

SAFETY DATA SHEET

Electrolyte TEABr 0.4 mol/L

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

1.1 Product identifier

Product name : Electrolyte TEABr 0.4 mol/L
Other means of identification : Not available.

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

Product use : Electrolytes.

1.3 Details of the supplier of the safety data sheet

Manufacturer
Metrohm AG
 Ionenstrasse
 9100 Herisau
 Schweiz
 Tel.: +41 (0)71 353 85 85
 Fax: +41 (0)71 353 89 01
 E-Mail: info@metrohm.com
 Web: www.metrohm.com

Supplier
Metrohm Italiana Srl
 Via G. Di Vittorio, 5
 21040 Origgio (VA)
 Italy

Tel.: +39 (02) 96730707
 Fax: +39 (02) 96734061
 E-Mail: info@metrohm.it

e-mail address of person responsible for this SDS : datasheet@metrohm.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : +39 081-5453333 (Centro antiveleni, Azienda ospedaliera "Antonio Cardarelli", Napoli)
 +39 055-7947819 (Centro antiveleni, Azienda ospedaliera universitaria Careggi, Firenze)
 +39 02 6610 1029 (Centro antiveleni, Azienda ospedaliera Niguarda Ca' Grande, Milano)
 +39 06-49978000 (Centro antiveleni Policlinico "Umberto I", PRGM tossicologia d'urgenza, Roma)
 +39 06-3054343 (Centro antiveleni del Policlinico "Agostino Gemelli", Servizio di tossicologia clinica)
 +39 800183459 (Centro antiveleni, Azienda ospedaliera universitaria riuniti, Foggia)
 +39 06 68593726 (Centro antiveleni, Ospedale pediatrico Bambino Gesù, Dipartimento emergenza e accettazione DEA, Roma)
 +39 800011858 (Centro antiveleni dell'Azienda ospedaliera universitaria integrata (AOUI) di Verona sede di Borgo Trento, Verona)
 +39 800883300 (Centro antiveleni, Azienda ospedaliera "Papa Giovanni XXIII", tossicologia clinica, Dipartimento di farmacia clinica e farmacologia, Bergamo)
 +39 0382-24444 (Centro antiveleni, Centro nazionale d'informazione tossicologica, IRCCS Fondazione Salvatore Maugeri Clinica del lavoro e della riabilitazione, Pavia)

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

Supplier

Telephone number : + 49 (0)6132-84463 (24 h, GBK GmbH)

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]

Acute Tox. 4, H302

STOT RE 2, H373

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.

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 - Harmful if swallowed.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : P260 - Do not breathe vapour or spray.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

Response : P314 - Get medical advice/attention if you feel unwell.
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

Storage : Not applicable.

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

Hazardous ingredients : Ethanediol

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.

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.

Other hazards which do not result in classification : None known.

SECTION 2: Hazards identification

Product does not contain substances above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
ethanediol	REACH #: 01-2119456816-28 EC: 203-473-3 CAS: 107-21-1	≥90	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys)	[1] [2]
tetrammonium bromide	REACH #: 01-2120249917-42 EC: 200-769-4 CAS: 71-91-0	≤10	Aquatic Chronic 3, H412 See Section 16 for the full text of the H statements declared above.	[1]

Product/ingredient name	Specific Conc. Limits, M-factors and ATEs
ethanediol	ATE [Oral] = 500.1 mg/kg
tetrammonium bromide	-

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** : 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. Get medical attention following exposure or if feeling unwell.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention following exposure or if feeling unwell. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

- Ingestion** : 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. Get medical attention. If necessary, call a poison center or 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed**Potential acute health effects**

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing media** : Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog). Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

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.
- 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 5: Firefighting measures

Additional information (Explosibility) : Not considered to be a product presenting a risk of explosion.

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. Avoid breathing 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. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. 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. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

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 breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Keep away from ignition sources such as heat/sparks/open flame. - No smoking.
- 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 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. 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.

