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

1.1 Product identifier

Trade name : gigazyme®

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

Use of the Sub-stance/Mixture : Cleaning agent

Recommended restrictions on use : Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Manufacturer/ 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

Supplier :
Schülke & Mayr UK Ltd.
Cygnet House
1, Jenkin Road, Meadowhall

Sheffield S9 1AT
United Kingdom
Telephone: +44 114 254 35 00
Telefax: +44 114 254 35 01
mail.uk@schulke.com

E-mail address of person responsible for the SDS/Contact person :
Application Department
+49 (0)40/ 521 00 8800
ApplicationDepartment.SM@schuelke.com
(Schülke & Mayr UK Ltd.: +44-1142543500)

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2	H319: Causes serious eye irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : P280 Wear eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Special labelling of certain mixtures : Labelling according to Regulation (EC) No. 648/2004: (5 - 15 % non-ionic surfactants, enzymes, perfumes)

Further information : The product is classified in accordance with Annex I (2.6.4.5) to Regulation (EC) 1272/2008.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
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	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Alcohol, C13-C15 branched and linear, butoxylated ethoxy-	111905-53-4 Polymer - - - - - -	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Chronic 3; H412	5 - 15
Ethanol	64-17-5 200-578-6 603-002-00-5 01-2119457610-43-XXXX	Flam. Liq. 2; H225 Eye Irrit. 2; H319	5 - 15

Alkyl-polyethylenglycol-polybutylenglycolether	- - - Polymer - - - 02-2119552546-34-XXXX	Skin Irrit. 2; H315 Aquatic Acute 1; H400 Aquatic Chronic 3; H412	< 5
Sodium cumenesulfonate	15763-76-5 239-854-6 - - - 01-2119489411-37-XXXX	Eye Irrit. 2; H319	< 5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Take off contaminated clothing and shoes immediately.

If inhaled : If symptoms persist, call a physician.

In case of skin contact : Wash with water and soap as a precaution.
If symptoms persist, call a physician.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed : Do NOT induce vomiting.
Drink water as a precaution.
Consult a physician if necessary.

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 : Dry powder
Carbon dioxide (CO2)
Water spray jet
Foam

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : No information available.

5.3 Advice for firefighters

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

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).

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 : Use prepared working solution as soon as possible - Do not store.

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

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store at room temperature in the original container. Do not store at temperatures above 30°C.

Further information on storage conditions : Keep away from heat. Keep away from direct sunlight. Keep container tightly closed.

Advice on common storage : No materials to be especially mentioned.

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
Ethanol	64-17-5	WEL	1,000 ppm 1,920 mg/m3	HSE
Protease	9014-01-1	WEL	0.00004 mg/m3	HSE

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Ethanol	Workers	Inhalation	Acute effects, Local effects	1900 mg/m3
	Workers	Skin contact	Chronic effects	343 mg/kg
	Workers	Inhalation	Chronic effects	950 mg/m3
Sodium cumenesulfonate	Workers	Skin contact	Long-term systemic effects	136.25 mg/kg
	Workers	Skin contact	Long-term local effects	0.096 mg/cm2
	Workers	Inhalation	Long-term systemic effects	26.9 mg/m3

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

Substance name	Environmental Compartment	Value
Ethanol	Fresh water	0.96 mg/l
	Marine water	0.79 mg/l
	Fresh water sediment	3.6 mg/kg
	Soil	0.63 mg/kg
Sodium cumenesulfonate	Fresh water	0.23 mg/l
	Marine water	0.023 mg/l
	Intermittent use/release	2.3 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	0.862 mg/kg
	Marine sediment	0.0862 mg/kg
	Soil	0.037 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection : If splashes are likely to occur, wear:
Safety glasses with side-shields conforming to EN166

Hand protection
Directive : The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Remarks : 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.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.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Protective measures	:	Avoid contact with eyes.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	blue
Odour	:	alcohol-like
Odour Threshold	:	not determined
pH	:	ca. 7 (20 °C)
Melting point/freezing point	:	< -5 °C
Decomposition temperature		Not applicable
Boiling point/boiling range	:	ca. 90 °C
Flash point	:	43 °C Method: DIN 51755 Part 1 Other information: Does not sustain combustion.
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	ca. 50 hPa (20 °C)
Vapour density	:	No data available
Relative density	:	ca. 1.00 g/cm3 (20 °C)
Solubility(ies) Water solubility	:	> 100 g/l (20 °C)
Partition coefficient: n-octanol/water	:	Not applicable

Auto-ignition temperature	:	Not applicable
Flow time	:	< 15 s at 20 °C Method: DIN 53211
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2 Other information

No data available

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

Hazardous reactions	:	None reasonably foreseeable.

10.4 Conditions to avoid

Conditions to avoid	:	Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid	:	Never mix concentrates directly.

10.6 Hazardous decomposition products

None reasonably foreseeable.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 10,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: > 100 mg/l
Acute dermal toxicity	:	Acute toxicity estimate: > 15,000 mg/kg

Skin corrosion/irritation

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:
Rabbit, OECD Test Guideline 404, Mild skin irritation
Ethanol:
Rabbit, No skin irritation
Alkyl-polyethylenglycol-polybutylenglycolether:

Rabbit, OECD Test Guideline 404, Causes skin irritation.
Sodium cumenesulfonate:
Rabbit, OECD Test Guideline 404, slight irritation, Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Product:

Causes serious eye irritation., Calculation method

Respiratory or skin sensitisation

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:
No data available
Ethanol:
Did not cause sensitisation on laboratory animals.Maximisation Test, Guinea pig
Alkyl-polyethylenglycol-polybutylenglycolether:
No data available
Sodium cumenesulfonate:
Did not cause sensitisation on laboratory animals.Buehler Test, Guinea pig, OECD Test Guideline 406

