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## Safety data sheet: Zortrax Resin Tough

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

#### 1.1. PRODUCT IDENTIFIER

Trade name: ZORTRAX RESIN TOUGH WHITE/GREY

#### 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified use: Resin intended for rapid prototyping or small series production.

Use advised against: Other than listed above

#### 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier: Zortrax S.A.  
Lubelska 34  
10-409 Olsztyn  
Poland  
TEL. +48 89 672 40 01  
email: office@zortrax.com

#### 1.4. EMERGENCY TELEPHONE NUMBER

Emergency telephone number: 112 - emergency telephone number  
+48 89 672 40 01 (8.00 am - 4.00 pm) - supplier number

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

According to Regulation (EC) No. 1272/2008:

The product is classified as hazardous.

Acute Tox. 4 H302 Harmful if swallowed

Skin Corr. 1B H314 Causes severe skin burns and eye damage

Skin Sens. 1 H317 May cause an allergic skin reaction

Eye Dam. 1 H318 Causes serious eye damage

STOT SE 3 H335 May cause respiratory irritation

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 2 H411 Toxic to aquatic life with long-lasting effects.

Physico-chemical hazards: none

**Health hazards:**

It is harmful if swallowed, causes severe skin burns and eye damage, may cause an allergic skin reaction, may cause respiratory tract irritation, may cause damage to organs through prolonged or repeated exposure.

**Environmental hazards:**

Very toxic to aquatic organisms, toxic with long-lasting effects.

## 2.2. LABEL ELEMENTS

Classification according to Regulation (EC) No. 1272/2008:

**Pictograms:****Signal word:**

**DANGER**

**Hazard statements:**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H373 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long-lasting effects.

**Precautionary statement:**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container to entities authorized to handle hazardous waste.

**Additional labeling requirements:****Contains:**

2-Propenoic acid, homopolymer, 2-Hydroxyethyl Acrylate, 4-Acryloylmorpholine, Tripropylene Glycol Diacrylate, Pentaerythritol Triacrylate.

## 2.3. OTHER HAZARDS

The product does not meet the PBT or vPvB criteria according to Annex XIII of the REACH Regulation. Under inappropriate conditions, the product may undergo spontaneous polymerization, releasing a large amount of heat and increasing pressure inside the package.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. SUBSTANCES

Not applicable

### 3.2. MIXTURES

| Name                           | CAS<br>EC<br>Index No<br>REACH Registration No              | Content<br>% w/w | CLP classification  |
|--------------------------------|---|------------------|---|
| 2-Propenoic acid, homo-polymer | 9003-01-4<br>618-347-7<br>not applicable<br>not applicable* | >40 - <50        | Eye Dam. 1, H318;<br>Aquatic Acute 1, H400;<br>Aquatic Chronic 2, H411;<br>Acute Tox. 4, H302;<br>STOT SE 3, H335           |
| 2-Hydroxyethyl Acrylate        | 818-61-1<br>212-454-9<br>607-072-00-8<br>not applicable*    | >10 - <15        | Acute Tox. 3, H311;<br>Skin Corr. 1B, H314;<br>Aquatic Acute 1, H400;<br>Skin Sens. 1; H317: C ≥ 0,2 %                      |
| 4-Acryloylmorpholine           | 5117-12-4<br>418-140-1<br>613-222-00-3<br>not applicable*   | >10 - <15        | STOT RE 2, H373;<br>Eye Dam. 1, H318;<br>Acute Tox. 4, H302;<br>Skin Sens. 1, H317  |
| Dodecyl acrylate               | 2156-97-0<br>218-463-4<br>607-133-00-9<br>not applicable*   | >5 - <10         | Aquatic Chronic 2, H411;<br>Skin Irrit. 2, H315;<br>Eye Irrit. 2, H319;<br>STOT SE 3, H335: C ≥ 10 %                        |
| Tripropylene Glycol Diacrylate | 42978-66-5<br>256-032-2<br>607-249-00-X<br>not applicable*  | >2.5 - <5        | Aquatic Chronic 2, H411;<br>Skin Irrit. 2, H315;<br>Eye Irrit. 2, H319;<br>Skin Sens. 1, H317;<br>STOT SE 3, H335: C ≥ 10 % |
| Pentaerythritol Triacrylate    | 3524-68-3<br>222-540-8<br>607-110-00-3<br>not applicable*   | 1 - 2.5          | Skin Irrit. 2, H315;<br>Eye Irrit. 2, H319;<br>Skin Sens. 1, H317   |

|                                |   |       |                    |
|--------------------------------|---|-------|--------------------|
| 5-Ethyl-1,3-Dioxane-5-Methanol | 5187-23-5<br>225-967-8<br>not applicable<br>not applicable* | 1-2.5 | Eye Irrit. 2, H319 |
|--------------------------------|---|-------|--------------------|

The full text of the H-statements is given in SECTION 16 of the card.

