

SAFETY DATA SHEET


Electrolyte TEABr 0.4 mol/L

Section 1. Identification

GHS product identifier : Electrolyte TEABr 0.4 mol/L

Other means of identification : Not available.

Product use : Electrolytes.

Supplier's details :  **Manufacturer**
Metrohm AG
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9100 Herisau
Switzerland
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E-Mail: info@metrohm.com
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Supplier
Metrohm USA, Inc.
9250 Camden Field Parkway
Riverview, FL 33578
USA

Tel.: +1 (813) 316 4700
Fax: +1 (813) 316 4900
E-Mail: info@metrohmusa.com

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

Emergency telephone number (with hours of operation) : USA Domestic: 1 800 535 5053; International: (001) 352 323 3500 (24 h, GBK / Infotrac ID 108225)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

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

Precautionary statements

Section 2. Hazards identification

Prevention	: Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Response	: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
Storage	: Not applicable.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.
Hazards identified when used	: <input checked="" type="checkbox"/> No known significant effects or critical hazards.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

Ingredient name	Synonyms	%	Identifiers
Ethenediol	ethylene glycol; ethane-1,2-diol; 1,2-Ethenediol; Glycol; Monoethylene glycol; 1,2-Ethenediol (ethylene glycol); Glycol alcohol; 1,2-Dihydroxyethane; catalyst, containing N-(2-hydroxypropylammonium) diazabicyclo[2,2,2]octane-2-ethyl hexanoate, dissolved in ethane-1,2-diol; glycol; monoethylene glycol; monoethyleneglycol; Ethylene glycol, aerosol	≥80	CAS: 107-21-1
tetrylammonium bromide	Ethanaminium, N,N,N-triethyl-, bromide (1:1); Ethanaminium, N, N,N-triethyl-, bromide; Tetraethylammonium bromide; N, N,N-triethylethanaminium bromide; Ammonium, tetraethyl-, bromide	≥5 - ≤10	CAS: 71-91-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary 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

Section 4. First aid measures

- 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.
- 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.

Most important symptoms/effects, 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.

Indication of immediate medical attention and special treatment needed, if necessary

- 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.
- 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

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.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

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.

Section 5. Fire-fighting measures

- 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.
- Remark (Explosibility)** : Not considered to be a product presenting a risk of explosion.

Section 6. Accidental release measures

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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized 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".

- Environmental precautions** : Avoid dispersal of spilled 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).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Absorb with an inert 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 release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled 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 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor 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.

- 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
ethanediol	CAL OSHA PEL (United States, 5/2018) C: 100 mg/m ³ . Form: vapor. C: 40 ppm. Form: vapor. OSHA PEL 1989 (United States, 3/1989) CEIL: 50 ppm. CEIL: 125 mg/m ³ . ACGIH TLV (United States, 1/2024) A4. STEL 15 minutes: 10 mg/m ³ . Form: Inhalable fraction. Aerosol only.. STEL 15 minutes: 50 ppm. Form: Vapor fraction. TWA 8 hours: 25 ppm. Form: Vapor fraction.
tetrylammonium bromide	None.

Biological exposure indices

None known.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor 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.

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.

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: safety glasses with side-shields.

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.
 > 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.

Section 8. Exposure controls/personal protection

- 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: Ensure an MSHA/NIOSH-approved respirator or equivalent is used.

Section 9. Physical and chemical properties

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

Appearance

- Physical state** : Liquid.
Color : Colorless.
Odor : Odorless.
Odor threshold : Not available.
pH : 6
Melting point/freezing point : Not available.
Boiling point or initial boiling point and boiling range : 197.5 to 198.1°C (387.5 to 388.6°F)
Flash point : Closed cup: 111°C (231.8°F)
Evaporation rate : Not available.
Flammability : Not available.
Lower and upper explosion limit/flammability limit : Lower: 3.2%
Upper: 53%
Vapor pressure : 0.01 kPa (0.075006 mm Hg) [room temperature]
Relative vapor density : Not available.
Relative density : Not available.
Density : 1.12088 g/cm³
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 : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): Not available.
Explosive properties : Not considered to be a product presenting a risk of explosion.
Oxidizing properties : Not available.
Particle characteristics
Median particle size : Not applicable.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
Chemical stability : The product is stable.
Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : Keep away from heat, sparks and flame.

