

**1 Identification of the substance/mixture and of the company/undertakin****1.1 Product identifier****Trade name: 1,3-PS****Synonyms:**

1,3-Propanesultone

PS-PM

PS-EL

**Chemical Identification:**

1,2lambda6-oxathiolane-2,2-dione

1,2-oxathiolane 2,2-dioxide

**CAS Number:**

1120-71-4

**EC number:**

214-317-9

**Index number:**

016-032-00-3

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

Chemical intermediate

Formulation &amp; (re)packing of substances and mixtures

Additive in electrolytes for Li-Ion batteries

**Technical function**

Intermediate (precursor)

Durability agent

Stabilizing agent

**Uses advised against**

Not recommended for any consumer use except Li-Ion batteries and other sealed articles with no intended released of the substance.

**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

TAIWAN HOPAX CHEMS. MFG. CO., LTD

No. 28 Huadong Rd., Dailao Dist., Kaohsiung City 831

TAIWAN-ROC

**Only Representative**

TÜV SÜD Iberia S.A.U.

Ronda Can Fatjó 13

08290 Cerdanyola del Vallès (Barcelona) Spain

**Further information obtainable from:**

reach.es@tuv-sud.es

georgeshiue@hopax.com.tw

**1.4 Emergency telephone number:**

HOPAX: 886-7-788-7600 ext 314

Operating from 8:30 to 17:30

**2 Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS06

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

GHS08

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.

GHS05

Eye Dam. 1 H318 Causes serious eye damage.

GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS05,

GHS06,

GHS08

**Signal word**

Danger

**Hazard statements**

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

**Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/Product Safety Department if you feel unwell.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

**PBT:**

The substance does not meet the PBT criteria (not PBT) according to (EC) 1907/2006, Annex XIII

**vPvB:**

The substance does not meet the vPvB criteria (not vPvB) according to (EC) 1907/2006, Annex XIII

## 3 Composition/information on ingredients

### 3.1 Chemical characterisation: Substances

**CAS No.** 1120-71-4

**CAS Description:** 1,2-Oxathiolane, 2,2-dioxide

**Identification number(s)**

**EC number:** 214-317-9

**Index number:** 016-032-00-3

## 4 First aid measures

### 4.1 Description of first aid measures

**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:**

Supply fresh air.

In case of unconsciousness place patient stably in side position for transportation.

Seek medical treatment.

**After skin contact:**

Immediately wash with soap and copious amounts of water.

Remove contaminated clothing, contaminated footwear and dispose of safely.

**After eye contact:**

Wash immediately and abundantly with running water for at least 15 minutes, keeping eyes open.

Seek immediate medical advice.

**After swallowing:**

Do not induce vomiting.

Immediately give victim a glass of water if the person is conscious.  
Do not give anything by mouth to an unconscious person.  
Seek immediate medical advice.

#### **4.2 Information for first-aiders:**

##### **Most important symptoms and effects, both acute and delayed**

Following symptoms might occur:

Convulsions

Dizziness

Dyspnoea

Bloody diarrhea

After skin contact: skin irritation and in case of longer contact: corrosion, blistering and necrosis

##### **Hazards**

Danger of gastric perforation.

Danger of cerebral oedema.

Danger of pulmonary oedema.

Risk of skin resorption.

Danger of sensibilization by skin contact.

##### **Indication of any immediate medical attention and special treatment needed**

Provide general supportive measures and treat symptomatically.

## **5 Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.

Water spray

Dry chemical

Carbon dioxide (CO<sub>2</sub>)

Fight larger fire with alcohol resistant foam

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

In case of fire, hazardous combustion gases and vapours may be formed:

Sulphur oxides; carbon monoxide (CO); risk of formation of toxic pyrolysis products; under certain conditions of combustion traces of other toxic substances cannot be excluded.

### **5.3 Advice for firefighters**

#### **Protective equipment:**

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

Wear self-contained breathing apparatus with facepiece.

**Additional information**

Cool endangered receptacles with water spray.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

**6 Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use breathing apparatus if exposed to gases/vapours/dust/aerosol.  
Wear protective equipment. Keep unprotected persons away.  
Self-breathing apparatus for emergency personnel.  
Rubber boots and heavy rubber gloves.  
Keep away from ignition sources.

