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|  ZOICO POLYMER 400C Code: 2335P400 |  |
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Version: 5 Revision: 31/05/2015 Previous revision: 21/01/2014 Date of printing: 13/06/2017

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

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| 1.1 | <u>PRODUCT IDENTIFIER:</u> ZOICO POLYMER 400C Code: 2335P400 |
| 1.2 | <u>RELEVANT IDENTIFIED USES AND USES ADVISED AGAINST:</u> <u>Intended uses (main technical functions):</u> [X] Industrial [] Professional [] Consumers Screen printing emulsion. <u>Uses advised against:</u> # This product is not recommended for any use or sector of use industrial, professional or consume other than those previously listed as 'Intended or identified uses'. If your use is not covered, please contact the supplier of this material safety data sheet. <u>Restrictions on manufacture, placing on market and use, according to Annex XVII of Regulation (EC) No. 1907/2006:</u> # Not restricted. |
| 1.3 | <u>DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:</u> KOPIMASK, S.A. c/Industria 28 - P.I. Can Cortés - E-08184 - Palau-Solità i Plegamans (Barcelona) Phone: +34 93 8639350 - Fax: +34 93 8649434 <u>E-mail address of the person responsible for the safety data sheet:</u> e-mail: msds@kopimask.es |
| 1.4 | <u>EMERGENCY TELEPHONE NUMBER:</u> +34 93 8639350 (8:00-13:30 / 15:00-18:00 h.) (working hours) |

SECTION 2 : HAZARDS IDENTIFICATION

| 2.1 | <u>CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:</u> Classification in accordance with Regulation (EC) No. 1272/2008~487/2013 (CLP): WARNING: Eye Irrit. 2:H319 Skin Sens. 1:H317 | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----------------|-------------------------------|---------------|-----------------------|---------------|---------|---|--|----------------|--------------|--------------|-----------------------|---|--|--|--|--|--|---------------------------------------|--|--|--|--|--|
| <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Danger class</th> <th style="width: 30%;">Classification of the mixture</th> <th style="width: 5%;">Cat.</th> <th style="width: 15%;">Routes of exposure</th> <th style="width: 15%;">Target organs</th> <th style="width: 20%;">Effects</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> <u>Physicochemical:</u> Not classified </td> <td style="padding: 5px;"> Eye Irrit. 2:H319 Skin Sens. 1:H317 </td> <td style="padding: 5px;"> Cat.2 Cat.1 </td> <td style="padding: 5px;"> Eyes Skin </td> <td style="padding: 5px;"> Eyes Skin </td> <td style="padding: 5px;"> Irritation Allergy </td> </tr> <tr> <td style="padding: 5px;"> <u>Human health:</u>  </td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;"> <u>Environment:</u> Not classified </td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | Danger class | Classification of the mixture | Cat. | Routes of exposure | Target organs | Effects | <u>Physicochemical:</u> Not classified | Eye Irrit. 2:H319 Skin Sens. 1:H317 | Cat.2 Cat.1 | Eyes Skin | Eyes Skin | Irritation Allergy | <u>Human health:</u>  | | | | | | <u>Environment:</u> Not classified | | | | | |
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| <u>Human health:</u>  | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Environment:</u> Not classified | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Classification in accordance with Directive 1999/45/EC~2006/8/EC (DPD):</u> Xi:R36 R43 Full text of hazard statements and risk phrases mentioned is indicated in section 16. | | | | | | | | | | | | | | | | | | | | | | | | | |

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| 2.2 | <u>LABEL ELEMENTS:</u>  <div style="float: right; text-align: right;"> This product is labelled with the signal word WARNING in accordance with Regulation (EC) No. 1272/2008~487/2013 (CLP) </div> <u>Hazard statements:</u> H319 Causes serious eye irritation. H317 May cause an allergic skin reaction. <u>Precautionary statements:</u> P280b Wear protective gloves. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P333+P313 If skin irritation or rash occurs: Get medical attention. P337+P313 If eye irritation persists: Get medical attention. P273 Avoid release to the environment. <u>Supplementary statements:</u> EUH208 Contains glycerol triacrylate propoxylate. May produce an allergic reaction. <u>Hazardous ingredients:</u> Glycerol triacrylate propoxylate |
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| 2.3 | <u>OTHER HAZARDS:</u> Hazards which do not result in classification but which may contribute to the overall hazards of the mixture: <u>Other physicochemical hazards:</u> No other relevant adverse effects are known. <u>Other adverse human health effects:</u> Prolonged exposure to vapours may produce transient drowsiness. Prolonged contact may cause dryness of the skin. <u>Other negative environmental effects:</u> Does not contain substances that fulfil the PBT/vPvB criteria. |
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SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

