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

1.1 Product identifier

Trade name: Elektrolyt AE 37

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

General use: Electrolytic/electro-chem 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: 78532 Tuttlingen
Germany
WWW: www.schilling-marking.de
E-mail: info@schilling-marking.de
Telephone: +49 (0)7461 9472-0
Telefax: +49 (0)7461 9472-28

Dept. responsible for information:
Herr Andreas 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.

Classification according to Directive 67/548/EEC or 1999/45/EC

Xi; R36/38 Irritating to eyes and skin.

2.2 Label elements

Labelling (CLP)

Signal word: **Warning**

Hazard statements:
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Safety precautions:
P102 Keep out of reach of children.
P280 Wear protective gloves/protective clothing/eye protection.
P302+P352 IF ON SKIN: Wash with plenty of water/soap.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

Labelling (67/548/EEC or 1999/45/EC)

Xi

irritant

R phrase(s):	R 36/38	Irritating to eyes and skin.
S phrase(s):	S 2	Keep out of the reach of children.
	S 24/25	Avoid contact with skin and eyes.

Special labelling

Text for labelling: Contains Zinc nitrate, nitric acid.

2.3 Other hazards

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

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EINECS 231-943-8 CAS 10196-18-6	Zinc nitrate	< 10 %	EU: O; R8. Xn; R22. Xi; R36/37/38. CLP: Ox. Sol. 2; H272. Acute Tox. 4; H302. Skin Irrit. 2; H315. Eye Irrit. 2; H319. STOT SE 3; H335.
EINECS 200-578-6 CAS 64-17-5	Ethanol	< 10 %	EU: F; R11. CLP: Flam. Liq. 2; H225.
REACH 01-2119487297-xxxx EINECS 231-714-2 CAS 7697-37-2	Nitric acid	< 3 %	EU: O; R8. C; R35. CLP: Ox. Liq. 3; H272. Met. Corr. 1; H290. Skin Corr. 1A; H314. (EUH071).

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.

In case of skin contact: After contact with skin, wash immediately with soap and plenty of water.
Remove contaminated clothing immediately and dispose of safely. Consult a doctor if skin irritation persists.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. In case of troubles or persistent symptoms, consult an opthalmologist.

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

After eye contact: Reddening. pain.

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 (NOx), Carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus and protective clothing to protect skin and eyes.

Additional information: Hazchem-Code: -

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.
Avoid contact with skin and eyes. Provide adequate ventilation.

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 chapter 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 eyes. Do not breathe vapour/aerosol.
Do not mix with other chemicals.

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	Great Britain: WEL-TWA Ireland: 15 minutes	1920 mg/m³; 1000 ppm 1000 ppm
7697-37-2	Nitric acid	Europe: IOELV: STEL Great Britain: WEL-STEL Ireland: 15 minutes	2.6 mg/m³; 1 ppm 2.6 mg/m³; 1 ppm 2.6 mg/m³; 1 ppm IOELV

8.2 Exposure controls

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

Personal protection equipment

Occupational exposure controls

Respiratory protection: If vapours form, use respiratory protection.
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:
Change contaminated clothing.
Wash hands before breaks and after work.
Have eye wash bottle or eye rinse ready at work place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Physical state: liquid
Colour: colourless

Odour: characteristic

Odour threshold: no data available

pH value: 1.0 - 1.5

Melting point/freezing point: no data available

Initial boiling point and boiling range: no data available

Flash point/flash point range: not combustible

Evaporation rate: no data available

Flammability: no data available

Explosive properties: no data available

Explosion limits: no data available
no data available

Vapour pressure: no data available

Vapour density: no data available

Density: at 20 °C: approx. 1.03 g/mL

Water solubility: at 20 °C: completely miscible

Partition coefficient: n-octanol/water: no data available

Auto-ignition temperature: no data available

Thermal decomposition: no data available

Viscosity, dynamic: no data available

Explosive properties: no data available

Oxidizing characteristics: no data available

9.2 Other information

Additional information: no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

May be corrosive to metals.

10.2 Chemical stability

Product is stable under normal 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

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

Thermal decomposition: no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: 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.

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.

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.

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 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.

Contaminated packaging

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

ADR/RID, IMDG, IATA: not applicable

14.2 UN proper shipping name

ADR/RID, IMDG, IATA: Not restricted

14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA: not applicable

14.4 Packing group

ADR/RID, IMDG, IATA: not applicable

14.5 Environmental hazards

Marine pollutant: No

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

SECTION 15: Regulatory information

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

National regulations - Great Britain

Hazchem-Code: -

National regulations - EC member states

Volatile organic compounds (VOC):
5 % by weight

Labelling of packaging with <= 125mL content

Signal word: **Warning**

Hazard statements: not applicable

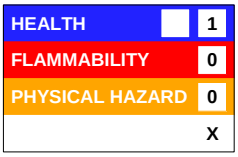
Safety precautions: P102 Keep out of reach of children.

National regulations - USA

Hazard rating systems:

NFPA Hazard Rating:
Health: 1 (Slight)
Fire: 0 (Minimal)
Reactivity: 0 (Minimal)

HMIS Version III Rating:
Health: 1 (Slight)
Flammability: 0 (Minimal)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor



JT Baker Storage Color Code: Green (General Storage)

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Further 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.
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.

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

R 8 = Contact with combustible material may cause fire.
R 11 = Highly flammable.
R 22 = Harmful if swallowed.
R 35 = Causes severe burns.
R 36/37/38 = Irritating to eyes, respiratory system and skin.
R 36/38 = Irritating to eyes and skin.

Reason of change: Changes in section 2: classification, labelling
General revision

Date of first version: 18.03.2011

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

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.