# Lithium-ion Battery Electrolyte

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 02/09/2023 Revision date: 02/09/2023 Version: 1.0

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

### 1.1. Product identifier

Product form : Mixture
Trade name : Lithium-ion Battery Electrolyte

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Lithium battery electrolyte is generally a colorless liquid prepared from high-purity organic solvents, electrolyte lithium salts, necessary additives and other raw materials under certain conditions and in a certain proportion.
It conducts ions between the positive and negative electrodes of the lithium battery, and is the guarantee for lithium-ion batteries to obtain the advantages of high voltage and high specific energy.

#### 1.2.2. Uses advised against

Restrictions on use : No information available

### 1.3. Details of the supplier of the safety data sheet

Manufacturer:
Jiu Jiang Tinci Materials Technology Co., Ltd.
No. 88, Jinsha South Road, High-tech Industrial Park, Hukou County,
Jiujiang City, Jiangxi Province, PRC
332500
T +86-792-7181000 - F +86-792‑6380900
chenlei@tinci.com

### 1.4. Emergency telephone number

Emergency number : +86-532-83889090

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

| | |
|---|---|
| Flammable liquids, Category 2 | H225 |
| Acute toxicity (oral), Category 4 | H302 |
| Serious eye damage/eye irritation, Category 1 | H318 |
| Skin sensitisation, Category 1 | H317 |
| Reproductive toxicity, Category 2 | H361 |
| Specific target organ toxicity — Repeated exposure, Category 1 | H372 |
| Longterm (chronic) aquatic hazard Category 2 | H411 |

Full text of H- and EUH-statements: see section 16

#### Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

## 2.2. Label elements

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :

GHS02 GHS05 GHS07 GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.
H302 - Harmful if swallowed.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H361 - Suspected of damaging fertility or the unborn child.
H372 - Causes damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.. Immediately call a POISON CENTER or doctor.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P370+P378 - In case of fire: Use media other than water to extinguish.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

EUH-statements : None.

## 2.3. Other hazards

Other hazards which do not result in classification : No information available.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

# SECTION 3: Composition/information on ingredients

## 3.1. Substances

Not applicable.

## 3.2. Mixtures

| Name | Product identifier | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|
| Dimethyl carbonate | CAS-No.: 616-38-6<br>EC-No.: 10-478-4 | Flam. Liq. 2, H225 |

| Name | Product identifier | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|
| Ethylene carbonate | CAS-No.: 96-49-1<br>EC-No.: 202-510-0 | Acute Tox. 4 (oral), H302<br>Eye Irrit. 2, H319<br>STOT RE 2, H373 |
| Lithium bis(fluorosulfonyl)amide | CAS-No.: 171611-11-3<br>EC-No.: 686-526-7 | Acute Tox. 4 (oral), H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Repr. 2, H361 |
| 1,3-Dioxolan-2-one, 4-fluoro- | CAS-No.: 114435-02-8<br>EC-No.: 483-360-5 | Acute Tox. 4 (oral), H302<br>Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Eye Irrit. 2, H319<br>STOT RE 1, H372 |
| Vinylene carbonate | CAS-No.: 872-36-6<br>EC-No.: 212-825-5 | Acute Tox. 4 (oral), H302<br>Acute Tox. 3 (dermal), H311<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>STOT RE 2, H373<br>Aquatic Chronic 2, H411 |
| Carbonic acid, ethyl methyl ester | CAS-No.: 623-53-0<br>EC-No.: 433-480-9 | Flam. Liq. 2, H225 |

Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Artificial respiration and/or oxygen if necessary. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth out with water. If you feel unwell, seek medical advice. Rinse mouth. Do not induce vomiting. Call a physician immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Highly flammable liquid and vapour. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Dry powder. Foam. Carbon dioxide. Alcohol-resistant foam.

Unsuitable extinguishing media : Do not use a water jet since it may cause the fire to spread.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.

| | | |
|---|---|---|
| Explosion hazard | : | Vapours may form explosive mixture with air. |
| Hazardous decomposition products in case of fire | : | Toxic fumes may be released. Carbon oxides (CO, CO2). Hydrogen fluoride. Metal oxides. Boroxide. |

