

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

### 1.1 Product identifier

Trade name: Electrolyte AE 34

UFI: 9110-801U-N00Q-S9E5

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

General use: Electrolytic/electrochemical metal marking for stainless steels.

### 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

E-mail: info@schilling-marking.de

Telephone: +49 (0)7461 9472-0

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Department responsible for information:

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.

### 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.  
Special danger of slipping by leaking/spilling product.

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

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

Hazardous ingredients:

Identifiers	Designation Classification	Content
EC No. 201-069-1 CAS 5949-29-1	Citric acid monohydrate Eye Irrit. 2; H319. STOT SE 3; H335.	10 - 20 %
EC No. 231-554-3 CAS 7631-99-4	Sodium nitrate Ox. Sol. 3; H272. Acute Tox. 4; H302.	5 - 10 %
EC No. 215-185-5 CAS 1310-73-2	Sodium hydroxide Met. Corr. 1; H290. Skin Corr. 1A; H314. Specific concentration limits (SCL): Skin Corr. 1A; H314: $C \geq 5\%$ / Skin Corr. 1B; H314: $2\% \leq C < 5\%$ / Skin Irrit. 2; H315: $0,5\% \leq C < 2\%$ / Eye Irrit. 2; H319: $0,5\% \leq C < 2\%$	< 5 %
REACH 01-2119457610-43-xxxx EC No. 200-578-6 CAS 64-17-5	Ethanol Flam. Liq. 2; H225. Eye Irrit. 2; H319. Specific concentration limits (SCL): Eye Irrit. 2 ; H319: $C \geq 50\%$	< 5 %
EC No. 231-555-9 CAS 7632-00-0	Sodium nitrite Ox. Sol. 3; H272. Acute Tox. 3; H301. Aquatic Acute 1; H400.	< 0,5 %

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General information:	First aider: Pay attention to self-protection! If medical advice is needed, have product container or label at hand. Take off contaminated clothing and wash it before reuse.
In case of inhalation:	Move victim to fresh air. In case of respiratory difficulties seek medical attention.
Following skin contact:	Immediately clean with water and soap followed by thorough rinsing. 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. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.
After swallowing:	Rinse mouth and drink large quantities of water. 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**

Causes skin irritation.  
Causes serious eye 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.

Extinguishing media which must not be used for safety reasons:

Full water jet

**5.2 Special hazards arising from the substance or mixture**

May form dangerous gases and vapours in case of fire.  
In the event of a fire, the following may be produced when the water evaporates: Sodium compounds, nitrogen oxides (NOx), 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:

Use fine water spray to cool endangered containers.  
Do not allow water used to extinguish fire to enter drains, ground or waterways.  
Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Do not breathe mist/vapours/spray. Avoid contact with the substance.  
If possible, eliminate leakage. Provide adequate ventilation.  
Wear appropriate protective equipment.  
Keep unprotected people away. Take off contaminated clothing and wash it before reuse.

**6.2 Environmental precautions**

Do not allow to enter into ground-water, surface water or drains.  
If necessary notify appropriate authorities.

**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.  
Never return spills in original containers for re-use.

Additional information:

Special danger of slipping by leaking/spilling product.

**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. Do not breathe mist/vapours/spray. Avoid contact with skin, eyes, and clothing. Wear appropriate protective equipment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.

### 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. Protect from frost. Danger of bursting container.

Hints on joint storage:

Keep away from food, drink and animal feedingstuffs. Do not store together with: strong oxidizing agents, acids, alkalis, reducing agents. Do not store close by inflammable substances.

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 <sup>3</sup> ; 800 ppm
		Germany: TRGS 900 Langzeit	380 mg/m <sup>3</sup> ; 200 ppm

### 8.2 Exposure controls

Provide for good ventilation or exhaust system or work with completely self-contained equipment.

### Personal protection equipment

#### Occupational exposure controls

Respiratory protection: In case of inadequate ventilation wear respiratory protection. Respiratory protection must be worn whenever the WEL levels have been exceeded. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product.

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.

General protection and hygiene measures:

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Work place should be equipped with a shower and an eye rinsing apparatus.

### Environmental exposure controls

Do not allow to enter into ground-water, surface water or drains.

## 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, clear
Odour:	weak
Odour threshold:	No data available
Melting point/freezing point:	approx. -7 - 0 °C
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:	No data available
Decomposition temperature:	No data available
pH:	at 20 °C: approx. 4
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: 1,2 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

Protect against heat, sun rays and frost.

### 10.5 Incompatible materials

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

### 10.6 Hazardous decomposition products

No decomposition when used properly.

Thermal decomposition:	No data available
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## 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): Based on available data, the classification criteria are not met.  
ATEmix (calculated): > 5000 mg/kg

Acute toxicity (dermal): Based on available data, the classification criteria are not met.  
ATEmix (calculated): 2000 mg/kg < ATE <= 5000 mg/kg

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.  
ATEmix (calculated): ATE > 20 mg/L.

Vapours: irritant

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

Other information: Information about Sodium nitrate (CAS No. 7631-99-4):  
LD50 oral Rat: > 2.000 mg/kg/bw  
LD50 dermal Rat: > 5.000 mg/kg/bw  
LC50 inhalative Dog: 1,0-5,0 mg/L/4h

Information about Sodium nitrite (CAS No. 7632-00-0):  
LD50 oral Rat: > 180 mg/kg/bw  
LC50 inhalative Rat: 5,5 mg/L/4h

### Symptoms

Redness, pain  
In case of ingestion:  
Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.  
After intake of large amounts: stomachache, cough, vomiting with blood.  
After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

## SECTION 12: Ecological information

### 12.1 Toxicity

Water Hazard Class: 2 = obviously hazardous to water

### 12.2 Persistence and degradability

Further details: Information about Citric acid:  
Biodegradability > 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

### 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:

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.

#### 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: 2 = obviously hazardous to water

Technical guidance air: 5.2.5

Information on working limitations:

Observe employment restrictions for young people.

Further regulations, limitations and legal requirements:

No data available

##### National regulations - EC member states

Further regulations, limitations and legal requirements:

Product: Use restriction according to REACH annex XVII, no.: 3, 75

Sodium nitrate: 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.

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.

Reason of change: General revision

Date of first version: 22.7.2008

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

## Electrolyte AE 34

Material number 22.034

Revision date: 21.12.2022

Version: 12.2

Replaces version: 12.1

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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
- Aquatic Acute: Hazardous to the aquatic environment - acute
- 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
- LC50: Median lethal concentration
- LD50: Lethal dose 50%
- 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. 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
- 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.