Incompatible materials : Reactive or incompatible with the following materials: Strong oxidizer, strong acids, strong alkalis.

Hazardous decomposition products : Hydrogen bromide, carbon dioxide, carbon monoxide.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

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

Conclusion/Summary : Harmful if swallowed.

Irritation/Corrosion

Product/ingredient name	Result and Species	Exposure	Remarks
ethanediol	Skin - Rabbit - Non-irritating to the skin.	Observation period: 20 hours	-
	Eyes - Rabbit - Non-irritating to the eyes.	Observation period: 24 hours	-
tetrylammonium bromide	Skin - Rabbit - Non-irritating to the skin. - [OECD 404]	Duration of treatment/exposure: 4 hours	-
	Eyes - Rabbit - Non-irritating to the eyes. - [OECD 405]	Duration of treatment/exposure: 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.

Respiratory or skin sensitization

Product/ingredient name	Route of exposure and Species	Result	Remarks
ethanediol	skin - Guinea pig [OECD 406]	Not sensitizing	-
tetrylammonium 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	Result	Experiment	Remarks
ethanediol	Negative [OECD 471, Ames]	Bacteria	Escherichia coli/ Salmonella typhimurium
	Negative	Mammalian-Animal - Oral	-
tetrylammonium bromide	Negative [OECD 471, Ames]	Bacteria	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)

Name	Category	Route of exposure	Target organs
ethanediol	Category 2	-	-

Aspiration hazard

Not available.

Information on the 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 and also 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

Section 11. Toxicological information

Product/ingredient name	Result and Species	Dose [Exposure]	Remarks
tetrylammonium bromide	Oral - Sub-acute - 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.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (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
tetrylammonium bromide	2500	2500	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

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

Section 12. Ecological information

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

Persistence and degradability

Product/ingredient name	Test	Result	Remarks
ethanediol	OECD 301 A	90 to 100% [10 days] - Readily	-
tetrylammonium bromide	OECD 301D	22.4% [28 days] - Readily	Aerobic

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

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

Bioaccumulative potential

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

Mobility in soil

Soil/Water partition coefficient : Not available.

Mobility : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-

Section 14. Transport information

Label						
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	Marine Pollutant: No	No.

Additional information

DOT Classification : **Reportable quantity** 5405.4 lbs / 2454.1 kg [578.38 gal / 2189.4 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

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.

Transport in bulk according to IMO instruments : Not intended.

Section 15. Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : ACUTE TOXICITY (oral) - Category 4
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Composition/information on ingredients

Name	%	Classification
<input checked="" type="checkbox"/> ethanediol	≥80	ACUTE TOXICITY (oral) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	ethanediol	107-21-1	≥80
Supplier notification	ethanediol	107-21-1	≥80

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: ETHYLENE GLYCOL

New York : The following components are listed: Ethylene glycol

New Jersey : The following components are listed: ETHYLENE GLYCOL

Pennsylvania : The following components are listed: 1,2-ETHANEDIOL

California Prop. 65

⚠ WARNING: This product can expose you to Ethylene Glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Ethylene Glycol	-	Yes.

EPA PFAS Compilation from Comptox

Not listed.

TSCA 8(a)7 - One-time Reporting PFAS

Not listed.

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.

OECD Comprehensive Global PFAS Database

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.

Section 15. Regulatory information

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.

Section 16. Other information

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 4	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

History

Date of printing	: 08/13/2025
Date of issue/Date of revision	: 08/13/2025
Date of previous issue	: 09/25/2023
Version	: 4
Key to abbreviations	: ADR = Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor DOT = Department of Transportation GHS = Globally Harmonized System of Classification and Labelling of Chemicals 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 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail SGG = Segregation Group TDG = Transportation of Dangerous Goods UN = United Nations

References : Not available.

▣ Indicates information that has changed from previously issued version.

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.