### 5.3. Advice for firefighters

| | | |
|---|---|---|
| Firefighting instructions | : | Approach from upwind. Avoid all unnecessary exposure. Breathing apparatus. Cool down the containers exposed to heat with a water spray. Do not allow run-off from fire fighting to enter drains or water courses. Eliminate all ignition sources if safe to do so. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to a safe area. Fight fire from safe distance and protected location. Get the package away from the fire if this can be done without risk. In case of fire: stop leak if safe to do so. Keep container tightly closed and away from heat, sparks and flame. Wear personal protective equipment. |
| Protection during firefighting | : | Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

| | | |
|---|---|---|
| Emergency procedures | : | Avoid breathing dust, mist or spray. Eliminate all ignition sources if safe to do so. Ensure adequate ventilation, especially in confined areas. Do not touch or walk on the spilled product. Wear personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Access forbidden to unauthorised personnel. Evacuate personnel to a safe area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapours/spray. |

#### 6.1.2. For emergency responders

| | | |
|---|---|---|
| Protective equipment | : | Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |

### 6.2. Environmental precautions

Avoid release to the environment. Avoid the spillage or runoff entering drains, sewers or watercourses. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

| | | |
|---|---|---|
| For containment | : | Collect spillage. |
| Methods for cleaning up | : | Take up liquid spill into absorbent material. Stop leak if safe to do so. Collect up the product and place it in a spare container suitably labelled. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations. Notify authorities if product enters sewers or public waters. |
| Other information | : | Dispose of materials or solid residues at an authorized site. |

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

| | | |
|---|---|---|
| Precautions for safe handling | : | Ensure good ventilation of the work station. Ensure adequate ventilation, especially in confined areas. Always wash hands after handling the product. Avoid breathing dust, mist or spray. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. |
| Hygiene measures | : | Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

### 7.2. Conditions for safe storage, including any incompatibilities

| | | |
|---|---|---|
| Technical measures | : | Keep only in the original container. Store in a well-ventilated place. Keep container tightly closed. Ground/bond container and receiving equipment. |
| Storage conditions | : | Keep container tightly closed in a cool, well-ventilated place. Keep only in the original container. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from heat and direct sunlight. |
| Incompatible products | : | Strong bases. Strong oxidizing agents. Water. |
| Packaging materials | : | 304 stainless steel tube |
| Lagertemperature | : | 180 days（0-30° C） |

### 7.3. Specific end use(s)

SDS section 1.2.1 - Additional text.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

No additional information available

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

**Appropriate engineering controls:**
Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

##### 8.2.2.1. Eye and face protection

**Eye protection:**
Safety glasses with side shields. EN 166

##### 8.2.2.2. Skin protection

**Skin and body protection:**
Wear suitable protective clothing

**Hand protection:**
protective gloves.
Material: nitrile rubber
Minimum thickness: 0.11 mm
Shelf life: 480 min

##### 8.2.2.3. Respiratory protection

**Respiratory protection:**
[In case of inadequate ventilation] wear respiratory protection.

##### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

**Environmental exposure controls:**
Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Liquid. |
| Colour | : | Transparent. |
| Appearance | : | Clear and transparent liquid. |
| Odour | : | Odourless. |
| Odour threshold | : | Not available |
| Melting point | : | Not applicable. |
| Freezing point | : | Not applicable. |
| Boiling point | : | 105 – 110 °C |
| Flammability | : | Highly flammable liquid and vapour. |
| Explosive properties | : | No data available. |
| Explosive limits | : | No data available. |
| Lower explosion limit | : | No data available. |
| Upper explosion limit | : | No data available. |
| Flash point | : | 21 °C |
| Auto-ignition temperature | : | Not available. |
| Decomposition temperature | : | Not available. |
| pH | : | ≈ 5 |
| Viscosity, kinematic | : | Not available. |
| Solubility | : | Reacts with water. |
| Partition coefficient n-octanol/water (Log Kow) | : | Not available. |
| Vapour pressure | : | No data available. |
| Vapour pressure at 50 °C | : | Not available |
| Density | : | No data available. |
| Relative density | : | No data available. |
| Relative vapour density at 20 °C | : | No data available. |
| Particle characteristics | : | Not applicable. |

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Highly flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

Strong bases. Strong oxidizing agents. Water.

### 10.6. Hazardous decomposition products

Hydrogen fluoride. Metal oxides. Boroxide.

