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

1.1. Product identifier

Product name:	ELECTROLYTE A3-II
	Cat. No.40900011, 40900013
CAS-No.:	7601-90-3
EC No.:	231-512-4
REACH Reg. No:	-
Container size:	60 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 A/S 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: Chemical.info@struers.dk

1.4. Emergency telephone number

Emergency telephone:	+45 44 600 800 (Only during office hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified:

67/548/EEC / 1999/45/EC: R5 O;R8 C;R35

GHS/CLP: Ox. Liq. 1;H271 - Met. Corr. 1;H290 - Skin Corr. 1A;H314 - Eye Dam. 1;H318 (*)

2.2. Label elements

Danger

Contains:	Perchloric acid 60%
H271	May cause fire or explosion; strong oxidiser.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P221	Take any precaution to avoid mixing with combustibles, alkalis and organic materials.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309 + P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

2.3. Other hazards

Vapours are corrosive. After 24-36 hours, injured persons may develop serious shortness of breath and lung oedema. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms. (*)

PBT/vPvB: Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

The product contains: acid and water.

67/548/EEC:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
100	7601-90-3	231-512-4	-	Perchloric acid 60%	R5 O;R8 C;R35	B

GHS/CLP:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
100	7601-90-3	231-512-4	-	Perchloric acid 60%	Ox. Liq. 1;H271 Skin Corr. 1A;H314 Met. Corr. 1;H290	B

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

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Move injured person into fresh air immediately. Call an ambulance. Be aware that symptoms of lung oedema (shortness of breath) may develop up to 24 hours after exposure. Bring these instructions.

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. Remove any contact lenses and open eyes wide apart. Call an ambulance and continue flushing during transportation to hospital. Bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Call an ambulance. Bring along 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.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Extinguish with water fog.

5.2. Special hazards arising from the substance or mixture

Specific hazards: Heating may cause an explosion. Contact with combustible material may cause fire. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. When heated and in case of fire, toxic vapours/gases may be formed.

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: Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. Wear protective gloves and, in case of splashes, goggles/face shield too. In case of splashes: Wear apron or special protective clothing.

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: Absorb spillage with non-combustible, absorbent material. Flush with plenty of water to clean spillage area.

6.4. Reference to other sections

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

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: Work practice should minimise contact. Explosive perchlorates may develop. Carefully avoid drying of perchloric acid solution in inaccessible places.

Technical precautions: Mechanical ventilation required.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: No special precautions.

Storage conditions: Store in tightly closed original container. Store in a cool and well-ventilated place. Do not store near heat sources or expose to high temperatures. Store segregated from other chemicals (oxidizing agent). Keep/Store away from clothing, reducing agents and combustible materials.

7.3. Specific end use(s)

Specific use(s): Not relevant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No occupational exposure limit assigned.

8.2. Exposure controls

Engineering measures:	Provide adequate ventilation.
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, use air-supplied full-mask.
Hand protection:	Wear protective gloves. Laminate (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:	Wear goggles/face shield.
Skin protection:	Wear apron or protective clothing in case of splashes.
Environmental Exposure Controls:	Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	colourless liquid
Odour:	Odourless.
pH:	Not available.
Boiling point:	160°C
Flash point:	Not available.
Explosion limits:	Not available.
Relative density:	1,5
Solubility:	soluble in water
Explosive properties:	May decompose explosively above 75°C. Can explode spontaneously as a result of dehydration.

9.2. Other information

Other data:	Volatile Organic Compound (VOC): 0 g/l (calculated)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: Heating may cause an explosion. None known.

10.2. Chemical stability

Stability: Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions: In contact with metals generates hydrogen gas, which together with air can form explosive mixtures. None known.

10.4. Conditions to avoid

Conditions/materials to avoid: Avoid heat, flames and other sources of ignition. Oxidising, avoid contact with reducing agents. Keep/Store away from clothing, reducing agents and combustible materials.

10.5. Incompatible materials

Incompatible materials: Metals. Reducing Agents.

10.6. Hazardous decomposition products

Hazardous decomposition products: When heated and in case of fire, toxic gases of hydrogenchloride may be formed.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Inhalation: Vapours are corrosive. After 24-36 hours, injured persons may develop serious shortness of breath and lung oedema.

Skin contact: Strongly corrosive. May cause deep tissue damage.

Eye contact: Strongly corrosive. Causes severe burns. Immediate first aid is imperative.

Ingestion: Strongly corrosive. Even small amounts may be fatal. Symptoms are severe burning pains in mouth, throat and stomach.

Specific effects: Risk of long-term effects is expected to be minimal from occupational exposure.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

12.2. Persistence and degradability

Degradability: The degradability of the product has not been stated.

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available on bioaccumulation.

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.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. 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 07
READY-TO-USE MIXTURE:
EWC-code: 16 05 06

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN-No: 1873

14.2. UN proper shipping name

Proper Shipping Name: PERCHLORIC ACID

Additional IMDG information:
EmS: F-A, S-Q
MFAG: 1

14.3. Transport hazard class(es)

Class: 5.1 (8) (*)

14.4. Packing group

PG: I

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 73/78 and the IBC Code

Transport in bulk: Not relevant.

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, including 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 Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).
The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) 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.

SECTION 16: OTHER INFORMATION

For restrictions on use see section 15.

The following sections contain revisions or new statements: 2.
The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

Allan Vorup

Additional information:	Classification according to Regulation (EC) No. 1272/2008: Calculation method.
Wording of R-phrases/H-statements:	
R5	Heating may cause an explosion.
R8	Contact with combustible material may cause fire.
R35	Causes severe burns.
H271	May cause fire or explosion; strong oxidiser.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

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.