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| 3.1 | <p><u>SUBSTANCES:</u> Not applicable (mixture).</p> | | | | | | | | | |
| 3.2 | <p><u>MIXTURES:</u> This product is a mixture. <u>Chemical description:</u> Watery emulsion of polyvinyl alcohol and resins.</p> <p><u>HAZARDOUS INGREDIENTS:</u> Substances taking part in a percentage higher than the exemption limit:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">5 < 10 %</td> <td style="width: 70%;"> Aliphatic urethane-acrylate oligomer EC: Polymer DSD: Xi:R36/38 CLP: Warning: Skin Irrit. 2:H315 Eye Irrit. 2:H319 </td> <td style="width: 20%; text-align: right; vertical-align: top;">Autoclassified</td> </tr> <tr> <td style="text-align: center;">1 < 2 %</td> <td> 4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid CAS: 55818-57-0 , EC: 500-130-2 REACH: 01-2119490020-53 DSD: R43 R53 CLP: Warning: Skin Sens. 1:H317 </td> <td style="text-align: right; vertical-align: top;">Autoclassified < REACH < REACH</td> </tr> <tr> <td style="text-align: center;">< 0,5 %</td> <td> Glycerol triacrylate propoxylate CAS: 52408-84-1 , EC: 500-114-5 DSD: Xi:R36 R43 CLP: Warning: Eye Irrit. 2:H319 Skin Sens. 1:H317 </td> <td style="text-align: right; vertical-align: top;">Autoclassified < REACH < REACH</td> </tr> </table> <p><u>Impurities:</u> Does not contain other components or impurities which will influence the classification of the product.</p> <p><u>Stabilizers:</u> None</p> <p><u>Reference to other sections:</u> For more information, see sections 8, 11, 12 and 16.</p> <p><u>SUBSTANCES OF VERY HIGH CONCERN (SVHC):</u> # List updated by ECHA on 17/12/2014. Substances SVHC subject to authorisation, included in Annex XIV of Regulation (EC) no. 1907/2006: None Substances SVHC candidate to be included in Annex XIV of Regulation (EC) no. 1907/2006: None</p> <p><u>PERSISTENT, BIOACCUMULABLE AND TOXIC PBT, OR VERY PERSISTENT AND VERY BIOACCUMULABLE VPVB SUBSTANCES:</u> Does not contain substances that fulfil the PBT/vPvB criteria.</p> | 5 < 10 % | Aliphatic urethane-acrylate oligomer EC: Polymer DSD: Xi:R36/38 CLP: Warning: Skin Irrit. 2:H315 Eye Irrit. 2:H319 | Autoclassified | 1 < 2 % | 4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid CAS: 55818-57-0 , EC: 500-130-2 REACH: 01-2119490020-53 DSD: R43 R53 CLP: Warning: Skin Sens. 1:H317 | Autoclassified < REACH < REACH | < 0,5 % | Glycerol triacrylate propoxylate CAS: 52408-84-1 , EC: 500-114-5 DSD: Xi:R36 R43 CLP: Warning: Eye Irrit. 2:H319 Skin Sens. 1:H317 | Autoclassified < REACH < REACH |
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SECTION 4 : FIRST AID MEASURES

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| 4.1 4.2 | <p><u>DESCRIPTION OF FIRST-AID MEASURES AND MOST SYMPTOMS AND EFFECTS, ACUTE AND DELAYED:</u></p> | |
| | <p> # Symptoms may occur after exposure, so that in case of direct exposure to the product, when in doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Lifeguards should pay attention to self-protection and use the recommended protective equipment if there is a possibility of exposure. Wear protective gloves when administering first aid.</p> | |
| | <p><u>Route of exposure</u></p> | <p><u>Symptoms and effects, acute and delayed</u></p> |
| | <p><u>Inhalation:</u></p> | <p>It produces no symptoms.</p> |
| | <p><u>Skin:</u></p> | <p># Skin contact causes redness. Prolonged contact may cause dryness of the skin.</p> |
| | <p><u>Eyes:</u></p> | <p>Contact with the eyes produces redness and pain.</p> |
| | <p><u>Ingestion:</u></p> | <p># If swallowed, may cause irritation of the throat, abdominal pain, drowsiness, nausea, vomiting and diarrhoea.</p> |
| 4.3 | <p><u>INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:</u> Notes to physician: Treatment should be directed at the control of symptoms and the clinical condition of the patient. Antidotes and contraindications: # Specific antidote not known.</p> | |

