

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

1.1 Product identifier

Trade name: Electrolyte AE 5

UFI: KF00-Q072-H007-4WAQ

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

General use: Electrolytic/electrochemical metal marking for chrome-plated parts

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

Telefax: +49 (0)7461 9472-28

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)

Eye Irrit. 2; H319 Causes serious eye irritation.

2.2 Label elements

Labelling (CLP)



Signal word:

Warning

Hazard statements:

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 and face 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.

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

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. 201-196-2 CAS 79-33-4	Lactic acid Skin Irrit. 2; H315. Eye Dam. 1; H318.	< 3 %
EC No. 201-069-1 CAS 5949-29-1	Citric acid monohydrate Eye Irrit. 2; H319. STOT SE 3; H335.	< 3 %
EC No. 231-554-3 CAS 7631-99-4	Sodium nitrate Ox. Sol. 3; H272. Acute Tox. 4; H302.	< 2 %

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.
In case of inhalation:	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if problems persist.
Following skin contact:	Immediately clean with water and soap followed by thorough rinsing. Take off contaminated clothing and wash it before reuse. 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. Remove contact lenses, if present and easy to do. Continue rinsing. 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 call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

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

In the event of a fire, the following may be produced when the water evaporates: Nitrogen oxides (NO_x), sodium compounds, 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. Final cleaning: Dilute with plenty of water.

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. Do not get in eyes, on skin, or on 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.

Precautions against fire and explosion:

Product is non-combustible.

Take standard precautions to prevent fire.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed and in a well-ventilated place.

Keep container dry. Keep only in the original container.

Protect from heat and direct sunlight.

Store containers in upright position. Store at room temperature.

Hints on joint storage:

Do not store together with: strong acids, alkalis. Keep away from food, drink and animal feedingstuffs.

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 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.
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.
Recommendation 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:
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

Refer to "6.2 Environmental precautions".

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 up to weak milky
Odour:	characteristic
Odour threshold:	No data available
Melting point/freezing point:	No data available
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:	not combustible
Decomposition temperature:	No data available
pH:	approx. 1,5 - 2,0
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: 1,1 - 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

Refer to subsection "Possibility of hazardous reactions".

10.2 Chemical stability

Stable under recommended storage conditions. Product is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known.

10.4 Conditions to avoid

Protect against heat, sun rays and frost. 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 (NO_x), sodium compounds, carbon monoxide and carbon dioxide.

Thermal decomposition: No data available

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): > 2000 mg/kg

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

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

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): Inconclusive 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: > 2000 mg/kg/bw
LD50, dermal, Rat: > 50000 mg/kg/bw
NOEC, inhalative, Dog: >5 mg/m³/4h

Symptoms

In case of inhalation: Electrolytic vapours may form during the electrochemical process.
May be harmful if inhaled.

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 contact with skin: A corrosive effect cannot be ruled out because of the pH value.
After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

General remarks

The following applies to Sodium nitrate in general:
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

Aquatic toxicity: Harmful effects by modification of pH-value.

Water Hazard Class: 1 = slightly hazardous to water

12.2 Persistence and degradability

Further details: No data available

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:

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 99 = 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): wastes not otherwise specified

Recommendation:

Special waste. Dispose of waste according to applicable legislation.

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: 1 = slightly 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:

H272 = May intensify fire; oxidiser.

H302 = Harmful if swallowed.

H315 = Causes skin irritation.

H318 = Causes serious eye damage.

H319 = Causes serious eye irritation.

H335 = May cause respiratory irritation.

Reason of change: General revision

Date of first version: 24.6.2008

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 5

Material number 22.005

Revision date: 21.12.2022

Version: 8.2

Replaces version: 8.1

Language: en-DE

Date of print: 21.12.2022

Page: 9 of 9

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
- 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 Dam.: Eye damage
- Eye Irrit.: Eye irritation
- 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
- LD50: Lethal dose 50%
- MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
- NOEC: No Observed Effect Concentration
- 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 Irrit.: Skin irritation
- STOT SE: Specific target organ toxicity - single exposure
- TRGS: Technical Rules for Hazardous Substances
- vPvB: Very persistent and very bioaccumulative

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.