

# SAFETY DATA SHEET



Product name:	ELECTROLYTE A2-II	Page:	1/10
Revision Date:	2019-03-19	Print date:	2019-03-19
Document No.:	M0002	SDS-ID:	CA-EN/19.1

## 1. IDENTIFICATION

### Product identifier

Product name: ELECTROLYTE A2-II  
Cat. No. 40900010 (part of 40900008)

CAS-No.: 7601-90-3

EC No.: 231-512-4

REACH Reg. No.: -

Container size: 78 ml

### Recommended use and restrictions on use

Application: For electrolytic preparation of metallographic specimens.

### Details of the supplier of the safety data sheet

Supplier: Struers Ltd  
7275 West Credit Avenue  
Ontario L5N 5M9 Mississauga  
Canada  
Tel: +1 (905) 8148855

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

### Emergency telephone number

Alberta & NWT:  
Poison & Drug Information Service (PADIS): 1-800-332-1414

British Columbia:  
Drug and Poison Information Centre (DPIC): 604-682-5050 / 1-800-567-8911

Ontario:  
Poison Centre: 1-800-268-9017

Québec:  
Poison Control Centre: 1-800-463-5060

Infotrac:  
1-800-535-5053

Struers CAN:  
+1 (905) 8148855  
(Only during office hours)

## 2. HAZARDS IDENTIFICATION

### Classification of the hazardous product

WHMIS 2015: Oxidizing Liquids — Category 1  
Acute (Oral) Toxicity — Category 4  
Skin Corrosion — Category 1A  
Serious Eye Damage — Category 1  
Specific Target Organ Toxicity — Single Exposure — Category 2

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## Label elements



### Danger

H271	May cause fire or explosion; strong oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H371	May cause damage to organs.
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 [or 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.
P310	Immediately call a POISON CENTER/doctor.
P220	Keep away from combustible materials.
P260	Do not breathe gas, fume, vapours or spray.
P264	Wash contaminated skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P283	Wear fire resistant or flame retardant clothing.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P306 + P360	IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use alcohol resistant foam, carbon dioxide or dry powder to extinguish.
P371 + P380 + P375	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

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## **Other hazards**

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

PBT/vPvB: No information available.

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### **Mixtures**

The product contains: acid and water.

WHMIS 2015:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
100	7601-90-3	231-512-4	-	Perchloric acid 60%	Oxidizing Liquids Category 1 Acute (Oral) Toxicity Category 4 Skin Corrosion Category 1A Serious Eye Damage Category 1 Specific Target Organ Toxicity — Single Exposure Category 2	B

## **4. FIRST-AID MEASURES**

### **Description of first-aid measures**

Inhalation: Move injured person into fresh air immediately. Call an ambulance. Be aware that symptoms of lung edema (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 take along 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 taking along these instructions.

Ingestion: Immediately call a Poison Center/doctor. Rinse mouth. Do not induce vomiting. Do not drink anything without first consulting a doctor. Have these instructions at hand. (\*)

### **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: Treat symptomatically.

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## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

Extinguishing media: Extinguish with water fog.

Unsuitable extinguishing media: No special precautions.

### Specific hazards arising from the hazardous product

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. By heating and fire, toxic vapors/gases may be formed.

### Advice for fire-fighters

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

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Protective equipment: Avoid inhalation of vapors and contact with skin and eyes. For personal protection, see section 8.

Emergency procedures: No specific recommendations. For personal protection, see section 8.

### Environmental precautions

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

### Methods and material for containment and cleaning up

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

### Reference to other items

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

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

Technical precautions: Mechanical ventilation required.

### 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).

### Specific end-use(s)

Specific use(s): No information available.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

No occupational exposure limit assigned.

### Exposure controls

Engineering measures: An eye wash bottle must be available at the work site. Provide adequate ventilation.

Personal protection: Personal protection equipment should be chosen according to relevant 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. 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: Wear goggles/face shield.

