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Revision Date:	2016-11-30	Print date:	2016-11-30
Document No.:	M0009	SDS-ID:	GB-EN/16.1

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

1.1. Product identifier

Product name: ELECTROLYTE D2
Cat. No.40900032

Container size: 1 l

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. 3;H226
Skin Corr. 1B;H314
Eye Dam. 1;H318

2.2. Label elements



Danger

Contains: Phosphoric acid

H226 Flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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.

P310 Immediately call a POISON CENTER/doctor.

2.3. Other hazards

The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms. Be aware that symptoms of lung oedema (shortness of breath) may develop up to 24 hours after exposure. Organic solvents may be absorbed into the body by inhalation 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: acid and water.

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CLP:

<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>
25-50	7664-38-2	231-633-2	-	Phosphoric acid	Skin Corr. 1B;H314	B
15-25	64-17-5	200-578-6	-	Ethanol	Flam. Liq. 2;H225 Eye Irrit. 2;H319	
<5	71-23-8	200-746-9	-	Propan-1-ol	Flam. Liq. 2;H225 Eye Dam. 1;H318 STOT SE 3;H336	
25-50	7732-18-5	231-791-2	-	Water	-	
<1	57-13-6	200-315-5	-	Urea	-	

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. Be aware that symptoms of lung oedema (shortness of breath) may develop up to 24 hours after exposure. Immediately call an ambulance.

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

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. 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.

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.

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.

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 away spillage with plenty of water.

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: Never pour water into acid/base. Dilute by slowly pouring the product into water while stirring.

Technical precautions: Local exhaust is recommended. Provide easy access to water supply or an emergency shower. Provide easy access to water supply and eye wash facilities.

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. Do not store near heat sources or expose to high temperatures.

7.3. Specific end use(s)

Specific use(s): Not relevant.

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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
71-23-8	Propan-1-ol	-	200 ppm	500 mg/m3	TWA	Sk	EH40
		-	250 ppm	625 mg/m3	STEL	Sk; 15min	
7664-38-2	Orthophosphoric acid	-		1 mg/m3	TWA	-	EH40
		-		2 mg/m3	STEL	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. Local exhaust is recommended. An eye wash bottle must be available at the work site.

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: Protective gloves of butyl rubber or PE/EVOH/PE-laminate 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

<u>Appearance:</u>	colourless liquid
<u>Odour:</u>	Odourless.
<u>pH:</u>	< 2
<u>Boiling point:</u>	Not available.
<u>Flash point:</u>	≥ 23 °C and ≤ 60 °C
<u>Explosive limits</u>	Not available.
<u>Relative density:</u>	1,11
<u>Solubility:</u>	soluble in water

9.2. Other information

Other data: Volatile Organic Compound (VOC): 225,3 g/l (calculated)

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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: Heating. Strong oxidising substances and strong bases.

10.5. Incompatible materials

Incompatible materials: None known.

10.6. Hazardous decomposition products

Hazardous decomposition products: When water is added, the product reacts with a number of metals forming hydrogen gas, which may form explosive vapour/air mixtures.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

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

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 skin burns and eye damage.

Serious eye damage/irritation: Causes serious eye damage.

Respiratory or skin sensitisation: 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.

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

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

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: Vapours are corrosive. After 24-36 hours, injured persons may develop serious shortness of breath and lung oedema. Vapours of organic solvents have narcotic effect and may cause headache, fatigue, dizziness and nausea.

Ingestion: Corrosive. Even small amounts may cause serious damage.

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.

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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 08

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SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN-No: 2920

14.2. UN proper shipping name

Proper Shipping Name: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Phosphoric acid, Ethanol)

Additional IMDG information:
EmS: F-E, S-C
MFAG: 1
Segregation Group: Alkali

14.3. Transport hazard class(es)

Class: 8

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

For restrictions on use see section 15.

The following sections contain revisions or new statements: 1.

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.

The classification as corrosive has been made based on the pH value of the product.

Wording of R-phrases/H-statements:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

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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