

# SAFETY DATA SHEET

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

### 1.1. Product identifier

**Trade name**

Process Cleaner FE

**Product no.**

-

**REACH registration number**

Not applicable

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

**Relevant identified uses of the substance or mixture**

Cleaning liquid

**Uses advised against**

-

The full text of any mentioned and identified use categories are given in section 16

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

**Company and address**

Blue & Green AB  
Stenorsvägen 52  
261 44 Landskrona  
Sweden  
Tfn: +46 418 399000  
Fax: +46 418 13199  
www.blueandgreen.se

**E-mail**

info@blueandgreen.se

**SDS date**

2020-11-30

**SDS Version**

1.0

### 1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service). See section 4 "First aid measures".

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Skin Corr. 1B; H314

Eye Dam. 1; H318

See full text of H-phrases in section 2.2.

### 2.2. Label elements

**Hazard pictogram(s)****Signal word**

Danger

**Hazard statement(s)**

Causes severe skin burns and eye damage. (H314)

**Precautionary statements**

General

If medical advice is needed, have product container or label at hand. (P101).

According to EC-Regulation 2015/830

<b>Prevention</b>	Keep out of reach of children. (P102).
<b>Response</b>	Do not breathe mist/vapours/fume/spray. (P260). IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. (P303+P361+P353).
<b>Storage</b>	Store locked up. (P405).
<b>Disposal</b>	Dispose of contents/container to an approved waste disposal plant. (P501).

**Identity of the substances primarily responsible for the major health hazards**

potassium hydroxide; 2-aminoethanol

**Additional labelling**

Not applicable

**Unique formula identifier (UFI)**

TE99-ES5M-N002-EHK5

**2.3. Other hazards**

Not applicable

**Additional warnings**

Tactile warning. If this product is sold in retail, it must be delivered with child-resistant fastening.

**VOC (volatile organic compound)**

Not applicable

**SECTION 3: Composition/information on ingredients**

**3.1/3.2. Substances/Mixtures**

NAME: potassium hydroxide  
 IDENTIFICATION NOS.: CAS-no: 1310-58-3 EC-no: 215-181-3 REACH-no: 01-2119487136-33 Index-no: 019-002-00-8  
 CONTENT: 2.5 - <5%  
 CLP CLASSIFICATION: Met. Corr. 1, Acute Tox. 4, Skin Corr. 1A  
 H290, H302, H314

NAME: 2-(2-butoxyethoxy)ethanol  
 IDENTIFICATION NOS.: CAS-no: 112-34-5 EC-no: 203-961-6 REACH-no: 01-2119475104-44 Index-no: 603-096-00-8  
 CONTENT: 2.5 - <5%  
 CLP CLASSIFICATION: Eye Irrit. 2  
 H319  
 NOTE: L

NAME: 2-aminoethanol  
 IDENTIFICATION NOS.: CAS-no: 141-43-5 EC-no: 205-483-3 REACH-no: 01-2119486455-28 Index-no: 603-030-00-8  
 CONTENT: 1 - <2.5%  
 CLP CLASSIFICATION: Acute Tox. 4, STOT SE 3, Skin Corr. 1B  
 H302, H312, H314, H332, H335  
 NOTE: O L

(\* ) O = Organic solvent L = European occupational exposure limit. See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

**Other information**

ATEmix(inhale, vapour) > 20  
 ATEmix(dermal) > 2000  
 ATEmix(oral) > 2000  
 Eye Cat. 1 Sum = Sum(Ci/S(G)CLi) = > 1 - 1.314  
 Skin Cat. 2 Sum = Sum(Ci/S(G)CLi) = 6.4 - 9.6

Detergent:  
 < 5%: AMPHOTERIC SURFACTANTS, PHOSPHATES, NON-IONIC SURFACTANTS

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. The doctor can contact The National Poisons Information Service: Dial 0344 892 0111 (24 h service). Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

**Inhalation**

Bring the person into fresh air and stay with him/her.

