

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

1.1 Product identifier

Trade name: Elektrolyt AE 37

UFI: T410-R0R7-Y006-EN07

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

General use: Electrolytic/electrochemical metal marking for copper alloys

1.3 Details of the supplier of the safety data sheet

Company name: Schilling Marking Systems GmbH

Street/POB-No.: In Grubenäcker 1

Postal Code, city: DE-78532 Tuttlingen

WWW: www.schilling-marking.de

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Frau Bianca Schilling,

Telephone: +49 (0)7461 9472-0

Email: info@schilling-marking.de

1.4 Emergency telephone number

GIZ-Nord, Germany Telephone: +49 (0)551-19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Skin Irrit. 2; H315 Causes skin irritation.

Eye Irrit. 2; H319 Causes serious eye irritation.

2.2 Label elements

Labelling (CLP)



Signal word:

Warning

Hazard statements:

H315

Causes skin irritation.

H319

Causes serious eye irritation.

Precautionary statements:

P101

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

P102

Keep out of reach of children.

P264

Wash hands thoroughly after handling.

P280

Wear protective gloves/protective clothing/eye protection.

P305+P351+P338

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

P337+P313

If eye irritation persists: Get medical advice/attention.

Special labelling

Text for labelling:

Contains Zinc nitrate, nitric acid (<3%).

2.3 Other hazards

Electrolytic vapours may form during the electrochemical process.
A corrosive effect cannot be ruled out because of the pH value.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

No data available

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Hazardous ingredients:

Identifiers	Designation Classification	Content
EC No. 231-943-8 CAS 10196-18-6	Zinc nitrate Ox. Sol. 2; H272. Acute Tox. 4; H302. Skin Irrit. 2; H315. Eye Irrit. 2; H319. STOT SE 3; H335.	< 10 %
EC No. 200-578-6 CAS 64-17-5	Ethanol Flam. Liq. 2; H225.	< 10 %
REACH 01-2119487297-23-xxxx EC No. 231-714-2 CAS 7697-37-2	Nitric acid Ox. Liq. 2; H272. Met. Corr. 1; H290. Acute Tox. 1; H300. Skin Corr. 1A; H314. (EUH071). Specific concentration limits (SCL): Ox. Liq. 2; H272: C ≥ 99 % / Ox. Liq. 3; H272: 70 % ≤ C < 99 %	< 1 %

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

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation: Provide fresh air. In case of respiratory difficulties seek medical attention.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water. Remove contaminated clothing immediately and dispose of safely. In case of skin reactions, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After swallowing: Rinse mouth immediately and drink plenty of water.
Never give anything by mouth to an unconscious person.
If you feel unwell, seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye irritation. Causes skin irritation.

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: Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings.

5.2 Special hazards arising from the substance or mixture

In the event of a fire, the following may be produced when the water evaporates: nitrogen oxides (NO_x), metal oxide smoke, Carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Do not allow fire water to penetrate into surface or ground water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/aerosol. Avoid contact with skin and eyes. Provide adequate ventilation. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Keep unprotected people away.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent materials such as sand, siliceus earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance. Final cleaning.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Avoid contact with skin and eyes. Do not breathe vapour/aerosol. Do not mix with other chemicals. Wear appropriate protective equipment. Wash hands before breaks and after work. Take off contaminated clothing and wash it before reuse. Have eye wash bottle or eye rinse ready at work place.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed and dry. Store at room temperature.

Storage class:

12 = Non-combustible liquids

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
64-17-5	Ethanol	Germany: TRGS 900 Kurzzeit	1520 mg/m ³ ; 800 ppm
		Germany: TRGS 900 Langzeit	380 mg/m ³ ; 200 ppm
7697-37-2	Nitric acid	Europe: IOELV: STEL	2,6 mg/m ³ ; 1 ppm
		Germany: TRGS 900 Langzeit	2,6 mg/m ³ ; 1 ppm

8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area.

Personal protection equipment**Occupational exposure controls**

- Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded. Combination filter/Use filter type A-P2 according to EN 14387.
- Hand protection: Protective gloves according to EN 374.
Glove material: Nitrile rubber - Breakthrough time: >480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
- Eye protection: Tightly sealed goggles according to EN 166.
- Body protection: Wear suitable protective clothing.
- General protection and hygiene measures:
Avoid contact with skin and eyes. Do not breathe vapour/aerosol. Take off contaminated clothing and wash it before reuse. When using do not eat, drink or smoke. Wash hands before breaks and after work. Have eye wash bottle or eye rinse ready at work place.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical state at 20 °C and 101.3 kPa	liquid
Colour:	colourless
Odour:	characteristic
Odour threshold:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Flash point/flash point range:	not combustible
Decomposition temperature:	No data available
pH:	1,0 - 1,5
Viscosity, kinematic:	No data available
Water solubility:	at 20 °C: completely miscible
Partition coefficient: n-octanol/water:	No data available
Vapour pressure:	No data available
Density:	at 20 °C: approx. 1,03 g/mL
Vapour density:	No data available
Particle characteristics:	Not applicable

9.2 Other information

Explosive properties:	No data available
Oxidizing characteristics:	No data available
Auto-ignition temperature:	No data available
Evaporation rate:	No data available
Additional information:	No data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

May be corrosive to metals.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions with proper and specified storage and handling

10.4 Conditions to avoid

Do not mix with other chemicals.

