

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

- **1.1 Product identifier**
- **Trade name: Etchant acc. to ADLER**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Discharging agent
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier:** BYLA GmbH, Industriestr. 12, D-65594 Runkel
- **Further information obtainable from:** Abteilung Umweltschutz, eMail: [contact@byla.de](mailto:contact@byla.de)
- **1.4 Emergency telephone number:** Tel. +49-(0)-6482-91200, [contact@byla.de](mailto:contact@byla.de)

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms** GHS05, GHS07
- **Signal word** Danger

- **Hazard-determining components of labelling:**

hydrogen chloride

iron trichloride

diammonium tetrachlorocuprate

- **Hazard statements**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

- **Precautionary statements**

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

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

P260 Do not breathe dusts or mists.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

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# Safety data sheet

according to 1907/2006/EC, Article 31



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- P310 Immediately call a POISON CENTER/doctor.  
 P321 Specific treatment (see on this label).  
 P363 Wash contaminated clothing before reuse.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional information:**

To avoid risks to human health and the environment, comply with the instructions for use.

**2.3 Other hazards****Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

**3.2 Chemical characterisation: Mixtures**· **Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

|   |   |        |
|---|---|--------|
| CAS: 7647-01-0<br>EINECS: 231-595-7<br>Index number: 017-002-00-2 | hydrogen chloride<br>⚠ Acute Tox. 3, H301; ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ STOT SE 3, H335 | 40-60% |
| CAS: 7705-08-0<br>EINECS: 231-729-4                               | iron trichloride<br>⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315                     | 5-25%  |
| CAS: 15610-76-1<br>EINECS: 239-690-5                              | diammonium tetrachlorocuprate<br>⚠ Acute Tox. 4, H302   | 2-5%   |

## SECTION 4: First aid measures

**4.1 Description of first aid measures**· **General information:** Immediately remove any clothing soiled by the product.· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

**After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.**4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

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

No further relevant information available.

## SECTION 5: Firefighting measures

**5.1 Extinguishing media****Suitable extinguishing agents:**

Special powder for metal fires. Do not use water.

CO<sub>2</sub>, sand, extinguishing powder. Do not use water.· **For safety reasons unsuitable extinguishing agents:** Water**5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

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- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Prevent seepage into sewage system, workpits and cellars.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Store in cool, dry place in tightly closed receptacles.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Storage class:** 8 B
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see section 7.

- **Ingredients with limit values that require monitoring at the workplace:**

#### 7647-01-0 hydrogen chloride

WEL Short-term value: 8 mg/m<sup>3</sup>, 5 ppm  
Long-term value: 2 mg/m<sup>3</sup>, 1 ppm  
(gas and aerosol mists)

#### 7705-08-0 iron trichloride

WEL Short-term value: 2 mg/m<sup>3</sup>  
Long-term value: 1 mg/m<sup>3</sup>  
as Fe

#### 15610-76-1 diammonium tetrachlorocuprate

WEL Short-term value: 2 mg/m<sup>3</sup>  
Long-term value: 1 mg/m<sup>3</sup>  
dusts and mists, as Cu

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· **DNELs****7647-01-0 hydrogen chloride**

|            |                           |  |
|------------|---------------------------|--|
| Inhalative | DNEL (Place of work, S-L) | 15 mg/m <sup>3</sup><br>Short-term – local effects |
|            | DNEL (Place of work, L-L) | 8 mg/m <sup>3</sup><br>Long-term – local effects   |

· **Additional information:** The lists valid during the making were used as basis.· **8.2 Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

Protective gloves

· **Material of gloves** Fluorocarbon rubber (Viton)· **Penetration time of glove material**

Value for the permeation: Level  $\leq 6$  |  $\geq 480$  min | 0.4 mm

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

· **Eye protection:**

Tightly sealed goggles

## SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Appearance:**

|                |                |
|----------------|----------------|
| <b>Form:</b>   | Fluid          |
| <b>Colour:</b> | Dark           |
| <b>Odour:</b>  | Characteristic |

