



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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : Ätzmittel CT nach Barker  
Product code : AetzM012

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Use of the substance/mixture : Sample preparation for metallography

##### 1.2.2. Uses advised against

No additional information available

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

Cloeren Technology GmbH  
In Petersholz 44  
DE- 41844 Wegberg  
Germany  
T 02432/8902510 - F 02432/8902519  
[info@cloeren.de](mailto:info@cloeren.de) - [www.cloeren.de](http://www.cloeren.de)

#### 1.4. Emergency telephone number

| Country | Organisation/Company   | Address                                  | Emergency number  | Comment |
|---------|--|--|-------------------|---------|
| Germany | Giftinformationszentrum-Nord der Länder Bremen, Hamburg, Niedersachsen und Schleswig-Holstein (GIZ-Nord)<br>Universitätsmedizin Göttingen - Georg-August-Universität | Robert-Koch Straße 40<br>37075 Göttingen | +49 (0) 551 19240 |         |

### SECTION 2: Hazards identification

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

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

#### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

#### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 3.2. Mixtures

Comments : Mixture of the substances listed below with harmless additives

| Name               | Product identifier   | %     | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--------------------|--|-------|---|
| Tetrafluorborsäure | CAS-No.: 16872-11-0<br>EC-No.: 240-898-3<br>EC Index-No.: 009-010-00-X | 1 – 5 | Skin Corr. 1B, H314   |

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up : Take up liquid spill into absorbent material.

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Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store in a closed container.  
Storage area : storage class 12.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

No additional information available

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

##### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety goggles recommended during refilling

##### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable protective clothing

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### Hand protection:

The glove material must be impermeable and resistant to the product / the substance / the preparation.

Selection of the glove material taking into account the penetration times, permeation rates and the

Degradation. Recommendation:

uvex u-chem 3000 (DIN EN 374)

Material: nitrile rubber

Material thickness: 0.5 mm

Value for the permeation: > 120 min (level 4)

Recommendation:

uvex u-fit strong N2000 (DIN EN 374)

Material: nitrile rubber

Material thickness: 0.2 mm

Value for the permeation: > 30 min (level 2)

### 8.2.2.3. Respiratory protection

#### Respiratory protection:

Ensure adequate ventilation or use a fume cupboard. No respiratory protection is required with normal use. . Note wearing time limits. Breathing apparatus: gas filter B, color code gray.

### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

|   |                             |
|---|-----------------------------|
| Physical state                                  | : Liquid                    |
| Colour  | : Colourless.               |
| Odour   | : odourless.                |
| Odour threshold                                 | : No data available         |
| pH  | : < 7                       |
| Relative evaporation rate (butylacetate=1)      | : No data available         |
| Melting point                                   | : Not applicable            |
| Freezing point                                  | : No data available         |
| Boiling point                                   | : ≈ 100 °C                  |
| Flash point                                     | : No data available         |
| Auto-ignition temperature                       | : No data available         |
| Decomposition temperature                       | : No data available         |
| Flammability (solid, gas)                       | : Not applicable            |
| Vapour pressure                                 | : 23 hPa                    |
| Relative vapour density at 20 °C                | : No data available         |
| Relative density                                | : No data available         |
| Density   | : 1 g/cm <sup>3</sup>       |
| Solubility                                      | : Miscible with water.      |
| Partition coefficient n-octanol/water (Log Pow) | : No data available         |
| Viscosity, kinematic                            | : No data available         |
| Viscosity, dynamic                              | : No data available         |
| Explosive properties                            | : Product is not explosive. |
| Oxidising properties                            | : Not self-igniting.        |
| Explosive limits                                | : No data available         |

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

|                                   |                             |
|-----------------------------------|-----------------------------|
| Acute toxicity (oral)             | : Not classified            |
| Acute toxicity (dermal)           | : Not classified            |
| Acute toxicity (inhalation)       | : Not classified            |
| Skin corrosion/irritation         | : Not classified<br>pH: < 7 |
| Serious eye damage/irritation     | : Not classified<br>pH: < 7 |
| Respiratory or skin sensitisation | : Not classified            |
| Germ cell mutagenicity            | : Not classified            |
| Carcinogenicity                   | : Not classified            |
| Reproductive toxicity             | : Not classified            |
| STOT-single exposure              | : Not classified            |
| STOT-repeated exposure            | : Not classified            |

#### Tetrafluorborsäure (16872-11-0)

|                            |   |
|----------------------------|---|
| NOAEL (oral, rat, 90 days) | 40 mg/kg bodyweight Animal: rat, Guideline: other:OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) |
|----------------------------|---|

Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

|   |   |
|---|---|
| Ecology - general   | : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. |
| Hazardous to the aquatic environment, short-term (acute)  | : Not classified  |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified  |
| Not rapidly degradable                                    |   |