MATERIAL SAFETY DATA SHEET (REACH)

In accordance with Regulation (EC) No. 1907/2006 and Regulation (EU) No. 453/2010

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SECTION 5 : FIRE-FIGHTING MEASURES

Not combustible.

- 5.1 EXTINGUISHING MEDIA:
In case of fire in the surroundings, all extinguishing agents are allowed.
- 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:
Pyrolyzed acrylates are highly irritant to the respiratory system.
- 5.3 ADVICE FOR FIREFIGHTERS:
Special protective equipment: Depending on magnitude of fire, heat-proof protective clothing may be required, appropriate independent breathing apparatus, gloves, protective glasses or face masks and boots. If the fire-proof protective equipment is not available or is not being used, combat fire from a sheltered position or from a safe distance. The standard EN469 provides a basic level of protection for chemical incidents.
Other recommendations: Cool with water the tanks, cisterns or containers close to sources of heat or fire. Bear in mind the direction of the wind. Do not allow fire-fighting residue to enter drains, sewers or water courses.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

- 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:
Avoid direct contact with this product. Avoid breathing vapours. Keep people without protection in opposition to the wind direction.
- 6.2 ENVIRONMENTAL PRECAUTIONS:
Avoid contamination of drains, surface or subterranean water and soil. In the case of large scale spills or when the product contaminates lakes, rivers or sewages, inform the appropriate authorities in accordance with local regulations.
- 6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:
Contain and mop up spills with absorbent materials (sawdust, earth, sand, vermiculite, diatomaceous earth, etc.). Keep the remains in a closed container.
- 6.4 REFERENCE TO OTHER SECTIONS:
For contact information in case of emergency, see section 1.
For information on safe handling, see section 7.
For exposure controls and personal protection measures, see section 8.
For subsequent waste disposal, follow the recommendations in section 13.

SECTION 7 : HANDLING AND STORAGE

- 7.1 PRECAUTIONS FOR SAFE HANDLING:
Comply with the existing legislation on health and safety at work.
General recommendations:
Avoid any type of leakage or escape. Keep the container tightly closed.
Recommendations for the prevention of fire and explosion risks:
The product is not liable to ignite, deflagrate or explode, and does not sustain the combustion reaction by oxygen from air in the environment in which it is, so it is not included in the scope of Directive 94/9/EC concerning equipment and protective systems intended for use in potentially explosive atmospheres. Also they are not applicable the provisions of the ITC MIE BT-29 on the detailed requirements for electrical installations in locals with risk of fire or explosion.
Recommendations for the prevention of toxicological risks:
Do not eat, drink or smoke while handling. After handling, wash hands with soap and water. For exposure controls and personal protection measures, see section 8.
Recommendations for the prevention of environmental contamination:
It is not considered a danger to the environment. In the case of accidental spillage, follow the instructions indicated in section 6.
- 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:
Forbid the entry to unauthorized persons. Avoid direct contact with sunlight. In order to avoid leakages, the containers, after use, should be closed carefully and placed in a vertical position. For more information, see section 10.
Class of storage : # According to current legislation.
Maximum storage period : 24. months
Temperature interval : min: 5. °C, max: 35. °C (recommended).
Incompatible materials:
Not applicable.
Type of packaging:
According to current legislation.
Limit quantity (Seveso III): Directive 96/82/EC~2003/105/EC:
Not applicable.
- 7.3 SPECIFIC END USES:
For the use of this product do not exist particular recommendations apart from that already indicated.

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SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:
 If a product contains ingredients with exposure limits, may be necessary a personnel monitoring, work place or biological, to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to EN689, EN14042 and EN482 standard concerning methods for assessing the exposure by inhalation to chemical agents, and exposure to chemical and biological agents. Reference should be also made to national guidance documents for methods for the determination of dangerous substances.

