SECTION 1: Identification of the substance or mixture and of the company or other entity

1.1 Product identifier

Trade name: Elektrolyt ET

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

General use: Electrolytic/electrochemical metal marking
For industrial use only

1.3 Details of the supplier providing the safety data sheet

Company name: BYMAT GmbH
Street/PO Box: Neusser Straße 106
Postcode, town: 41363 Jüchen
Deutschland
WWW: www.bymat.de
E-Mail: info@bymat.de
Telephone: +49 (0) 2165 8728-0
Fax:

Department providing information:
Björn Byhahn,
Telephone: +49 (0) 2165 8728-0, Email: info@bymat.de

1.4 Emergency number

Björn Byhahn, Telephone: +49 (0) 2165 8728-0

SECTION 2: Potential hazards

2.1 Classification of the substance or mixture

Classification according to EC Regulation 1272/2008 (CLP)

This mixture is classified as non-hazardous.

2.2 Identification elements

Labelling (CLP)

hazard warnings: not applicable

Safety instructions: not applicable

Special labelling

EUH210 Safety data sheet available on request.

2.3 Other hazards

No particular hazards to mention.

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:

Aqueous solution of inorganic salts and organic compounds.

Hazardous ingredients:

The identifier	designation classification	Content
EG-Nr. 233-826-7 CAS 10377-60-3	Magnesium nitrate Ox. Sol. 3; H272. Skin Irrit. 2; H315. Eye Irrit. 2; H319.	< 10 %

For the wording of the H and EUH hazard statements, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled: Ensure fresh air. Consult a doctor if you experience any discomfort.

After skin contact: Remove contaminated clothing and wash before wearing again.
In case of contact with skin, rinse immediately with plenty of water and soap.
Consult a doctor in case of skin reactions.

After eye contact: Immediately rinse with running water for 10 to 15 minutes with the eyelid open. If necessary remove contact lenses if possible. Continue rinsing. Then
consult an ophthalmologist.

After swallowing: Rinse your mouth with water.
Never administer anything through the mouth to an unconscious person.
Do not induce vomiting.
If you feel unwell, seek medical advice.

4.2 Most important acute and delayed symptoms and effects

No data available

4.3 Indications for immediate medical attention or special treatment

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing agents

Suitable extinguishing media: Match extinguishing agent to the fire environment.

5.2 Special hazards arising from the substance or mixture

Dangerous vapours may be produced by surrounding fires.
In the event of a fire, the following may be produced after the water has evaporated:
chlorine compounds, nitrogen oxides (NOx), magnesium compounds.

5.3 Firefighting information

Special protective equipment for firefighting:

Wear self-contained breathing apparatus and fire-resistant clothing.

Additional information: Prevent firefighting water from entering surface water or groundwater.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures to be applied

Do not inhale vapour/aerosol. Ensure adequate ventilation.
Avoid contact with eyes and skin.
Wear suitable protective equipment. Keep unprotected persons away.
Remove contaminated clothing and wash before wearing again.

6.2 Environmental protection measures

Prevent penetration into soil, water or sewage systems.
Notify the relevant authorities if necessary.

6.3 Methods and materials for containment and cleaning up

Absorb mechanically with liquid-binding material (sand, diatomaceous earth, acid binder, universal binder) and place in suitable containers for disposal.
Clean afterwards. Do not allow to dry.

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1 Protective measures for safe handling

Instructions for safe handling:

Ensure good ventilation in storage areas and workplaces.
Wear suitable protective equipment. Do not inhale vapour/aerosol.
Wash hands before breaks and at the end of work.
Remove contaminated clothing and wash before wearing again.

7.2 Conditions for safe storage, taking into account incompatibilities

Requirements for storage rooms and containers:

Keep container tightly closed.

Storage instructions:

Keep away from food, beverages and animal feed.
Do not store together with: Strong acids, alkalis

Storage class: 12 = Non-flammable liquids that cannot be assigned to any of the above LGK categories

7.3 Specific end uses

No information is available.

SECTION 8: Exposure controls and personal protection Equipment

8.1 Parameters to be monitored

Additional information: Does not contain any substances with occupational exposure limits.

8.2 Exposure controls and monitoring

Ensure good ventilation of the work area and/or extraction equipment at the workplace.

Personal protective equipment

Limitation and monitoring of exposure at work

Respiratory protection: Wear respiratory protection when exposed to vapours/aerosols.
The respiratory protection filter class must be adapted to the maximum concentration of pollutants (gas/vapour/aerosol/particles) that may arise when handling the product . If the concentration is exceeded, self-contained breathing apparatus must be used!

Recommendation: FFP2 particle filter

Hand protection: Protective gloves in accordance with DIN EN ISO 374-1.
Glove material: nitrile rubber, latex.
Breakthrough time (maximum wearing time): ≥ 480 min.

The manufacturer's specifications for the protective gloves regarding permeability and breakthrough times must be observed.

Eye protection: Tight-fitting safety goggles in accordance with DIN EN ISO 16321-1.

Body protection: Wear suitable protective clothing when working.

Protective and hygiene measures:
Remove contaminated clothing and wash before wearing again.
Do not inhale vapour/aerosol.
Avoid contact with eyes and skin.
Do not eat, drink or smoke at work.
Wash hands before breaks and at the end of work.

