1. Reactivity	None known.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	None under normal conditions.
10.5. Incompatible materials	Strong oxidizing agents.
10.6. Hazardous decomposition products	Irritants.

SECTION 11: Toxicological information

General information	Not available.
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Information on likely routes of exposure

Ingestion	Harmful if swallowed.
Inhalation	Harmful by inhalation.
Skin contact	May cause sensitisation by skin contact.
Eye contact	Risk of serious damage to eyes.

Symptoms	Irritation of eyes and mucous membranes. Permanent eye damage including blindness could result.
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11.1. Information on toxicological effects

Components	Species	Test results
Ethane-1,2-diol (107-21-1)		
Acute		
<i>Dermal Toxicity</i>		
LD50	Rabbit	9530 mg/kg
<i>Oral</i>		
LD50	Mouse	14600 mg/kg

Components	Species	Test results
<i>Oral Toxicity</i>		
LD50	Cat	1650 mg/kg
	Dog	5500 mg/kg
		> 8.81 g/kg
	Guinea pig	8.2 g/kg
	Mouse	14.6 g/kg
	Rat	5.89 g/kg
Hydrogen chloride (7647-01-0)		
Acute		
<i>Dermal Toxicity</i>		
LD50	Mouse	1449 mg/kg
<i>Inhalation</i>		
LC50	Mouse	1108 mg/l, 1 Hours
	Rat	3124 mg/l, 1 Hours
<i>Oral Toxicity</i>		
LD50	Rabbit	900 mg/kg
<i>Other</i>		
LD50	Mouse	1449 mg/kg
Skin corrosion/irritation	Not available.	
Serious eye damage/irritation	Risk of serious damage to eyes.	
Respiratory sensitisation	Not available.	
Skin sensitisation	May cause sensitisation by skin contact.	
Germ cell mutagenicity	Not available.	
Carcinogenicity	Not available.	
Reproductive toxicity	Not available.	
Specific target organ toxicity - single exposure	Not available.	
Specific target organ toxicity - repeated exposure	Not available.	
Aspiration hazard	Not available.	
Mixture versus substance information	Not available.	
Other information	Not available.	

SECTION 12: Ecological information

12.1. Toxicity Not expected to be harmful to aquatic organisms.

Components	Species	Test results
Ethane-1,2-diol (107-21-1)		
Aquatic		
Crustacea	LC50	Water flea (Daphnia magna) 46300 - 57000 mg/l, 48 hours
		Fathead minnow (Pimephales promelas) 8050 mg/l, 96 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) > 18500 mg/l, 96 hours
Hydrogen chloride (7647-01-0)		
Aquatic		
Fish	LC50	Western mosquitofish (Gambusia affinis) 282 mg/l, 96 hours
12.2. Persistence and degradability	No data is available on the degradability of this product.	
12.3. Bioaccumulative potential	Not available.	
Partition coefficient n-octanol/water (log Kow)		
Ethane-1,2-diol	-1.36	
Bioconcentration factor (BCF)	Not available.	
12.4. Mobility in soil	Not available.	

**12.5. Results of PBT
and vPvB
assessment**

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste

Dispose of in accordance with local regulations. Avoid discharge into water courses or onto the ground.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal methods/information

This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 143/2011 Annex XIV Substances Subject to Authorisation

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not regulated.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not regulated.

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not regulated.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

3(2h)-isothiazolone, 5-chloro-2-methyl-, Mixt. With 2-methyl-3(2h)-isothiazolone (CAS 55965-84-9)

Ethane-1,2-diol (CAS 107-21-1)

SUBTILISIN (CAS 9014-01-1)

Directive 94/33/EC on the protection of young people at work

3(2h)-isothiazolone, 5-chloro-2-methyl-, Mixt. With 2-methyl-3(2h)-isothiazolone (CAS 55965-84-9)

SUBTILISIN (CAS 9014-01-1)

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations

Young people under 18 years old are not allow to work with this product according to the EU Directive 94/33/EC on the protection of young people at work.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

Not available.

References

Not available.

Information on evaluation method leading to the classification of mixture

Not available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R20/22 Harmful by inhalation and if swallowed.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R34 Causes burns.
R35 Causes severe burns.
R37/38 Irritating to respiratory system and skin.
R41 Risk of serious damage to eyes.
R42 May cause sensitisation by inhalation.
R43 May cause sensitisation by skin contact.
R50/53 Very toxic to aquatic organisms, May cause long-term adverse effects in the aquatic environment.
H280 - Contains gas under pressure; may explode if heated.
H301 - Toxic if swallowed.
H302 - Harmful if swallowed.
H311 - Toxic in contact with skin.
H314 - Causes severe skin burns and eye damage.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H331 - Toxic if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

Training information

Not available.

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.