

Material Safety Data Sheet

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According to 2001/58/EC

1 - Product and Company Information

Product Name Electrolyte AE 2

Product Number 22.002

Use of the substance/preparation

Electrolytic marking / Application for Aluminium

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2 - Composition/Information on Ingredients*Full text of risk phrases appearing in section 2: see section 16.*

INDEX	CAS	EC	Name	Symb.	R:	%
027-004-00-5	7646-79-9	231-589-4	Cobalt(II)-chloride	T-N	49-22-42/43-50/53	<13

Chemical characterization Agent: Preparation:

Description Water-/mineral salt-complex former-mixture.

All other components of this product are not considered hazardous as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200). Therefore identity of the components, are being withheld as trade secrets.

See section 3 for Hazard Identification and Section 8 for exposure limits and controls/personal protection.

3 - Hazards Identification**SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT**

May cause cancer by inhalation (R49). Harmful if swallowed (R22). May cause sensitisation by inhalation and skin contact (R42/43). Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment (R51/53).

EMERGENCY OVERVIEW

Electrolyte solution AE 2 is an acidic solution with the pH of 5.0 - 6.5. It can cause skin and eye irritation and possibly damage upon contact. This product is not flammable. However, thermal decomposition may release acrid fumes.

POTENTIAL HEALTH EFFECTS**EYE CONTACT**

It may cause irritation and/or damage in case of eye contact.

SKIN CONTACT

It may cause irritation.

SKIN ABSORPTION

A single exposure is not likely to result in the material being absorbed through skin.

INGESTION

Ingestion of large quantities of this product may produce gastrointestinal tract irritation and burning sensation, vomiting, cramping, diarrhoea, and acidosis.

INHALATION

Inhalation of product mist or aerosol may cause irritation of nose and throat, running nose, coughing and chest pain.

CHRONIC EFFECTS/CARCINOGENICITY/SPECIAL TOXIC EFFECTS

None expected from normal use of product. However, repeated skin contact may produce allergic reaction.

This product (or its components) is not listed by NTP, OSHA, and IARC.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing medical conditions that may be aggravated by exposure include disorders of the skin and respiratory tract including asthma.

4 - First Aid Measures

EYE CONTACT

Immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eyelids to ensure thorough rinsing. Seek medical attention.

SKIN CONTACT

Clean exposed skin with warm soapy water. Remove contaminated clothing. Launder clothing before reuse. Seek medical attention if irritation develops and persists.

INGESTION

If swallowed, **DO NOT** induce vomiting. Drink a large volume of cold water or milk and get immediate medical attention. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration.

INHALATION

Remove person to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. If irritation develops and persists, seek medical attention.

NOTES TO PHYSICIAN

Institute basic life support measures. Systemic symptoms from acute overexposure to this product are unlikely.

5 - Fire Fighting Measures

Product is a non-flammable liquid. Follow fire-fighting measures appropriate for surrounding materials. Closed containers exposed to extreme heat may rupture due to pressure build up.

Flash Point (Method): Not flammable
Flammable Limits: Not flammable
Autoignition Temperature: Not flammable
Extinguishing Media: Appropriate for surrounding materials
Special Fire Fighting Procedures: None
Unusual Fire or Explosion Hazards: Excessive heat may cause container rupture due to pressure build up.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Stop leak and contain spilled material with absorbent material (Vermiculite, and sand fuller's earth). Collect absorbed product and clean up materials in appropriate container for proper disposal. Move containers from spill area. Larger spills may be neutralized with dilute alkaline solutions of soda ash (Sodium Carbonate) or lime (Calcium Oxide). Prevent materials from entering drains, sewers, or waterways.

WASTE DISPOSAL METHODS

Dispose in accordance with applicable Federal, State, and Local regulations.

7 - Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid contact with eyes, skin, and clothing. Wear eye and skin protection when handling product.

STORAGE TEMPERATURE

Store at room temperature. Avoid freezing and overheating conditions. Freezing and overheating of product may cause container rupture and product spills.