OCCUPATIONAL EXPOSURE LIMIT VALUES (TLV) AGCIH-2015:
 Not established.

BIOLOGICAL LIMIT VALUES:
 Not established

DERIVED NO-EFFECT LEVEL (DNEL):
 Derived no-effect level (DNEL) is a level of exposure that is considered safe, derived from toxicity data according to specific guidances included in REACH. DNEL values may differ from a occupational exposure limit (OEL) for the same chemical. OEL values may come recommended by a particular company, a government regulatory agency or an organization of experts. Although considered protective of health, the OEL values are derived by a process different of REACH.

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| <u>Derived no-effect level, workers:</u> - Systemic effects, acute and chronic: Epoxy-acrylate oligomer | <u>DNEL Inhalation</u> mg/m ³ | <u>DNEL Cutaneous</u> mg/kg bw/d | <u>DNEL Oral</u> mg/kg bw/d |
| | s/r (a) 123. (c) | s/r (a) 17.5 (c) | - (a) - (c) |
| Derived no-effect level, workers: - Local effects, acute and chronic: Epoxy-acrylate oligomer | <u>DNEL Inhalation</u> mg/m ³ | <u>DNEL Cutaneous</u> mg/cm ² | <u>DNEL Eyes</u> mg/cm ² |
| | s/r (a) s/r (c) | - (a) - (c) | - (a) - (c) |

Derived no-effect level, general population:
 Not applicable (product for industrial use).

(a) - Acute, short-term exposure, (c) - Chronic, long-term or repeated exposure.
 (-) - DNEL not available (without data of registration REACH).
 s/r - DNEL not derived (not identified hazard).

PREDICTED NO-EFFECT CONCENTRATION (PNEC):

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| <u>Predicted no-effect concentration, aquatic organisms:</u> - Fresh water, marine water and intermitent release: Epoxy-acrylate oligomer | <u>PNEC Fresh water</u> mg/l | <u>PNEC Marine</u> mg/l | <u>PNEC Intermittent</u> mg/l |
| | 0.100 | 0.0100 | 1.00 |
| - Wastewater treatment plants (STP) and sediments in fresh- and marine water: Epoxy-acrylate oligomer | <u>PNEC STP</u> mg/l | <u>PNEC Sediments</u> mg/kg dry weight | <u>PNEC Sediments</u> mg/kg dry weight |
| | 10.0 | 35.8 | 3.58 |
| <u>Predicted no-effect concentration, terrestrial organisms:</u> - Air, soil and effects for predators and humans: Epoxy-acrylate oligomer | <u>PNEC Air</u> mg/m ³ | <u>PNEC Soil</u> mg/kg dry weight | <u>PNEC Oral</u> mg/kg bw/d |
| | - | 7.10 | - |

(-) - PNEC not available (without data of registration REACH).

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EXPOSURE CONTROLS:

ENGINEERING MEASURES:



Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction.



Protection of respiratory system: Avoid the inhalation of vapours.

Protection of eyes and face: It is recommended to install emergency eye baths close to the working area. Do not wear contact lenses.

Protection of hands and skin: It is recommended to install emergency showers close to the working area. Barrier creams may help to protect the exposed areas of the skin.

OCUPATIONAL EXPOSURE CONTROLS: Directive 89/686/EEC~96/58/EC:

As a general measure on prevention and safety in the work place, we recommend the use of a basic personal protection equipment (PPE), with the corresponding EC marking. For more information on personal protective equipment (storage, use, cleaning, maintenance, type and characteristics of the PPE, protection class, marking, category, CEN norm, etc.), you should consult the informative brochures provided by the manufacturers of PPE.

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| <u>Mask:</u> | No. |
| <u>Safety goggles:</u> | No. |
| <u>Face shield:</u> | <i># No.</i> |
| <u>Gloves:</u>  | <i># Protective gloves of a suitable material (EN374).</i> |
| <u>Boots:</u> | No. |
| <u>Apron:</u> | No. |
| <u>Clothing:</u>  | Yes. |

Thermal hazards:

Not applicable (the product is handled at room temperature).

ENVIRONMENTAL EXPOSURE CONTROLS:

Avoid any spillage in the environment. Avoid any release into the atmosphere.