Germ cell mutagenicity

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:

Germ cell mutagenicity- Assessment	:	No data available

Ethanol:

Genotoxicity in vitro	:	OECD Test Guideline 471, Not mutagenic in Ames Test
Genotoxicity in vivo	:	Non mutagenic
Germ cell mutagenicity- Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Alkyl-polyethylenglycol-polybutylenglycolether:

Germ cell mutagenicity- Assessment	:	No data available

Sodium cumenesulfonate:

Genotoxicity in vitro	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), with and without metabolic activation, OECD Test Guideline 471, Not mutagenic in Ames Test
Genotoxicity in vivo	:	In vivo micronucleus test, Mouse, Oral, Non mutagenic
Germ cell mutagenicity- Assessment	:	Not mutagenic in Ames Test

Carcinogenicity

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:

Carcinogenicity - Assessment	:	No data available

Ethanol:

Carcinogenicity - Assessment	:	Did not show carcinogenic effects in animal experiments.

Alkyl-polyethylenglycol-polybutylenglycolether:

Carcinogenicity - Assessment : No data available

Sodium cumenesulfonate:

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

Reproductive toxicity

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:

Reproductive toxicity - Assessment : No data available

Ethanol:

Effects on foetal development : Rat, Oral, NOAEL: 2,000 mg/kg

Reproductive toxicity - Assessment : In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance.

Alkyl-polyethylenglycol-polybutylenglycolether:

Reproductive toxicity - Assessment : No data available

Sodium cumenesulfonate:

Rat, Oral, NOAEL: 3,000 mg/kg, NOAEL: 3,000 mg/kg

Reproductive toxicity - Assessment : study scientifically unjustified

STOT - single exposure

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:
No data available

Ethanol:
No data available

Sodium cumenesulfonate:
The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:
Not classified due to data which are conclusive although insufficient for classification.

Ethanol:
No data available

Sodium cumenesulfonate:
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

Ethanol:
Rat, NOAEL: 1,730 mg/kg, LOAEL: 3,160 mg/kg, Oral90 d

Sodium cumenesulfonate:
Mouse, NOAEL: 440 mg/kg, LOAEL: 1,300 mg/kg, Dermal, OECD Test Guideline 411, Target Organs: Skin, Subchronic toxicity

Aspiration toxicity

No data available

Further information

Product:

The product has not been tested.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:

Toxicity to fish	:	LC50 (Leuciscus idus): 1 - 10 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): > 1 - 10 mg/l Exposure time: 48 h Test Type: semi-static test
Toxicity to algae	:	Remarks: No data available

Ethanol:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 8,140 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 5,000 mg/l Exposure time: 48 h
Toxicity to algae	:	IC50 (Scenedesmus quadricauda (Green algae)): > 100 mg/l Exposure time: 72 h

Alkyl-polyethylenglycol-polybutylenglycolether:

Toxicity to fish	:	LC50 (Leuciscus idus): > 1 - 10 mg/l Exposure time: 96 h Method: DIN 38412
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 0.1 - 1 mg/l Exposure time: 48 h Remarks: The toxicological data has been taken from products of similar composition.
Toxicity to algae	:	EC50 (Scenedesmus capricornutum (fresh water algae)): 0.4 - 1 mg/l Exposure time: 96 h Remarks: The toxicological data has been taken from products of similar composition. NOEC (Scenedesmus capricornutum (fresh water algae)): 0.101 mg/l Exposure time: 96 h Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to fish (Chronic toxicity)	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: No data available

Sodium cumenesulfonate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h

12.2 Persistence and degradability

Product:

Biodegradability	:	Result: Readily biodegradable. Method: OECD 301D / EEC 84/449 C6

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 301F

Ethanol:

Biodegradability	:	Result: Readily biodegradable.

Alkyl-polyethylenglycol-polybutylenglycolether:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: > 60 % Exposure time: 28 d Method: OECD 301B/ ISO 9439/ EEC 84/449 C5

Sodium cumenesulfonate:

Biodegradability	:	Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:

Bioaccumulation	:	Remarks: Accumulation in aquatic organisms is unlikely.

Ethanol:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: -0.14
Method: Calculated value

Alkyl-polyethylenglycol-polybutylenglycolether:

Bioaccumulation : Remarks: Accumulation in aquatic organisms is unlikely.

Sodium cumenesulfonate:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

Alcohol, C13-C15 branched and linear, butoxylated ethoxy-:

Mobility : Remarks: Substance does not evaporate from water surface into the atmosphere., Adsorption to solid soil phase is possible.

Ethanol:

Mobility : Remarks: No data available

Alkyl-polyethylenglycol-polybutylenglycolether:

Mobility : Remarks: Substance does not evaporate from water surface into the atmosphere., Adsorption to solid soil phase is possible.

Sodium cumenesulfonate:

Mobility : Remarks: Not expected to adsorb on soil.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Product:

Additional ecological information : No data is available on the product itself.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of the product according to the defined EWC (European Waste Code) No.
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

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable
For personal protection see section 8.

14.7 Transport in bulk according to Annex II of Marpol 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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable

Volatile organic compounds	:	Volatile organic compounds (VOC) content: 10 %

Remarks: Directive 2010/75/EC on the limitation of emissions of volatile organic compounds

Other regulations:

The surfactant(s) contained in this mixture complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.

15.2 Chemical safety assessment

Exempt

SECTION 16: Other information

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H319	:	Causes serious eye 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
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Skin Irrit.	:	Skin irritation

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; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Mari-

time Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; 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; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; 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; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No. 1272/2008

Eye Irrit. 2, H319 : Calculation method

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.

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