

## Safety Data Sheet

according to UK REACH Regulation

### TISAB solution III pH 5.0 - 5.5 for determination of fluoride

Revision date: 09.11.2022

Product code: 13142

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

##### 1.1. Product identifier

TISAB solution III pH 5.0 - 5.5 for determination of fluoride

UFI: 6AD5-T1Q3-J00S-3HQ2

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

###### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

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

###### Uses advised against

Do not use for private purposes (household).

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

|                         |                                 |                              |
|-------------------------|---------------------------------|------------------------------|
| Company name:           | Fa. Bernd Kraft GmbH            |                              |
| Street:                 | Stempelstraße 6                 |                              |
| Place:                  | D-47167 Duisburg                |                              |
| Telephone:              | 0203/5194-0                     | Telefax: 0203/5194-290       |
| e-mail:                 | info@berndkraft.de              |                              |
| Contact person:         | Abteilung Produktsicherheit     | Telephone: 0203/5194-107/117 |
| e-mail:                 | produktsicherheit@berndkraft.de |                              |
| Internet:               | www.berndkraft.de               |                              |
| Responsible Department: | Abteilung Produktsicherheit     |                              |

##### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

##### Further Information

inapplicable, this product is a mixture REACH registration number see section 3

#### SECTION 2: Hazards identification

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

###### GB CLP Regulation

Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### GB CLP Regulation

Signal word: Warning

Pictograms:



###### Hazard statements

H319 Causes serious eye irritation.

###### Precautionary statements

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

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P337+P313

present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

**2.3. Other hazards**

No data available

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

**3.2. Mixtures**

**Chemical characterization**

Mixtures in aqueous solution

**Hazardous components**

| CAS No     | Chemical name                                                                        |              |                  | Quantity    |
|------------|--------------------------------------------------------------------------------------|--------------|------------------|-------------|
|            | EC No                                                                                | Index No     | REACH No         |             |
|            | Classification (GB CLP Regulation)                                                   |              |                  |             |
| 12125-02-9 | ammonium chloride                                                                    |              |                  | 10 - < 15 % |
|            | 235-186-4                                                                            | 017-014-00-8 | 01-2119487950-27 |             |
|            | Acute Tox. 4, Eye Irrit. 2; H302 H319                                                |              |                  |             |
| 87095-89-4 | glycine, N,N'-(1R,2R)-1,2-cyclohexanediylbis[N-(carboxymethyl)-, hydrate (1:1), rel- |              |                  | 1 - < 5 %   |
|            | Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335                               |              |                  |             |

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

| CAS No     | EC No                                                | Chemical name                            | Quantity    |
|------------|------------------------------------------------------|------------------------------------------|-------------|
|            |                                                      | Specific Conc. Limits, M-factors and ATE |             |
| 12125-02-9 | 235-186-4                                            | ammonium chloride                        | 10 - < 15 % |
|            | dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1410 mg/kg |                                          |             |

**Further Information**

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 = 0.1 % (w/w).

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

No data available

**After inhalation**

Provide fresh air.

**After contact with skin**

Wash immediately with: Water  
Take off immediately all contaminated clothing and wash it before reuse.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water.  
Call a doctor if you feel unwell.

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

Causes skin irritation.

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

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No data available

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

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

Non-combustible liquids

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures**

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

**For non-emergency personnel**

Provide adequate ventilation.  
Use personal protection equipment.  
Avoid contact with skin, eyes and clothes.  
Remove persons to safety.  
Emergency procedures  
Consult an expert  
Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

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

**For containment**

Cover drains.  
Prevent spread over a wide area (e.g. by containment or oil barriers).  
Collect in closed and suitable containers for disposal.  
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

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**Advice on safe handling**

Handle and open container with care.  
Keep container tightly closed.  
Do not breathe vapour/aerosol.  
Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Wash contaminated clothing prior to re-use.  
Do not breathe vapour/aerosol.  
Avoid contact with skin, eyes and clothes.

**Further information on handling**

Wash contaminated clothing before reuse.  
Wash hands before breaks and after work.