Spills on the soil: Prevent contamination of soil.

Spills in water: Do not allow to escape into drains, sewers or water courses.

Emissions to the atmosphere: Because of volatility, emissions to the atmosphere while handling and use may result. Avoid any release into the atmosphere. Emissions from ventilation equipment or work processes should be evaluated to verify compliance with the requirements of the legislation on the prevention of environment. In some cases it will be necessary to use fume scrubbers, filters or modifications in the design of process equipment to reduce emissions to an acceptable level.

VOC (industrial installations): It must be verified if it is applicable the Directive 1999/13/EC, on the limitation of emissions of volatile compounds due to the use of organic solvents in certain activities and installations: Solvents : 3.8% Weight , VOC (supply) : 3.8% Weight , VOC : 2.4% C (expressed as carbon) , Molecular weight (average) : 190.3 , Number C atoms (average) : 10.0.

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SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

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| 9.1 | <p><u>INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:</u></p> <p><u>Appearance</u></p> <ul style="list-style-type: none"> - Physical state : Dense liquid. - Colour : Violet. - Odour : Characteristic - Odour threshold : Not available (mixture). <p><u>pH-value</u></p> <ul style="list-style-type: none"> - pH : # 7.5 at 20°C <p><u>Change of state</u></p> <ul style="list-style-type: none"> - Melting point : Not available - Boiling interval : 100. - 229. °C at 760 mmHg <p><u>Density</u></p> <ul style="list-style-type: none"> - Relative density : # 1.099 at 20/4°C Relative water <p><u>Stability</u></p> <ul style="list-style-type: none"> - Decomposition temperature : Not available <p><u>Viscosity:</u></p> <ul style="list-style-type: none"> - Dynamic viscosity : # 4500. cps 20°C - Kinematic viscosity : # 1400. mm²/s at 40°C <p><u>Volatility:</u></p> <ul style="list-style-type: none"> - Vapour pressure : 17.4 mmHg at 20°C - Vapour pressure : 12.2 kPa at 50°C <p><u>Solubility(ies)</u></p> <ul style="list-style-type: none"> - Solubility in water: : Miscible - Solubility in oils and fats: : Not available <p><u>Flammability:</u></p> <ul style="list-style-type: none"> - Flash point : Not flammable - Autoignition temperature : Not applicable (not combustible). <p><u>Explosive properties:</u> Not available.</p> <p><u>Oxidizing properties:</u> # Not classified as oxidizing product.</p> |
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| 9.2 | <p><u>OTHER INFORMATION:</u></p> <ul style="list-style-type: none"> - Heat of combustion : # 987. Kcal/kg - Solids : 27.4 % Weight 3 h. 105°C - VOC (supply) : 3.8 % Weight - VOC (supply) : 42.0 g/l <p>The values indicated do not always coincide with product specifications. The data for the product specifications can be found in the corresponding technical data sheet. For additional information concerning physical and chemical properties related to safety and environment, see sections 7 and 12.</p> |
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SECTION 10 : STABILITY AND REACTIVITY

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| 10.1 | <p><u>REACTIVITY:</u></p> <p><u>Corrosivity to metals:</u> It is not corrosive to metals.</p> <p><u>Pyrophorical properties:</u> It is not pyrophoric.</p> |
| 10.2 | <p><u>CHEMICAL STABILITY:</u></p> <p>Stable under recommended storage and handling conditions.</p> |
| 10.3 | <p><u>POSSIBILITY OF HAZARDOUS REACTIONS:</u></p> <p>No dangerous reactions are known.</p> |
| 10.4 | <p><u>CONDITIONS TO AVOID:</u></p> <p><u>Heat:</u> Keep away from sources of heat. Avoid long term storage at high temperatures.</p> <p><u>Light:</u> Avoid direct contact with sunlight. Protect from light.</p> <p><u>Air:</u> Not applicable.</p> <p><u>Pressure:</u> Not applicable.</p> <p><u>Shock:</u> Not applicable.</p> |
| 10.5 | <p><u>INCOMPATIBLE MATERIALS:</u></p> <p>Not applicable.</p> |
| 10.6 | <p><u>HAZARDOUS DECOMPOSITION PRODUCTS:</u></p> <p>No product of decomposition is dangerous if stored and handled properly.</p> |

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SECTION 11 : TOXICOLOGICAL INFORMATION

No experimental toxicological data on the preparation is available. The toxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EC) No. 1272/2008~487/2013 (CLP).