\*substance not registered due to the annual production / import volume not exceeding 1 ton / year

## SECTION 4. FIRST AID MEASURES

### 4.1. DESCRIPTION OF FIRST AID MEASURES

#### General recommendations:

In the event of any undesirable symptoms, discontinue contact with the product. If in doubt, consult a physician and show the label or the product safety data sheet. The injured should be provided with access to fresh air, warmth, peace and medical assistance. If breathing stops, apply artificial respiration. In the event of loss of consciousness, the injured should be placed and, if possible, transported in recovery position. Do not give anything by mouth to an unconscious person, do not induce vomiting.

#### Protection of first aid personnel:

Do not take any action that may be a hazard to first-aiders, unless they are properly trained and aware of the dangers.

#### After contact with skin:

Take off contaminated clothing. In the event of direct contact of the product with the skin, wash the contaminated area with water and soap with a pH similar to that of the skin, rinse thoroughly. Contact a doctor immediately.

#### After contact with eyes:

Rinse thoroughly with a gentle stream of clean water or a suitable eye wash solution for at least 15 minutes while opening the eyelids. Do not rub the eyes. Contact a physician immediately.

#### After inhalation:

Take the injured out of the place of exposure, in case of any breathing difficulties, contact a doctor.

#### After ingestion:

Rinse mouth and throat with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Contact a physician immediately.

### 4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

#### Acute symptoms:

##### Eyes:

Pain, severe tearing, possible serious and permanent damage to the eyes.

##### Skin:

Chemical burn or irritation of the skin, possible allergic reaction, redness, rash, burning, itching.

##### Ingestion:

Abdominal pain.

##### Inhalation:

Irritation of the respiratory tract, difficulty breathing, cough.

#### Delayed symptoms:

no data

#### Effects of exposure:

no data

### 4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Notes to physician:

There is no known specific antidote. The doctor makes the decision about the emergency procedure after careful assessment of the victim's condition.

## SECTION 5. FIREFIGHTING MEASURES

### 5.1. EXTINGUISHING MEDIA

Suitable extinguishing media:

For small-sized fires, use extinguishers, foam, snow (CO<sub>2</sub>) or powder extinguishers. Use foam or water fog in the event of a large fire.

Inappropriate extinguishing media:

There are no specific recommendations. Consider the surrounding materials when selecting the appropriate extinguishing agent. Strong stream of water is NOT RECOMMENDED, as there is a risk of spreading fire and environmental pollution.

### 5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Special hazards related to the substance or mixture:

The product is not flammable but will burn when exposed to high temperatures. When the product is burned, hazardous combustion products may be released - carbon monoxides, other harmful gases. Avoid inhalation of combustion products, they may be hazardous to health.

### 5.3. ADVICE FOR FIREFIGHTERS

Special protective equipment for firefighters:

It is absolutely necessary to use an independent breathing apparatus and appropriate protective clothing during a firefighting operation or cleaning works immediately after a fire in closed or poorly ventilated rooms.

General:

Evacuate the place and remove people who do not have adequate protection measures. Neutralize all ignition sources. In the event of fire, cool down the containers and tanks used to store the product. Do not allow the agents used to extinguish the fire to enter the water tank.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### 6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For non-emergency personnel:

Limit the access of bystanders to the contaminated area. In case of large leaks, isolate the area of failure. Use personal protective equipment. Avoid eyes and skin contamination. Avoid direct contact with the released product. Provide adequate ventilation.

For emergency personnel:

Follow the instructions, use appropriate personal protective equipment.

## 6.2. ENVIRONMENTAL PRECAUTIONS

In the event of release of larger amounts of the product, steps should be taken to prevent it from spreading into the environment. In the event of release of significant amounts of the product to waters, appropriate services should be notified.

## 6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

In the event of a leak in the container or product spills, contain the source of the leak, pour the product into an empty container. Gather the spilled product with absorbent material (sand, sawdust, diatomaceous earth, vermiculite, universal sorbent), collect into a container, label, treat as waste and transfer for disposal. Clean the place of contamination. Carry out cleaning works with adequate ventilation.

