

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

1.1 Product identifier

Trade name: Electrolyte AE 34

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

General use: Electrolytic/electro-chem metal marking for stainless steels
For industrial purposes 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)

Skin Irrit. 2; H315 Causes skin irritation.
Eye Irrit. 2; H319 Causes serious eye irritation.
STOT SE 3; H335 May cause respiratory irritation.

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

Xi; R36/37/38 Irritating to eyes, respiratory system and skin.

2.2 Label elements

Labelling (CLP)



Signal word:

Warning

Hazard statements: H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

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Safety precautions:	P261 P280	Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection.
	P302+P352 P304+P340 P305+P351+P338	IF ON SKIN: Wash with plenty of water/soap. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P312	Call a POISON CENTER/doctor if you feel unwell.

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



Xi

irritant

R phrase(s):	R 36/37/38	Irritating to eyes, respiratory system and skin.
S phrase(s):	S 23 S 24/25 S 26	Do not breathe vapour/aerosol. Avoid contact with skin and eyes. 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 (show the label where possible).

Special labelling

Text for labelling: Contains Sodium nitrate, Sodium hydroxide, Sodium nitrite.

2.3 Other hazards

Electrolytic vapours may form during the electrochemical process.
According to the pH value of 4,0 the product is not to be classified as corrosive.

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
REACH 01-2119457026-42-xxxx EINECS 201-069-1 CAS 5949-29-1	Citric acid monohydrate	10 - 20 %	EU: Xi; R36. CLP: Eye Irrit. 2; H319.
EINECS 231-554-3 CAS 7631-99-4	Sodium nitrate	5 - 10 %	EU: O, Xn; R 8, 22 CLP: Ox. Sol. 3; H272. Acute Tox. 4; H302.
REACH 01-2119457892-27-xxxx EINECS 215-185-5 CAS 1310-73-2	Sodium hydroxide	< 5 %	EU: C; R35. CLP: Met. Corr. 1; H290. Skin Corr. 1A; H314.
REACH 01-2119457610-43-xxxx EINECS 200-578-6 CAS 64-17-5	Ethanol	< 5 %	EU: F; R11. CLP: Flam. Liq. 2; H225.
EINECS 231-555-9 CAS 7632-00-0	Sodium nitrite	< 0,5 %	EU: O; R8. T; R25. N; R50. CLP: Ox. Sol. 3; H272. Acute Tox. 3; H301. Aquatic Acute 1; H400.

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SECTION 4: First aid measures**4.1 Description of first aid measures**

- In case of inhalation: Move victim to fresh air. In case of respiratory difficulties seek medical attention. Where appropriate artificial ventilation. 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 irritation, 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 thoroughly with water. Give affected person large quantities of water, better milk. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. In case of vomiting, lay at least head on side. Immediately get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Redness, pain
Following intake of large amounts: stomachache, cough, vomiting with blood.

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: Sodium compounds, nitrogen oxides (NO_x), 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:

Hazchem-Code: -

Heating causes rise in pressure with risk of bursting.

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 the substance. Provide adequate ventilation.
Avoid breathing vapours. Wear protective equipment.

6.2 Environmental precautions

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

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6.3 Methods and material for containment and cleaning up

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

Wash spill area with plenty of water.

Large amounts: 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. Do not breathe vapours.
Avoid contact with skin, eyes, and clothing. Wear protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed. Store at room temperature.

Avoid overheating. Do not freeze. 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**

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
1310-73-2	Sodium hydroxide	Great Britain: WEL-STEL Ireland: 15 minutes	2 mg/m ³ 2 mg/m ³
64-17-5	Ethanol	Great Britain: WEL-TWA Ireland: 15 minutes	1920 mg/m ³ ; 1000 ppm 1000 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: If vapours form, use respiratory protection. Respiratory protection must be worn whenever the WEL levels have been exceeded.
Use filter type A-P3 according to EN 14387.

Hand protection: Protective gloves according to EN 374.
Glove material: Butyl caoutchouc (butyl 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. e.g. protective apron.

General protection and hygiene measures:

Take off immediately all contaminated clothing.

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.

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

Appearance:	Physical state: liquid Colour: colourless, clear
Odour:	weak
Odour threshold:	no data available
pH value:	at 20 °C: approx. 4
Melting point/freezing point:	approx. -7 - 0 °C
Initial boiling point and boiling range:	no data available
Flash point/flash point range:	no data available
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: 1.2 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

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

Protect from excessive heat.

10.5 Incompatible materials

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

10.6 Hazardous decomposition productsIn the event of a fire, the following may be produced when the water evaporates: Sodium compounds, nitrogen oxides (NO_x), 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.
- Vapours: irritant
- 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): STOT SE 3; H335 = May cause respiratory irritation.
- Specific target organ toxicity (repeated exposure): Lack of data.
- Aspiration hazard: Lack of data.

Symptoms

Redness, pain
In case of ingestion:
Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

General remarks

Information about Sodium nitrate:
LD50 Rat, oral: 1267 mg/kg. Harmful if swallowed.
After absorption of large quantities: Methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea, and spasms. Key symptom cyanosis (blue coloured blood).

Information about Sodium nitrite:
LD50, Rat oral: 85 mg/kg; LDLo human: 4 - 6 g. Toxic if swallowed.
After resorption of toxic quantities: Nausea, vomiting, blood pressure drop, respiratory complaints, collapse, unconsciousness, narcosis, cyanosis (blue coloured blood), methaemoglobinaemia.

SECTION 12: Ecological information

12.1 Toxicity

Further details: no data available

12.2. Persistence and degradability

Further details:

- Information about Citric acid:
Biodegradation: > 98 %/2 d (OECD 302 B), readily degradable
- Information about ethanol: easily bio-degradable

12.3 Bioaccumulative potential

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

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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: Contains nitrates: May contribute to the eutrophication of water supplies.
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.
Discharge into the environment must be avoided.

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

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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:

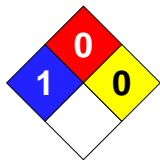
not applicable

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

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
	X

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.

H301 = Toxic 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.

H400 = Very toxic to aquatic life.

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 25 = Toxic if swallowed.

R 35 = Causes severe burns.

R 36 = Irritating to eyes.

R 36/37/38 = Irritating to eyes, respiratory system and skin.

R 50 = Very toxic to aquatic organisms.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No 453/2010

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Reason of change: Changes in section 2: classification, labelling
Changes in section 3: Composition / information on ingredients
General revision

Date of first version: 22.07.2008

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.