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

**Requirements for storage rooms and vessels**

Keep container tightly closed.

**Hints on joint storage**

No data available

**Further information on storage conditions**

Store in a dry place.

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

Laboratory chemicals

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

**8.1. Control parameters**

**Exposure limits (EH40)**

| CAS No     | Substance               | ppm | mg/m <sup>3</sup> | fibres/ml | Category      | Origin |
|------------|-------------------------|-----|-------------------|-----------|---------------|--------|
| 12125-02-9 | Ammonium chloride, fume | -   | 10                |           | TWA (8 h)     | WEL    |
|            |                         | -   | 20                |           | STEL (15 min) | WEL    |

**DNEL/DMEL values**

| CAS No                   | Substance         | Exposure route | Effect   | Value                  |
|--------------------------|-------------------|----------------|----------|------------------------|
| 12125-02-9               | ammonium chloride |                |          |                        |
| Consumer DNEL, long-term |                   | inhalation     | systemic | 9,9 mg/m <sup>3</sup>  |
| Consumer DNEL, long-term |                   | dermal         | systemic | 114 mg/kg bw/day       |
| Consumer DNEL, long-term |                   | oral           | systemic | 11,4 mg/kg bw/day      |
| Worker DNEL, long-term   |                   | inhalation     | systemic | 33,5 mg/m <sup>3</sup> |
| Worker DNEL, long-term   |                   | dermal         | systemic | 190 mg/kg bw/day       |

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**PNEC values**

| CAS No                                           | Substance         | Value       |
|--------------------------------------------------|-------------------|-------------|
| Environmental compartment                        |                   |             |
| 12125-02-9                                       | ammonium chloride |             |
| Freshwater                                       |                   | 1,2 mg/l    |
| Freshwater (intermittent releases)               |                   | 1,2 mg/l    |
| Marine water                                     |                   | 11,2 mg/l   |
| Micro-organisms in sewage treatment plants (STP) |                   | 16,2 mg/l   |
| Soil                                             |                   | 0,163 mg/kg |

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

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

**Eye/face protection**

goggles

**Hand protection**

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (test according to EN 374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with occasional contact (splashes): > 480 min

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)).

**Skin protection**

Wear suitable protective clothing.  
Wash hands before breaks and after work.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties**

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

|                               |            |                   |
|-------------------------------|------------|-------------------|
| Physical state:               | Liquid     |                   |
| Colour:                       | colourless |                   |
| Odour:                        | odourless  |                   |
| Melting point/freezing point: |            | No data available |

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|                                                           |                          |
|-----------------------------------------------------------|--------------------------|
| Boiling point or initial boiling point and boiling range: | No data available        |
| Flammability                                              |                          |
| Solid/liquid:                                             | No data available        |
| Gas:                                                      | No data available        |
| Lower explosion limits:                                   | No data available        |
| Upper explosion limits:                                   | No data available        |
| Flash point:                                              | No data available        |
| Auto-ignition temperature:                                | No data available        |
| Decomposition temperature:                                | No data available        |
| pH-Value:                                                 | 5,0-5,5                  |
| Viscosity / kinematic:                                    | No data available        |
| Water solubility:                                         | No data available        |
| Solubility in other solvents                              |                          |
| No data available                                         |                          |
| Partition coefficient n-octanol/water:                    | No data available        |
| Vapour pressure:                                          | No data available        |
| Vapour pressure:                                          | No data available        |
| Density:                                                  | 1,0446 g/cm <sup>3</sup> |
| Bulk density:                                             | No data available        |
| Relative vapour density:                                  | No data available        |

**9.2. Other information**

**Information with regard to physical hazard classes**

|                           |                   |
|---------------------------|-------------------|
| Explosive properties      |                   |
| No data available         |                   |
| Sustaining combustion:    | No data available |
| Self-ignition temperature |                   |
| Solid:                    | No data available |
| Gas:                      | No data available |
| Oxidizing properties      |                   |
| No data available         |                   |

