

## **SECTION 1. Identification of the substance/mixture and of the company/undertaking**

### **1.1. Product identifier**

Product code : D4 - Proteiche  
Trades code : A15-060  
Product line: Tintolav

UFI: VK80-J0WA-D003-TJVC

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

Presmacchiatore for bloodstains, egg protein, chocolate

Sectors of use:

Industrial Manufacturing[SU3], Public domain (administration, education, entertainment, services, craftsmen)[SU22]

Uses advised against

Do not use for purposes other than those listed

### **1.3. Details of the supplier of the safety data sheet**

Tintolav s.r.l. - Via M. D' Antona 7 - 10028 Trofarello (TO) Tel. 011/649.68.27 Fax 011/649.67.42

Email: [info@tintolav.com](mailto:info@tintolav.com) - Sito internet: [www.tintolav.com](http://www.tintolav.com)

Email tecnico competente: [a.conedera@tintolav.com](mailto:a.conedera@tintolav.com)

National contact: Malta: Emergency Ambulance 112  
Accident & Emergency Department 2545 4030

### **1.4. Emergency telephone number**

The UK National Poisons Emergency number +44 (0)870 600 6266  
London: Emergency 24 hour telephone +44 (0) 207188 0100

## **SECTION 2. Hazards identification**

### **2.1. Classification of the substance or mixture**

2.1.1 Classification according to Regulation (EC) No 1272/2008:

Pictograms:

GHS05, GHS07

Hazard Class and Category Code(s):

Skin Irrit. 2, Eye Dam. 1

Hazard statement Code(s):

H315 - Causes skin irritation.

H318 - Causes serious eye damage.

If brought into contact with the skin, the product causes significant inflammation with erythema, scabs, or edema.

If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.

### **2.2. Label elements**

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

Pictogram, Signal Word Code(s):  
GHS05 - Danger



Hazard statement Code(s):  
H315 - Causes skin irritation.  
H318 - Causes serious eye damage.

Supplemental Hazard statement Code(s):

EUH208 - Contains reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic reaction.

Precautionary statements:

Prevention

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER/doctor/physician

P332+P313 - If skin irritation occurs: Get medical advice/attention.

Contains:

Dodecylbenzenesulphonic acid, compound with 2,2',2''nitrilotriethanol (1:1). , 2,2',2''-nitrilotriethanol, diethanolamine, Coconut diethanolamide , Steareth-21, 2-aminoethanol, monoester with boric acid, Subtilisin

Contains (Reg.EC 648/2004):

5% < 15% anionic surfactants, non-ionic surfactants, < 5% enzymes, Miscela di: 5-cloro-2-metil-2H-isotiazol-3-one [EC no. 247-500-7]; 2-metil-2H-isotiazol-3-one [EC no. 220-239-6] (3:1)

UFI: VK80-J0WA-D003-TJVC

### 2.3. Other hazards

The substance / mixture NOT contains substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

No information on other hazards

For professional use only

## SECTION 3. Composition/information on ingredients

### 3.1 Substances

Irrilevant

### 3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration[ w/w]	Classification	Index	CAS	EINECS	REACH
Dodecylbenzenesulphonic acid, compound with 2,2',2''nitrilotriethanol (1:1).	>= 5 < 15%	Skin Irrit. 2, H315; Eye Irrit. 2, H319	ND	27323-41-7	248-406-9	NR
Coconut diethanolamide	>= 5 < 15%	Skin Irrit. 2, H315; Eye Dam. 1, H318	ND	68603-42-9	271-657-0	NR
2-(2-butoxyethoxy)ethanol	>= 1 < 5%	Eye Irrit. 2, H319	603-096-00-8	112-34-5	203-961-6	NR