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

Environmental Exposure Controls: Not available.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<u>Form:</u>	Liquid.
<u>Colour:</u>	Colourless.
<u>Odour:</u>	Odourless.
<u>Odour threshold:</u>	Not available.
<u>pH:</u>	< 1
<u>Melting point:</u>	Not available.
<u>Boiling point:</u>	160°C
<u>Flash point:</u>	Not available.
<u>Evaporation rate:</u>	Not available.
<u>Flammability (solid, gas):</u>	Not available.
<u>Explosion limits:</u>	Not available.
<u>Vapour pressure:</u>	Not available.
<u>Vapour density:</u>	Not available.
<u>Relative density:</u>	Not available.
<u>Solubility:</u>	soluble in water
<u>Partition coefficient (n-octanol/water):</u>	Not available.
<u>Auto-ignition temperature (°C):</u>	Not available.
<u>Decomposition temperature (°C):</u>	Not available.
<u>Viscosity:</u>	Not available.
<u>Explosive properties:</u>	May decompose explosively above 75°C. Can explode spontaneously as a result of dehydration.
<u>Oxidising properties:</u>	Not available.
<b><u>Other information</u></b>	
<u>Other data:</u>	Volatile Organic Compound (VOC): 0 g/l (calculated)

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## 10. STABILITY AND REACTIVITY

### Reactivity

Reactivity: Heating may cause an explosion.

### Chemical stability

Stability: Stable under normal temperature conditions.

### Possibility of hazardous reactions

Hazardous Reactions: In contact with metals generates hydrogen gas, which together with air can form explosive mixtures.

### 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.

### Incompatible materials

Incompatible materials: Metals. Reducing Agents.

### Hazardous decomposition products

Hazardous decomposition products: By heating and fire, toxic gases of hydrogenchloride may be formed.

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## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

<u>Acute Toxicity (Oral):</u>	Harmful if swallowed.
<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 severe burns.
<u>Serious eye damage/irritation:</u>	Causes serious eye damage.
<u>Respiratory or skin sensitization:</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. National Toxicology Program (NTP): No. IARC Not Listed.
<u>Reproductive Toxicity:</u>	Based on available data, the classification criteria are not met.
<u>STOT - Single exposure:</u>	May cause damage to organs.
<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>	Vapors are corrosive. After 24-36 hours, injured persons may develop serious shortness of breath and lung edema.
<u>Ingestion:</u>	Strongly corrosive. Even small amounts may be fatal. Symptoms are severe burning pains in mouth, throat and stomach.
<u>Specific effects:</u>	Risk of long-term effects is expected to be minimal from occupational exposure.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

<u>Ecotoxicity:</u>	The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.
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### Persistence and degradability

<u>Degradability:</u>	The degradability of the product has not been stated.
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### Bioaccumulative potential

<u>Bioaccumulative potential:</u>	No data available on bioaccumulation.
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### Mobility in soil

<u>Mobility:</u>	No data available.
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### Results of PBT and vPvB assessment

<u>PBT/vPvB:</u>	No information available.
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### Other adverse effects

<u>Other adverse effects:</u>	No information available.
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## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

Waste from residues: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Contaminated packaging: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

## 14. TRANSPORT INFORMATION

The product is covered by international regulation on the transport of dangerous goods (IMDG, IATA).

### UN number

UN-No: 1873

### UN proper shipping name

Proper Shipping Name: PERCHLORIC ACID

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

### Transport hazard class(es)

Class: 5.1 (8)

### Packing group

PG: I

### 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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## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations specific to the product

Special provisions: This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.  
DSL: All chemicals included in the product are DSL listed or exempt.

National regulation: Hazardous Products Regulations, with amendments.  
Canadian Environmental Protection Act, Reporting for the Domestic Substances List (DSL), with amendments.  
British Columbia: Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, with amendments (2015).  
Ontario: Control of Exposure to Biological or Chemical Agents R.R.O. 1990, Reg. 833, with amendments (2016).  
Quebec: Regulation respecting the quality of the work environment, with amendments (2013-12-13).  
Alberta: Occupational Health and Safety Code 2009.  
U.S. Department of health and human services: 2011 - Report on Carcinogens - 12th Edition.  
International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: IARC, World Health Organization.

## 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: 4.

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

Approved by DHI.



Additional information: Classification according to WHMIS 2015:  
Calculation method.

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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