**Other safety characteristics**

|                          |                   |
|--------------------------|-------------------|
| Evaporation rate:        | No data available |
| Solvent separation test: | No data available |
| Solvent content:         | No data available |
| Solid content:           | No data available |
| Sublimation point:       | No data available |
| Softening point:         | No data available |
| Pour point:              | No data available |
| No data available:       |                   |
| Viscosity / dynamic:     | No data available |
| Flow time:               | No data available |

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No data available

**10.2. Chemical stability**

No data available

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**10.3. Possibility of hazardous reactions**

No data available

**10.4. Conditions to avoid**

No data available

**10.5. Incompatible materials**

No data available

**10.6. Hazardous decomposition products**

No data available

**Further information**

No data available

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in GB CLP Regulation**

**Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

Based on available data, the classification criteria are not met.

| CAS No     | Chemical name     |               |         |        |                                       |
|------------|-------------------|---------------|---------|--------|---------------------------------------|
|            | Exposure route    | Dose          | Species | Source | Method                                |
| 12125-02-9 | ammonium chloride |               |         |        |                                       |
|            | oral              | LD50<br>mg/kg | 1410    | Rat    | Other company data<br>(1983)          |
|            | dermal            | LD50<br>mg/kg | > 2000  | Rat    | Study report (2010)                   |
|            |                   |               |         |        | other: not mentioned<br>EU Method B.3 |

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

There are no data available on the mixture itself.

**Additional information on tests**

There are no data available on the mixture itself.

**Practical experience**

There are no data available on the mixture itself.

**11.2. Information on other hazards**

**Other information**

There are no data available on the mixture itself.

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**Further information**

Causes skin irritation.

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the mixture itself.

| CAS No     | Chemical name            |                  |           |                            |                                          |                                          |
|------------|--------------------------|------------------|-----------|----------------------------|------------------------------------------|------------------------------------------|
|            | Aquatic toxicity         | Dose             | [h]   [d] | Species                    | Source                                   | Method                                   |
| 12125-02-9 | ammonium chloride        |                  |           |                            |                                          |                                          |
|            | Acute fish toxicity      | LC50 209 mg/l    | 96 h      | Cyprinus carpio            | Indian J. Environ. Health, 17, 140-146,  | other: E03-05:APHA, AWWA & WPCF          |
|            | Acute crustacea toxicity | EC50 101 mg/l    | 48 h      | Daphnia magna              | Env. Tox. Chem. 5, 443-447 (1986) (1986) | other: ASTM E729-80                      |
|            | Fish toxicity            | NOEC mg/l 11,8   | 28 d      | Pimephales promelas        | Env. Tox. Chem. 5, 437-442 (1986) (1986) | other: - American Society for Testing an |
|            | Algae toxicity           | NOEC mg/l 26,8   | 10 d      | Navicula sp.               | Mar. Biol. 43(4), 307-315, (1977) (1977) | no data                                  |
|            | Crustacea toxicity       | NOEC mg/l 14,6   | 21 d      | Daphnia magna              | Env. Tox. Chem. 5, 443-447 (1986) (1986) | other: not mentioned                     |
|            | Acute bacteria toxicity  | (EC50 mg/l) 1618 | 0,5 h     | activated sludge, domestic | Study report (1988)                      | OECD Guideline 209                       |

**12.2. Persistence and degradability**

There are no data available on the mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

**12.4. Mobility in soil**

There are no data available on the mixture itself.

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

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

There are no data available on the mixture itself.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

There are no data available on the mixture itself.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Do not allow to enter into surface water or drains.

**Contaminated packaging**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific



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to the industry and process.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information**

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

**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3

**National regulatory information**

Water hazard class (D): 1 - slightly hazardous to water

**Additional information**

No data available

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 1,9.

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

|                    |                          |
|--------------------|--------------------------|
| Classification     | Classification procedure |
| Eye Irrit. 2; H319 | Calculation method       |

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#### Relevant H and EUH statements (number and full text)

|      |                                   |
|------|-----------------------------------|
| H302 | Harmful if swallowed.             |
| H315 | Causes skin irritation.           |
| H319 | Causes serious eye irritation.    |
| H335 | May cause respiratory irritation. |

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*