7.3 Specific end use(s)

SECTION 7: Handling and storage

Section 7. Handling and storage: The information in this section contains generic advice and guidance.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters**Occupational exposure limits****Occupational exposure limits (national)**

Product/ingredient name	Exposure limit values
ethanediol	Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). Absorbed through skin. Limit value: 20 ppm 8 hours. Limit value: 52 mg/m ³ 8 hours. Short Term: 40 ppm 15 minutes. Short Term: 104 mg/m ³ 15 minutes.

Occupational exposure limits (European Union)

Product/ingredient name	Exposure limit values
ethanediol	EU OEL (Europe, 1/2022). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 52 mg/m ³ 8 hours. STEL: 40 ppm 15 minutes. STEL: 104 mg/m ³ 15 minutes.

Biological exposure indices

None 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	Type	Exposure	Value	Population	Effects
ethanediol	DNEL	Long term Inhalation	7 mg/m ³	General population	Local
	DNEL	Long term Inhalation	35 mg/m ³	Workers	Local
	DNEL	Long term Dermal	53 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	106 mg/kg bw/day	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

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: Wear safety glasses with side protection in accordance with EN 166.

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: Wear suitable gloves tested to EN374.

> 8 hours (breakthrough time): nitrile rubber (thickness ≥ 0.11 mm)

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.

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: Combination filtering device (DIN EN 14387). Filter type: A-(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.
pH	: 6
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: 197.5 to 198.1°C
Flash point	: Closed cup: 111°C (231.8°F)
Flammability	: Not available.

SECTION 9: Physical and chemical properties

Lower and upper explosion limit	: Lower: 3.2% Upper: 53%
Vapour pressure	: 0.01 kPa [room temperature]
Vapour density	: Not available.
Relative density	: Not available.
Density	: 1.12088 g/cm ³
Solubility in water	: Soluble.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not self-ignitable.

Ingredient name	°C	°F	Method
ethanediol	398	748.4	

Decomposition temperature	: Not available.
Viscosity	: Not available.

Particle characteristics

Median particle size	: Not applicable.
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9.2 Other information**9.2.1 Information with regard to physical hazard classes**

Explosive properties	: Not considered to be a product presenting a risk of explosion.
Oxidising properties	: Not available.

9.2.2 Other safety characteristics

Not available.

No additional information.

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.
10.4 Conditions to avoid	: Keep away from heat, sparks and flame.
10.5 Incompatible materials	: Reactive or incompatible with the following materials: Strong oxidiser, strong acids, strong alkalis.
10.6 Hazardous decomposition products	: Hydrogen bromide, carbon dioxide, carbon monoxide.

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure	Remarks
ethanediol	LC50 Inhalation Dusts and mists	Rat - Male, Female	>2.5 mg/l	6 hours	-
	LD50 Dermal	Mouse - Male, Female	>3500 mg/kg	-	ECHA
tetrammonium bromide	LD50 Oral	Rat	500.1 mg/kg	-	-
	LD50 Dermal [OECD 402]	Rat - Male	>2000 mg/kg	-	-
	LD50 Oral [OECD 401]	Rat - Male	2500 mg/kg	-	-

Conclusion/Summary : Harmful if swallowed.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Electrolyte TEABr 0.4 mol/L	540.6	N/A	N/A	N/A	N/A
ethanediol	500.1	N/A	N/A	N/A	N/A
tetrammonium bromide	2500	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	Remarks
ethanediol	Eyes - Non-irritating to the eyes.	Rabbit	-	-	24 hours	-
	Skin - Non-irritating to the skin.	Rabbit	-	-	20 hours	-
tetrammonium bromide	Eyes - Non-irritating to the eyes. [OECD 405]	Rabbit	-	4 hours	-	-
	Skin - Non-irritating to the skin. [OECD 404]	Rabbit	-	4 hours	-	-

Conclusion/Summary

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

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

Respiratory : Not available.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result	Remarks
ethanediol	skin	Guinea pig	Not sensitizing [OECD 406]	-
tetrammonium bromide	skin	Guinea pig	Not sensitizing	-

Conclusion/Summary

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

Respiratory : Not available.