Substance	Concentration[ w/w]	Classification	Index	CAS	EINECS	REACH
Fatty alcohol ethoxylate	>= 1 < 5%	Acute Tox. 4, H302; Eye Dam. 1, H318 Limits: Eye Irrit. 2, H319 %C <=10; Eye Dam. 1, H318 %C >10;	ND	64425-86-1	ND	02-2119548 515-35-000 0
2-aminoethanol, monoester with boric acid	>= 1 < 5%	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	ND	10377-81-8	233-829-3	NR
Subtilisin	>= 0,1 < 1%	Skin Irrit. 2, H315; Eye Dam. 1, H318; Resp. Sens. 1, H334; STOT SE 3, H335	647-012-00-8	9014-01-1	232-752-2	01-2119480 434-38
2,2',2"-nitrilotriethanol	>= 0,1 < 1%	Eye Irrit. 2, H319	ND	102-71-6	203-049-8	01-2119486 428-31-xxxx
amylase, α-	>= 0,1 < 1%	Resp. Sens. 1, H334	647-015-00-4	9000-90-2	232-565-6	NR

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

**Inhalation:**

Air the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.

**Direct contact with skin (of the pure product):**

Take contaminated clothing Immediately off.  
Wash immediately with plenty of running water and possibly with soap, the areas of the body that have, or are only suspected to have, come in contact with the product.

**Direct contact with eyes (of the pure product):**

Wash immediately and thoroughly with running water, keeping eyelids open for at least 10 minutes, then protect your eyes with a dry sterile gauze. Seek medical advice immediately

Do not use eye drops or ointments of any kind before the examination or advice from an oculist.

**Ingestion:**

Not hazardous. It's possible to give activated charcoal in water or liquid paraffin medicine

### 4.2. Most important symptoms and effects, both acute and delayed

No data available.

### 4.3. Indication of any immediate medical attention and special treatment needed

If skin irritation occurs: Get medical advice/attention.  
Immediately call a POISON CENTER/doctor/physician

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

**Advised extinguishing agents:**

Water spray, CO<sub>2</sub>, foam, dry chemical, depending on the materials involved in the fire.

**Extinguishing means to avoid:**

Water jets. Use water jets only to cool the surfaces of the containers exposed to fire.

### **5.2. Special hazards arising from the substance or mixture**

No data available.

### **5.3. Advice for firefighters**

Use protection for the breathing apparatus

Safety helmet and full protective suit.

The spray water can be used to protect the people involved in the extinction

You may also use selfrespirator, especially when working in confined and poorly ventilated area and if you use halogenated extinguishers (Halon 1211 fluobrene, Solkan 123, NAF, etc...)

Keep containers cool with water spray

## **SECTION 6. Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

6.1.1 For non-emergency personnel:

Leave the area surrounding the spill or release. Do not smoke

Wear mask, gloves and protective clothing.

6.1.2 For emergency responders:

Wear mask, gloves and protective clothing. Suitable: LaTeX, nitrile, PVC

Eliminate all unguarded flames and possible sources of ignition. No smoking.

Provision of sufficient ventilation.

Evacuate the danger area and, in case, consult an expert.

### **6.2. Environmental precautions**

Contain spill with earth or sand.

If the product has entered a watercourse in sewers or has contaminated soil or vegetation, notify it to the authorities.

Discharge the remains in compliance with the regulations

### **6.3. Methods and material for containment and cleaning up**

6.3.1 For containment:

Rapidly recover the product, wear a mask and protective clothing

Recover the product for reuse, if possible, or for removal. Possibly absorb it with inert material.

Prevent it from entering the sewer system.

6.3.2 For cleaning up:

After wiping up, wash with water the area and materials involved

6.3.3 Other information:

None in particular.

### **6.4. Reference to other sections**

Refer to paragraphs 8 and 13 for more information

## **SECTION 7. Handling and storage**

### **7.1. Precautions for safe handling**

Avoid contact and inhalation of vapors

Wear protective gloves/protective clothing/eye protection/face protection.  
At work do not eat or drink.  
See also paragraph 8 below.

### **7.2. Conditions for safe storage, including any incompatibilities**

Keep in original container closed tightly. Do not store in open or unlabeled containers.  
Keep containers upright and safe by avoiding the possibility of falls or collisions.  
Store in a cool place, away from sources of heat and direct exposure of sunlight.