**6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.  
Neutralize

**6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.  
Approach the spill area in the direction of the wind.  
Small spills may be treated with an excess of dilute (10%) caustic and flushed to a sewer with large amounts of water.  
For larger spills:  
Absorb liquid components with liquid-binding material.  
Suitable absorbent materials: sand, diatomaceous earth, acid binder, universal binder.  
Pick up mechanically using appropriate tools.  
Retain and dispose of contaminated wash water as detailed under disposal considerations.  
Decontaminate other small residues or devices with aqueous ammonia or ethanol solution for at least 24 hours.  
Disposal as special waste in special waste incineration installation with downstream flue gas scrubber.  
Dispose contaminated material as waste according to Section 13.

**6.4 Reference to other sections**

See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**7 Handling and storage****7.1 Handling:**

**Precautions for safe handling**  
Keep receptacles tightly sealed.

Keep away from heat and direct sunlight.  
Work personnel must be properly trained regarding the danger and safe usage of the substance.  
Wear appropriate protective equipment.  
Refer to section 8.  
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).  
Keep respiratory protective device available.  
Prevent formation of aerosols.  
Transfer and handle only in enclosed systems.  
Minimise number of staff exposed.

**Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.  
Emergency cooling must be available in case of nearby fire.

**7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:**

Jointless, smooth floor and walls.  
Store only in the original receptacle.  
Access only for professionals.  
Store in a cool, dry, well-ventilated area, away from incompatible substances (see Section 10).

**Information about storage in common storage facility:**

Do not store with strong acid, alkali and oxidising agents.

**Further information about storage conditions:**

Keep container tightly sealed.  
Protect from humidity and water.  
This product is hygroscopic.

**7.3 Specific end use(s)**

## Formulation of mixtures:

ERC 2: Formulation into mixture

PROC 1: Chemical production or refinery in closed continuous process without likelihood of exposure or processes with equivalent containment conditions.

PROC 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment.

PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

## Industrial uses:

-

## Use as intermediate:

ERC 6a: Use of intermediate.

PROC 1: Chemical production or refinery in closed continuous process without likelihood of exposure or processes with equivalent containment conditions.

PROC 2: Chemical production or refinery in closed continuous process with occasional

controlled exposure or processes with equivalent containment conditions.  
 PROC 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment.  
 PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.  
 PROC 15: Use as laboratory reagent  
 Industrial use as additive for Li-Ion batteries:  
 ERC 5: Use at industrial site leading to inclusion into/onto article.  
 PROC 1: Chemical production or refinery in closed continuous process without likelihood of exposure or processes with equivalent containment conditions.  
 PROC 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.  
 PROC 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment.  
 PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.  
 -  
 Service life:  
 Professional and consumer use of Li-Ion batteries:  
 ERC 10a: Widespread use of articles with low release (outdoor).  
 ERC 11a: Widespread use of articles with low release (indoor).  
 AC 3: Electrical batteries and accumulators.  
 PROC 21: low energy manipulation of substances bound in materials and/or articles.  
 Not recommended for any consumer use. Li-Ion batteries and other sealed articles with no intended release of the substance are exempted of this restriction and are considered as Service life of the substance.

## **8 Exposure controls/personal protection**

### **Additional information about design of technical facilities:**

Perform filling operations and open container only at stations with exhaust ventilation facilities.

### **8.1 Control parameters**

#### **Ingredients with limit values that require monitoring at the workplace:**

CAS: 1120-71-4 1,3-propanesultone

MAK (Germany): 1.3-PS fits the definition of Section III A.2 in the list of MAK values.

Therefore, a MAK value cannot be established.

Since 1.3-PS penetrates the skin in toxic amounts and induces systemic tumours after skin application, it is given the designation "H"

TWA (Italy): Long-term value: (L) ppm

A3

NDS (Poland): Long-term value: 0.007 mg/m<sup>3</sup>

skóra

In general due to its carcinogenic and mutagenic properties, no exposure limits at the workplace are established.

**DNELs**

Since the substance has carcinogenic potency, the establishment of DNELs is not needed and only DMELs are relevant:

Workers:

DMEL(long term dermal exposure, systemic effects) = 0.0001 mg/kg bw/d or 0.1 µg/kg bw/d.

DMEL(long term inhalation exposure, systemic effects) = 0.00032 mg/m<sup>3</sup> or 0.32 µg/m<sup>3</sup>

Exposure is not expected for general population. Thus, no DNEL has been derived.

**PNECs**

CAS: 1120-71-4 1,3-propanesultone

PNEC water (freshwater): 0.016 mg/L (general)

PNEC water (marine water): 0.002 mg/L (general)

PNEC sediment (freshwater): 0.085 mg/kg sed dw (general)

PNEC sediment (marine water): 0.008 mg/kg sed dw (general)

PNEC soil: 0.007 mg/kg soil dw (general)

PNEC intermittent release (freshwater): 0.16 mg/L (general)

PNEC STP: 26 mg/L (general)

**Additional information:**

The lists valid during the making were used as basis.