According to EC-Regulation 2015/830

#### **Skin contact**

Immediately remove contaminated clothing and shoes. Ensure that skin, which has been exposed to the material, is washed thoroughly with soap and water.

#### **Eye contact**

Remove contact lenses. Flush eyes with plenty of water or salt water (20-30°C) for at least 15 minutes and continue until irritation stops. Make sure you flush under the upper and lower eyelids. Seek medical assistance immediately and continue flushing.

#### **Ingestion**

In the case of ingestion, contact a doctor immediately and bring the safety data sheet or label. If the person is conscious, give them water. DO NOT try to induce vomiting, unless this is recommended by a doctor. Hold head facing down to prevent vomit returning to the mouth and throat. Prevent shock by keeping the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.

#### **Burns**

Not applicable

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

Tissue-damaging effects: This product contains substances with skin corrosive properties. Inhaled vapour or aerosols may produce adverse effects to lungs, -irritations and burns in the respiratory organs -as well as coughing. Dermal contact and contact with the eye cause irreversible effects.

This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs.

Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

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

IF exposed or concerned: Get immediate medical advice/attention.

#### **Information to medics**

Bring this safety data sheet.

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

Recommended: alcohol-resistant foam, carbonic acid, powder, water mist.

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

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous catabolic substances are produced. These are: Nitrogen oxides. Carbon oxides. Some metal oxides. Fire will result in dense black smoke. Exposure to combustion products may harm your health. Fire fighters should wear appropriate protection equipment. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

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

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

### **SECTION 6: Accidental release measures**

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

Avoid direct contact with spilled substances.

#### **6.2. Environmental precautions**

No specific requirements.

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

Use sand, sawdust, earth, vermiculite, diatomaceous earth to contain and collect non-combustible absorbent materials and place in container for disposal, according to local regulations.

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

See section on "Disposal considerations" in regard of handling of waste. See section on 'Exposure controls/personal protection' for protective measures.

### **SECTION 7: Handling and storage**

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

Smoking, storage of tobacco, consumption and storage of food or liquids are not allowed in the workrooms. See section on 'Exposure controls/personal protection' for information on personal protection. Avoid direct contact with the product.

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

Always store in containers of the same material as the original container. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

According to EC-Regulation 2015/830

**Storage temperature**

Room temperature 18 to 23°C

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

This product should only be used for applications quoted in section 1.2

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**OEL**

2-aminoethanol

Long-term exposure limit (8-hour TWA reference period): 1 ppm | 2,5 mg/m<sup>3</sup>

Short-term exposure limit (15-minute reference period): 3 ppm | 7.6 mg/m<sup>3</sup>

Comments: Sk (Sk = Can be absorbed through skin. )

2-(2-butoxyethoxy)ethanol

Long-term exposure limit (8-hour TWA reference period): 10 ppm | 67,5 mg/m<sup>3</sup>

Short-term exposure limit (15-minute reference period): 15 ppm | 101.2 mg/m<sup>3</sup>

potassium hydroxide

Long-term exposure limit (8-hour TWA reference period): - ppm | - mg/m<sup>3</sup>

Short-term exposure limit (15-minute reference period): - ppm | 2 mg/m<sup>3</sup>

**DNEL / PNEC**

DNEL (potassium hydroxide): 1mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Local effects - Workers

DNEL (potassium hydroxide): 1mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Local effects - General population

DNEL (2-aminoethanol): 1 mg/kg bw/d

Exposure: Dermal

Duration of Exposure: Long term – Systemic effects - Workers

DNEL (2-aminoethanol): 3.3 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Systemic effects - Workers

DNEL (2-aminoethanol): 3.3 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Local effects - Workers

DNEL (2-aminoethanol): 0.24 mg/kg bw/d

Exposure: Dermal

Duration of Exposure: Long term – Systemic effects - General population

DNEL (2-aminoethanol): 2 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Systemic effects - General population

DNEL (2-aminoethanol): 2 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Local effects - General population