## 6.4. REFERENCE TO OTHER SECTIONS

Personal protection equipment - see SECTION 8

Disposal considerations - see SECTION 13

# SECTION 7. HANDLING AND STORAGE

## 7.1. PRECAUTIONS FOR SAFE HANDLING

Use as intended. Read the text of the label before using the product. Work in accordance with the safety and hygiene rules. Wash hands before breaks and after work. Use personal protection measures. Avoid eyes and skin contamination. Provide adequate ventilation. Do not eat. Maintain cleanliness and order when handling the product.

Special precautions against fire and explosion:

none

Industrial hygiene:

- adequate ventilation during operation is recommended (general and local exhaust ventilation),
- provide a position for rinsing eyes and hands in case of contamination,
- wash your hands with soap and water before eating, smoking, and after finishing work,
- basic precautions for handling chemicals should be followed.

## 7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store only in original, tightly closed containers. Avoid water and moisture during storage. It is recommended to keep the absorbent material nearby (see SECTION 6.3). Do not remove the label from the package. Keep out of the reach of children, keep away from food, drink, and fodder. Do not store near aromatic chemicals. Store and transport at temperatures ranging from 0 to 35 °C.

## 7.3. SPECIFIC END USE(S)

No information available on specific uses other than those mentioned in SECTION 1.2.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. CONTROL PARAMETERS

The product does not contain ingredients with limit values that should be controlled in the workplace.  
TVL - not established

| Name and CAS | TVL [mg/m <sup>3</sup> ] | TVL-STEL [mg/m <sup>3</sup> ] | TVL-C [mg/m <sup>3</sup> ] |
|--------------|--------------------------|-------------------------------|----------------------------|
| -            | -                        | -                             | -                          |

DNELs (Derived No Effect Levels) for hazardous components:

#### 2-Propenoic acid, homopolymer (CAS: 9003-01-4)

| Route of exposure | WORKER                 |       |               |       | CONSUMER              |       |               |       |
|-------------------|------------------------|-------|---------------|-------|-----------------------|-------|---------------|-------|
|                   | SYSTEMIC EFFECTS       |       | LOCAL EFFECTS |       | SYSTEMIC EFFECTS      |       | LOCAL EFFECTS |       |
|                   | Chronic                | Acute | Chronic       | Acute | Chronic               | Acute | Chronic       | Acute |
| INHALATION        | 1.97 mg/m <sup>3</sup> | N/D   | N/D           | N/D   | 348 µg/m <sup>3</sup> | N/D   | N/D           | N/D   |
| DERMAL            | 560 µg/kg bw/day       | N/D   | N/D           | N/D   | 200 µg/kg bw/day      | N/D   | N/D           | N/D   |
| ORAL              |                        |       |               |       | 200 µg/kg bw/day      | N/D   | N/D           | N/D   |
| EYES              | Medium hazard          |       |               |       | Medium hazard         |       |               |       |

N/D - no data

#### 2-Hydroxyethyl Acrylate (CAS: 818-61-1)

| Route of exposure | WORKER           |       |                       |       | CONSUMER         |       |                       |       |
|-------------------|------------------|-------|-----------------------|-------|------------------|-------|-----------------------|-------|
|                   | SYSTEMIC EFFECTS |       | LOCAL EFFECTS         |       | SYSTEMIC EFFECTS |       | LOCAL EFFECTS         |       |
|                   | Chronic          | Acute | Chronic               | Acute | Chronic          | Acute | Chronic               | Acute |
| INHALATION        | N/D              | N/D   | 2.4 mg/m <sup>3</sup> | N/D   | N/D              | N/D   | 1.2 mg/m <sup>3</sup> | N/D   |
| DERMAL            | N/D              | N/D   | N/D                   | N/D   | N/D              | N/D   | N/D                   | N/D   |
| ORAL              |                  |       |                       |       | N/D              | N/D   | N/D                   | N/D   |
| EYES              | Medium hazard    |       |                       |       | Medium hazard    |       |                       |       |

N/D - no data

#### N-akryloilmorfolina (CAS: 5117-12-4)

| Route of exposure | WORKER                   |                          |               |       | CONSUMER         |       |               |       |
|-------------------|--------------------------|--------------------------|---------------|-------|------------------|-------|---------------|-------|
|                   | SYSTEMIC EFFECTS         |                          | LOCAL EFFECTS |       | SYSTEMIC EFFECTS |       | LOCAL EFFECTS |       |
|                   | Chronic                  | Acute                    | Chronic       | Acute | Chronic          | Acute | Chronic       | Acute |
| INHALATION        | 132.24 mg/m <sup>3</sup> | 132.24 mg/m <sup>3</sup> | N/D           | N/D   | N/D              | N/D   | N/D           | N/D   |
| DERMAL            | 300 mg/kg bw/day         | 300 mg/kg bw/day         | N/D           | N/D   | N/D              | N/D   | N/D           | N/D   |
| ORAL              |                          |                          |               |       | N/D              | N/D   | N/D           | N/D   |
| EYES              | N/D                      |                          |               |       | N/D              |       |               |       |