Mutagenicity

SECTION 11: Toxicological information

Product/ingredient name	Test	Experiment	Result	Remarks
ethanediol	OECD 471, Ames	Subject: Bacteria Metabolic activation: with and without	Negative	Escherichia coli/ Salmonella typhimurium
	-	Subject: Mammalian-Animal	Negative	-
tetrylammonium bromide	OECD 471, Ames	Subject: Bacteria Metabolic activation: with and without	Negative	Salmonella typhimurium

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethanediol	Category 2	-	kidneys

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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.

SECTION 11: Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure	Remarks
tetrylammonium bromide	Sub-acute Oral	Rat - Male, Female	1000 mg/kg	28 days	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

General : May cause damage to organs through prolonged or repeated exposure.

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**

Human Health:

Product does not contain substances above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

11.2.2 Other information

Not available.

SECTION 12: Ecological information**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure	Remarks
ethanediol	Acute EC20 >1995 mg/l [ISO 8192]	Activated sludge	30 minutes	-
	Acute EC50 >100 mg/l [OECD 202]	Daphnia - <i>Daphnia magna</i>	48 hours	-
	Acute IC5 >10000 mg/l	Algae - <i>Scenedesmus quadricauda</i>	7 days	-
	Acute LC50 >1500 mg/l	Fish - <i>Menidia peninsulae</i>	28 days	read-across
	Acute LC50 72860 mg/l [US-EPA]	Fish - <i>Pimephales promelas</i>	96 hours	-
	Chronic NOEC >40 mg/l	Fish - <i>Menidia peninsulae</i>	28 days	read-across
tetrylammonium bromide	Acute LC50 >200 mg/l [OECD 201]	Algae - <i>Chlorella vulgaris</i>	72 hours	-
	Acute LC50 65.6 mg/l [OECD 202]	Daphnia - <i>Daphnia magna</i>	48 hours	-
	Acute LC50 >100 mg/l [OECD 203]	Fish - <i>Danio rerio</i>	96 hours	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

12.2 Persistence and degradability

SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
ethanediol	OECD 301 A	90 to 100 % - Readily - 10 days	-	-
tetrylammonium bromide	OECD 301D	22.4 % - Readily - 28 days	-	-

Conclusion/Summary : There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethanediol	-	-	Readily
tetrylammonium bromide	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
ethanediol	-1.36	-	Low
tetrylammonium bromide	-2.82	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Environment:

Product does not contain substances above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

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.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EWC, specific to the industry and process.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible.

Electrolyte TEABr 0.4 mol/L

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. 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	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
Label				
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	Marine Pollutant: No	No.

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 applicable.

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 TEABr 0.4 mol/L	≥90	3

Labelling : Not applicable.

Other EU regulations

Explosive precursors : Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

SECTION 15: Regulatory information

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

D.Lgs. 152/06 : 92.5% Table C Class III
92.5% Table C Class III - Total emission
92.5% Total emission

There are no known additional national regulations relevant to the SDS.

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.

Inventory list

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Eurasian Economic Union : **Russian Federation inventory**: All components are listed or exempted.
Japan : **Japan inventory (CSCL)**:
All components are listed or exempted.
New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.
Thailand : All components are listed or exempted.
United States : All components are active or exempted.
Viet Nam : All components are listed or exempted.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

This Safety Data Sheet is prepared in accordance with Annex II to Regulation (EC) No 1907/2006, as amended by Commission Regulation (EU) 2020/878.

🔍 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
BCF = Bioconcentration Factor
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level

SECTION 16: Other information

EUH statement = CLP-specific Hazard statement
 EWC = European Waste Catalogue
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 PBT = Persistent, Bioaccumulative 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
 vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Acute Tox. 4, H302 STOT RE 2, H373	Calculation method Calculation method

Full text of abbreviated H statements

H302 H373	Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4 Aquatic Chronic 3 STOT RE 2	ACUTE TOXICITY - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.