DNEL (2-aminoethanol): 3.75 mg/kg bw/d

Exposure: Oral

Duration of Exposure: Long term – Systemic effects - General population

DNEL (2-(2-butoxyethoxy)ethanol): 83 mg/kg

Exposure: Dermal

Duration of Exposure: Long term – Systemic effects - Workers

DNEL (2-(2-butoxyethoxy)ethanol): 67.5 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Systemic effects - Workers

DNEL (2-(2-butoxyethoxy)ethanol): 67.5 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Local effects - Workers

DNEL (2-(2-butoxyethoxy)ethanol): 5 mg/kg bw/d

Exposure: Oral

According to EC-Regulation 2015/830

Duration of Exposure: Long term – Systemic effects - General population

DNEL (2-(2-butoxyethoxy)ethanol): 50 mg/kg bw/d

Exposure: Dermal

Duration of Exposure: Long term – Systemic effects - General population

DNEL (2-(2-butoxyethoxy)ethanol): 40.5 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Local effects - General population

DNEL (2-(2-butoxyethoxy)ethanol): 101.2 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Short term – Local effects - Workers

DNEL (2-(2-butoxyethoxy)ethanol): 40.5 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Long term – Systemic effects - General population

DNEL (2-(2-butoxyethoxy)ethanol): 60.7 mg/m<sup>3</sup>

Exposure: Inhalation

Duration of Exposure: Short term – Local effects - General population

PNEC (2-aminoethanol): 0.085 mg/l

Exposure: Freshwater

PNEC (2-aminoethanol): 0.0085 mg/l

Exposure: Marine water

PNEC (2-aminoethanol): 0.434 mg/kg dw

Exposure: Freshwater sediment

PNEC (2-aminoethanol): 0.0434 mg/kg dw

Exposure: Marine water sediment

PNEC (2-aminoethanol): 1.29 mg/kg dw

Exposure: Soil

PNEC (2-aminoethanol): 100 mg/l

Exposure: Sewage Treatment Plant

PNEC (2-aminoethanol): 0.028 mg/l

Exposure: Intermittent release

PNEC (2-(2-butoxyethoxy)ethanol): 200 mg/l

Exposure: Sewage Treatment Plant

PNEC (2-(2-butoxyethoxy)ethanol): 0.44 mg/kg dw

Exposure: Marine water sediment

PNEC (2-(2-butoxyethoxy)ethanol): 4.4 mg/kg dw

Exposure: Freshwater sediment

PNEC (2-(2-butoxyethoxy)ethanol): 1 mg/l

Exposure: Freshwater

PNEC (2-(2-butoxyethoxy)ethanol): 0.1 mg/l

Exposure: Marine water

PNEC (2-(2-butoxyethoxy)ethanol): 3.9 mg/l

Exposure: Intermittent release

PNEC (2-(2-butoxyethoxy)ethanol): 0.32 mg/kg dw

Exposure: Soil

## 8.2. Exposure controls

Compliance with the accepted occupational exposure limits values should be controlled on a regular basis.

### General recommendations

Observe general occupational hygiene standards.

### Exposure scenarios

There is no appendix to this safety data sheet.

### Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See

According to EC-Regulation 2015/830

occupational hygiene limit values above.

**Appropriate technical measures**

Ensure emergency eyewash and -showers are clearly marked.

**Hygiene measures**

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Always wash hands, forearms and face.

**Measures to avoid environmental exposure**

Keep containment materials near the workplace. If possible, collect spillage during work.

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



**Generally**

Use only CE marked protective equipment.

**Respiratory Equipment**

No specific requirements.

**Skin protection**

Dedicated work clothing should be worn. Wear a protective suit in the event of prolonged periods of work with the product.

**Hand protection**

Nitrile rubber  
Breakthrough time: > 480 minutes (Class 6)

**Eye protection**

Wear safety glasses with side shields.

**SECTION 9: Physical and chemical properties**

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

Form	Liquid
Colour	Yellowish
Odour	Characteristic
Odour threshold (ppm)	No data available.
pH	14
Viscosity (40°C)	No data available.
Density (g/cm <sup>3</sup> )	1.09

**Phase changes**

Melting point (°C)	No data available.
Boiling point (°C)	No data available.
Vapour pressure	No data available.
Decomposition temperature (°C)	No data available.
Evaporation rate (n-butylacetate = 100)	No data available.