### **7.3. Specific end use(s)**

Industrial Manufacturing:  
Handle with extreme caution.  
Store in a well ventilated place away from heat sources.

Public domain (administration, education, entertainment, services, craftsmen):  
Handle with care. Store in a ventilated area and away from heat, keep the container tightly closed.

## **SECTION 8. Exposure controls/personal protection**

### **8.1. Control parameters**

Related to contained substances:

2-(2-butoxyethoxy)ethanol:  
CVE: TWA 10 ppm 67.5 mg/m<sup>3</sup> STEL 15 ppm 101.2 mg/m<sup>3</sup>  
MAK DFG 10 ppm 67 mg/m<sup>3</sup>

Subtilisin:

ACGIH TLV: Ceiling: 0.00006 mg/m<sup>3</sup> Ceiling (as crystalline active enzyme, listed under Subtilisins)  
Belgium: 0.00006 mg/m<sup>3</sup> Maximum Limit Value (8 hours)  
Denmark: Ceiling: 0.00006 mg/m<sup>3</sup>  
Ireland: TWA: 0.00006 mg/m<sup>3</sup> STEL: 0.00006 mg/m<sup>3</sup>  
Netherlands: Ceiling: 0.00006 mg/m<sup>3</sup>  
Norway: 0.00006 mg/m<sup>3</sup> Ceiling  
Portugal: Ceiling: 0.00006 mg/m<sup>3</sup>  
Spain: VLA-EC: 0.00006 mg/m<sup>3</sup>  
Sweden: 1 glycineunit/m<sup>3</sup> LLV 3 glycineunit/m<sup>3</sup> LLV  
Switzerland: STEL: 0.00006 mg/m<sup>3</sup>  
Germany: = 1 glycineunit/m<sup>3</sup> LLV = 3 glycineunit/m<sup>3</sup> LLV  
United Kingdom: 0.00004 mg/m<sup>3</sup> TWA

2,2',2"-nitrilotriethanol:

TWA: 5 from ACGIH (TLV) [United States] [2001]

amylase, α-:

Alpha-amylase: DMEL = 60 ng/m<sup>3</sup>  
Fresh Water PNEC 0.06 g/L  
PNEC seawater 0.006 g/L  
PNEC waste treatment plants (STP) 65000 g/L

- Substance: Coconut diethanolamide

DNEL

Systemic effects Long term Workers inhalation = 73,4 (mg/m<sup>3</sup>)  
Systemic effects Long term Workers dermal = 4,16 (mg/kg bw/day)  
Systemic effects Long term Consumers inhalation = 21,73 (mg/m<sup>3</sup>)  
Systemic effects Long term Consumers dermal = 2,5 (mg/kg bw/day)  
Systemic effects Long term Consumers oral = 6,25 (mg/kg bw/day)  
Local effects Long term Workers dermal = 0,09 (mg/kg bw/day)  
Local effects Long term Consumers dermal = 0,0562 (mg/kg bw/day)

PNEC

Sweet water = 0,007 (mg/l)  
sediment Sweet water = 0,195 (mg/kg/sediment)  
Sea water = 0,001 (mg/l)  
sediment Sea water = 0,019 (mg/kg/sediment)  
intermittent emissions = 0,024 (mg/l)  
STP = 830 (mg/l)  
ground = 0,035 (mg/kg ground)

- Substance: 2-(2-butoxyethoxy)ethanol

DNEL

Systemic effects Long term Workers inhalation = 67,5 (mg/m<sup>3</sup>)  
Systemic effects Long term Workers dermal = 20 (mg/kg bw/day)  
Systemic effects Long term Consumers inhalation = 34 (mg/m<sup>3</sup>)  
Systemic effects Long term Consumers dermal = 10 (mg/kg bw/day)  
Systemic effects Long term Consumers oral = 1,25 (mg/kg bw/day)  
Local effects Long term Workers inhalation = 67,5 (mg/m<sup>3</sup>)  
Local effects Long term Consumers inhalation = 34 (mg/m<sup>3</sup>)  
Local effects Short term Workers inhalation = 101,2 (mg/m<sup>3</sup>)  
Local effects Short term Consumers inhalation = 50,6 (mg/m<sup>3</sup>)