## SECTION 11: Toxicological information

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

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

| Dimethyl carbonate (616-38-6) | |
|---|---|
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |
| LC50 Inhalation - Rat | > 5.36 mg/L |

| Carbonic acid, ethyl methyl ester (623-53-0) | |
|---|---|
| LD50 oral rat | > 5000 mg/kg |
| LC50 Inhalation - Rat | > 17.6 mg/l air |

| Lithium bis(fluorosulfonyl)amide (171611-11-3) | |
|---|---|
| LD50 oral rat | 300 - 2000 mg/kg |
| LD50 dermal rat | 2000 - 5000 mg/kg |

| 4-Fluoro-1,3-dioxolan-2-one (114435-02-8) | |
|---|---|
| LD50 dermal rat | > 2000 mg/kg |

| Ethylene carbonate (96-49-1) | |
|---|---|
| LD50 oral rat | 10 g/kg |
| LD50 dermal rat | > 2000 mg/kg |
| LD50 dermal rabbit | > 26420 mg/kg |
| LC50 Inhalation - Rat | > 730 mg/m³ (Exposure time: 8 h) |

| Vinylene carbonate (872-36-6) | |
|---|---|
| LD50 dermal rat | 200 – 2000 mg/kg |

Skin corrosion/irritation : Causes severe skin burns.
pH: ≈ 5

Serious eye damage/irritation : Causes serious eye damage.
pH: ≈ 5

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Suspected

| Lithium hexafluorophosphate(1-) (21324-40-3) | |
|---|---|
| NOAEL (animal/male, F0/P) | 500 mg/kg bodyweight |

STOT-single exposure : Not classified

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure.

| Carbonic acid, ethyl methyl ester (623-53-0) | |
|---|---|
| NOAEL (oral, rat, 90 days) | 1000 mg/kg |

| Ethylene carbonate (96-49-1) | |
|---|---|
| NOAEL (oral, rat, 90 days) | 150 mg/kg |
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |

| 4-Fluoro-1,3-dioxolan-2-one (114435-02-8) | |
|---|---|
| STOT-repeated exposure | Causes damage to organs through prolonged or repeated exposure. |

| Vinylene carbonate (872-36-6) | |
|---|---|
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |

Aspiration hazard : Not classified

## 11.2. Information on other hazards

### 11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

### 11.2.2. Other information

Other information : No information available

## SECTION 12: Ecological information

## 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

| Dimethyl carbonate (616-38-6) | |
|---|---|
| LC50 - Fish [1] | ≥ 100 mg/L (Danio rerio) |
| EC50 - Crustacea [1] | > 100 mg/L (Daphnia magna) |

| Dimethyl carbonate (616-38-6) | |
|---|---|
| EC50 - Algae [1] | > 100 mg/L/72 h (Pseudokirchneriella subcapitata) |

| Carbonic acid, ethyl methyl ester (623-53-0) | |
|---|---|
| LC50 - Fish [1] | > 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) |
| EC50 - Crustacea [1] | > 100 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | > 62 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) |

| Ethylene carbonate (96-49-1) | |
|---|---|
| LC50 - Fish [1] | > 100 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss) |

| Vinylene carbonate (872-36-6) | |
|---|---|
| LC50 - Fish [1] | 2.4 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [flow-through]) |

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

| Lithium-ion Battery Electrolyte |
|---|
| This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII |
| This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

### 12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapours may accumulate in the container.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| **14.1. UN number or ID number** | | | | |
| UN 2924 | UN 2924 | UN 2924 | UN 2924 | UN 2924 |
| **14.2. UN proper shipping name** | | | | |
| FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)) | FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)) | Flammable liquid, corrosive, n.o.s. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)) | FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)) | FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)) |
| **Transport document description** | | | | |
| UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)), 3 (8), II, (D/E) | UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)), 3 (8), II | UN 2924 Flammable liquid, corrosive, n.o.s. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)), 3 (8), II | UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)), 3 (8), II | UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Carbonic acid, ethyl methyl ester ; Lithium hexafluorophosphate(1-)), 3 (8), II |
| **14.3. Transport hazard class(es)** | | | | |
| 3 (8) | 3 (8) | 3 (8) | 3 (8) | 3 (8) |
|  |  |  |  |  |
| **14.4. Packing group** | | | | |
| II | II | II | II | II |
| **14.5. Environmental hazards** | | | | |
| Dangerous for the environment: No | Dangerous for the environment: No<br>Marine pollutant: No | Dangerous for the environment: No | Dangerous for the environment: No | Dangerous for the environment: No |
| No supplementary information available | | | | |

