

SAFETY DATA SHEET



Product name: ELECTROLYTE A3-I
Revision Date: 2013-11-27
Document No.: M0011

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SDS-ID: US-EN/13.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name: ELECTROLYTE A3-I
Cat. No. 40900011, 40900012
Container size: 960 ml

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

Application: For etching surfaces for materialographic preparations

Details of the supplier of the safety data sheet

Supplier: Struers A/S
Pederstrupvej 84
DK-2750 Ballerup
Tel:+45 44 600 800

Responsible for material safety data sheet authoring: Responsible for material safety data sheet authoring: DHI
Any questions to the contents of this material safety data sheet should be sent to:
Lisbeth.Mygind@struers.dk

Emergency telephone number

Emergency telephone: Infotrac:
1-800-535-5053
Struers US:
1-440-871-0071

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SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

The product is classified: F;R11 T;R23/24/25-R39/23/24/25 Xi;R36/38

Physical and Chemical

The product is highly flammable, and explosive vapors/air mixtures may be formed even at normal room temperatures.

Hazards:

Human health:

Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. Lethal dose for an adult person: approx. 30 -250 ml (Methanol). Organic solvents may be absorbed into the body by inhalation, skin contact and ingestion and cause permanent damage to the nervous system, including the brain.

Environment:

The product is not expected to be hazardous to the environment.

Label elements



Highly
flammable

Toxic

Contains:

Methanol
2-Butoxyethanol

R11

Highly flammable.

R23/24/25

Toxic by inhalation, in contact with skin and if swallowed.

R39/23/24/25

Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

R36/38

Irritating to eyes and skin.

S16

Keep away from sources of ignition - No smoking.

S26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27

Take off immediately all contaminated clothing.

S36/37

Wear suitable protective clothing and gloves.

S38

In case of insufficient ventilation, wear suitable respiratory equipment.

S45

In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

S60

This material and its container must be disposed of as hazardous waste.

NFPA Rating: Health:1 Fire:3 Reactivity:0 Other:-

Other hazards

PBT/vPvB:

Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

The product contains: organic solvents.

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67/548/EEC:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
55-75	67-56-1	200-659-6	-	Methanol	F;R11 T;R23/24/25-39/23/24/25	
25-45	111-76-2	203-905-0	-	2-Butoxyethanol	Xn;R20/21/22 Xi;R36/38	

GHS:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
55-75	67-56-1	200-659-6	-	Methanol	Flam. Liq. 2;H225 Acute Tox. 3;H331 Acute Tox. 3;H311 Acute Tox. 3;H301 STOT SE 1;H370	
25-45	111-76-2	203-905-0	-	2-Butoxyethanol	Acute Tox. 4;H332 Acute Tox. 4;H312 Acute Tox. 4;H302 Eye Irrit. 2;H319 Skin Irrit. 2;H315	

References: The full text for all R-phrases and hazard statements are displayed in section 16.

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

Inhalation: Move injured person into fresh air and keep person calm under observation. If necessary, seek hospital and bring these instructions. Unconscious persons must be locked on their side, head low and kept warm. CALL AN AMBULANCE. Bring along these instructions to the hospital.

Skin contact: Flush immediately with plenty of water and remove contaminated clothing. Call an ambulance, continue to rinse during transportation to hospital and bring these instructions.

Eye contact: Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring along these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Induce vomiting, if person is conscious. Rinse mouth again and drink 1-2 glasses of water and 40 ml ethanol (liqueur). Immediate transportation to hospital. Bring along these instructions.

Most important symptoms and effects, both acute and delayed

Symptoms/effects: See section 11 for more detailed information on health effects and symptoms.

Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Not known.

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SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

Special hazards arising from the substance or mixture

Specific hazards: The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Vapors may be ignited by a spark, a hot surface or an ember.

Advice for firefighters

Protective equipment for fire-fighters: Use air-supplied respirator, gloves and protective goggles.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Do not smoke or use open fire, or other sources of ignition. Avoid inhalation of vapors and contact with skin and eyes.

Environmental precautions

Environmental precautions: Avoid discharge into water courses or onto the ground.

Methods and material for containment and cleaning up

Spill Cleanup Methods: Remove sources of ignition. Cover large spillages with foam. Dam and absorb spillages with sand, earth or other non-combustible material. Do not use sawdust or other combustible material.

Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

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SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Safe handling advice: Avoid inhalation of vapors and contact with skin and eyes. Observe good chemical hygiene practices.

Technical measures: Do not smoke or use open fire or other sources of ignition. Wash hands before breaks and before smoking, eating or drinking.

Technical precautions: Provide easy access to water supply or an emergency shower.

Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: Follow rules for flammable liquids.

Storage conditions: Store in locked poison cupboard/room. Store in a cool and well-ventilated place. Avoid contact with oxidizing agents. Keep away from food, drink and animal feeding stuffs.