PNEC

Sweet water = 1 (mg/l)  
sediment Sweet water = 4 (mg/kg/sediment)  
Sea water = 0,1 (mg/l)  
sediment Sea water = 0,44 (mg/kg/sediment)  
intermittent emissions = 3,9 (mg/l)  
STP = 200 (mg/l)  
ground = 0,32 (mg/kg ground)

- Substance: 2-aminoethanol, monoester with boric acid

DNEL

Systemic effects Long term Workers inhalation = 5,9 (mg/m<sup>3</sup>)  
Systemic effects Long term Workers dermal = 3,3 (mg/kg bw/day)  
Systemic effects Long term Consumers inhalation = 1,4 (mg/m<sup>3</sup>)  
Systemic effects Long term Consumers dermal = 1,7 (mg/kg bw/day)  
Systemic effects Long term Consumers oral = 1,7 (mg/kg bw/day)

PNEC

Sweet water = 0,026 (mg/l)  
sediment Sweet water = 0,054 (mg/kg/sediment)  
Sea water = 0,003 (mg/l)  
sediment Sea water = 0,005 (mg/kg/sediment)  
intermittent emissions = 0,26 (mg/l)  
STP = 10 (mg/l)  
ground = 0,014 (mg/kg ground)

- Substance: Subtilisin

DNEL

Systemic effects Long term Consumers oral = 1,8 (mg/kg bw/day)  
Systemic effects Short term Consumers oral = 3,6 (mg/kg bw/day)  
Local effects Long term Workers inhalation = 0,06 (mg/m<sup>3</sup>)  
Local effects Long term Consumers inhalation = 0,000015 (mg/m<sup>3</sup>)

PNEC

Sweet water = 0,0017 (mg/l)  
Sea water = 0,00017 (mg/l)  
intermittent emissions = 0,0009 (mg/l)  
STP = 65 (mg/l)

ground = 0,568 (mg/kg ground)

- Substance: 2,2',2"-nitrilotriethanol

DNEL

Systemic effects Long term Workers inhalation = 5 (mg/m<sup>3</sup>)

Systemic effects Long term Workers dermal = 6,3 (mg/kg bw/day)

Systemic effects Long term Consumers inhalation = 1,25 (mg/m<sup>3</sup>)

Systemic effects Long term Consumers dermal = 3,1 (mg/kg bw/day)

Systemic effects Long term Consumers oral = 13 (mg/kg bw/day)

Local effects Long term Workers inhalation = 5 (mg/m<sup>3</sup>)

Local effects Long term Consumers inhalation = 1,25 (mg/m<sup>3</sup>)

PNEC

Sweet water = 0,32 (mg/l)

sediment Sweet water = 1,7 (mg/kg/sediment)

Sea water = 0,03 (mg/l)

sediment Sea water = 0,17 (mg/kg/sediment)

intermittent emissions = 5,12 (mg/l)

STP = 10 (mg/l)

ground = 0,15 (mg/kg ground)

- Substance: amylase, α-

DNEL

Local effects Long term Workers inhalation = 0,00006 (mg/m<sup>3</sup>)

Local effects Long term Consumers inhalation = 0,000015 (mg/m<sup>3</sup>)

PNEC

Sweet water = 0,0052 (mg/l)

Sea water = 0,00052 (mg/l)

intermittent emissions = 0,052 (mg/l)

STP = 65 (mg/l)

ground = 0,001 (mg/kg ground)

## 8.2. Exposure controls



Appropriate engineering controls:

Industrial Manufacturing:

No specific monitoring foreseen

Public domain (administration, education, entertainment, services, craftsmen):

No specific monitoring foreseen

Individual protection measures:

(a) Eye / face protection

When handling the pure product use safety glasses (spectacles cage) (EN 166).