**Data on fire and explosion hazards**

Flash point (°C)	No data available.
Ignition (°C)	No data available.
Auto flammability (°C)	No data available.
Explosion limits (% v/v)	No data available.
Explosive properties	No data available.

**Solubility**

Solubility in water	Soluble
n-octanol/water coefficient	No data available.

**9.2. Other information**

Solubility in fat (g/L)	No data available.
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**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No data available

According to EC-Regulation 2015/830

**10.2. Chemical stability**

The product is stable under the conditions, noted in the section "Handling and storage".

**10.3. Possibility of hazardous reactions**

Nothing special

**10.4. Conditions to avoid**

Nothing special

**10.5. Incompatible materials**

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

**10.6. Hazardous decomposition products**

The product is not degraded when used as specified in section 1.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute toxicity**

Substance: 2-aminoethanol  
Species: Rat  
Test: LD50  
Route of exposure: Dermal  
Result: 2504 mg/kg

Substance: 2-aminoethanol  
Species: Rat  
Test: LD50  
Route of exposure: Oral  
Result: 1089 mg/kg

Substance: 2-aminoethanol  
Species: Rat  
Test: LD50  
Route of exposure: Inhalation  
Result: 1478 mg/m<sup>3</sup>

Substance: 2-(2-butoxyethoxy)ethanol  
Species: Rabbit  
Test: LD50  
Route of exposure: Dermal  
Result: 2764 mg/kg

Substance: 2-(2-butoxyethoxy)ethanol  
Species: Mouse  
Test: LD50  
Route of exposure: Oral  
Result: 2410 mg/kg

Substance: 2-(2-butoxyethoxy)ethanol  
Species: Rat  
Test: LD50  
Route of exposure: Oral  
Result: >2000 mg/kg

Substance: 2-(2-butoxyethoxy)ethanol  
Species: Rat  
Test: LC50  
Route of exposure: Inhalation  
Result: >29 ppm 2h

Substance: potassium hydroxide  
Species: Rat  
Test: LD50  
Route of exposure: Oral  
Result: 333.0

**Skin corrosion/irritation**

Causes severe skin burns and eye damage.

Data on substance: 2-(2-butoxyethoxy)ethanol  
Test: OECD Guideline 404  
Organism: Rabbit  
Result: not irritating

**Serious eye damage/irritation**

Causes serious eye damage.

According to EC-Regulation 2015/830

Data on substance: 2-(2-butoxyethoxy)ethanol  
 Test: OECD Guideline 404  
 Organism: Rabbit  
 Result: irritating

**Respiratory or skin sensitisation**

Data on substance: 2-aminoethanol

Data on substance: 2-(2-butoxyethoxy)ethanol  
 Test: OECD Guideline 406  
 Organism: Guinea pig  
 Result: Negative

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

No data available.

**Reproductive toxicity**

No data available.

**STOT-single exposure**

No data available.

**STOT-repeated exposure**

No data available.

**Aspiration hazard**

No data available.

**Long term effects**

Tissue-damaging effects: This product contains substances with skin corrosive properties. Inhaled vapour or aerosols may produce adverse effects to lungs, -irritations and burns in the respiratory organs -as well as coughing. Dermal contact and contact with the eye cause irreversible effects.

