SAFETY DATA SHEET

ELECTROLYTE D2

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name	:	ELECTROLYTE D2
UFI	:	DKT2-P090-G00V-J8RC
Cat. No.	:	40900032
Container size	:	1 l
Product type	:	Liquid.
Other means of identification	:	Not available.

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

Product use	:	For electrolytic preparation of metallographic specimens
Area of application	:	Professional applications.

Uses advised against
None identified.

1.3 Details of the supplier of the safety data sheet

Struers ApS
Pederstrupvej 84
DK-2750 Ballerup

Telephone: +45 44 600 800

e-mail address of person responsible for this SDS : sdsquestions@struers.dk

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : 2122 4071

Supplier

Telephone number : +45 44 600 800 (Only during office hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226
Skin Corr. 1, H314
Eye Dam. 1, H318

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H226 - Flammable liquid and vapour.
H314 - Causes severe skin burns and eye damage.

Precautionary statements

Prevention : P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Phosphoric acid
propan-1-ol

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Product meets the criteria for endocrine disrupting properties according to Regulation (EC) No. 1907/2006. : No.

Other hazards which do not result in classification : Causes digestive tract burns.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Phosphoric acid	REACH #: 01-2119485924-24 EC: 231-633-2 CAS: 7664-38-2 Index: 015-011-00-6	≥25 - ≤50	Met. Corr. 1, H290 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318	ATE [Oral] = 1250 mg/kg Skin Corr. 1B, H314: C ≥ 25% Skin Irrit. 2, H315: 10% ≤ C < 25% Eye Dam. 1, H318: C ≥ 25% Eye Irrit. 2, H319: 10% ≤ C < 25%	[1] [2]
ethanol	REACH #: 01-2119457610-43 EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≥10 - ≤25	Flam. Liq. 2, H225 Eye Irrit. 2, H319	-	[1]
propan-1-ol	REACH #: 01-2119486761-29 EC: 200-746-9 CAS: 71-23-8 Index: 603-003-00-0	≤5	Flam. Liq. 2, H225 Eye Dam. 1, H318 STOT SE 3, H336 **See Section 16 for the full text of the H statements declared above.**	-	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 4: First aid measures

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

Hazards from the substance or mixture : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

SECTION 6: Accidental release measures

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from alkalis. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds (in tonnes)

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonnes	50000 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Phosphoric acid	**EU OEL (Europe, 1/2022)** TWA 8 hours: 1 mg/m³. STEL 15 minutes: 2 mg/m³.

SECTION 8: Exposure controls/personal protection

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Result	
Phosphoric acid	**DNEL - Workers - Short term - Inhalation** 2 mg/m³	Effects: Local
	DNEL - General population - Long term - Oral 0.1 mg/kg bw/day	Effects: Systemic
	DNEL - General population - Long term - Inhalation 0.36 mg/m³	Effects: Local
	DNEL - Workers - Long term - Inhalation 1 mg/m³	Effects: Local
	DNEL - General population - Long term - Inhalation 4.57 mg/m³	Effects: Systemic
	DNEL - Workers - Long term - Inhalation 10.7 mg/m³	Effects: Systemic
ethanol	**DNEL - Workers - Long term - Inhalation** 380 mg/m³	Effects: Systemic
	DNEL - General population - Long term - Oral 87 mg/kg bw/day	Effects: Systemic
	DNEL - General population - Long term - Inhalation 114 mg/m³	Effects: Systemic
	DNEL - General population - Long term - Dermal 206 mg/kg bw/day	Effects: Systemic
	DNEL - Workers - Long term -	Effects: Systemic

SECTION 8: Exposure controls/personal protection

	Dermal 343 mg/kg bw/day	
	DNEL - General population - Short term - Inhalation 950 mg/m³	Effects: Local
	DNEL - Workers - Short term - Inhalation 1900 mg/m³	Effects: Local
propan-1-ol	**DNEL - General population - Short term - Inhalation** 518 mg/m³	Effects: Systemic
	DNEL - Workers - Short term - Inhalation 1037 mg/m³	Effects: Systemic

PNECs

Product/ingredient name	Result
ethanol	**Fresh water** 0.96 mg/l
	Marine water 0.79 mg/l
	Fresh water sediment 3.6 mg/kg dwt
	Soil 0.63 mg/kg dwt
	Marine water sediment 2.9 mg/kg dwt
	Sewage Treatment Plant 580 mg/l

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 8: Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Recommended: Butyl rubber gloves. The breakthrough time must be greater than the end use time of the product.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: (as filter combination A2/P2)

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Colourless.

Odour : Odourless.

Odour threshold : Not available.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling range : Not available.

Flammability : Not available.

SECTION 9: Physical and chemical properties

Lower and upper explosion limit : Not available.