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

ACUTE TOXICITY:





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| <u>Dose and lethal concentrations</u> for individual ingredients : Epoxy-acrylate oligomer Glycerol triacrylate propoxylate | <u>DL50</u> (OECD 401) mg/kg oral > 2000. Rat > 2000. Rat | <u>DL50</u> (OECD 402) mg/kg cutaneous > 2000. Rabbit > 2000. Rabbit | <u>CL50</u> (OECD 403) mg/m ³ .4h inhalation > 4900. Rat |
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No observed adverse effect level
 Not available
Lowest observed adverse effect level
 Not available

INFORMATION ON LIKELY ROUTES OF EXPOSURE: Acute toxicity:

| Routes of exposure | Acute toxicity | Cat. | Main effects, acute and/or delayed |
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| <u>Inhalation:</u> Not classified | ETA > 20000 mg/m ³ | - | <i># Not classified as a product with acute toxicity if inhaled (based on available data, the classification criteria are not met).</i> |
| <u>Skin:</u> Not classified | ETA > 2000 mg/kg | - | <i># Not classified as a product with acute toxicity in contact with skin (based on available data, the classification criteria are not met).</i> |
| <u>Eyes:</u> Not classified | Not available | - | <i># Not classified as a product with acute toxicity by eye contact (lack of data).</i> |
| <u>Ingestion:</u> Not classified | ETA > 5000 mg/kg | - | <i># Not classified as a product with acute toxicity if swallowed (based on available data, the classification criteria are not met).</i> |

CORROSION / IRRITATION / SENSITISATION :

| Danger class | Target organs | Cat. | Main effects, acute and/or delayed |
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| <u>Respiratory corrosion/irritation:</u> Not classified | - | - | <i># Not classified as a product corrosive or irritant by inhalation (based on available data, the classification criteria are not met).</i> |
| <u>Skin corrosion/irritation:</u> Not classified | - | - | <i># Not classified as a product corrosive or irritant in contact with skin (based on available data, the classification criteria are not met).</i> |
| <u>Serious eye damage/irritation:</u>  | Eyes  | Cat.2 | <i># IRRITANT: Causes serious eye irritation.</i> |
| <u>Respiratory sensitisation:</u> Not classified | - | - | <i># Not classified as a product sensitising by inhalation (based on available data, the classification criteria are not met).</i> |
| <u>Skin sensitisation:</u>  | Skin  | Cat.1 | <i># SENSITISING: May cause an allergic skin reaction.</i> |

ASPIRATION HAZARD:

| Danger class | Target organs | Cat. | Main effects, acute and/or delayed |
|---|---------------|------|--|
| <u>Aspiration hazard:</u> Not classified | - | - | <i># Not classified as a product hazardous by aspiration (based on available data, the classification criteria are not met).</i> |

SPECIFIC TARGET ORGANS TOXICITY (STOT): Single exposure (SE) and/or Repeated exposure (RE):
Not classified as a dangerous product for target organs (based on available data, the classification criteria are not met).

CMR EFFECTS:

Carcinogenic effects: It is not considered as a carcinogenic product.
Genotoxicity: It is not considered as a mutagenic product.
Toxicity for reproduction: Does not harm fertility. Does not harm the unborn child.
Effects via lactation: Not classified as a hazardous product for children breast-fed.

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DELAYED AND IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE:
Routes of exposure: May be absorbed by inhalation of vapour, through the skin and by ingestion. May be absorbed by inhalation, through the skin and eyes, and by ingestion.
Short-term exposure: * *May irritate the eyes and skin. Irritating to eyes. May cause sensitization by skin contact.*
Long-term or repeated exposure: * *Repeated or prolonged contact may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. Repeated or prolonged skin or mucous contact may cause symptoms of irritation, such as redness, blisters or dermatitis.*

INTERACTIVE EFFECTS:
 Not available.

INFORMATION ABOUT TOXICOCINETICS, METABOLISM AND DISTRIBUTION:
Dermal absorption: Not available.
Basic toxicokinetics: Not available.

ADDITIONAL INFORMATION:
 Not available.

