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Revision Date: 2019-11-22 Print date: 2019-11-22
Document No.: M0003 SDS-ID: CA-EN/19.0

1. IDENTIFICATION

Product identifier

Product name: ELECTROLYTE A3-II
Cat. No. 40900013 (part of 40900011)

CAS-No.: 7601-90-3

EC No.: 231-512-4

REACH Reg. No.: -

Container size: 60 ml

Recommended use and restrictions on use

Application: For electrolytic preparation of metallographic specimens.

Uses advised against: No specific uses advised against are identified. (*)

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. |
| P220 | Keep away from clothing and other combustible 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. |
| 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

For non-emergency personnel: Avoid inhalation of vapors and contact with skin and eyes. For personal protection, see section 8.

For emergency responders: 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). Keep/Store away from clothing, reducing agents and combustible materials.

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 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. 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. |
| <u>Other information</u> | |
| <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.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute Toxicity (Oral): Harmful if swallowed.

Acute Toxicity (Dermal): Based on available data, the classification criteria are not met.

Acute Toxicity (Inhalation): Based on available data, the classification criteria are not met.

Skin Corrosion/Irritation: Causes severe burns.

Serious eye damage/irritation: Causes serious eye damage.

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met. National Toxicology Program (NTP): No. IARC Not Listed.

Reproductive Toxicity: Based on available data, the classification criteria are not met.

STOT - Single exposure: May cause damage to organs.

STOT - Repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

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

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.

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12. ECOLOGICAL INFORMATION

Ecotoxicity

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

Persistence and degradability

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

Bioaccumulative potential

Bioaccumulative potential: No data available on bioaccumulation.

Mobility in soil

Mobility: No data available.

Results of PBT and vPvB assessment

PBT/vPvB: No information available.

Other adverse effects

Other adverse effects: No information available.

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.

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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: 1, 2.

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.
www.dhigroup.com.