Limiting and monitoring environmental exposure

See "6.2 Environmental protection measures".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state at 20 °C and 101.3 kPa

Form:	liquid
Farbe:	colourless, clear
Smell:	odourless
Odour threshold:	No data available
Melting point/freezing point:	-7 °C
Boiling point and boiling range:	101 °C
Flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Flash point/flash range:	No data available
Decomposition temperature:	No data available
pH value:	5,5 - 6,5
Viscosity, dynamic:	1,4 mPa*s
Water solubility:	Fully miscible
Distribution coefficient n-octanol/water:	No data available
Vapour pressure:	No data available
Density:	1,03 g/mL

Steam density: No data available
Partikeleigenschaften: Not applicable

9.2 Other information

Explosive properties: The product is not explosive.
Oxidising properties: No data available

Auto-ignition temperature: nicht selbstentzündlich

Evaporation rate: No data available
Further details: No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

See 10.3

10.2 Chemical stability

Stable under specified storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions if stored and handled in accordance with regulations.

10.4 Conditions to be avoided

No data available

10.5 Incompatible materials

Strong acids and alkalis

10.6 Hazardous decomposition products

Thermal decomposition: No data available

SECTION 11: Toxicological information

11.1 Information on hazard classes within the meaning of Regulation (EC) No 1272/2008

Toxicological effects: The statements are derived from the properties of the individual components. No toxicological data is available for the product as such.

Acute toxicity (oral): Based on the available data, the classification criteria are not met.

ATEmix (calculated): > 5,000 mg/kg

Acute toxicity (dermal): Based on the available data, the classification criteria are not met.

ATEmix (calculated): > 5,000 mg/kg

Acute toxicity (inhalation): Based on the available data, the classification criteria are not met.

Corrosive/irritant effect on the skin: No data available.

Serious eye damage/irritation: No data available.

Respiratory sensitisation: No data available.

Skin sensitisation: No data available.

Germ cell mutagenicity/genotoxicity: No data available.

Carcinogenicity: No data available.

Reproductive toxicity: No data available.

Effects on and via breast milk: No data available.

Specific target organ toxicity (single exposure): No data available.

Specific target organ toxicity (repeated exposure): No data available.

Aspiration hazard: No data available.

11.2 Information on other hazards

Endocrine-disrupting properties:

No data available

Other information: Information on magnesium nitrate:
LD50 Rat, oral: > 2,000 mg/kg/24h (OECD 423)
LD50 Rat, dermal: > 5,000 mg/kg

SECTION 12: Environmental information

12.1 Toxicity

Water hazard class:

1 = slightly hazardous to water

12.2 Persistence and degradability

Other information: No data available

12.3 Bioaccumulation potential

Distribution coefficient n-octanol/water:

No data available

12.4 Mobility in the soil

No data available

12.5 Results of the PBT and vPvB assessment

No data available

12.6 Endocrine-disrupting properties

No data available

12.7 Other harmful effects

General information: Do not allow to enter the groundwater, waterways or the sewage system.

SECTION 13: Disposal considerations

13.1 Waste treatment procedures

Product

Waste code number: 11 01 99 = Waste from the chemical surface treatment and coating of metals and other materials (e.g. electroplating, galvanising, pickling, etching, phosphating, alkaline degreasing and anodising)

Recommendation: Disposal in accordance with official regulations.

Packaging

Waste code number: 15 01 02 = Plastic packaging.

Recommendation: Disposal in accordance with official regulations.
Uncontaminated and completely emptied packaging can be recycled.

Section 14. Transport information

14.1 UN number or ID number

ADR/RID, IMDG, IATA-DGR:

not applicable

14.2 Proper UN shipping name

ADR/RID, IMDG, IATA-DGR:

Not restricted

14.3 Transport hazard classes

ADR/RID, IMDG, IATA-DGR:

not applicable

14.4 Packaging group

ADR/RID, IMDG, IATA-DGR:

not applicable

14.5 Environmental hazards

Environmentally hazardous: The substance/mixture is not hazardous to the environment according to the criteria of the UN Model Regulations.

Marine pollutant: no

14.6 Special precautions for the user

Not classified as dangerous goods under these transport regulations.

14.7 Bulk cargo transport by sea in accordance with IMO instruments

No data available

SECTION 15: Legal provisions

15.1 Safety, health and environmental regulations/specific legislation for the substance or mixture

National regulations - Germany

Storage class: 12 = Non-flammable liquids that cannot be assigned to any of the above LGK categories

Water hazard class:

1 = slightly hazardous to water

Other regulations, restrictions and ordinances:

No data available

National regulations - EC Member States

Labelling of packaging with a content of <= 125mL

Hazard warnings: EUH210 Safety data sheet available on request.

Safety instructions: not applicable

Other regulations, restrictions and ordinances:

No data available

15.2 Chemical safety assessment

No chemical safety assessment is required for this mixture.

SECTION 16: Other information

Wording of the H statements under sections 2 and 3:

H272 = May intensify fire; oxidising agent.
H315 = Causes skin irritation.
H319 = Causes serious eye irritation.
EUH210 = Safety data sheet available on request.

Reason for the latest changes:

Amendment to Section 2: Labelling
General revision

date of first issue: 10.11.2008

Data sheet issued by:

see Section 1: Information provided by

Abbreviations and acronyms:

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/New Zealand Standard
ATEmix: Estimated Acute Toxicity of the Mixture
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
EmS: Emergency response measures on ships carrying dangerous goods
EN: European standard
EQ: Exempted quantities
EU: European Union
Eye Irrit.: Irritant effect on the eyes
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
IMO: International Maritime Organisation
LD50: Lethal Dose 50%
MARPOL: International Convention for the Prevention of Pollution from Ships
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration, America
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
TRGS: Technical Rules for Hazardous Substances
vPvB: Very persistent and very bioaccumulative

The information in this data sheet has been compiled to the best of our knowledge and corresponds to the state of knowledge at the time of revision. However, they do not guarantee compliance with certain characteristics in the sense of legal binding force.