(b) Skin protection

(i) Hand protection

Manipulate with gloves. The gloves should be checked before being used. Use a technique suitable for the removal of gloves (without touching the outside of the glove) to avoid skin contact with this product dispose of contaminated gloves after use in accordance with the legislation and good laboratory practices. Wash and dry your hands.

Selected protective gloves shall comply with the requirements of EU Directive 89/686/EEC and EN 374 standards arising therefrom.

Full contact

Material: nitrile rubber

minimum thickness: 0.11 mm

permeation time: 480 min

(ii) Other

When handling the pure product wear full protective skin clothing.

(c) Respiratory protection

Not needed for normal use.

(d) Thermal hazards

No hazard to report

Environmental exposure controls:

Related to contained substances:

Subtilisin:

The local authority must be informed if the losses cannot be limited

Waste water must be conveyed to the waste water treatment plant

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	Liquid	
Colour	straw yellow	
Odour	characteristic	
Odour threshold	not determined	
pH	6,0 - 7,5	
Melting point/freezing point	not determined	
Initial boiling point and boiling range	not determined	
Flash point	> 100 °C	ASTM D92
Evaporation rate	irrelevant	
Flammability (solid, gas)	nonflammable	
Upper/lower flammability or explosive limits	not determined	
Vapour pressure	not determined	
Vapour density	undefined	
Relative density	1,020 - 1,10 g/cm <sup>3</sup>	
Solubility	Completely soluble in water	
Water solubility	Completely soluble in water	
Partition coefficient: n-octanol/water	not determined	
Auto-ignition temperature	not determined	
Decomposition temperature	not determined	
Viscosity	not determined	
Explosive properties	not explosive	
Oxidising properties	non-oxidizing	

Physical and chemical properties	Value	Determination method
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### 9.2. Other information

No data available.

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

No reactivity hazards

### 10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

### 10.3. Possibility of hazardous reactions

There are no hazardous reactions

### 10.4. Conditions to avoid

Related to contained substances:  
2-(2-butoxyethoxy)ethanol:  
Avoid contact with air.

### 10.5. Incompatible materials

It can generate inflammable gases to contact with elementary metals, nitrides, inorganic sulfide, strong reducing agents.

It can generate toxic gases to contact with inorganic sulfide, strong reducing agents.

### 10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

## SECTION 11. Toxicological information

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

ATE(mix) oral = 164.733,2 mg/kg

ATE(mix) dermal = ∞

ATE(mix) inhal = ∞

(a) acute toxicity: based on available data, the classification criteria are not met.

(b) skin corrosion/irritation: If brought into contact with the skin, the product causes significant inflammation with erythema, scabs, or edema.

Dodecylbenzenesulphonic acid, compound with 2,2',2''nitrilotriethanol (1:1): Irritating

Coconut diethanolamide: Irritating

2-aminoethanol, monoester with boric acid: Irritation of the skin:

Rabbit (New Zealand White): non-irritant, (1993). Eye irritation:

Rabbit (New Zealand White): moderately irritating, 1998

Bovine (in vitro study): not severely irritating or corrosive, 2010

(c) serious eye damage/irritation: If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.

Dodecylbenzenesulphonic acid, compound with 2,2',2''nitrilotriethanol (1:1): Irritating

Coconut diethanolamide: Acute Irritazione\Corrosione eyes

2-(2-butoxyethoxy)ethanol: Eyes-rabbit Result: Mild eye irritation-24h

(d) respiratoryorskinsensitisation: Coconut diethanolamide: Non-sensitizing

Subtilisin: Respiratory system: substance-sensitizing (human experience)

(e) germ cell mutagenicity: 2-(2-butoxyethoxy)ethanol: Mutagenicity-Bacterial,: negative +/-activation

Chromosomal aberration,: negative +/-activation

Mutagenicity-Mammalian,: negative +/-activation

Subtilisin: No indication of mutagenic effects (OECD TG 471, 473, 476)

(f) carcinogenicity: Coconut diethanolamide: IARC Group 2B carcinogen-possible carcinogenic to humans

(g) eproductivetoxicity: based on available data, the classification criteria are not met.