10.5 Incompatible materials

strong acids and alkalis

10.6 Hazardous decomposition products

nitrogen oxides (NOx), Carbon monoxide and carbon dioxide.

Thermal decomposition: No data available

SECTION 11: Toxicological information

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

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Skin Irrit. 2; H315 = Causes skin irritation.

Serious eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

11.2 Information on other hazards

Endocrine disrupting properties: No data available

Symptoms

After eye contact: Reddening, pain.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Harmful effects on water organisms by modification of pH-value.

Water Hazard Class: 3 = highly hazardous to water

12.2 Persistence and degradability

Further details: No data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

General information:

Do not allow to enter undiluted resp. in large quantities into surface water or into drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number:

11 01 98* = Wastes from chemical surface treatment and coating of metals and other materials (eg. galvanic processes, zinc coating processes, pickling processes, etching, phosphatising, alkaline degreasing, anodising)

* = Evidence for disposal must be provided.

Recommendation:

Smaller amounts: Product can be released into the sewage system.

Package

Waste key number:

15 01 02 = Plastic packaging

Recommendation:

Dispose of waste according to applicable legislation.

Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.2 UN proper shipping name

ADR/RID, ADN, IMDG, IATA-DGR:

Not restricted

14.3 Transport hazard class(es)

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.4 Packing group

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.5 Environmental hazards

Dangerous for the environment: Substance/mixture is not environmentally hazardous according to the criteria of the UN model regulations.

Marine pollutant - IMDG:

no

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

National regulations - Germany

Storage class: 12 = Non-combustible liquids

Water Hazard Class: 3 = highly hazardous to water

Information on working limitations:

Observe employment restrictions for young people.

Further regulations, limitations and legal requirements:

No data available

National regulations - EC member states

Volatile organic compounds (VOC):

5 % by weight

Further regulations, limitations and legal requirements:

Product: Use restriction according to REACH annex XVII, no.: 3

Nitric acid: Regulation (EU) No 2019/1148 (marketing and use of explosives precursors)

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Wording of the H-phrases under paragraph 2 and 3:

H225 = Highly flammable liquid and vapour.

H272 = May intensify fire; oxidiser.

H290 = May be corrosive to metals.

H300 = Fatal if swallowed.

H302 = Harmful if swallowed.

H314 = Causes severe skin burns and eye damage.

H315 = Causes skin irritation.

H319 = Causes serious eye irritation.

H335 = May cause respiratory irritation.

EUH071 = Corrosive to the respiratory tract.

Reason of change: General revision

Date of first version: 18.3.2011

Department issuing data sheet: see section 1: Department responsible for information

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No 2020/878

Elektrolyt AE 37

Material number 22.037

Revision date: 21.12.2022

Version: 7.2

Replaces version: 7.1

Language: en-DE

Date of print: 21.12.2022

Page: 8 of 8

Abbreviations and acronyms:

- Acute Tox.: Acute toxicity
- 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
- AS/NZS: Australian Standards/New Zealand Standards
- CAS: Chemical Abstracts Service
- CFR: Code of Federal Regulations
- CLP: Classification, Labelling and Packaging
- DMEL: Derived minimal effect level
- DNEL: Derived no-effect level
- EC: European Community
- EN: European Standard
- EQ: Excepted quantities
- EU: European Union
- Eye Irrit.: Eye irritation
- Flam. Liq.: Flammable liquid
- IATA: International Air Transport Association
- IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
- IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
- IMDG Code: International Maritime Dangerous Goods Code
- MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
- Met. Corr.: Corrosive to metals
- OEL: Occupational Exposure Limit Value
- OSHA: Occupational Safety and Health Administration
- Ox. Liq.: Oxidising liquids
- Ox. Sol.: Oxidising solids
- PBT: Persistent, bioaccumulative and toxic
- PNEC: Predicted no-effect concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
- Skin Corr.: Skin corrosion
- Skin Irrit.: Skin irritation
- STOT SE: Specific target organ toxicity - single exposure
- TLV: Threshold Limit Value
- TRGS: Technical Rules for Hazardous Substances
- UN: United Nations
- vPvB: Very persistent and very bioaccumulative
- WEL: Workplace Exposure Limit

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.