N/D - no data

| Akrylan dodecylu (CAS: 2156-97-0) |                        |       |               |       |                  |       |               |       |
|-----------------------------------|------------------------|-------|---------------|-------|------------------|-------|---------------|-------|
| Route of exposure                 | WORKER                 |       |               |       | CONSUMER         |       |               |       |
|                                   | SYSTEMIC EFFECTS       |       | LOCAL EFFECTS |       | SYSTEMIC EFFECTS |       | LOCAL EFFECTS |       |
|                                   | Chronic                | Acute | Chronic       | Acute | Chronic          | Acute | Chronic       | Acute |
| INHALATION                        | 97.9 mg/m <sup>3</sup> | N/D   | N/D           | N/D   | N/D              | N/D   | N/D           | N/D   |
| DERMAL                            | 138.9 mg/kg bw/day     | N/D   | N/D           | N/D   | N/D              | N/D   | N/D           | N/D   |
| ORAL                              |                        |       |               |       | N/D              | N/D   | N/D           | N/D   |
| EYES                              | N/D                    |       |               |       | N/D              |       |               |       |

N/D - no data

| Diakrylan glikolu tripropylenowego (CAS: 42978-66-5) |                        |       |               |       |                  |       |               |       |
|--|------------------------|-------|---------------|-------|------------------|-------|---------------|-------|
| Route of exposure                                    | WORKER                 |       |               |       | CONSUMER         |       |               |       |
|  | SYSTEMIC EFFECTS       |       | LOCAL EFFECTS |       | SYSTEMIC EFFECTS |       | LOCAL EFFECTS |       |
|  | Chronic                | Acute | Chronic       | Acute | Chronic          | Acute | Chronic       | Acute |
| INHALATION   | 2.35 mg/m <sup>3</sup> | N/D   | N/D           | N/D   | N/D              | N/D   | N/D           | N/D   |
| DERMAL   | 1.7 mg/kg bw/day       | N/D   | N/D           | N/D   | N/D              | N/D   | N/D           | N/D   |
| ORAL   |                        |       |               |       | N/D              | N/D   | N/D           | N/D   |
| EYES   | Low hazard             |       |               |       | Low hazard       |       |               |       |

N/D - no data

| 5-etylo-1,3-dioksano-5-metanol (CAS: 5187-23-5) |                       |       |               |       |                       |       |               |       |
|---|-----------------------|-------|---------------|-------|-----------------------|-------|---------------|-------|
| Route of exposure                               | WORKER                |       |               |       | CONSUMER              |       |               |       |
|   | SYSTEMIC EFFECTS      |       | LOCAL EFFECTS |       | SYSTEMIC EFFECTS      |       | LOCAL EFFECTS |       |
|   | Chronic               | Acute | Chronic       | Acute | Chronic               | Acute | Chronic       | Acute |
| INHALATION                                      | 9.7 mg/m <sup>3</sup> | N/D   | N/D           | N/D   | 2.4 mg/m <sup>3</sup> | N/D   | N/D           | N/D   |
| DERMAL  | 2.8 mg/kg bw/day      | N/D   | N/D           | N/D   | 1.4 mg/kg bw/day      | N/D   | N/D           | N/D   |
| ORAL  |                       |       |               |       | N/D                   | N/D   | N/D           | N/D   |
| EYES  | Low hazard            |       |               |       | Low hazard            |       |               |       |

N/D - no data

## 8.2. EXPOSURE CONTROLS

### Appropriate engineering controls:

Local exhaust ventilation is necessary to remove vapors from places where the product is emitted, as well as general ventilation of rooms.

### Personal protection measures:

The necessity and suitability of personal protective equipment should be assessed on the basis of the risk posed by the product and conditions in which it is used. Only personal protective equipment from reputable manufacturers should be used.

### Respiratory protection:

Under normal conditions, with sufficient ventilation, respiratory protection is not necessary. It is required when exposed to high concentrations of product vapors. If necessary, use a half mask with A or AP type filter.



**Hand protection:**

Use protective gloves.