Specific end use(s)

Specific use(s): Not relevant.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
67-56-1	Methanol	-	200 ppm	TWA	Skin	ACGIH
		-	250 ppm	STEL	Skin; 15min	
111-76-2	2-Butoxyethanol	-	20 ppm	TWA	A3	ACGIH
111-76-2	2-Butoxyethanol	-	50 ppm	240 mg/m3	TWA	Skin
67-56-1	Methyl alcohol	-	200 ppm	260 mg/m3	TWA	-

Notes: Skin: Danger of cutaneous absorption. (ACGIH)
X: Skin absorption. (OSHA)
A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans.

Exposure controls

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide access to washing facilities including soap, skin cleanser and fatty cream.

Personal protection: Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Respiratory equipment: In case of inadequate ventilation and work of brief duration, use suitable respiratory equipment. Use respiratory equipment with gas filter, type A2.

Hand protection: Wear protective gloves. Lamine (PE/EVOH) gloves are recommended. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection: Risk of splashes: Wear goggles/face shield.

Skin protection: Wear apron or protective clothing in case of splashes.

Hygiene measures: Wash hands after handling.

Environmental Exposure Controls: Not available.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance: Clear liquid.
Odor: odor of alcohol
pH: Not available.
Boiling point: 65°C
Flash point: 10°C
Explosion limits: 5,5-26,5 %
Relative density: 0,82
Solubility: Miscible with water.

Other information

Other data: VOC (Volatile Organic Substances): 800 g/l (calculated)

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Reactivity: None known.

Chemical stability

Stability: Stable under normal temperature conditions.

Possibility of hazardous reactions

Hazardous Reactions: None known.

Conditions to avoid

Conditions/materials to avoid: Avoid exposing to heat and contact with strong oxidizing substances.

Incompatible materials

Incompatible materials: None known.

Hazardous decomposition products

Hazardous decomposition products: When heated, vapors/gases hazardous to health may be formed.

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SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhalation: Toxic by inhalation. Toxic: danger of very serious irreversible effects through inhalation. Vapors may irritate throat and respiratory system and cause coughing. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. In serious cases, unconsciousness and permanent damage to the nervous system, including the brain, and liver may be seen.

Skin contact: Toxic in contact with skin. Toxic: danger of very serious irreversible effects in contact with skin. Contains components which may penetrate the skin.

Eye contact: May cause blurred vision and serious eye damage.

Ingestion: Toxic if swallowed. Toxic: danger of very serious irreversible effects if swallowed. Even small amounts (30-250 ml methanol) may be fatal. Symptoms are stomach ache, nausea, vomiting, dullness, visual disorder and blindness. Furthermore, ingestion may lead to the same symptoms as when inhaled. Note: Ethanol acts against methanol poisoning.

Specific effects: Frequent inhalation of even small concentrations may cause irritability, fatigue and memory failure and eventually permanent damage to the nervous system, including the brain. The product contains butoxyethanol which is suspected of having harmful long-term effects on the kidneys and nervous system. In serious cases absorption of methanol in the body may lead to damage to the eyesight.

Carcinogenicity:
National Toxicology Program (NTP): No.
I.A.R.C. Monographs: No.
OSHA: No.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity: The product is not expected to be hazardous to the environment.

Persistence and degradability

Degradability: The product is easily biodegradable.

Bioaccumulative potential

Bioaccumulative potential: The product is not bioaccumulating.

Mobility in soil

Mobility: No data available.

Results of PBT and vPvB assessment

PBT/vPvB: Not relevant.

Other adverse effects

Other adverse effects: None known.

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SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Waste is classified as hazardous waste.

Waste from residues: EWC-code: 16 05 08
READY-TO-USE MIXTURE:
EWC-code: 16 05 06

SECTION 14: TRANSPORT INFORMATION

UN number

UN-No: 1992

UN proper shipping name

Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, N.O.S.
(Methanol)

Additional IMDG information:
EmS: F-E, S-D
MFAG: 19

Transport hazard class(es)

Class: 3 (6.1)

Packing group

PG: II

Environmental hazards

Marine pollutant: No.

Environmentally Hazardous substance: No.

Special precautions for user

Special precautions: None known.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk: Not relevant.

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SECTION 15: REGULATORY INFORMATION

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

Special provisions: TSCA: Listed.

As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.

National regulation: Europe/USA:
This Material Safety Data Sheet has been prepared according to the EU-regulation.
Threshold Limit Values (2013), ACGIH, by the American Conference on Governmental Industrial Hygienists.
The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Air contaminants (OSHA), with amendments.

Chemical Safety Assessment

CSA status: Not relevant.

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SECTION 16: OTHER INFORMATION

For restrictions on use see section 15.

The following sections contain revisions or new statements: -

The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

Allan Vorup

Wording of H-statements:

R11	Highly flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R36/38	Irritating to eyes and skin.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H370	Causes damage to organs.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Environment and Toxicology, Agern Allé 5, DK-2970 Hørsholm, Denmark.
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