8 - Exposure Controls / Personal Protection

EXPOSURE LIMITS

Cobalt(II)-chlorid
TA Luft: 0,05 mg/m³

ENGINEERING CONTROLS

A fresh water supply, including eyewash for emergency first aid, and washing facilities should be readily available.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION

Normally not needed in well-ventilated areas. If applicable standards are exceeded or are likely to be exceeded, use a **CEN (EC)** or **NIOSH/MSHA (US)** approved, contaminant-specific, air-purifying respirator. If such concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus **B-P2 (EC)** or **SCBA (US)**. Follow all applicable respirator use, fitting, and training standards and regulations.

EYE PROTECTION

Chemical safety goggles or face shield are required when handling this product.

SKIN

Gloves, apron, or other protective clothing needed to prevent skin contact.

VENTILATION

Local exhaust ventilation and/or enclosure of the process may be required.

GENERAL HYGIENE MEASURES

Remove contaminated clothing; launder or dry-clean before reuse. Workers should wash their hands before breaks, meals, smoking and using toilet facilities. Product is readily removed from skin by soap and water.

9 - Physical and Chemical Properties

Appearance Physical State: liquid
 Colour: dark purple
 Form: slight odour

Property	Value	At Temperature or pressure
pH	5.0-6.5	
BP/BP Range	100°C (212°F)	
MP/MP Range	0°C (32°F)	
SG/Density	1.16 g/cm ³ (water = 1)	
Vapour Pressure	Not determined	
Vapour Density (Air=1)	Heavier than air	
% Volatile, by volume	Non-Volatile	
Solubility in water	Completely soluble	
Evaporation Rate	Not determined	

10 - Stability and Reactivity

STABILITY

Stability: Stable

Conditions to Avoid: High temperature and strong oxidizer

Materials to Avoid: Strong bases, alkalis, reducing agents, combustibles and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Although this product is non-flammable, thermal decomposition may release acrid fumes and noxious gases such as cobalt oxide and chlorine gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur.

11 - Toxicological Information

Toxicological effects that may be produced by this product are associated with the acidic (pH =5.0-6.5) nature of this product. Direct contact with product can cause damage to living tissue. The severity of the damage is directly related to the route of exposure as well as to the amount and duration of exposure.

This product contains cobalt in ionic form. In the event of severe overexposure, cobalt chloride may cause allergic skin reactions; may cause digestive tract irritation with nausea, vomiting, and diarrhoea and may cause blood abnormalities. The severity of the damage is directly related to the route of exposure as well as to the amount and duration of exposure.

12 - Ecological Information

Direct contact of product with ecological receptors may cause tissue damage at the point of contact. Product does not bio accumulate.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Dispose in accordance with Federal, State, and Local regulations.

Prevent materials from entering drains, sewers, or waterways. Do not dump on the ground.

INDUSTRIAL WASTE NUMBER (Waste Key)

11 01 06 (Other acids)

WASTE DESIGNATION

Electrolyte

14 - Transport Information

RID/ADR/DOT Ground Transportation

IATA Air Transportation

UN#: Not applicable

Class: Not applicable

PG: Not applicable

Proper Shipping Name: Not regulated by RID/ADR/DOT/IATA

Labels: Not required

Placards: Not applicable

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: T-N

Toxic Dangerous for the environment

R-PHRASES: 49-22-42/43-51/53

May cause cancer by inhalation. Harmful if swallowed. May cause sensitisation by inhalation and skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-PHRASES: 23-24/25-26-29-45-53

Do not inhale vapour. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Do not empty into drains. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid exposure - obtain special instructions before use.

NATIONAL REGULATIONS

Employment Restriction: not approved

Statutory order on hazardous incidents: not approved

Classification accord. to VbF: N/A

Technical Instructions on

Air Quality: not approved

German Water Pollution Class: WGK 1 - low hazardous to water (Self assessment according to VwVwS)

16 - Other Information

List of relevant R phrases (heading 2):

R49: May cause cancer by inhalation.

R22: Harmful if swallowed.

R42/43: May cause sensitisation by inhalation and skin contact.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

REVISION

Previous release dt. 08.12.2004

Revised: All chapters

WARRANTY

All available information is based on the current stand of our knowledge. However, this does not present an assurance of product

properties and does not form the basis for a contractual legal relationship.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Schilling Marking Systems GmbH, shall not be held liable for any damage resulting from handling or from contact with the above product.

License granted to make unlimited paper copies for internal use only.

Keep product away from children.

DISCLAIMER

Use is intended for electrolytic marking only. Not for household or other uses.