· **pH-value at 20 °C:** < 1· **Change in condition**

**Melting point/freezing point:** Undetermined.

**Initial boiling point and boiling range:** 85 °C

· **Flash point:** Not applicable.· **Ignition temperature:** Product is not selfigniting.· **Explosive properties:** Product does not present an explosion hazard.· **Vapour pressure at 20 °C:** 23 hPa

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|  |  |
|--|--|
| · <b>Density at 20 °C:</b>                       | 1.2 g/cm <sup>3</sup>                      |
| · <b>Solubility in / Miscibility with water:</b> | Not miscible or difficult to mix.          |
| · <b>Solvent content:</b>                        |  |
| <b>Organic solvents:</b>                         | 0.0 %                                      |
| <b>Water:</b>                                    | < 30 %                                     |
| <b>VOC (EU):</b>                                 | 0.0 g/l                                    |
| <b>Solids content:</b>                           | < 20 %                                     |
| · <b>9.2 Other information</b>                   | No further relevant information available. |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

#### · 11.1 Information on toxicological effects

- **Acute toxicity**  
Harmful if swallowed.

#### · LD/LC50 values relevant for classification:

##### 7647-01-0 hydrogen chloride

|            |           |                       |
|------------|-----------|-----------------------|
| Oral       | LD50      | 237 mg/kg (Rat)       |
| Dermal     | LD50      | >5,010 mg/kg (Rabbit) |
| Inhalative | LC50 (4h) | 45.6 mg/l (Rat)       |

##### 7705-08-0 iron trichloride

|      |      |                   |
|------|------|-------------------|
| Oral | LD50 | 1,872 mg/kg (Rat) |
|------|------|-------------------|

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause respiratory irritation.
- **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.

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## SECTION 12: Ecological information

### · 12.1 Toxicity

#### · Aquatic toxicity:

#### 7647-01-0 hydrogen chloride

|                           |                                    |
|---------------------------|------------------------------------|
| LC50/EC50/IC50 (Fishes)   | 20.5 mg/l<br>pH 3,25 - 3,50   96 h |
| LC50/EC50/IC50 (Algae)    | 0.73 mg/l<br>pH 4,7   72 h         |
| LC50/EC50/IC50 (Bacteria) | 0.23 mg/l<br>pH 5,2                |

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

#### · Additional ecological information:

##### · General notes:

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

##### · 12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

### · 13.1 Waste treatment methods

#### · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

#### · Uncleaned packaging:

· **Recommendation:** Disposal must be made according to official regulations.

## SECTION 14: Transport information

### · 14.1 UN-Number

#### · ADR, IMDG, IATA

UN3264

### · 14.2 UN proper shipping name

#### · ADR

3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID)

#### · IMDG, IATA

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID)

### · 14.3 Transport hazard class(es)

#### · ADR



#### · Class

8 (C1) Corrosive substances.

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|   |   |
|---|---|
| · Label   | 8   |
| · IMDG, IATA  |   |
|  |   |
| · Class   | 8 Corrosive substances.   |
| · Label   | 8   |
| · 14.4 Packing group  |   |
| · ADR, IMDG, IATA   | II  |
| · 14.5 Environmental hazards:   |   |
| · Marine pollutant:   | No  |
| · 14.6 Special precautions for user   | Warning: Corrosive substances.  |
| · Hazard identification number (Kemler code):                                     | 80  |
| · EMS Number:   | F-A, S-B  |
| · Segregation groups  | (SGG1) Acids  |
| · Stowage Category  | B   |
| · Stowage Code  | SW2 Clear of living quarters.   |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code         | Not applicable.   |
| · Transport/Additional information:   |   |
| · ADR   |   |
| · Limited quantities (LQ)   | 1L  |
| · Excepted quantities (EQ)  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · Transport category  | 2   |
| · Tunnel restriction code   | E   |
| · IMDG  |   |
| · Limited quantities (LQ)   | 1L  |
| · Excepted quantities (EQ)  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · UN "Model Regulation":  | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID), 8, II                                  |

## SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- National regulations:
- Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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### SECTION 16: Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Relevant phrases**

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **\* Data compared to the previous version altered.**