

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 06.05.2019

Version 4.7

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No.	106174
Product name	TAE buffer 50 x pH 8,3 tris-acetate EDTA buffer
REACH Registration Number	This product is a mixture. REACH Registration Number see section 3.

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

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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**1.3 Details of the supplier of the safety data sheet**

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

**1.4 Emergency telephone number** **Please contact the regional company representation in your country.****SECTION 2. Hazards identification****2.1 Classification of the substance or mixture**  
**Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2, H315  
Eye irritation, Category 2, H319  
Skin sensitisation, Category 1, H317  
Long-term (chronic) aquatic hazard, Category 3, H412  
For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

*Precautionary statements*

Prevention

P273 Avoid release to the environment.

P280 Wear protective gloves.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

### Reduced labelling ( $\leq 125$ ml)

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

*Precautionary statements*

P280 Wear protective gloves.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

Contains: mixture 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)

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

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The life science business of Merck operates as MilliporeSigma in the US and Canada

**MERCK**

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Chemical nature Aqueous solution of organic compounds.

### 3.1 Substance

Not applicable

### 3.2 Mixture

#### Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
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Ethylenedinitrilotetraacetic acid disodium salt ( $\geq 1\%$  -  $< 10\%$ )

*Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.*

139-33-3	01-2119486775-20-XXXX	Acute toxicity, Category 4, H332 Specific target organ toxicity - repeated exposure, Category 2, H373
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mixture 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) ( $\geq 0,25\%$  -  $< 0,6\%$ )

55965-84-9	*)	Acute toxicity, Category 3, H301 Acute toxicity, Category 3, H331 Acute toxicity, Category 3, H311 Skin corrosion, Category 1B, H314 Skin sensitisation, Category 1, H317 Short-term (acute) aquatic hazard, Category 1, H400 Long-term (chronic) aquatic hazard, Category 1, H410
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\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

Nausea, Vomiting, Spasm, Diarrhoea

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The following applies to aliphatic amines in general: irritations after contact with eyes and skin. Mucosal irritations, coughing, and dyspnoea after inhalation.  
irritant effects, Allergic reactions

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

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Water, Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Mixture with combustible ingredients.

Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of:

nitrogen oxides

### 5.3 Advice for firefighters

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*  
Observe label precautions.

*Hygiene measures*  
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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

*Storage conditions*  
Tightly closed.

Recommended storage temperature see product label.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Derived No Effect Level (DNEL)

*Ethylenedinitrilotetraacetic acid disodium salt (139-33-3)*

Worker DNEL, acute	Local effects	inhalation	3 mg/m <sup>3</sup>
Worker DNEL, longterm	Local effects	inhalation	1,5 mg/m <sup>3</sup>
Consumer DNEL, acute	Local effects	inhalation	1,2 mg/m <sup>3</sup>
Consumer DNEL, longterm	Local effects	inhalation	0,6 mg/m <sup>3</sup>
Consumer DNEL, longterm	Systemic effects	oral	25 mg/kg Body weight

#### Predicted No Effect Concentration (PNEC)

*Ethylenedinitrilotetraacetic acid disodium salt (139-33-3)*

PNEC Fresh water	2,2 mg/l
PNEC Marine water	0,22 mg/l
PNEC Aquatic intermittent release	1,2 mg/l
PNEC Sewage treatment plant	43 mg/l
PNEC Soil	0,72 mg/kg

### 8.2 Exposure controls

#### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

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## Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

### *Eye/face protection*

Safety glasses

### *Hand protection*

full contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### *Other protective equipment*

protective clothing

### *Respiratory protection*

Not required; except in case of aerosol formation.

Recommended Filter type: filter ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

## Environmental exposure controls

Do not let product enter drains.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form liquid  
Colour colourless

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Odour	weakly of acetic acid
Odour Threshold	No information available.
pH	8,2 - 8,4 at 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	1,1 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

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## 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

## 10.3 Possibility of hazardous reactions

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!

## 10.4 Conditions to avoid

no information available

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

*Acute oral toxicity*

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Nausea, Vomiting, Diarrhoea

*Acute inhalation toxicity*

Acute toxicity estimate: > 20 mg/l; 4 h ; vapour

Calculation method

Symptoms: Possible symptoms:, mucosal irritations

*Acute dermal toxicity*

Acute toxicity estimate : > 2.000 mg/kg

Calculation method

*Skin irritation*

Mixture causes skin irritation.