The glove material has to be impermeable and resistant to the product. Use protective gloves made of neoprene or nitrile rubber. Thickness min. 0.4 mm. If prolonged or repeated contact with the product is anticipated, it is recommended to wear gloves of protection class 5 (breakthrough time greater than 240 minutes according to EN 374). If only brief contact with the product is expected, it is recommended to wear gloves with protection class 3 or higher (breakthrough time greater than 60 minutes according to EN 374). The resistance of the glove material must be checked prior to use. The manufacturer of the protective gloves must provide the breakthrough time of substances and that period must be observed. Gloves should be inspected before use. Use proper glove removal technique (without touching the outer surface of the glove) to avoid skin contact with the product. Dispose of contaminated gloves after use in accordance with applicable regulations. It is recommended to change gloves regularly and replace them immediately if there are any signs of wear, damage (tears, holes) or changes in appearance (color, elasticity, shape).

**Eye protection:**

Use full protective glasses when working with the product. Use equipment certified in accordance with relevant standards to protect the eyes.

**Skin protection:**

Use appropriate protective clothing when handling the product.

**Standards for personal protective equipment:**

EN 140:1999 - Respiratory protective devices - Half masks and quarter masks - Requirements, testing, marking.

EN 143:2000 Respiratory Devices — Particle filters — Requirements, testing, marking.

EN 149:2001+A1:2009 - Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking.

EN 14387:2004+A1:2008 - Respiratory protective devices. Gas filter(s) and combined filter(s). Requirements, testing, marking.

ISO 374-1:2016 - Protective gloves against dangerous chemicals and micro-organisms — Part 1: Terminology and performance requirements for chemical risks.

EN 374-2:2014 - Protective gloves against dangerous chemicals and micro-organisms - Part 2: Determination of resistance to penetration.

EN 16523-1:2015+A1:2018 - Determination of material resistance to permeation by chemicals. Permeation by potentially hazardous liquid chemicals under conditions of continuous contact.

EN 166 : 2001 - Personal eye-protection. Specifications.

EN 14605:2005+A1:2009 - Protective clothing against liquid chemicals. Performance requirements for clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4]).

ISO 20344:2011 - Personal protective equipment — Test methods for footwear.

**Environmental exposure controls:**

Do not allow significant amounts of the product to enter soil, surface water and groundwater.

**PNECs (Predicted No Effect Concentrations) for hazardous components:**

| 2-Propenoic acid, homopolymer (CAS: 9003-01-4) |          |
|--|----------|
| Environmental compartment                      | PNEC     |
| Freshwater:                                    | 3 µg/L   |
| Short-term release - freshwater:               | 1.3 µg/L |
| Marine water:                                  | 300 ng/L |
| Short-term release - marine water:             | 130 ng/L |
| Biological sewage treatment plant:             | 900 µg/L |

|                          |                                  |
|--------------------------|----------------------------------|
| Sediment - freshwater:   | 20.7 µg/kg sediment dw           |
| Sediment - marine water: | 2.07 µg/kg sediment dw           |
| Air:                     | No hazard identified             |
| Soil (agriculture):      | 3.117 µg/kg soil dw              |
| Food chain:              | No potential for bioaccumulation |

| Akrylan 2-hydroksyetylu (CAS: 818-61-1) |                                  |
|---|----------------------------------|
| Environmental compartment               | PNEC                             |
| Freshwater:                             | 17.2 µg/L                        |
| Short-term release - freshwater:        | 36.1 µg/L                        |
| Marine water:                           | 1.72 µg/L                        |
| Short-term release - marine water:      | -                                |
| Biological sewage treatment plant:      | 10 mg/L                          |
| Sediment - freshwater:                  | 63.6 µg/kg sediment dw           |
| Sediment - marine water:                | 6.36 µg/kg sediment dw           |
| Air:                                    | No hazard identified             |
| Soil (agriculture):                     | 2.63 µg/kg soil dw               |
| Food chain:                             | No potential for bioaccumulation |

| N-akryloilomorfolina (CAS: 5117-12-4) |                         |
|---------------------------------------|-------------------------|
| Environmental compartment             | PNEC                    |
| Freshwater:                           | 12 µg/L                 |
| Short-term release - freshwater:      | No data                 |
| Marine water:                         | No data                 |
| Short-term release - marine water:    | No data                 |
| Biological sewage treatment plant:    | No data                 |
| Sediment - freshwater:                | 9.428 µg/kg sediment dw |
| Sediment - marine water:              | No data                 |
| Air:                                  | No data                 |
| Soil (agriculture):                   | 1.442 µg/kg soil dw     |
| Food chain:                           | No data                 |