SECTION 12 : ECOLOGICAL INFORMATION

No experimental ecotoxicological data on the preparation as such is available. The ecotoxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EC) No. 1272/2008~487/2013 (CLP).

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|------|--|---|---|---|
| 12.1 | TOXICITY: | | | |
| | <u>Acute toxicity in aquatic environment</u> for individual ingredients : Epoxy-acrylate oligomer Glycerol triacrylate propoxylate | <u>CL50</u> (OECD 203) mg/l.96hours > 100. Fishes 5.7 Fishes | <u>CE50</u> (OECD 202) mg/l.48hours > 100. Daphnia 91. Daphnia | <u>CE50</u> (OECD 201) mg/l.72hours 105. Algae 12. Algae |
| | <u>No observed effect concentration</u> Not available | | | |
| | <u>Lowest observed effect concentration</u> Not available | | | |
| 12.2 | PERSISTENCE AND DEGRADABILITY: * <i>Not available.</i> | | | |
| | <u>Aerobic biodegradation</u> for individual ingredients : Aliphatic urethane-acrylate oligomer Epoxy-acrylate oligomer Glycerol triacrylate propoxylate | <u>DQO</u> mgO2/g | <u>%DBO/DQO</u> 5 days 14 days 28 days 6. 47. 85. | <u>Biodegradability</u> Not available Inherently Easy |
| 12.3 | BIOACCUMULATIVE POTENTIAL: Not available. | | | |
| | <u>Bioaccumulation</u> for individual ingredients : Aliphatic urethane-acrylate oligomer Epoxy-acrylate oligomer Glycerol triacrylate propoxylate | <u>logPow</u> 1.60 2.52 | <u>BCF</u> L/kg 16. (calculated) | <u>Potential</u> Not available No bioaccumulable Unlikely, low |
| 12.4 | MOBILITY IN SOIL: Not available. | | | |
| 12.5 | RESULTS OF PBT AND VPVB ASSESMENT: Annex XIII of Regulation (EC) no. 1907/2006: * <i>Does not contain substances that fulfil the PBT/vPvB criteria.</i> | | | |
| 12.6 | OTHER ADVERSE EFFECTS: <u>Ozone depletion potential:</u> Not available. <u>Photochemical ozone creation potential:</u> Not available. <u>Earth global warming potential:</u> Not available. <u>Endocrine disrupting potential:</u> Not available. | | | |

SECTION 13 : DISPOSAL CONSIDERATIONS

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|------|--|--|--|
| 13.1 | WASTE TREATMENT METHODS: Directive 2008/98/EC: Take all necessary measures to prevent the production of waste whenever possible. Analyse possible methods for revaluation or recycling. Do not discharge into drains or the environment, dispose at an authorised waste collection point. Waste should be handled and disposed in accordance with current local and national regulations. For exposure controls and personal protection measures, see section 8. <u>Disposal of empty containers:</u> Directive 94/62/EC~2005/20/EC, Decision 2000/532/EC: Emptied containers and packaging should be disposed in accordance with currently local and national regulations. The classification of packaging as hazardous waste will depend on the degree of emptying of the same, being the holder of the residue responsible for their classification, in accordance with Chapter 15 01 of Decision 2000/532/EC, and forwarding to the appropriate final destination. With contaminated containers and packaging, adopt the same measures as for the product in itself. <u>Procedures for neutralising or destroying the product:</u> Authorised landfill in accordance with local regulations. | | |
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MATERIAL SAFETY DATA SHEET (REACH)

In accordance with Regulation (EC) No. 1907/2006 and Regulation (EU) No. 453/2010

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ZOICO POLYMER 400C
Code: 2335P400**SECTION 14 : TRANSPORT INFORMATION**14.1 UN NUMBER: Not applicable14.2 UN PROPER SHIPPING NAME: Not applicable14.3 TRANSPORT HAZARD CLASS(ES) AND PACKING GROUP:

14.4

Transport by road (ADR 2013) and
Transport by rail (RID 2013):
Not regulatedTransport by sea (IMDG 36-12):
Not regulatedTransport by air (ICAO/IATA 2013):
Not regulatedTransport by inland waterways (ADN):
Free.14.5 ENVIRONMENTAL HAZARDS:
Not applicable (not classified as hazardous for the environment).14.6 SPECIAL PRECAUTIONS FOR USER:
* *Ensure that persons transporting the product know what to do in case of accident or spill. Always transport in closed containers in a vertical and secure position. Ensure adequate ventilation.*14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE:
Not applicable.**SECTION 15 : REGULATORY INFORMATION**15.1 EU SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC:
The regulations applicable to this product generally are listed throughout this material safety data sheet.Restrictions on manufacture, placing on market and use: See section 1.2Control of the risks inherent in major accidents (Seveso III): See section 7.2Tactile warning of danger: Not applicable (the classification criteria are not met).Child safety protection: Not applicable (the classification criteria are not met).OTHER REGULATIONS:
Not available15.2 CHEMICAL SAFETY ASSESSMENT:
Not applicable (mixture).



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SECTION 16 : OTHER INFORMATION

16.1 TEXT OF THE PHRASES AND NOTES REFERENCED IN SECTIONS 2 AND/OR 3:
Hazard statements according the Regulation (EC) No. 1272/2008~487/2013 (CLP), Annex III:
 H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation.
R-phrases according the Directive 67/548/EEC~2001/59/EC (DSD), Annex III:
 R36 Irritating to eyes. R43 May cause sensitization by skin contact. R53 May cause long-term adverse effects in the aquatic environment. R36/38 Irritating to eyes and skin.

ADVICES ON ANY TRAINING APPROPRIATE FOR WORKERS:

It is recommended for all staff that will handle this product to carry out a basic training in occupational risk and prevention, in order to provide understanding and interpretation of material safety data sheets and labelling of products as well.

MAIN LITERATURE REFERENCES AND SOURCES FOR DATA:

- European Chemicals Agency: ECHA, <http://echa.europa.eu/>
- Access to European Union Law, <http://eur-lex.europa.eu/>
- Industrial Solvents Handbook, Ibert Mellan (Noyes Data Co., 1970).

ABBREVIATIONS AND ACRONYMS:

List of abbreviations and acronyms that can be used (but not necessarily used) in this material safety data sheet:

- REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
- DSD: Dangerous Substances Directive.
- DPD: Dangerous Preparations Directive.
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals of the United Nations.
- CLP: European regulation on Classification, Labelling and Packaging of substances and chemical mixtures.
- EINECS: European Inventory of Existing Commercial Chemical Substances.
- ELINCS: European List of Notified Chemical Substances.
- CAS: Chemical Abstracts Service (Division of the American Chemical Society).
- UVCB: Substances of Unknown or Variable composition, complex reaction products or biological materials).
- SVHC: Substances of Very High Concern.
- PBT: Persistent, bioaccumulable and toxic substances.
- vPvB: Very persistent and very bioaccumulable substances.
- VOC: Volatile Organic Compounds.
- DNEL: Derived No-Effect Level (REACH).
- PNEC: Predicted No-Effect Concentration (REACH).
- LD50: Lethal dose, 50 percent.
- LC50: Lethal concentration, 50 percent.
- UN: United Nations Organisation.
- ADR: European agreement concerning the international carriage of dangerous goods by road.
- RID: Regulations concerning the international transport of dangerous goods by rail.
- IMDG: International Maritime code for Dangerous Goods.
- IATA: International Air Transport Association.
- ICAO: International Civil Aviation Organization.

MATERIAL SAFETY DATA SHEET REGULATIONS:

Material Safety Data Sheet in accordance with Article 31 of Regulation (EC) No. 1907/2006 (REACH) and Annex I of Regulation (EU) No. 453/2010.

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| <u>HISTORIC:</u> | <u>Revision:</u> |
| Version: 4 | 21/01/2014 |
| Version: 5 | 31/05/2015 |

Changes since previous Material Safety Data Sheet:

Legislative, contextual, numerical, methodological and normative changes since the previous version of the present Material Safety Data Sheet are identified by a red-italic hash (#).

The information of this Material Safety Data Sheet, is based on the present state of knowledge and on current UE and national laws, as the users' working conditions are beyond our knowledge and control. The product is not to be used for other purposes than those specified, without first obtaining written handling instruction. It is always the responsibility of the user to take all necessary steps in order to fulfil the demand laid down in the local rules and legislation. The information in this Material Safety Data Sheet is meant as a description of the safety requirements of the product and it is not to be considered as a guarantee of the product's properties.