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

1.1 Product identifier

Trade name: Electrolyte AE 11

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

General use: Electrolytic marking technology

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 9472-17
Telefax: +49 (0)7461 9472-29

Dept. responsible for information:
Herr Andreas Schilling,
Telephone: +49 (0)7461 9472-15, Email: info@schilling-marking.de

1.4 Emergency telephone number

Beratungsstelle für Vergiftungserscheinungen, Berlin,
Telephone: +49 (0)30 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Xi; R36 Irritating to eyes.

2.2 Label elements

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

Xi

irritant

R phrase(s):	R 36	Irritating to eyes.
S phrase(s):	S 2	Keep out of the reach of children.
	S 25	Avoid contact with eyes.
	S 37/39	Wear suitable gloves and eye/face protection.

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

Chemical characterization (preparation):

Aqueous solution of anorganic salts and organic compounds.

Hazardous ingredients:

Ingredient	Chemical name	Content	Classification
REACH 01-2119457026-42-xxxx EINECS 201-069-1 CAS 5949-29-1	Citric acid monohydrate	5-15 %	EU: Xi; R36. CLP: Eye Irrit. 2; H319.
EINECS 231-554-3 CAS 7631-99-4	Sodium nitrate	< 10 %	EU: O, Xn; R 8, 22 CLP: Ox. Sol. 3; H272. Acute Tox. 4; H302.
REACH 01-2119471330-49-xxxx EINECS 200-662-2 CAS 67-64-1	Acetone	< 5 %	EU: F; R11. Xi; R36. R66. R67. CLP: Flam. Liq. 2; H225. Eye Irrit. 2; H319. STOT SE 3; H336. (EUH066).
EINECS 204-812-8 CAS 126-92-1	Sodium etasulfate	< 2 %	EU: Xi; R41. Xi; R38. CLP: Skin Irrit. 2; H315. Eye Dam. 1; H318.

SECTION 4: First aid measures

4.1 Description of first aid measures

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

In case of skin contact: Change contaminated clothing. Remove residues with 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. 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), sulphur oxides, sodium compounds, carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:

In case of surrounding fires: Wear self-contained breathing apparatus.

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

Avoid contact with 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

not applicable

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.

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)

Electrolytic marking technology

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS No.	Chemical name	Type	Limit value
67-64-1	Acetone	Great Britain: WEL-TWA	1210 mg/m³; 500 ppm
		Great Britain: WEL-STEL	3620 mg/m³; 1500 ppm
		Europe: IOELV: TWA	1210 mg/m³; 500 ppm

8.2 Exposure controls

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

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded.
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

Physical state:	liquid
Colour	colourless, clear
Odour:	characteristic
Density:	at 20 °C: approx. 1,12 g/mL
pH value:	1,5
Water solubility:	at 20 °C: fully miscible

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Product is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

No data available

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), sulphur oxides, sodium compounds, carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

After inhalation: May cause irritations.

In case of skin contact: May cause irritations.

After eye contact: Causes serious eye irritation.
In case of longer contact, danger of serious eye damage.

Symptoms

After eye contact: Reddening, pain.

General remarks

A corrosive effect cannot be ruled out because of the pH value.

The following applies to Sodium nitrate in general:
After ingestion: Mucous membrane irritation, nausea, diarrhoea, vomiting.
After absorption of large quantities: Methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea, and spasms. Key symptom cyanosis (blue coloured blood).

SECTION 12: Ecological information

12.1 Toxicity

Water Hazard Class: 1 = slightly hazardous to water

12.2. Persistence and degradability

Further details: No data available

12.3 Bioaccumulative potential

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.

The following applies to nitrates in general:
May contribute to the eutrophication of water supplies. Danger to drinking water.

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: Special waste. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

14.1 UN number

not applicable

14.2 UN proper shipping name

ADR/RID, IMDG, IATA: Not restricted

14.3 Transport hazard class(es)

not applicable

14.4 Packing group

not applicable

14.5 Environmental hazards

Marine pollutant - IMDG: 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 - Germany

Storage class: 12= Non-combustible liquids

Water Hazard Class: 1 = slightly hazardous to water

Informations on working limitations:

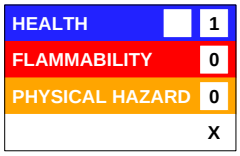
Observe employment restrictions concerning young persons.

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



15.2 Chemical Safety Assessment

No data available

SECTION 16: Other information

Further remarks

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 36 = Irritating to eyes.
R 38 = Irritating to skin.
R 41 = Risk of serious damage to eyes.
R 66 = Repeated exposure may cause skin dryness or cracking.
R 67 = Vapours may cause drowsiness and dizziness.

Reason of change: Changes in section 3: Change of compositon
General revision.

Group that issues data sheet

Contact person: see chapter 1, department responsible for information.

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.