**8.2 Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Exposure to a CMR substance should be controlled by total containment of the substance or process.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

**Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

**Recommended filter device for short term use:**

Recommended filter for short-term exposure: Multi-purpose filter A-FFP3

**Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.



### Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Neoprene gloves

Fluorocarbon rubber (Viton)

Butyl rubber, BR

Chloroprene rubber, CR

### Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Value for the permeation  $\geq$  8 hours

**Eye protection:** Tightly sealed goggles

**Body protection:** Use protective suit.

## 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

**Appearance:**

**Form:**

Crystalline powder at 20 °C and 1013.25 Pa or liquid at higher temperatures.

**Colour:** Colourless

**Smell:** Characteristic

**Olfactory threshold:** Not determined.

| Value/Range                                     | Unit                      | Method       |
|---|---------------------------|--------------|
| <b>pH-value:</b>                                | 1-2                       | at 10% solut |
| <b>Change in condition</b>                      |                           |              |
| <b>Melting point/freezing point:</b>            | 31 ° C                    | literature   |
| <b>Initial boiling point and boiling range:</b> | 180 ° C                   | at 0.039 atm |
| Value from literature.                          |                           |              |
| <b>Flash point:</b>                             | 171.5 ° C                 | ISO 2719 clo |
| Value at 1004 hPa                               |                           |              |
| <b>Flammability (solid, gas):</b>               | Product is not flammable. |              |

(EU Method A.10)

The product has no pyrophoric properties and does not liberate flammable gases on contact with water.

**Ignition temperature:**

**Decomposition temperature:** Not determined

**Auto-ignition temperature:** Product is not selfigniting

The product is a solid with a melting point  $<$  160°C.

**Explosive properties:**

Based on its structure, the product does not present an explosion hazard.

**Explosion limits:**

**Lower:** Not determined

**Upper:** Not determined

**Oxidising properties**

According to the structure, this substance has no oxidizing properties.

**Vapour pressure:** at 25 °C 0.005 hPa OECD 104

**Density:**

**Relative density** at 40 °C 1.392 g/cm<sup>3</sup>

Peer reviewed literature.

**Vapour density** Not determined

**Evaporation rate** Not determined

**Solubility in / Miscibility with:**

**water:** The substance hydrolyses in water.

The calculated solubility is 1000 g/L at 25 °C (QSAR) for the hydrolysis product 3-hydroxypropanesulphonic acid.

**organic solvents:**

Readily soluble in ketones, esters and aromatic hydrocarbons.

**Partition coefficient: n-octanol/water**

log Kow = -2.86 (QSAR) Temperature and pH not reported

**Viscosity:**

**Dynamic:** Not applicable (solid)

**Kinematic:** Not applicable (solid)

**9.2 Other information**

-

**Surface tension**

Based on the chemical structure:

Not expected to have surface tension.

**Molecular weight** 122.143 g/mol

**10 Stability and reactivity****10.1 Reactivity**

1,3-Propanesultone is a highly reactive alkylating agent.

On contact with water the substance will rapidly hydrolyse forming 3-hydroxypropanesulphonic acid (CAS 15909-83-8).

**10.2 Chemical stability**

**Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions**

Reacts with strong acids and alkali.

Reacts with oxidising agents.

Reactions with numerous chemical compounds, especially those with mobile hydrogen atoms.

Reacts with amines.

**10.4 Conditions to avoid**

Heat, fire, moisture and incompatible substances.

**10.5 Incompatible materials:**

Strong acids.

Strong bases

Strong oxidizing agents.

Amines.

**10.6 Hazardous decomposition products:**

Sulphurous oxides (SO<sub>x</sub>)

Carbon monoxide and carbon dioxide

Danger of formation of toxic pyrolysis products

**11 Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Toxic if swallowed.

Toxic in contact with skin.

Harmful if inhaled.

**LD/LC50 values relevant for classification:**

CAS: 1120-71-4 1,3-propanesultone

Oral: LD50: 100 mg/kg/ (rat) (OECD 401 Acute toxicity Oral)

Dermal: LD50: 700-1400 mg/kg bw/ (guinea pig) (Literature: OTS Study, 1992)

Inhalative: LD50: 1,700 mg/m<sup>3</sup> air (rat) (Equivalent to OECD 403, Publication.)