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### Tetrafluorborsäure (16872-11-0)

|                      |  |
|----------------------|--|
| LC50 - Fish [1]      | 2600 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)   |
| EC50 - Crustacea [1] | > 100 mg/l Test organisms (species): Daphnia magna   |
| EC50 72h - Algae [1] | > 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| NOEC (chronic)       | 188 mg/l Test organisms (species): Daphnia magna Duration: '21 d'  |

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

| ADR                                     | IMDG  | IATA                              | ADN                               | RID                               |
|---|---|-----------------------------------|-----------------------------------|-----------------------------------|
| <b>14.1. UN number</b>                  |   |                                   |                                   |                                   |
| Not applicable                          | Not applicable  | Not applicable                    | Not applicable                    | Not applicable                    |
| <b>14.2. UN proper shipping name</b>    |   |                                   |                                   |                                   |
| Not applicable                          | Not applicable  | Not applicable                    | Not applicable                    | Not applicable                    |
| <b>14.3. Transport hazard class(es)</b> |   |                                   |                                   |                                   |
| Not applicable                          | Not applicable  | Not applicable                    | Not applicable                    | Not applicable                    |
| <b>14.4. Packing group</b>              |   |                                   |                                   |                                   |
| Not applicable                          | Not applicable  | Not applicable                    | Not applicable                    | Not applicable                    |
| <b>14.5. Environmental hazards</b>      |   |                                   |                                   |                                   |
| Dangerous for the environment: No       | Dangerous for the environment: No<br>Marine pollutant: No | Dangerous for the environment: No | Dangerous for the environment: No | Dangerous for the environment: No |
| No supplementary information available  |   |                                   |                                   |                                   |

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### 14.6. Special precautions for user

**Overland transport**

No data available

**Transport by sea**

No data available

**Air transport**

No data available

**Inland waterway transport**

No data available

**Rail transport**

No data available

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

**REACH Annex XVII (Restriction List)**

Contains no REACH substances with Annex XVII restrictions

**REACH Annex XIV (Authorisation List)**

Contains no REACH Annex XIV substances

**REACH Candidate List (SVHC)**

Contains no substance on the REACH candidate list

**PIC Regulation (Prior Informed Consent)**

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

**POP Regulation (Persistent Organic Pollutants)**

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

**Ozone Regulation (1005/2009)**

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

**Explosives Precursors Regulation (2019/1148)**

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

**Drug Precursors Regulation (273/2004)**

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

#### 15.1.2. National regulations

**Germany**

Employment restrictions

: Observe restrictions according Act on the Protection of Working Mothers (MuSchG).  
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK)

: WGK nwg, Non-hazardous to water (Classification according to AwSV, Annex 1).

Storage class (LGK, TRGS 510)

: LGK 12 - Non-combustible liquids.

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Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Abbreviations and acronyms:

|         |   |
|---------|---|
| ADN     | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR     | European Agreement concerning the International Carriage of Dangerous Goods by Road             |
| ATE     | Acute Toxicity Estimate   |
| BCF     | Bioconcentration factor   |
| BLV     | Biological limit value  |
| BOD     | Biochemical oxygen demand (BOD)   |
| COD     | Chemical oxygen demand (COD)  |
| DMEL    | Derived Minimal Effect level  |
| DNEL    | Derived-No Effect Level   |
| EC-No.  | European Community number   |
| EC50    | Median effective concentration  |
| EN      | European Standard   |
| IARC    | International Agency for Research on Cancer   |
| IATA    | International Air Transport Association   |
| IMDG    | International Maritime Dangerous Goods  |
| LC50    | Median lethal concentration   |
| LD50    | Median lethal dose  |
| LOAEL   | Lowest Observed Adverse Effect Level  |
| NOAEC   | No-Observed Adverse Effect Concentration  |
| NOAEL   | No-Observed Adverse Effect Level  |
| NOEC    | No-Observed Effect Concentration  |
| OECD    | Organisation for Economic Co-operation and Development  |
| OEL     | Occupational Exposure Limit   |
| PBT     | Persistent Bioaccumulative Toxic  |
| PNEC    | Predicted No-Effect Concentration   |
| RID     | Regulations concerning the International Carriage of Dangerous Goods by Rail                    |
| SDS     | Safety Data Sheet   |
| STP     | Sewage treatment plant  |
| ThOD    | Theoretical oxygen demand (ThOD)  |
| TLM     | Median Tolerance Limit  |
| VOC     | Volatile Organic Compounds  |
| CAS-No. | Chemical Abstract Service number  |
| N.O.S.  | Not Otherwise Specified   |
| vPvB    | Very Persistent and Very Bioaccumulative  |



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### Abbreviations and acronyms:

|    |                                 |
|----|---------------------------------|
| ED | Endocrine disrupting properties |
|----|---------------------------------|

### Full text of H- and EUH-statements:

|               |  |
|---------------|--|
| H314          | Causes severe skin burns and eye damage.               |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1, Sub-Category 1B |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.