

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)
and Regulation (EU) No 2015/830

Revision date: 19/4/2016
Version: 8
Language: en-GB,IE
Date of print: 4/4/2017

Elektrolyte E 400

Material number 300.040

Page: 1 of 7

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

1.1 Product identifier

Trade name: Elektrolyte E 400

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

General use: Electrolytic/electrochemical metal inscription

1.3 Details of the supplier of the safety data sheet

Company name: Carl Tillmanns Söhne KG
PICOelektra Metallbeschriftung

Street/POB-No.: Wuppertaler Straße 56

Postal Code, city: 42653 Solingen
Germany

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Dept. responsible for information:

Peter Mattiske,

Telephone: +49 (0)212-50859, Email: info@picoelektra.de

1.4 Emergency telephone number

Peter Mattiske, Telephone: +49 (0)212-50859

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

This mixture is classified as not hazardous.

2.2 Label elements

Labelling (CLP)

Hazard statements: not applicable

Precautionary statements: not applicable

Special labelling

EUH210 Safety data sheet available on request.

2.3 Other hazards

Electrolytic vapours may form during signature processes under direct current voltage.
May be harmful if inhaled.

Results of PBT and vPvB assessment:

No data available

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Elektrolyte E 400

Material number 300.040

Page: 2 of 7

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: Aqueous solution of anorganic salts and organic compounds.

Hazardous ingredients:

| Ingredient | Designation | Content | Classification |
|------------------------------------|-------------------|---------|---|
| EC No. 229-347-8 CAS 6484-52-2 | Ammonium nitrate | 1 - 5 % | Ox. Sol. 3; H272. Eye Irrit. 2; H319. |
| EC No. 235-186-4 CAS 12125-02-9 | Ammonium chloride | 1 - 5 % | Acute Tox. 4; H302. Eye Irrit. 2; H319. |

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

SECTION 4: First aid measures

4.1 Description of first aid measures

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

Following skin contact: Change contaminated clothing.
After contact with skin, wash immediately with plenty of 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. In case of troubles or persistent symptoms, consult an ophthalmologist.

After swallowing: Rinse mouth immediately and drink plenty of water.
If you feel unwell, seek medical advice.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

The product can cause irritation of the eyes.

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

Fires in the immediate vicinity may cause the development of dangerous vapours.
In case of fire may be liberated: Chlorine decomposition products, nitrogen oxides (NO_x).

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus.

Additional information: Hazchem-Code: -

Do not allow fire water to penetrate into surface or ground water.

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Elektrolyte E 400

Material number 300.040

Page: 3 of 7

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the substance. Provide adequate ventilation. Do not breathe vapour/aerosol. Wear suitable protective clothing. Keep unprotected people away.

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, siliceous earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance. Final cleaning. Do not allow to dry.

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.

Avoid contact with the substance. Do not breathe vapour/aerosol.

Wear appropriate protective equipment. Do not mix with other chemicals.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed.

Hints on joint storage:

Do not store together with strong acids or alkalis.

Keep away from food and drinks.

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 |
|------------|-------------------|-------------------------|----------------------------|
| 12125-02-9 | Ammonium chloride | Great Britain: WEL-STEL | 20 mg/m ³ Smoke |
| | | Great Britain: WEL-TWA | 10 mg/m ³ Smoke |
| | | Ireland: 15 minutes | 20 mg/m ³ |
| | | Ireland: 8 hours | 10 mg/m ³ |

8.2 Exposure controls

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

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Elektrolyte E 400

Material number 300.040

Page: 4 of 7

Personal protection equipment

Occupational exposure controls

- Respiratory protection: If vapours form, use 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.
- Hand protection: Protective gloves according to EN 374.
Glove material: Butyl caoutchouc (butyl rubber)
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.
Do not breathe vapour/aerosol. Avoid contact with skin and eyes.
When using do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Form: liquid
Colour: colourless
- Odour: characteristic
- Odour threshold: No data available
- pH value: 5.5 - 6.5
- Melting point/freezing point: No data available
- Initial boiling point and boiling range: No data available
- Flash point/flash point range: not combustible
- Evaporation rate: No data available
- Flammability: No data available
- Explosion limits: No data available
- Vapour pressure: No data available
- Vapour density: No data available
- Density: at 20 °C: 1.03 g/mL
- Water solubility: at 20 °C: completely miscible
- Partition coefficient: n-octanol/water: No data available
- Auto-ignition temperature: No data available
- Decomposition temperature: No data available
- Viscosity, kinematic: No data available
- Explosive properties: No data available
- Oxidizing characteristics: No data available

9.2 Other information

- Additional information: No data available

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Elektrolyte E 400

Material number 300.040

Page: 5 of 7

SECTION 10: Stability and reactivity

10.1 Reactivity

Refer to 10.3

10.2 Chemical stability

Product is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

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: Chlorine decomposition products, nitrogen oxides (NO_x).

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.
Skin corrosion/irritation: Lack of data.
Eye damage/irritation: Lack of data.
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.

Symptoms

After eye contact: May cause irritations.

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Elektrolyte E 400

Material number 300.040

Page: 6 of 7

SECTION 12: Ecological information

12.1 Toxicity

Further details: No data available

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 Other adverse effects

General information: 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 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)

Recommendation: Dispose of waste according to applicable legislation.

Contaminated packaging

Waste key number: 15 01 02 = Plastic packaging

Recommendation: Dispose of waste according to applicable legislation.

Handle contaminated packages in the same way as the substance itself.

Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number

ADR/RID, IMDG, IATA-DGR:

not applicable

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

Not restricted

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Elektrolyte E 400

Material number 300.040

Page: 7 of 7

14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:

not applicable

14.4 Packing group

ADR/RID, IMDG, IATA-DGR:

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 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:

-

No data available

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:

H272 = May intensify fire; oxidiser.

H302 = Harmful if swallowed.

H319 = Causes serious eye irritation.

EUH210 = Safety data sheet available on request.

Reason of change:

Changes in section 2: Labelling

General revision

Date of first version:

23/9/2008

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.