(h) specific target organ toxicity (STOT) single exposure: Subtilisin: Target organ-specific toxic (single exposure) Irritant, respiratory tract (ACGIH 2001)

(i) specific target organ toxicity (STOT) repeated exposureDodecylbenzenesulphonic acid, compound with 2,2',2''nitrilotriethanol (1:1): Rabbit 90-day dermal NOAEL > 5 mg/kg bw (only dose tested)

(j) aspiration hazard: based on available data, the classification criteria are not met.

Related to contained substances:

Dodecylbenzenesulphonic acid, compound with 2,2',2''nitrilotriethanol (1:1):

LD50 (rat) Oral (mg/kg body weight) = 1653

LD50 Dermal (rat or rabbit) (mg/kg body weight) = 4199

Coconut diethanolamide:

Ingestion: oral rat LD50: > 2,000 mg/kg

Eye contact: irritating to the eye (rabbit). Can cause irreversible damage to the eye.

Skin contact: moderately irritating for a single application (4 h-rabbit)

Readily biodegradable in accordance with the criteria of Directive 67/548 and subsequent modifications.

LD50 (rat) Oral (mg/kg body weight) = 5000

2-(2-butoxyethoxy)ethanol:

INHALATION RISK: A harmful contamination of air sar reached slowly for evaporation of this substance at 20 C;

However, for spraying or scattering, much more quickly.

Effects of short-term exposure: the substance is irritating to eyes the effects of REPEATED EXPOSURE or long term: the liquid degreasing the skin features.

ACUTE HAZARDS/symptoms dry SKIN.

EYE Redness. Pain.

LD50 (rat) Oral (mg/kg body weight) = 1720

LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2700

CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 374

Fatty alcohol ethoxylate:

LD50 (rat) Oral (mg/kg body weight) = 3100

2-aminoethanol, monoester with boric acid:

Acute oral toxicity

Parameter: LD50 (2-aminoethanol, monoester with boric acid; CAS No.: 10377-81-8)

Exposure route: Orally

Species: Rat

Effective dose:> 2000 mg / kg

Acute dermal toxicity

Parameter: discriminating dose. (2-aminoethanol, monoester with boric acid; CAS No.: 10377-81-8)

Exposure route: Dermal

Species: Rat

Effective dose: > 2000 mg / kg  
LD50 (rat) Oral (mg/kg body weight) = 2000  
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

Subtilisin:  
LD50 (rat) Oral (mg/kg body weight) = 1800  
CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 0,13

2,2',2"-nitrilotriethanol:

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact.

Toxicity to Animals: Acute oral toxicity (LD50): 2200 mg/kg [Rabbit].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC.

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells.

May cause damage to the following organs: kidneys, liver, skin.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (permeator), of ingestion, of inhalation.

Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals:

LD50 [Rat] - Route: Oral; Dose: 4920 ul/kg

LD50 [Rabbit] - Route: Skin; Dose: >20ml/kg

Special Remarks on Chronic Effects on Humans:

May cause cancer (tumorigenic) based on animal data.

May affect genetic material (mutagen): cytogenic analysis (human lymphocyte) = 100 umol/L; sister chromatid exchange (human lymphocyte) = 1mmol/L.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin: May cause skin irritation with burning pain, itching, and redness. May be absorbed through the skin and affect the liver, metabolism, and urinary tract.

Eyes: Causes eye irritation with tearing and burning pain. May cause transient corneal injury.

Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May also affect behavior, sense organs, liver and urinary system.

Inhalation: Inhalation of mist may cause respiratory tract irritation. May also affect the liver, blood, urinary system and cardiovascular system.