Flash point : Closed cup: 23 to 60°C

Auto-ignition temperature :

Ingredient name	°C	Method
ethanol	455	DIN 51794

Decomposition temperature : Not available.

pH : <2

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): 6.8 mm^2/s
Kinematic (40°C): Not available.

Solubility :

Media	Result
water	Soluble

Solubility in water : Not available.

Partition coefficient n-octanol/ water (log Pow) : Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
ethanol	42.94865	5.7				

Relative density : 1.11

Relative vapour density : Not available.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties : Not available.

Oxidising properties : Not available.

9.2.2 Other safety characteristics

Miscible with water : Yes.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.

SECTION 10: Stability and reactivity

10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials : Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.
Reactive or incompatible with the following materials:
alkalis
oxidising materials

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/ingredient name	Result	
Phosphoric acid	**Rabbit - Dermal - LD50** 2740 mg/kg	
	Rat - Oral - LD50 1.25 g/kg	Toxic effects: Lung, Thorax, or Respiration - Acute pulmonary edema Liver - Changes in liver weight
ethanol	**Rat - Oral - LD50** 7060 mg/kg	Toxic effects: Lung, Thorax, or Respiration - Other changes
	Rabbit - Dermal - LD50 >15800 mg/kg	
	Rat - Inhalation - LC50 Vapour 124700 mg/m³ [4 hours]	
propan-1-ol	**Rat - Oral - LD50** 2200 mg/kg	Toxic effects: Behavioral - General anesthetic
	Rabbit - Dermal - LD50 4032 mg/kg	OECD [Acute Dermal Toxicity]
	Rat - Male, Female - Inhalation - LC50 Vapour >33.8 mg/l [4 hours]	OECD 403 [Acute Inhalation Toxicity]

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

SECTION 11: Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
ELECTROLYTE D2	3440.5	N/A	N/A	N/A	N/A
Phosphoric acid	1250	2740	N/A	N/A	N/A
ethanol	7060	N/A	N/A	124.7	N/A
propan-1-ol	2200	4032	N/A	N/A	N/A

Skin corrosion/irritation

Product/ingredient name	Result	
ethanol	**Rabbit - Skin - Not irritant**	OECD 404 [Acute Dermal Irritation/ Corrosion]
propan-1-ol	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg	

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name	Result
ethanol	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 0.066666667 minutes Amount/concentration applied: 100 mg **Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 100 uL **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 500 mg **Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 1 hours Amount/concentration applied: 50 pph
propan-1-ol	**Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Conclusion/Summary [Product] : Not available.

SECTION 11: Toxicological information

Respiratory or skin sensitization

Product/ingredient name	Result	
propan-1-ol	**Guinea pig - skin** Result: Not sensitizing	
	Human - skin Result: Not sensitizing	

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Product/ingredient name	Result	
Phosphoric acid	**In vitro - Bacteria** Result: Negative	OECD 471 [Bacterial Reverse Mutation Test]
	In vitro - Mammalian-Animal Result: Negative	OECD 473 [In vitro Mammalian Chromosomal Aberration Test]
	In vitro - Mammalian-Animal Result: Negative	OECD 476 [In vitro Mammalian Cell Gene Mutation Test]
propan-1-ol	**In vitro - Bacteria - Germ** Result: Negative	
	In vitro - Mammalian-Animal Result: Negative	

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Product/ingredient name	Result	
Phosphoric acid	**Rat - Oral** ≥500 mg/kg - NOAEL Fertility effects: Negative	OECD 422 [Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test]
	Rat - Oral ≥410 mg/kg - NOAEL Maternal toxicity: Negative Developmental: Negative	OECD 414 [Prenatal Developmental Toxicity Study]

Conclusion/Summary [Product] : Not available.

SECTION 11: Toxicological information

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
propan-1-ol	STOT SE 3, H336 (Narcotic effects)

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact	:	Causes serious eye damage.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	Causes severe burns.
Ingestion	:	Corrosive to the digestive tract. Causes burns.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	Adverse symptoms may include the following: pain watering redness
Inhalation	:	No specific data.
Skin contact	:	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	:	Adverse symptoms may include the following: stomach pains

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.

Long term exposure

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.