*Eye irritation*

Mixture causes serious eye irritation.

*Sensitisation*

Mixture may cause an allergic skin reaction.

*Germ cell mutagenicity*

This information is not available.

*Carcinogenicity*

This information is not available.



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## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## **11.2 Further information**

After absorption:

Convulsions

The following applies to aliphatic amines in general: irritations after contact with eyes and skin. Mucosal irritations, coughing, and dyspnoea after inhalation. Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## **Components**

### *Ethylenedinitrilotetraacetic acid disodium salt*

#### *Acute oral toxicity*

LD50 Rat: 2.800 mg/kg  
OECD Test Guideline 401

#### *Acute inhalation toxicity*

Acute toxicity estimate: 1,6 mg/l; dust/mist  
Expert judgement

#### *Skin irritation*

Rabbit  
Result: No irritation  
OECD Test Guideline 404

#### *Eye irritation*

Rabbit  
Result: No eye irritation

(ECHA)

#### *Repeated dose toxicity*

Rat  
male  
Inhalation  
aerosol  
5 d  
daily  
LOAEL: 0,03 mg/l  
OECD Test Guideline 412  
Lungs

Rat

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male and female  
Inhalation  
dust/mist  
90 d  
daily  
NOAEL: 0,003 mg/l  
OECD Test Guideline 413  
larynx

Rat  
male  
Oral  
13 Weeks  
daily  
NOAEL: >= 500 mg/kg

(ECHA)

*Germ cell mutagenicity*  
*Genotoxicity in vitro*  
In vitro mammalian cell gene mutation test  
Mouse lymphoma test  
Result: negative  
Method: OECD Test Guideline 476

mixture 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)

*Acute oral toxicity*  
Acute toxicity estimate: 100,1 mg/kg  
Expert judgement

*Acute inhalation toxicity*  
Acute toxicity estimate: 3,1 mg/l; vapour  
Expert judgement

*Acute dermal toxicity*  
Acute toxicity estimate : 300,1 mg/kg  
Expert judgement

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## SECTION 12. Ecological information

### Mixture

#### 12.1 Toxicity

No information available.

#### 12.2 Persistence and degradability

No information available.

#### 12.3 Bioaccumulative potential

No information available.

#### 12.4 Mobility in soil

No information available.

#### 12.5 Results of PBT and vPvB assessment

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

#### 12.6 Other adverse effects

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Discharge into the environment must be avoided.

## Components

### *Ethylenedinitrilotetraacetic acid disodium salt*

#### *Toxicity to fish*

static test LC100 *Oncorhynchus mykiss* (rainbow trout): 860 mg/l; 24 h  
(ECHA)

#### *Toxicity to daphnia and other aquatic invertebrates*

static test EC50 *Daphnia magna* (Water flea): 140 mg/l; 48 h  
DIN 38412

#### *Toxicity to bacteria*

static test EC50 activated sludge: > 500 mg/l; 0,5 h  
OECD Test Guideline 209

#### *Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)*

semi-static test NOEC *Daphnia magna* (Water flea): 25 mg/l; 21 d

(ECHA)

#### *Partition coefficient: n-octanol/water*

log Pow: -4,3 (25 °C)  
(experimental)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

mixture 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)

No information available.

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

#### 14.1 - 14.6

Not classified as dangerous in the meaning of transport regulations.

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

#### 14.1 - 14.6

Not classified as dangerous in the meaning of transport regulations.

### Sea transport (IMDG)

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**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard SEVESO III  
Legislation Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances not regulated  
that deplete the ozone layer

Regulation (EC) No 850/2004 of the not regulated  
European Parliament and of the Council of 29  
April 2004 on persistent organic pollutants  
and amending Directive 79/117/EEC

Substances of very high concern (SVHC) This product does not contain  
substances of very high concern  
according to Regulation (EC) No  
1907/2006 (REACH), Article 57  
above the respective regulatory  
concentration limit of  $\geq 0.1\%$   
(w/w).

#### *National legislation*

Storage class 10 - 13

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic 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.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

### Training advice

Provide adequate information, instruction and training for operators.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

### Regional representation

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*

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