This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

**SECTION 12: Ecological information**

**12.1. Toxicity**

Substance: 2-aminoethanol  
 Species: Daphnia  
 Test: NOEC  
 Duration: 21d  
 Result: 0.85 mg/l

Substance: 2-aminoethanol  
 Species: Daphnia  
 Test: EC50  
 Duration: 48h  
 Result: 65 mg/l

Substance: 2-aminoethanol  
 Species: Fish  
 Test: LC50  
 Duration: 96h  
 Result: 349 mg/l

Substance: 2-aminoethanol  
 Species: Algae  
 Test: EC50  
 Duration: 72h  
 Result: 2.5 mg/l

Substance: 2-(2-butoxyethoxy)ethanol  
 Species: Daphnia  
 Test: EC50  
 Duration: 48h  
 Result: >100 mg/l

Substance: 2-(2-butoxyethoxy)ethanol  
 Species: Fish  
 Test: LC50  
 Duration: 96h  
 Result: >100 mg/l

Substance: 2-(2-butoxyethoxy)ethanol  
 Species: Algae  
 Test: EC50  
 Duration: 96h



According to EC-Regulation 2015/830

Result: >100 mg/l

Substance: potassium hydroxide  
Species: Daphnia  
Test: EC50  
Duration: 48h  
Result: 40-240mg/l

Substance: potassium hydroxide  
Species: Fish  
Test: LC50  
Duration: 96h  
Result: 80mg/l

### 12.2. Persistence and degradability

Substance	Biodegradability	Test	Result
2-aminoethanol	Yes	DOC Die-Away Test	>90%
2-(2-butoxyethoxy)ethanol	Yes	Modified OECD Screening Test	100%

### 12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow	BCF
2-aminoethanol	No	-1.91	No data available
2-(2-butoxyethoxy)ethanol	No	1	No data available

### 12.4. Mobility in soil

2-aminoethanol: Log Koc= -1.434129, Calculated from LogPow ().  
2-(2-butoxyethoxy)ethanol: Log Koc= 0.8703, Calculated from LogPow (High mobility potential.).

### 12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

### 12.6. Other adverse effects

Nothing special

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product is covered by the regulations on hazardous waste.

#### Waste

EWC code

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#### Specific labelling

Not applicable

#### Contaminated packing

Contaminated packaging must be disposed of similarly to the product.

## SECTION 14: Transport information

### 14.1 – 14.4

This product is within scope of the regulations of transport of dangerous goods.

#### ADR/RID

14.1. UN number	1760
14.2. UN proper shipping name	CORROSIVE LIQUID, N.O.S.
14.3. Transport hazard class(es)	8
14.4. Packing group	III
Notes	-
Tunnel restriction code	E

#### IMDG

UN-no.	1760
Proper Shipping Name	CORROSIVE LIQUID, N.O.S.
Class	8
PG*	III
EmS	F-A, S-B
MP**	No
Hazardous constituent	-

#### IATA/ICAO

UN-no.	1760
Proper Shipping Name	CORROSIVE LIQUID, N.O.S.
Class	8
PG*	III

**14.5. Environmental hazards**

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**14.6. Special precautions for user**

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**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

No data available

(\*) Packing group

(\*\*) Marine pollutant

**SECTION 15: Regulatory information**

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

**Restrictions for application**

People under the age of 18 shall not be exposed to this product cf. Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work.

**Demands for specific education**

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**Additional information**

Not applicable

**Seveso**

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**Biocidal reg. no.**

Not applicable

**Sources**

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.

Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work.

The Control of Substances Hazardous to Health Regulations 2002. SI 2002/2677. The Stationery Office, 2002.

Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (CLP).

Regulation (EC) 1907/2006 (REACH).

**15.2. Chemical safety assessment**

No

**SECTION 16: Other information**

**Full text of H-phrases as mentioned in section 3**

H290 - May be corrosive to metals.

H302 - Harmful if swallowed.

H312 - Harmful in contact with skin.

H314 - Causes severe skin burns and eye damage.

H319 - Causes serious eye irritation.

H332 - Harmful if inhaled.

H335 - May cause respiratory irritation.

**The full text of identified uses as mentioned in section 1**

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**Additional label elements**

Not applicable

**Other**

In accordance with Regulation (EC) No. 1272/2008 (CLP) the evaluation of the classification of the mixture is based on:

The classification of the mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP)

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

According to EC-Regulation 2015/830

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.

**The safety data sheet is validated by**

David Löwenstein

**Date of last essential change  
(First cipher in SDS version)**

-

**Date of last minor change  
(Last cipher in SDS version)**

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