Chronic Potential Health Effects: May cause liver and kidney damage. Prolonged or repeated contact may cause skin necrosis and /or ulceration of the skin.

LD50 (rat) Oral (mg/kg body weight) = 5000

LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

amylase,  $\alpha$ -:

LD50 oral, rat-2,000 mg/kg

LD50 (rat) Oral (mg/kg body weight) = 2000

## 11.2. Information on other hazards

No data available.

## SECTION 12. Ecological information

### 12.1. Toxicity

Related to contained substances:

Dodecylbenzenesulphonic acid, compound with 2,2',2"-nitrilotriethanol (1:1):

C(E)L50 (mg/l) = 2,6

Coconut diethanolamide:

Acute/prolonged toxicity to fish: (83d) 2.52 mg/l (brachydanio rerio)

Acute toxicity to Aquatic Invertebrates: EC50 (12:0 am) 2.8 mg/l (daphnia Magna)

Primary: Biodegradabilit > 90% (OECD)  
Easy Biodegradabilit: 60% > (manometric Tests, O<sub>2</sub> consumption)  
Theoretical O<sub>2</sub> demand (thod) 2.52 mg O<sub>2</sub>/mg.  
Chemical O<sub>2</sub> demand (COD): 2.51 mg O<sub>2</sub>/mg.  
C(E)L50 (mg/l) = 2,39

2-(2-butoxyethoxy)ethanol:

Toxic to fish Lc50-Iepomismacrochirus-1,300 mg/l-96 h CL0-Leuciscus idus (dare or Golden)-> 1,000 mg/l-48 h Toxic to daphnia and other aquatic invertebrates: Ec50 Daphnia magna (water Flea grande)-2850 mg/l-48 h for Toxic Algae Desmodemus subspicatus CI50-(green)-100 mg/l >-12:0 am Toxic to bacteria Lc50-Acinetobacter-1,170 mg/l-4:0 pm  
C(E)L50 (mg/l) = 1300

Fatty alcohol ethoxylate:

Ittiotossicit:  
LC50 (96 h) 1-10 mg/l, Brachydanio rerio  
Aquatic invertebrates:  
EC50 (48 h) 1-10 mg/l Daphnia magna  
Aquatic plants:  
EC50 (72 h) 1-10 mg/l Scenedesmus subspicatus  
Microorganisms/effects on activated sludge:  
CE10 > 1,000 mg/l, activated sludge (DEV-L2)  
Chronic toxic to aquatic invertebrates:  
NOEC (21 d), 0.33 mg/l Daphnia magna  
C(E)L50 (mg/l) = 1

2-aminoethanol, monoester with boric acid:

Acute (short-term) toxicity on fish  
Parameter: LC50 (2-aminoethanol, monoester with boric acid; CAS No.: 10377-81-8)  
Species: Cyprinus carpio  
Effective dose: = 617 mg / l  
Exposure time: 96 h  
Acute (short-term) toxicity to Daphnia  
Parameter: EC50 (2-aminoethanol, monoester with boric acid; CAS No.: 10377-81-8)  
Species: Daphnia magna  
Effective dose: = 423 mg / l  
Exposure time: 48 h  
Acute (short-term) toxicity to algae  
Parameter: EC50 (2-aminoethanol, monoester with boric acid; CAS No.: 10377-81-8)  
Species: Pseudokirchneriella subcapitata  
Effective dose: = 26 mg / l  
Exposure time: 72 h  
C(E)L50 (mg/l) = 26

Subtilisin:

C(E)L50 (mg/l) = 0,586

2,2',2"-nitrilotriethanol:

Ecotoxicity: Not available.  
BOD5 and COD: Not available.  
Products of Biodegradation:  
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.  
Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.  
Special Remarks on the Products of Biodegradation: Not available.  
C(E)L50 (mg/l) = 1390

amylase,  $\alpha$ -:

EC50 (72 h): 100 mg/l > Desmodesmus subspic

LC50 (96 h): 100 mg/l > Pimephales promelas EC50 (48 h): > 100 mg/l Daphnia Magna

C(E)L50 (mg/l) = 100

Use according to good working practices to avoid pollution into the environment.