Potential chronic health effects

Product/ingredient name	Result

SECTION 11: Toxicological information

Phosphoric acid	**Chronic - Rat - Oral - NOAEL** 250 mg/kg [90 days]	OECD 422 [Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test]

Conclusion/Summary [Product] : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	
Phosphoric acid	**Acute - EC50 - Fresh water** Daphnia >100 mg/l [48 hours]	OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test]
	Acute - EC50 - Fresh water Algae >100 mg/l [72 hours]	OECD [Alga, Growth Inhibition Test]
	Acute - NOEC - Fresh water Algae 100 mg/l [72 hours]	OECD 201 [Alga, Growth Inhibition Test]
	EC50 Micro-organism >1000 mg/l [3 hours]	OECD 209 [Activated Sludge, Respiration Inhibition Test]
ethanol	**Acute - EC50 - Fresh water** Fish - Fathead minnow - *Pimephales promelas* Age: 31 days; Size: 22 mm; Weight: 0.14 g 12.8 g/l [96 hours]	Effect: Behavior
	Acute - EC50 Daphnia - *Daphnia magna* 12340 mg/l [48 hours]	
	Acute - EC50 Algae - *Chlorella vulgaris)*	

SECTION 12: Ecological information

	275 mg/l [72 hours]	
propan-1-ol	**Acute - LC50 - Marine water** Fish - Bleak - *Alburnus alburnus* Size: 8 to 10 cm 3800 mg/l [96 hours]	Effect: Mortality
	Acute - EC50 - Fresh water Algae - Green algae - *Selenastrum sp.* 4480 mg/l [96 hours]	Effect: Population
	Acute - LC50 - Fresh water Crustaceans - Scud - *Gammarus pulex* 1000 mg/l [48 hours]	Effect: Mortality

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Product/ingredient name	Result
ethanol	84% [20 days] - Readily
propan-1-ol	75% [20 days] - Readily

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethanol	-	-	Readily
propan-1-ol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
ethanol	-0.35	-	Low
propan-1-ol	0.2	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logKoc	Koc
ethanol	0.2	1.59008
propan-1-ol	0.48	3.03193

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Phosphoric acid	No	No	No	No	No	No	No
ethanol	No	N/A	Yes	No	N/A	N/A	Yes
propan-1-ol	No	N/A	Yes	No	N/A	N/A	Yes

Mobility : Not available.

Conclusion/Summary : The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

SECTION 12: Ecological information

Regulation (EC) No. 1907/2006 [REACH]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Phosphoric acid	No	No	No	No	No	No	No
ethanol	No	N/A	N/A	No	N/A	N/A	N/A
propan-1-ol	No	N/A	N/A	No	N/A	N/A	N/A

Regulation (EC) No. 1272/2008 [CLP]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Phosphoric acid	No	No	No	No	No	No	No
ethanol	No	N/A	N/A	No	N/A	N/A	N/A
propan-1-ol	No	N/A	N/A	No	N/A	N/A	N/A

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Type of packaging	European waste catalogue (EWC)	
Plastic bottles or jugs	15 01 02	plastic packaging

SECTION 13: Disposal considerations

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN2920	UN2920	UN2920	UN2920
14.2 UN proper shipping name	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Phosphoric acid, ethanol)	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Phosphoric acid, ethanol)	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Phosphoric acid, ethanol)	Corrosive liquid, flammable, n.o.s. (Phosphoric acid, ethanol)
14.3 Transport hazard class(es)	8 (3)	8 (3)	8 (3)	8 (3)
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	No.	No.	No.

Additional information

ADR/RID : **Hazard identification number** 83
Limited quantity 1 L
Special provisions 274
Tunnel code (D/E)

ADN : **Special provisions** 274

IMDG : **Emergency schedules** F-E, S-C
Special provisions 274
IMDG Code Segregation group SGG1 - Acids

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0.5 L. Packaging instructions: Y840.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
ELECTROLYTE D2	≥90	3

Labelling : Not applicable.

Other EU regulations

Explosive precursors : Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment : Complete.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
B = Bioaccumulative
BCF = Bioconcentration Factor
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
IMO = International Maritime Organization
M = Mobile
N/A = Not available
P = Persistent
PBT = Persistent, Bioaccumulative and Toxic
PMT = Persistent, Mobile and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SGG = Segregation Group
T = Toxic
vB = Very Bioaccumulative
vM = Very Mobile
vP = Very Persistent
vPvB = Very Persistent and Very Bioaccumulative
vPvM = Very Persistent and Very Mobile

Key literature references and sources for data : Regulation (EC) No. 1272/2008 [CLP]; European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), concluded in Geneva on 30 September 1957 plus amendments (Uniform text: Journal of Laws 27/2009 pos. 162 plus amendments); European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN); Occupational exposure limits; International regulations

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Skin Corr. 1, H314	On basis of test data
Eye Dam. 1, H318	On basis of test data

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Full text of classifications [CLP/GHS]

SECTION 16: Other information

Acute Tox. 4	ACUTE TOXICITY - Category 4
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Met. Corr. 1	CORROSIVE TO METALS - Category 1
Skin Corr. 1	SKIN CORROSION/IRRITATION - Category 1
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Training advice : Ensure operatives are trained to minimise exposures. Training staff on good practice.

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