| Akrylan dodecyłu (CAS: 2156-97-0)  |         |
|------------------------------------|---------|
| Environmental compartment          | PNEC    |
| Freshwater:                        | No data |
| Short-term release - freshwater:   | No data |
| Marine water:                      | No data |
| Short-term release - marine water: | No data |
| Biological sewage treatment plant: | No data |
| Sediment - freshwater:             | No data |
| Sediment - marine water:           | No data |
| Air:                               | No data |
| Soil (agriculture):                | No data |
| Food chain:                        | No data |

| Diakrylan glikolu tripropylenowego (CAS: 42978-66-5) |                                  |
|--|----------------------------------|
| Environmental compartment                            | PNEC                             |
| Freshwater:  | 4.6 µg/L                         |
| Short-term release - freshwater:                     | 46 µg/L                          |
| Marine water:  | 460 ng/L                         |
| Short-term release - marine water:                   | -                                |
| Biological sewage treatment plant:                   | 10 mg/L                          |
| Sediment - freshwater:                               | 487 µg/kg sediment dw            |
| Sediment - marine water:                             | 48.7 µg/kg sediment dw           |
| Air:   | No hazard identified             |
| Soil (agriculture):                                  | 94.5 µg/kg soil dw               |
| Food chain:  | No potential for bioaccumulation |

| 5-etylo-1,3-dioksano-5-metanol (CAS: 5187-23-5) |                      |
|---|----------------------|
| Environmental compartment                       | PNEC                 |
| Freshwater:                                     | 1 mg/L               |
| Short-term release - freshwater:                | 10 mg/L              |
| Marine water:                                   | 100 µg/L             |
| Short-term release - marine water:              | -                    |
| Biological sewage treatment plant:              | No data              |
| Sediment - freshwater:                          | No data              |
| Sediment - marine water:                        | No data              |
| Air:  | No hazard identified |
| Soil (agriculture):                             | No data              |
| Food chain:                                     | No data              |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

|   |               |
|---|---------------|
| Appearance:                                   |               |
| Physical state:                               | Liquid        |
| Color:  | various       |
| Odor:   | No data       |
| Odor threshold:                               | No data       |
| pH:   | No data       |
| Melting point/freezing point:                 | No data       |
| Initial boiling point and boiling range:      | > 35 °C       |
| Flash point:                                  | No data       |
| Evaporation rate:                             | No data       |
| Flammability:                                 | Non-flammable |
| Upper/lower flammability or explosive limits: | No data       |
| Vapor pressure:                               | No data       |
| Vapor density:                                | No data       |

|   |         |
|---|---------|
| Relative density:                       | No data |
| Solubility:                             | No data |
| Partition coefficient: n-octanol/water: | No data |
| Auto-ignition temperature:              | > 60 °C |
| Decomposition temperature:              | No data |
| Viscosity:                              | No data |
| Explosive properties:                   | No data |
| Oxidizing properties:                   | No data |

## 9.2. OTHER INFORMATION

### Information on physical hazard classes:

No further information on physical hazards

### Other safety features:

No further data

## SECTION 10. STABILITY AND REACTIVITY

### 10.1. REACTIVITY

The product does not show reactivity under recommended storage and use conditions.

### 10.2. CHEMICAL STABILITY

The product is stable in the recommended conditions of storage and use.

### 10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Spontaneous polymerization with generation of large amounts of heat and pressure build-up.

### 10.4. CONDITIONS TO AVOID

Direct sunlight, UV light, high temperature, fire sources and sparks.

### 10.5. INCOMPATIBLE MATERIALS

Strong oxidants, acids, bases, polymerization promoters.

### 10.6. HAZARDOUS DECOMPOSITION PRODUCTS

In the recommended conditions of storage and use, the product does not decompose, giving off hazardous products.

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

The classification of the mixture was made using calculation methods in accordance with Regulation 1272/2008 on the basis of the content of hazardous components:

|                                    |                     |  |
|------------------------------------|---------------------|--|
| <b>Acute toxicity:</b>             | Oral exposure       | harmful if swallowed,<br>ATEmix = 898 mg/kg  |
|                                    | Dermal exposure     | Based on the available data, the classification criteria are not met.<br>ATEmix > 2000 mg/kg |
|                                    | Inhalation exposure | Based on the available data, the classification criteria are not met.<br>ATEmix > 5 mg/l     |
| Skin corrosion/irritation:         |                     | Causes severe skin burns   |
| Serious eye damage/irritation:     |                     | Causes serious eye damage  |
| Respiratory or skin sensitisation: |                     | May cause an allergic skin reaction  |
| Germ cell mutagenicity:            |                     | Based on the available data, the classification criteria are not met.                        |
| Carcinogenicity:                   |                     | Based on the available data, the classification criteria are not met.                        |
| Reproductive toxicity:             |                     | Based on the available data, the classification criteria are not met.                        |
| STOT-single exposure:              |                     | May cause respiratory irritation.  |
| STOT-repeated exposure:            |                     | May cause damage to organs through prolonged or repeated exposure.                           |
| Aspiration hazard:                 |                     | Based on the available data, the classification criteria are not met.                        |
| <b>Potential health effects:</b>   |                     |  |
| Consumption:                       |                     | Digestive system complaints, the product is systemically harmful after consumption.          |
| Inhalation:                        |                     | Irritation of the respiratory tract.   |
| Skin:                              |                     | Chemical skin burns, irritation, allergic reaction.  |
| Eyes:                              |                     | Permanent eye damage.  |

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1. TOXICITY

The classification of the mixture was made using calculation methods in accordance with Regulation 1272/2008 on the basis of the content of hazardous components:

Very toxic to aquatic organisms.

Toxic to aquatic life with long lasting effects.

### 12.2. PERSISTENCE AND DEGRADABILITY

No data

### 12.3. BIOACCUMULATIVE POTENTIAL

No data

### 12.4. MOBILITY IN SOIL

No data

### 12.5. RESULTS OF PBT AND VPVB ASSESSMENT

The product does not contain ingredients that meet the PBT / vPvB criteria.

### 12.6. ENDOCRINE DISRUPTING PROPERTIES

There is no information about the endocrine disrupting properties of the ingredients.

### 12.7. OTHER ADVERSE EFFECTS

No data

## SECTION 13. DISPOSAL CONSIDERATIONS

### 13.1. WASTE TREATMENT METHODS

#### Product waste recommendations:

Dispose of in accordance with applicable regulations. Do not empty into drains. Store the mixture in the original packaging. Do not mix with other waste. Enter the code of the waste in the place of its production.

#### European Waste Catalog:

HP5 Specific target organ toxicity (STOT) and aspiration hazard

HP6 Acute toxicity

HP8 Corrosive

HP13 Sensitising

HP14 Ecotoxic

#### Recommendations for used packaging:

The packaging is hazardous packaging waste. Disposal of packaging waste should be carried out in accordance with applicable regulations. Do not mix with other waste. Provide the packaging to an authorized company.

## SECTION 14. TRANSPORT INFORMATION






### 14.1. UN NUMBER

| ADR  | IMDG Code | IATA DGR |
|------|-----------|----------|
| 1760 | 1760      | 1760     |

## 14.2. UN PROPER SHIPPING NAME

| ADR   | IMDG Code  | IATA DGR   |
|---|--|--|
| CORROSIVE, LIQUID, N.O.S. (2-Hydroxyethyl Acrylate), HAZARDOUS TO THE ENVIRONMENT | CORROSIVE LIQUID, , N.O.S. (2 hydroxyethyl acrylate), MARINE POLLUTANT | CORROSIVE LIQUID, N.O.S. (2-hydroxyethyl acrylate) |

## 14.3. TRANSPORT HAZARD CLASS(ES)

| ADR   | IMDG Code   | IATA DGR  |
|---|---|---|
| 8   | 8   | 8   |
|   |   |  |

## 14.4. PACKING GROUP

| ADR | IMDG Code | IATA DGR |
|-----|-----------|----------|
| II  | II        | II       |

## 14.5. ENVIRONMENTAL HAZARDS

| ADR | IMDG Code | IATA DGR |
|-----|-----------|----------|
| TAK | TAK       | -        |

## 14.6. SPECIAL PRECAUTIONS FOR USER

| ADR   | IMDG Code   | IATA DGR |
|---|---|----------|
| Hazard identification number: 80<br>Transport category 2<br>Tunnel restriction code E<br>LQ: 1L | Numer EMS: F-A,S-B<br>Stowage Category B<br>Stowage Code SW2 Clear of living quarters | -        |

## 14.7. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL AND THE IBC CODE

Not applicable

## SECTION 15. REGULATORY INFORMATION

### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

-Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC,

-Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006,

-Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC,

-Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC,

-E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1  
Qualifying quantity (tonnes) for the application of upper tier requirements: 100 t  
Qualifying quantity (tonnes) for the application of upper tier requirements: 200 t,

-European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

## 15.2. CHEMICAL SAFETY ASSESSMENT

A chemical safety assessment has not been carried out for the product.