### 12.2. Persistence and degradability

Related to contained substances:

2-(2-butoxyethoxy)ethanol:

The substance miscible in water and would leach into the groundwater, be lost in groundwater and be biologically degraded.

85% (28 d, Ready Biodegradability: Modified MITI Test (s)) readily biodegradable

Fatty alcohol ethoxylate:

Disposal considerations:

> = 90% the bismuth active substance (OECD guideline 303A)

60% > CO<sub>2</sub> formation of theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, c. 4-C)

Readily biodegradable (according to OECD criteria).

2-aminoethanol, monoester with boric acid:

Parameter: Biodegradation

Effective dose: approx. 73%

Exposure time: 28 days

Parameter: Biodegradation

Effective dose: > 60%

Exposure time: 10 days

Easily biodegradable.

Subtilisin:

Rapidly biodegradable (OECD TG 301B)

amylase,  $\alpha$ -:

Quickly ecologic (96% after 14 days)

### 12.3. Bioaccumulative potential

Related to contained substances:

2-(2-butoxyethoxy)ethanol:

The substance is not expected to bioaccumulate.

Subtilisin:

Do not bio-accumulate

### 12.4. Mobility in soil

Related to contained substances:

2-(2-butoxyethoxy)ethanol:

The high idrosolubilit and low octanol/water partition coefficient indicates that adsorption to suspended solids and sediments are not significant

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

No PBT/vPvB ingredient is present

**12.6. Endocrine disrupting properties**

No data available.

**12.7. Other adverse effects**

No adverse effects

**SECTION 13. Disposal considerations**

**13.1. Waste treatment methods**

Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies.

Recover if possible. Operate according to local or national regulations

**SECTION 14. Transport information**

**14.1. UN number or ID number**

Not included in the scope of application regulations concerning the transport of dangerous goods: by road (ADR); by rail (RID); by air (ICAO / IATA); by sea (IMDG).

**14.2. UN proper shipping name**

None

**14.3. Transport hazard class(es)**

None

**14.4. Packing group**

None

**14.5. Environmental hazards**

None

**14.6. Special precautions for user**

No data available.

**14.7. Maritime transport in bulk according to IMO instruments**

It is not intended to carry bulk

**SECTION 15. Regulatory information**

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

Related to contained substances:

2-(2-butoxyethoxy)ethanol:

Restrictions relating to the product or to substances contained in annex XVII to Regulation (EC) 1907/2006.

3 product section.

Substances.

Point. 55 BUTYL DIGLYCOL

REGULATION (EU) No 1357/2014 - waste:

HP4 - Irritant — skin irritation and eye damage

**15.2. Chemical safety assessment**

The supplier has made an assessment of chemical safety

**SECTION 16. Other information**

**16.1. Other information**

Points modified compared to previous release: 1.1. Product identifier, 2.2. Label elements, 2.3. Other hazards, 4.1. Description of first aid measures, 8.1. Control parameters, 10.4. Conditions to avoid, 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008, 12.5. Results of PBT and vPvB assessment, 12.6. Endocrine disrupting properties

Description of the hazard statements exposed to point 3

H315 = Causes skin irritation.

H319 = Causes serious eye irritation.

H318 = Causes serious eye damage.

H302 = Harmful if swallowed.

H335 = May cause respiratory irritation.

H334 = May cause allergy or asthma symptoms or breathing difficulties if inhaled

Classification based on data of all mixture components

Main normative references:

Directive 1999/45/EC

Directive 2001/60/EC

Regulation 1272/2008/EC

Regulation 2010/453/EC

\*\* The information contained herein is based on our knowledge at the date above.

Related solely to the product and do not constitute a guarantee of a particular quality.

It is the duty of the user to ensure that these are appropriate and complete information regarding the specific use intended.

This data sheet cancels and replaces any previous edition.