## 14.6. Special precautions for user

**Overland transport**

| | | |
|---|---|---|
| Classification code (ADR) | : | FC |
| Special provisions (ADR) | : | 274 |
| Limited quantities (ADR) | : | 1l |
| Excepted quantities (ADR) | : | E2 |
| Packing instructions (ADR) | : | P001, IBC02 |
| Mixed packing provisions (ADR) | : | MP19 |
| Portable tank and bulk container instructions (ADR) | : | T11 |
| Portable tank and bulk container special provisions (ADR) | : | TP2, TP27 |
| Tank code (ADR) | : | L4BH |
| Vehicle for tank carriage | : | FL |
| Transport category (ADR) | : | 2 |
| Special provisions for carriage - Operation (ADR) | : | S2, S20 |
| Hazard identification number (Kemler No.) | : | 338 |
| Orange plates | : |  |
| Tunnel restriction code (ADR) | : | D/E |
| EAC code | : | •3WE |

| | | |
|---|---|---|
| APP code | : | A(fl) |

**Transport by sea**

| | | |
|---|---|---|
| Special provisions (IMDG) | : | 274 |
| Limited quantities (IMDG) | : | 1 L |
| Excepted quantities (IMDG) | : | E2 |
| Packing instructions (IMDG) | : | P001 |
| IBC packing instructions (IMDG) | : | IBC02 |
| Tank instructions (IMDG) | : | T11 |
| Tank special provisions (IMDG) | : | TP2, TP27 |
| EmS-No. (Fire) | : | F-E |
| EmS-No. (Spillage) | : | S-C |
| Stowage category (IMDG) | : | B |
| Stowage and handling (IMDG) | : | SW2 |
| Properties and observations (IMDG) | : | Causes burns to skin, eyes and mucous membranes. |

**Air transport**

| | | |
|---|---|---|
| PCA Excepted quantities (IATA) | : | E2 |
| PCA Limited quantities (IATA) | : | Y340 |
| PCA limited quantity max net quantity (IATA) | : | 0.5L |
| PCA packing instructions (IATA) | : | 352 |
| PCA max net quantity (IATA) | : | 1L |
| CAO packing instructions (IATA) | : | 363 |
| CAO max net quantity (IATA) | : | 5L |
| Special provisions (IATA) | : | A3, A803 |
| ERG code (IATA) | : | 3CH |

**Inland waterway transport**

| | | |
|---|---|---|
| Classification code (ADN) | : | FC |
| Special provisions (ADN) | : | 274 |
| Limited quantities (ADN) | : | 1 L |
| Excepted quantities (ADN) | : | E2 |
| Carriage permitted (ADN) | : | T |
| Equipment required (ADN) | : | PP, EP, EX, A |
| Ventilation (ADN) | : | VE01 |
| Number of blue cones/lights (ADN) | : | 1 |

**Rail transport**

| | | |
|---|---|---|
| Classification code (RID) | : | FC |
| Special provisions (RID) | : | 274 |
| Limited quantities (RID) | : | 1L |
| Excepted quantities (RID) | : | E2 |
| Packing instructions (RID) | : | P001, IBC02 |
| Mixed packing provisions (RID) | : | MP19 |
| Portable tank and bulk container instructions (RID) | : | T11 |
| Portable tank and bulk container special provisions (RID) | : | TP2, TP27 |
| Tank codes for RID tanks (RID) | : | L4BH |
| Transport category (RID) | : | 2 |
| Colis express (express parcels) (RID) | : | CE7 |
| Hazard identification number (RID) | : | 338 |

### 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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains a substance on the REACH candidate list: 1,3-propanesultone (EC 214-317-9, CAS 1120-71-4)
Contains no REACH Annex XIV substances
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants
Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.
Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.
Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

**Indication of changes:**
Not applicable.

| Abbreviations and acronyms: | |
|---|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | Agreement concerning the International Carriage of Dangerous Goods by Road |
| EC50 | Median effective concentration |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |

| Abbreviations and acronyms: | |
|---|---|
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

Version : 1.0.
Issue date : 02/092023
Revision date : 02/09/2023
Data sources : Loli. ECHA reference.
Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.
Other information : No information available.

| Full text of H- and EUH-statements: | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H350 | May cause cancer. |
| H351 | Suspected of causing cancer. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Acute Tox. 3 (Dermal) | Acute toxicity (Dermal), Category 3 |

| Full text of H- and EUH-statements: | |
|---|---|
| Skin Corr. 1A | Skin corrosion/irritation, Category 1, Sub-Category 1A |
| Skin Irrit. 2 | Skin irritation, Category 2 |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2 | Eye irritation, Category 2 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Repr. 2 | Reproductive toxicity, Category 2 |
| STOT RE 1 | Specific target organ toxicity — Repeated exposure, Category 1 |
| STOT RE 2 | Specific target organ toxicity — Repeated exposure, Category 2 |
| Aquatic Chronic 2 | Longterm (chronic) aquatic hazard Category 2 |
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H373 | May cause damage to organs through prolonged or repeated exposure . |
| H411 | Toxic to aquatic life with long lasting effects. |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.