**Primary irritant effect:****Skin corrosion/irritation**

The available data indicate that 1,3-propanesultone has no skin corrosive but skin irritating properties. Therefore, 1,3-propanesultone is classified as: Skin irrit. 2 according to CLP (Regulation 1272/2008/EC).

In vitro tests:

- OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)

- ICCVAM, Sample Protocol: "CORROSITEX® - Dermal Corrosion Test Method For Classifying Substances According To UN Packing Groups" The penetration time was > 1 hour

Under the conditions of the tests, the substance did not show corrosive properties towards the skin.

In a skin irritation study by OTS (1992) (14-day, no guideline followed), the test item caused irritating effects in guinea pig.

Causes skin irritation.

**Serious eye damage/irritation**

Adverse effects observed.

In vivo test:

OTS study (1992) (no guideline followed): the test item causes Irritating effects in rabbits, which were not reversible within 14 days.

Single direct application (1 drop of undiluted substance):

Slight to severe erythema and edema of conjunctiva, lids and nictitating membrane as well as opaque cornea.

Causes serious eye damage.

**Respiratory or skin sensitisation**

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

In vivo study: Morikawa, 1978 (Equivalent or similar to OECD 406 in Guinea pigs, intradermal and percutaneous route).

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)****Germ cell mutagenicity**

OECD Guideline 471 (Bacterial Reverse Mutation Assay) Simmon, V.F. et al., 1979

1,3-Propanesultone was tested positive in an Ames-test.

OECD Guideline 473 (In vitro cytogenicity / chromosome aberration study in mammalian cells):

Chinese hamster lung fibroblast cell line (CHL)

Result: Positive (94% cells with aberration detected)

In vivo mammalian somatic cell study: cytogenicity / erythrocyte micronucleus in mice (equivalent to OECD Guideline 474)

Result: positive

The available data show that 1,3-propanesultone is mutagenic in various in vitro and in vivo test systems. Thus, 1,3-propanesultone is subject for classification and labelling according to Regulation 1272/2008/EC (Cat. 2, H341) regarding mutagenicity.

Suspected of causing genetic defects.

**Carcinogenicity**

1,3-Propanesultone has been found to be carcinogenic in rats and mice by any of several routes of administration (i.e. oral, dermal, subcutaneous, i.v., transplacental).

May cause cancer.

**STOT-single exposure**

Not determined

**STOT-repeated exposure**

Based on the available data regarding carcinogenicity 1,3-propanesultone is subject to classification and labelling: Carc. 1B, H350 according to Regulation 1272/2008/EC. Repeated dose study does not need to be performed.

**Aspiration hazard**

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

**12 Ecological information****12.1 Aquatic toxicity:**

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

CAS: 1120-71-4 1,3-propanesultone

LC50/48h: 16 mg/L (Daphnia sp.) (OECD 202 Daphnia sp acute immobilisation test)  
EC50: 26 mg/L (Pseudomonas putida) (DIN 38412-8 (Pseudomonas Zellvermehrungshemmtest))  
EC50/72h: 320 mg/L (Desmodesmus subspicatus) (OECD 201 Algae, growth inhibition test)  
EC50/96h: 72.5 mg/L (Leuciscus idus) (OECD 203, Fish, Acute Toxicity Test))

**12.2 Persistence and degradability**

Readily biodegradable.

1,3-Propanesultone is considered to undergo rapid hydrolysis in water, forming the strong acid 3-hydroxypropanesulfonic acid.

Predictably, the hydrolysis in water follows a first-order reaction and proceeds substantially by BAL1-E1 reaction via cleavage of C-O bond. An hydrolysis study according to OECD 111 confirmed that 1,3-Propanesultone hydrolyses rapidly forming the strong acid.

Half-life in air: 59.58 h. QSAR estimation.

After evaporation or exposure to the air, 1,3-propanesultone will be slowly degraded by photochemical processes.

**12.3 Other information:**

Henry's law constant (H) (in Pa m<sup>3</sup>/mol) = 0.239 at 25°C

The evaporation potential of test item was calculated using SRC HENRYWIN v3.20. The calculated Henry's law constant of 0.239 at 25 °C indicates that the substance will slowly evaporate from water surfaces into the atmosphere.

**Behaviour in environmental systems:****12.4 Bioaccumulative potential**

Bioaccumulation of the substance is not expected (log Pow =1.96)

The parent substance 1,3-propanesultone, and the product of hydrolysis, 3-hydroxypropanesulphonic acid have a low potential for bioaccumulation (log Pow

**12.5 Mobility in soil**

log Koc: 0.975 at 20°C

log Koc: 1.23 at 20 °C for the product of hydrolysis 3- hydroxypropanesulphonic acid (used for assessment)

The parent substance of 1,3-propanesultone hydrolysis rapidly on contact with water forming 3-hydroxypropanesulphonic acid. The calculated Koc values indicate a low potential of 1,3-propanesultone and the product of hydrolysis, 3-hydroxypropanesulphonic acid to adsorb to soil and suspended matter.

