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Document No.:	M0010	SDS-ID:	GB-EN/17.1

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

1.1. Product identifier

Product name: ELECTROLYTE A2-I
Cat. No. 40900009 (part of Cat. No.40900008)

Container size: 920 ml

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

Application: For electrolytic polishing of metallographic preparations

1.3. Details of the supplier of the safety data sheet

Supplier: Struers ApS
Pederstrupvej 84
DK-2750 Ballerup
Tel:+45 44 600 800

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

1.4. Emergency telephone number

Emergency telephone: NHS Direct: 0845 46 47 (England or Wales)
NHS 24: 08454 24 24 24 (Scotland) (*)

+45 44 600 800
(Only during office hours)

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP: Flam. Liq. 2;H225
Skin Irrit. 2;H315
Eye Irrit. 2;H319

2.2. Label elements



Danger

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P403 + P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local regulations.

2.3. Other hazards

The product is highly flammable, and explosive vapours/air mixtures may be formed even at normal room temperatures. Organic solvents may be absorbed into the body by inhalation and ingestion and cause permanent damage to the nervous system, including the brain.

PBT/vPvB: Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

The product contains: organic solvents and water.

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CLP:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
65-85	64-17-5	200-578-6	-	Ethanol	Flam. Liq. 2;H225 Eye Irrit. 2;H319	
10<-15	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	
5-15	7732-18-5	231-791-2	-	Water	-	

References: The full text for all hazard statements is displayed in section 16.

SECTION 4: FIRST AID MEASURES

4.1. 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 into fresh air and keep at rest.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water.

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 these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

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

4.3. Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Not known.

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SECTION 5: FIREFIGHTING MEASURES

5.1. 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.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Large quantities of concentrate should not be discharged into the drain but removed with absorbing material. Absorb spillage with non-combustible, absorbent material.

6.4. 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

7.1. Precautions for safe handling

Safe handling advice: Avoid inhalation of vapours 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.

Technical precautions: Local exhaust is recommended.

7.2. Conditions for safe storage, including any incompatibilities

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

Storage conditions: Store in a cool and well-ventilated place. Avoid contact with oxidising agents.

7.3. Specific end use(s)

Specific use(s): Not relevant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. 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>
64-17-5	Ethanol	-	1000 ppm	1920 mg/m3	TWA	- EH40
111-76-2	2-Butoxyethanol	-	25 ppm	123 mg/m3	TWA	Sk EH40
		-	50 ppm	246 mg/m3	STEL	Sk; 15min

Notes: Sk: Can be absorbed through skin.

8.2. Exposure controls

Engineering measures: Provide adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of vapours.

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. Nitrile 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: No special precautions.

Environmental Exposure Controls: Not available.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance: colourless liquid
Odour: odour of alcohol
pH: Not relevant.
Boiling point: 85°C
Flash point: 12°C
Explosive limits 2 - 12 vol%
Relative density: 0,83
Solubility: Miscible with water.

9.2. Other information

Other data: Volatile Organic Compound (VOC): 747 g/l (calculated)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: None known.

10.2. Chemical stability

Stability: Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions: None known.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Incompatible materials: None known.

10.6. Hazardous decomposition products

Hazardous decomposition products: None in particular.

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

<u>Acute Toxicity (Oral):</u>	Based on available data, the classification criteria are not met.
<u>Acute Toxicity (Dermal):</u>	Based on available data, the classification criteria are not met.
<u>Acute Toxicity (Inhalation):</u>	Based on available data, the classification criteria are not met.
<u>Skin Corrosion/Irritation:</u>	Causes skin irritation.
<u>Serious eye damage/irritation:</u>	Causes serious eye irritation.
<u>Respiratory or skin sensitisation:</u>	Based on available data, the classification criteria are not met.
<u>Germ cell mutagenicity:</u>	Based on available data, the classification criteria are not met.
<u>Carcinogenicity:</u>	Based on available data, the classification criteria are not met.
<u>Reproductive Toxicity:</u>	Based on available data, the classification criteria are not met.
<u>STOT - Single exposure:</u>	Based on available data, the classification criteria are not met.
<u>STOT - Repeated exposure:</u>	Based on available data, the classification criteria are not met.
<u>Aspiration hazard:</u>	Based on available data, the classification criteria are not met.
<u>Inhalation:</u>	Vapours may irritate throat and respiratory system and cause coughing. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. In serious cases, unconsciousness and permanent damage to the brain and liver may be seen.
<u>Skin contact:</u>	Contains butoxyethanol which may penetrate the skin.
<u>Ingestion:</u>	May irritate and cause malaise.
<u>Specific effects:</u>	The product contains butoxyethanol which is suspected of having harmful longterm effects on the kidneys and nervous system.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: The environmental hazard of the product is considered to be limited.

12.2. Persistence and degradability

Degradability: The product is potentially degradable. BOD20 ≥ 78%

12.3. Bioaccumulative potential

Bioaccumulative potential: The product is not bioaccumulating.

12.4. Mobility in soil

Mobility: No data available.

12.5. Results of PBT and vPvB assessment

PBT/vPvB: Not relevant.

12.6. Other adverse effects

Other adverse effects: None known.

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues: Dispose of waste and residues in accordance with local authority requirements.
Waste is classified as hazardous waste.
EWC-code: 16 05 08
READY-TO-USE MIXTURE: EWC-code: 16 05 06

Contaminated packaging: Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN-No: 1993

14.2. UN proper shipping name

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S (Ethanol, 2-Butoxyethanol mixture)

Additional IMDG information:

EmS: F-E, S-D

MFAG: 1

14.3. Transport hazard class(es)

Class: 3

14.4. Packing group

PG: II

14.5. Environmental hazards

Marine pollutant: No.

Environmentally Hazardous substance: No.

14.6. Special precautions for user

Special precautions: None known.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk: Not relevant.

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SECTION 15: REGULATORY INFORMATION

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

Special provisions: 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: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, with amendments.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.

EH40/2005, Workplace exposure limits 2005, with amendments.

The Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242), with amendments.

The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895).

15.2. Chemical Safety Assessment

CSA status: Not relevant.

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SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1.

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

Approved by DHI.



Additional information:

Classification according to Regulation (EC) No. 1272/2008:
Calculation method.

Wording of R-phrases/H-statements:

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

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.
www.dhigroup.com.