

Electrolyte AE 33

Material number 22.033

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**SECTION 1: Identification of the substance/mixture
and of the company/undertaking****1.1 Product identifier**

Trade name: Electrolyte AE 33

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

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

Sens.; R43 May cause sensitization by skin contact.

2.2 Label elements**Labelling (67/548/EEC or 1999/45/EC)**

Xi

irritant

R phrase(s):	R 36/37/38	Irritating to eyes, respiratory system and skin.
	R 43	May cause sensitization by skin contact.
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 (show the label where possible).
Text for labelling	Contains Mixture of 5-chlorine-2-methyl-2H-isothiazol-3-on and 2-methylen-2H-isothiazol-3-on (3:1): May produce an allergic reaction.	

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2.3 Other hazards

Electrolytic vapours may form during the electrochemical process.
 According to the pH value of ca. 7 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 (preparation):

mixture of water/mineral salt and complexing agent

Hazardous ingredients:

Ingredient	Chemical name	Content	Classification
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 01-2119457026-42-xxxx EINECS 201-069-1 CAS 5949-29-1	Citric acid monohydrate	< 5 %	EU: Xi; R36. CLP: Eye Irrit. 2; H319.
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.
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.
EINECS - CAS 55965-84-9	Mixture of 5-Chloro-2-methyl-2H-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one (3:1) [EC-No. 247-500-7 + 220-239-6]	< 0,002 %	EU: C; R34. Sens.; R43. N; R50-53. T; R23/24/25. CLP: Acute Tox. 3; H301. Acute Tox. 3; H311. Acute Tox. 3; H331. Skin Corr. 1B; H314. Skin Sens. 1; H317. Aquatic Acute 1; H400. Aquatic Chronic 1; H410.

Additional information: Contains Glycerol: The maximum workplace exposure limits are expressed in Section 8, as may be required.

SECTION 4: First aid measures

4.1 Description of first aid measures

After 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.

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- 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

After contact with skin: Redness, allergic reactions.

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 mixtureIn 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:

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

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.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning upSoak 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.**6.4 Reference to other sections**

Refer additionally to chapter 8 and 13.

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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 suitable protective clothing.

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)

Electrolytic marking technology

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

CAS No.	Chemical name	Type	Limit value
56-81-5	Glycerol	Great Britain: WEL-TWA	10 mg/m ³
1310-73-2	Sodium hydroxide	Great Britain: WEL-STEL	2 mg/m ³
64-17-5	Ethanol	Great Britain: WEL-TWA	1920 mg/m ³ ; 1000 ppm

8.2 Exposure controls

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

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.

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

Physical state: liquid
Colour: colourless, clear
Odour: weak
Melting point / melting range: approx. -7 - 0 °C
Density: at 20 °C: 1,2 g/mL

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pH value: at 20 °C: approx. 6,0-7,5
Water solubility: at 20 °C: fully miscible

9.2 Other 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 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.**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.
Following intake of large amounts: stomachache, cough, vomiting with blood.
Acute toxicity (dermal): Lack of data.
Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
Vapours: irritant
Skin corrosion/irritation: Skin Irrit. 2; H315.
Eye damage / irritation: Eye Irrit. 2; H319.
Sensitisation to the respiratory tract: Lack of data.
Skin sensitisation: Skin Sens. 1; H317.
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.
Specific target organ toxicity (repeated exposure): Lack of data.
Aspiration hazard: Inconclusive data.

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Symptoms

After contact with skin: Redness, allergic reactions.
After eye contact: Reddening, pain

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

Aquatic toxicity:

Information about Mixture of 5-chlorine-2-methyl-2H-isothiazol-3-on and 2-methylen-2H-isothiazol-3-on (3:1) (Biocide):

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Algae toxicity:

EC50 Pseudokirchneriella subcapitata: 0,018 mg/L/72h.

EC50 Selenastrum capricornutum: 0,025 mg/L/96h.

Bacterial toxicity:

EC50 Pseudomonas putida: 5,7 mg/L/16h.

Daphnia toxicity:

EC50 Daphnia magna: 0,12 mg/L/48 h.

Fish toxicity:

LC50 trout: 0,19 - 0,28 mg/L/96 h.

Water Hazard Class:

1 = slightly hazardous to water

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

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:

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

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.

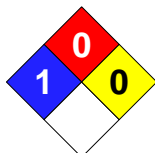
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National regulations - USA

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

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 23/24/25 = Toxic by inhalation, in contact with skin and if swallowed.

R 25 = Toxic if swallowed.

R 34 = Causes burns.

R 35 = Causes severe burns.

R 36 = Irritating to eyes.

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

R 43 = May cause sensitization by skin contact.

R 50 = Very toxic to aquatic organisms.

R 50/53 = Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Reason of change: 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.