

## Material Safety Data Sheet

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According to 2001/58/EC

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1 - Product and Company Information

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Product Name Electrolyte AE 14

Product Number 22.014

Use of the substance/preparation  
Electrolytic markingCompany SCHILLING Marking Systems GmbH  
In Grubenaecker 1  
DE-78532 Tuttlingen  
Germany

Technical Phone # 49-7461-9472-17

Fax 49-7461-9472-29

Emergency Phone # 49 30 19240 Advisory office for  
poisoning phenomena, BerlinUS and Canada Chemtec Phone Number: +1 (800) 424-9300

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
Electrolyte AE 14	None		

## CHEMICAL CHARACTERIZATION

Aqueous solution of copper II nitrate and chromium (VI) oxide.

## HARMFUL COMPONENTS

SUBSTANCE A	CHROMIUM (VI) OXIDE		
C.A.S. NO.	CONTENTS (%)	SYMBOL	RISK PHRASES
1333-82-0	approx. 5	0, T, C, N	49-8-25-35-43-50/53
SUBSTANCE B	COPPER (II) NITRATE		
C.A.S. NO.	CONTENTS (%)	SYMBOL	RISK PHRASES
10031-43-3	approx. 10	0, C	8-22-34

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3 - Hazards Identification

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## SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

**Toxic.** May cause cancer. May cause hereditary damage. Toxic on inhalation, ingestion and skin contact. Causes serious burns. Sensitises. Fast absorption through the skin. Affected organs: lungs, kidneys.

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4 - First Aid Measures

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## GENERAL

Change contaminated clothing and shoes.

## AFTER INHALATION

Remove person to fresh air. If discomfort occurs and persists, obtain medical attention.

## AFTER SKIN CONTACT

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

## AFTER 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.

#### AFTER INGESTION

Do not induce vomiting. Rinse mouth with plenty of water and get immediate medical attention.

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#### 5 - Fire Fighting Measures

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Not applicable due to aqueous formulation.

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#### 6 - Accidental Release Measures

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##### PERSONAL MEASURES

Prevent skin and eye contact.

##### ENVIRONMENTAL MEASURES

Prevent materials from entering drains, sewers or waterways.

##### METHODS FOR CLEANING UP AND COLLECTING THE PRODUCT

Dilute with generous amounts of water and collect. Thoroughly air and clean affected area after complete removal of the substance.

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#### 7 - Handling and Storage

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##### HANDLING

Open and handle containers carefully.

##### SAFE HANDLING

Do not mix electrolyte with other chemicals. Do not inhale vapours.

##### FIRE AND EXPLOSION PROTECTION

The product itself is not combustible.

##### STORAGE

##### REQUIREMENTS ON STORAGE ROOMS AND CONTAINERS

Prevent penetration into the soil. Ensure that rooms are well ventilated . Provide acid-resistant floor (no wood).

##### JOINT STORAGE CONDITIONS

Do not store together with food and feed. Keep away from combustible material.

##### OTHER STORAGE

Store containers in a well ventilated area.

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#### 8 - Exposure Controls / Personal Protection

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##### ENGINEERING CONTROLS

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

##### 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. Skin care recommended.

##### PERSONAL PROTECTIVE EQUIPMENT

##### **RESPIRATORY PROTECTION**

Do not inhale vapours. If applicable standards are exceeded or are likely to be exceeded, use an 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. 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**

Chemical-resistant safety gloves, apron or other protective clothing needed to prevent skin contact.

#### **VENTILATION**

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

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### 9 - Physical and Chemical Properties

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Appearance	Physical State: liquid
	Colour: brown
	Odour: none

#### SAFETY RELEVANT DATA

Change in condition	aqueous formulation
MP/MP Range	approx. 0°C
Liquid/gaseous	not tested
SG/Density	1.095 g/cm <sup>3</sup> (20°C)
Bulk density	not applicable
Viscosity	not tested
Solubility in water at 20°C	infinite
pH value	approx. 2.5 (20°C)

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### 10 - Stability and Reactivity

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#### HAZARDOUS REACTIONS

Highly oxidising. Avoid contact with combustible organic substances.

Fulfils requirements for electrolytes for electrochemical marking of metals.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Type unknown.

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### 11 - Toxicological Information

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#### ACUTE ORAL TOXICITY (LD50)

Not tested. No toxic hazard.

#### ACUTE INHALATION TOXICITY (LC50)

Not tested.

#### ACUTE SKIN TOXICITY (LD50)

Not tested.

#### OTHER TOXICOLOGICAL EFFECTS

May be lethal after inhalation, ingestion or absorption through the skin. Extremely hazardous effects on mucous tissues and upper respiratory tract, eyes and skin. Inhalation may cause death due to paralysis, inflammation and oedema of the larynx and bronchial tract, pneumonia and pneumoedema.

The following symptoms may occur after exposure: Flushing, coughing, shortness of breath, inflammation of the larynx, breathing difficulties, headaches, nausea and vomiting. May cause allergic reaction of the respiratory system and skin.

CHRONIC EFFECTS

Carcinogenic. May change genetic material. Affected organ(s):  
Kidneys, lungs, liver, nervous system

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12 - Ecological Information

No data available.

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13 - Disposal Considerations

Treat electrolyte solution by a reducing agent (such as sodium bisulphate, iron (II) sulphate or iron (II) dioxide to convert the hexavalent chromium to its trivalent form and neutralise by a weak base such as sodium hydrogen carbonate or lime. Keep solution in a sealed, labelled container prior to disposal. Keep away from sewerage. Compliant with all national and local laws.

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14 - Transport Information

NAME	RID/ADR/IMDG/IATA	UN#	CLASS	PG	Proper Shipping Name
Chromium (VI) oxide trioxide, anhydr		1463	5.1/No.31b	II	Chromium
Copper (II) nitrate		1477	5.1/No.22c	II	Nitrates, inorganic

OTHER INFORMATION

Packaging: Passenger 808 - Freight 812

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15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: T  
Toxic

HAZARDOUS SUBSTANCE

Chromium (VI) oxide

R-PHRASES: 45 25 35 42

May be carcinogenic. Also toxic if swallowed. Causes severe burns.  
May cause sensitization by skin contact.

S-PHRASES: 53 45

Avoid exposure - obtain special instructions prior to use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany

Classification acc. VbF: N/A

TA-AIR

Not specified

WGK: 3 = highly hazardous to water

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16 - Other Information

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.

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Keep product away from children.