**Additional ecological information:****General notes:**

Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water. Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

**12.6 Results of PBT and vPvB assessment****PBT:**

The substance does not fulfill the PBT criteria (not PBT)

The parent substance and product of hydrolysis do not fulfil the PBT criteria. However, the assessment differs with respect to the single PBT properties:

1,3-Propanesultone is readily biodegradable (up to 95% after 28 days in an OECD 301C test) and log K<sub>ow</sub> is < 3. Thus it is not P/vP nor B/vB. It is T due to its LC50 value for carcinogenicity and fulfills the carcinogenic (category 1B) criteria.

3-hydroxypropanesulphonic acid is readily biodegradable (89% after 28 days in an OECD 301E test) and log K<sub>ow</sub> is < 3. Thus, it is not P/vP nor B/vB. There is no evidence to conclude on its T properties.

**vPvB:**

The substance does not fulfill the vPvB criteria (not vPvB)

**12.7 Other adverse effects**

No further relevant information available.

**13 Disposal considerations**

**13.1 Waste treatment methods**

**Recommendation**

Contain and dispose of waste according to local regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Place in a suitable container and dispose in a approved incinerator equipped with afterburner and scrubber or licensed contractor with chemical waste disposal service.

**European waste catalogue**

HP4: Irritant - skin irritation and eye damage

HP6: Acute Toxicity

HP7: Carcinogenic

HP11: Mutagenic

**Uncleaned packaging:**

**Recommendation:**

Dispose of as unused product.

Disposal must be made according to official regulations.

**14 Transport information**

**14.1 UN-Number**

|             |        |
|-------------|--------|
| <b>ADR</b>  | UN2811 |
| <b>IMDG</b> | UN2811 |
| <b>IATA</b> | UN2811 |

**UN proper shipping name**

**ADR** 2811 TOXIC SOLID, ORGANIC, N.O.S. (1,3-Propanesultone)

**IMDG** TOXIC SOLID, ORGANIC, N.O.S. (1,3-Propanesultone)

**IATA** TOXIC SOLID, ORGANIC, N.O.S. (1,3-Propanesultone)

**Transport hazard class(es)**

**ADR**

**Class** 6.1 Toxic substances.

**Label** 6.1

**IMDG**

**Class** 6.1 Toxic substances.

**Label** 6.1

**IATA**

**Class** 6.1 Toxic substances.

**Label** 6.1

**Packing group**

**ADR** III

**IMDG** III

**IATA** III

**Environmental hazards:** Not applicable.

**Special precautions for user** Warning: Toxic substances.

**Hazard identification number (Kemler code):** 60

**EMS Number:** F-A,S-A

**Stowage Category** B

**Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

**Transport/Additional information:**

**ADR**

**Limited quantities (LQ)** 5 kg

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

**Transport category** 2

**Tunnel restriction code** E

**IMDG**

**Limited quantities (LQ)** 5 kg

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

**UN "Model Regulation":**

UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (1,3-PROPANESULTONE), 6.1, III

### 15 Regulatory information

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

**Qualifying quantity (tonnes) for the application of lower-tier requirements**

0.5 t

**Qualifying quantity (tonnes) for the application of upper-tier requirements**

2 t

**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 28

**National regulations:**

**Information about limitation of use:**

Avoid use in pregnant and lactating women.

Official regulation concerning carcinogenic substances must be observed.

**15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Recommended restriction of use**

All consumer uses advised against. This excludes uses such as Li-Ion batteries in which the substance is enclosed within an article.

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxicity - oral – Category 3

Acute Tox. 4: Acute toxicity - inhalation – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1B: Carcinogenicity – Category 1B

**A ccording to Regulation 1907/2006 (EC), Article 31.**



|   |            |
|---|------------|
| <b>Date that the SDS was prepared`:</b> | 2021/11/12 |
| <b>Version</b>                          | 2          |

**Disclaimer**

This SDS was prepared sincerely on the basis of the information we could obtain. However, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information, but also the laws and regulations of the organization, area and country where the product is to be used, which shall be given the first priority.

The product is supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added hereafter. If the product is to be used beyond the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The product must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set upon each user's own responsibility.

**End of Safety Data Sheet**