

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Revision date: 11/17/2022 Version: 4.0

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

1.1. Product identifier

Product form : Mixture

Trade name : Ätzmittel CT nach Adler

Product code : AetzM001

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 - 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) Universitätsmedizin Göttingen - Georg- August-Universität	Robert-Koch Straße 40 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]

Skin corrosion/irritation, Category 1, Sub-Category 1B H314
Serious eye damage/eye irritation, Category 1 H318
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

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

Adverse physicochemical, human health and environmental effects

May cause respiratory irritation. Causes severe skin burns and eye damage. Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms (CLP)



GHS05 GHS07

Signal word (CLP) : Danger

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Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.

H335 - May cause respiratory irritation.

Precautionary statements (CLP) : P280 - Wear protective gloves, eye protection.

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.

P405 - Store locked up.

P501 - Dispose of contents and container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Other information : Hazardous components for labeling:

Hydrochloric acid.

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

Component	
	The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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]
Hydrochloric acid	CAS-No.: 7647-01-0 EC-No.: 231-595-7 EC Index-No.: 017-002-00-2	15 – 30	Press. Gas Acute Tox. 3 (Inhalation), H331 Skin Corr. 1A, H314
Eisen(III)-Chlorid	CAS-No.: 7705-08-0 EC-No.: 231-729-4 REACH-no: 01-2119497998- 05	5 – 15	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317
Ammonium copper(II) chloride dihydrate	CAS-No.: 15610-76-1 EC-No.: 239-690-5	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

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

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a

doctor if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a

physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

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. Avoid contact with skin and eyes. Do not breathe

dust/fume/gas/mist/vapours/spray.

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.

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.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not

breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. 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 corrosive resistant container with a resistant inner liner.

Storage area : storage class 8 B Non-combustible corrosive substances.

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

Hydrochloric acid (7647-01-0)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Hydrogenchlorid
AGW (OEL TWA) [1]	3 mg/m³
AGW (OEL TWA) [2]	2 ppm
Peak exposure limitation factor	2(I)
Remark	DFG;EU;Y
Regulatory reference	TRGS900

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

Personal protective equipment symbol(s):





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8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

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

be 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.

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 : brown. Odour : Pungent. Odour threshold Not available Melting point Not applicable Freezing point : Not available : ≈ 100 °C Boiling point Flammability : Not applicable

Explosive properties : Product is not explosive. Oxidising properties : Not self-igniting. : Not available Explosive limits : Not available Lower explosion limit : Not available Upper explosion limit : Not available Flash point Auto-ignition temperature : Not available Decomposition temperature : Not available

pΗ

Viscosity, kinematic : Not available Solubility : Miscible with water. Partition coefficient n-octanol/water (Log Kow) : Not available Vapour pressure : Not available Vapour pressure at 50 °C : Not available Density : 1.17 g/cm³

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Relative density : Not available Relative vapour density at 20 °C : Not available Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

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

Strong bases.

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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Eigen			/770E	no n
Eiseii	(III)-Ch	oria	I / / UO-	บด-บา

LD50 oral rat	500 mg/kg
LD50 dermal rat	> 2000 mg/kg

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: < 1

Hydrochloric acid (7647-01-0)

pH	
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Serious eye damage/irritation : Causes serious eye damage.

pH: < 1

Hydrochloric acid (7647-01-0)

pH	<1

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

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Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

Additional information : May cause respiratory irritation.

STOT-repeated exposure : Not classified Aspiration hazard : Not classified

Viscosity, kinematic Not applicable

Eisen(III)-Chlorid (7705-08-0)

Viscosity, kinematic Not applicable

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Hazardous to the aquatic environment, short-term : Not classified

(acute)

Hazardous to the aquatic environment, long-term

(chronic)

Not rapidly degradable

: Not classified

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Eisen(III)-Chlorid (7705-08-0)

Partition coefficient n-octanol/water (Log Kow) -4

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. 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

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ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID n	umber			
UN 3264	UN 3264	UN 3264	UN 3264	UN 3264
14.2. UN proper shippin	g name			
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ((HYDROCHLORIC ACID))	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ((HYDROCHLORIC ACID))	Corrosive liquid, acidic, inorganic, n.o.s. ((HYDROCHLORIC ACID))	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ((HYDROCHLORIC ACID))	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ((HYDROCHLORIC ACID))
Transport document descr	iption			
UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ((HYDROCHLORIC ACID)), 8, II, (E)	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ((HYDROCHLORIC ACID)), 8, II	UN 3264 Corrosive liquid, acidic, inorganic, n.o.s. ((HYDROCHLORIC ACID)), 8, II	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ((HYDROCHLORIC ACID)), 8, II	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ((HYDROCHLORIC ACID)), 8, II
14.3. Transport hazard o	class(es)			
8	8	8	8	8
8	8	8	8	8
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information	n available			

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C1
Special provisions (ADR) : 274
Limited quantities (ADR) : 11
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T11
Portable tank and bulk container special provisions : TP2, TP27
(ADR)

Tank code (ADR) : L4BN
Tank special provisions (ADR) : TU42
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : 80

Orange plates

80 3264

Tunnel restriction code (ADR) : E

Transport by sea

Special provisions (IMDG) : 274

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Limited quantities (IMDG) : 1 L Excepted quantities (IMDG) : E2 Packing instructions (IMDG) : P001 : IBC02 IBC packing instructions (IMDG) Tank instructions (IMDG) : T11 Tank special provisions (IMDG) : TP2, TP27 EmS-No. (Fire) : F-A EmS-No. (Spillage) : S-B Stowage category (IMDG) : B Stowage and handling (IMDG) : SW2

Segregation (IMDG) : SGG1, SG36, SG49

Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA) : E2 PCA Limited quantities (IATA) : Y840 PCA limited quantity max net quantity (IATA) : 0.5L PCA packing instructions (IATA) : 851 PCA max net quantity (IATA) : 1L CAO packing instructions (IATA) : 855 CAO max net quantity (IATA) : 30L Special provisions (IATA) : A3, A803 ERG code (IATA) : 8L

Inland waterway transport

Classification code (ADN) : C1
Special provisions (ADN) : 274
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport

 Classification code (RID)
 : C1

 Special provisions (RID)
 : 274

 Limited quantities (RID)
 : 1L

 Excepted quantities (RID)
 : E2

Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T11
Portable tank and bulk container special provisions : TP2, TP27

(RID)

Tank codes for RID tanks (RID): L4BNSpecial provisions for RID tanks (RID): TU42Transport category (RID): 2Colis express (express parcels) (RID): CE6Hazard identification number (RID): 80

14.7. Maritime transport in bulk according to IMO instruments

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

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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 2, Significantly hazardous to water (Classification according to AwSV, Annex 1).

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	

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Abbreviations and acronyms:	
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
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
Met. Corr. 1	Corrosive to metals, Category 1
Press. Gas	Gases under pressure

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Full text of H- and EUH-statements:	
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

The classification complies with : ATP 12

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.