## SECTION 16. OTHER INFORMATION

Explanation of abbreviations and acronyms used in the safety data sheet:

Acute Tox. 4, H302 Harmful if swallowed

Acute Tox. 3, H311 Toxic in contact with skin

Skin Corr. 1B, H314 Causes severe skin burns and eye damage

Skin Irrit. 2, H315 Causes skin irritation

Skin Sens. 1; H317 May cause an allergic skin reaction

Eye Dam. 1, H318 Causes serious eye damage

Eye Irrit. 2, H319 Causes serious eye irritation

STOT SE 3, H335 May cause respiratory irritation

STOT RE 2, H373 May cause damage to organs through prolonged or repeated exposure

Aquatic Acute 1, H400 Very toxic to aquatic life

Aquatic Chronic 2, H411 Toxic to aquatic life with long-lasting effects

**ADR** - European Agreement concerning the International Carriage of Dangerous Goods by Road in accordance with Framework Directive 94/55 / EC, as amended

**ATE** - Acute toxicity estimate: Acute toxicity values are expressed as (approximate) LD50 (oral, dermal) or LC50 (inhalation) values

**ATEmix** - acute toxicity estimate of a mixture

**CAS** - Chemical Abstracts Service

**EC** - number assigned to chemical substance in European Inventory of Existing Chemical Substances or European List of Notified Chemical Substances or in No-Longer Polymers list.

**EC50** - concentration causing 50% of the survival response

**EINECS** - European Inventory of Existing Commercial chemical Substances

**GHS** - The UN Globally Harmonized System of Classification and Labeling of Chemicals - international criteria agreed by the United Nations Economic and Social Council (UN ECOSOC) for the classification and labeling of hazardous substances and mixtures

**ICAO** - International Civil Aviation Organization, this refers to Annex 18 to the Convention on International Civil Aviation „Safe Transport of Dangerous Goods by Air“



IMDG - International Maritime Dangerous Goods Code - transport of dangerous goods by sea

IUPAC - International Union of Pure and Applied Chemistry

LOEC - Lowest Observed Effect Concentration (toxicology)

LD50 - dose causing 50% of deaths

LC50 - concentration causing 50% of deaths

M factor - Multiplier factor

NOEC - No Observed Effect Concentration (toxicology)

NICNAS - National Industrial Chemicals Notification and Assessment Scheme (Australia)

NIOSH - National Institute for Occupational Safety and Health (United States)

OECD - Organisation for Economic Co-operation and Development

OSHA - Occupational Safety and Health Administration (United States)

PBT - persistent, bioaccumulative and toxic

PNEC - Predicted No Effect Concentration

(Q)SAR - Quantitative structure-activity relationship

RTGD - United Nations Recommendations on the Transport of Dangerous Goods

RTECS - Registry of Toxic Effects of Chemical Substances

SVHC - Substances of Very High Concern

TOXLINE - Toxicology Information Online

TOXNET - Toxicology Data Network

TLV - threshold limit value

TLV-STEL - threshold limit value short-term exposure limit

TLV-C - threshold limit value ceiling limit

UFI - Unique Formula Identifier

UN - The United Nations

vPvB - very persistent and very liable to bioaccumulate

The safety data sheet was prepared in accordance with the Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the registration, evaluation, authorization and restrictions in chemicals (REACH).

Product classification was made on the basis of the content of hazardous ingredients in accordance with the Regulation of the European Parliament and of the Council (EC) No. 1272/2008 of December 16, 2008. on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548 / EEC and 1999/45 / EC and amending Regulation (EC) No 1907/2006 (calculation method).

Before starting to work with the product, the user should learn the Health and Safety regulations, regarding handling chemicals, and in particular, undergo appropriate workplace training.

The data sheet was developed on the basis of the safety data sheet provided by the manufacturer, literature data, internet databases and current knowledge and experience, including currently applicable legal regulations.

**Additional information:**

The information contained in the data sheet is based on the current state of the manufacturer's knowledge, but it does not constitute an assurance of product properties and does not justify the legal relationship. The recipient of the product is responsible for compliance with applicable laws and regulations.

End of Safety Data Sheet

 zortrax

Zortrax S.A.  
Lubelska 34,  
10-409 Olsztyn, Poland  
NIP: 5242756595  
REGON: 146496404

Contact  
Office: [office@zortrax.com](mailto:office@zortrax.com)  
Sales Department: [sales@zortrax.com](mailto:sales@zortrax.com)  
Support Center: [support@zortrax.com](mailto:support@zortrax.com)