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

1.1 Product identifier

Trade name: Electrolyte AE 25

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

General use: Electrolytic/electro-chem metal marking for Bronze, Copper, Brass and Tin
For commercial user only

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)

Eye Irrit. 2; H319 Causes serious eye irritation.

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

Xi; R36 Irritating to eyes.

2.2 Label elements

Labelling (CLP)

Signal word: **Warning**

Hazard statements:
H319 Causes serious eye irritation.

Safety precautions:
P264 Wash hands and face thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face 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.

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

Xi

irritant

R phrase(s):	R 36	Irritating to eyes.
S phrase(s):	S 23	Do not breathe vapour/aerosol.
	S 24/25	Avoid contact with skin and eyes.
	S 26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S 37/39	Wear suitable gloves and eye/face protection.
	S 45	In case of accident or if you feel unwell, seek medical advice immediately.

2.3 Other hazards

Electrolytic vapours may form during the electrochemical process.
In case of longer contact, danger of serious eye damage.
Existing disorders like skin and respiratory organ diseases may worsen by exposure to electrolyte vapours.

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterization: mixture of water/mineral salt and complexing agent

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EINECS 233-332-1 CAS 13477-34-4	Calcium nitrate-4-hydrate	10 - 25 %	EU: O, Xi; R 8, 36 CLP: Ox. Sol. 3; H272. Eye Irrit. 2; H319.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation: Move victim to fresh air. Seek medical attention if irritation persists.
In case of irregular breathing or respiratory arrest provide artificial respiration.

In case of skin contact: Take off immediately all contaminated clothing.
After contact with skin, wash immediately with soap and plenty of water.
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. Subsequently consult an ophthalmologist.

After swallowing: Rinse mouth immediately and drink plenty of water.
Never give anything by mouth to an unconscious person.
Do NOT induce vomiting. Immediately get medical attention.
In case of vomiting, lay at least head on side.

4.2 Most important symptoms and effects, both acute and delayed

In case of ingestion: Diarrhoea, vomiting, spasms, acidosis.
After eye contact: Reddening, pain.

4.3 Indication of any immediate medical attention and special treatment needed

Supervision and correction of circulation, balance of acid-base and electrolyte level.

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: corrosive gases/vapours, nitrogen oxides (NOx), carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Additional information: Hazchem-Code: -

Avoid overheating. Danger of bursting container.
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

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.

In case of spills of large quantities: Neutralize with soda or with slaked lime, and send to waste removal.

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 skin, eyes, and clothing. Wear suitable protective clothing.
Do not mix with other chemicals.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed. Store at room temperature.
Do not freeze. Avoid overheating. Danger of bursting container.

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

Additional information: Contains no substances with occupational exposure limit values.

8.2 Exposure controls

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

Personal protection equipment

Occupational exposure controls

Respiratory protection: Not necessary, if the room is well-ventilated.
If vapours form, use respiratory protection.
Combination filter/Use filter type B-P2 according to EN 14387.

Hand protection: Protective gloves according to EN 374.
Glove material: Nitrile rubber-Layer thickness: 0,11 mm.
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: protective apron

General protection and hygiene measures:
Avoid contact with skin and eyes. Change contaminated clothing.
Do not wear contact lenses. 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 up to weak yellowish, clear
Odour:	weak
Odour threshold:	no data available
pH value:	at 20 °C: 5.0 - 5.5
Melting point/freezing point:	approx. 0 °C
Initial boiling point and boiling range:	approx. 100 °C
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: 1.16 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

see 10.3

10.2 Chemical stability

Product is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known.

10.4 Conditions to avoid

Do not mix with other chemicals. Protect from excessive heat.

10.5 Incompatible materials

strong oxidizing agents, reducing agent, strong acids and alkalis, combustible substances

10.6 Hazardous decomposition products

In the event of a fire, the following may be produced when the water evaporates: corrosive gases/vapours, 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): Based on available data, the classification criteria are not met. Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met. Inhaling can lead to irritations of the respiratory tract and mucous membrane.

Skin corrosion/irritation: Based on available data, the classification criteria are not met. May cause irritations.

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: Inconclusive 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

In case of ingestion: Diarrhoea, vomiting, spasms, acidosis.
After eye contact: Reddening, pain.

General remarks

Information about Calcium nitrate:
After absorption of large quantities: Methaemoglobinaemia.
Other symptoms: Dizziness, headache, weakness.
Existing disorders like skin and respiratory organ diseases may worsen by exposure to electrolyte vapours.

SECTION 12: Ecological information

12.1 Toxicity

Further details: no data available

12.2. Persistence and degradability

Further details: No indication of bioaccumulation potential.

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 into ground-water, surface water or 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: Special waste. Dispose of waste according to applicable legislation.

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

Labelling of packaging with <= 125mL content

Signal word: **Warning**

Hazard statements: not applicable

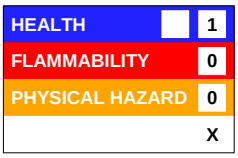
Safety precautions: not applicable

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

To be used exclusively in accordance with the intended purpose. Do not use in houshold.

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

H272 = May intensify fire; oxidiser.
H319 = Causes serious eye irritation.

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

R 8 = Contact with combustible material may cause fire.
R 36 = Irritating to eyes.

Reason of change: General revision
Date of first version: 11.06.2008

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.