


## SECTION 1: Identification

- **1.1 Product identifier**
- Trade name: iQprint® Model
- Chemical name: Mixture of acrylate, photoinitiator and pigment.
- **1.2 Relevant identified uses of the substance or mixture and uses advised against:**
- No further relevant information available.
- **Application of the substance/the mixture:** UV/Visible light curable resin for 3D printing.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
- Elegant Dent Ltd
- Woodland Enterprise, Hastings Road, Flimwell,
- East Sussex, TN5 7PR, United Kingdom
- Tel: +44 208 453 6067
- Fax: +44 207 681 1110
- **Informing department:** E-mail: info@elegantdent.com
- **1.4 Emergency telephone number:** +44 208 453 6067

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No. 1272/2008 [CLP]:**
- Acute toxicity (Oral), Cat.5 : H303 – May be harmful if swallowed
- Skin irritation, Cat.2 : H315 – Causes skin irritation
- Eye damage, Cat.1 : H318 – Causes serious eye damage
- Skin Sensitization, Cat.1 : H317 – May cause an allergic skin reaction
- STOT – Repeated exposure, Cat.2 : H373 – May cause damage to organs
- Chronic Aquatic hazard, Cat.3. : H412 – Harmful to aquatic life with long lasting effects
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No. 1272/2008 [CLP/GHS]**
- **Hazard pictograms:**  

- **Signal word:** Danger.
- **Hazard statements:**
- H303 – May be harmful if swallowed.
- H315 – Causes skin irritation.
- H318 – Causes serious eye damage.
- H317 – May cause an allergic skin reaction.
- H373 – May cause damage to organs.
- H412 – Harmful to aquatic life with long lasting effects.

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- **Precautionary statements**
- **Prevention:**
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/eye protection/face protection.
- **Response:**
- P301 + P317 IF SWALLOWED: Get medical help.
- P302 + P352 IF ON SKIN: Wash with plenty water/...
- P305 + P354 + P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P319 Get medical help if you feel unwell.
- P332 + P317 If skin irritation occurs: Get medical help.
- P333 + P317 If skin irritation or rash occurs: Get medical help.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- **Storage:**
- -
- **Disposal:**
- P501 Dispose of contents/container in accordance with local regulation.
- **2.3 Other hazards –**
- **Adverse physicochemical effects:** Not available.
- **Adverse human health effects and symptoms:** Not available.
- **Adverse environmental effects:** Not available.
- **Other adverse hazards:** Not available
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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**SECTION 3: Composition/information on ingredients**

- **3.1 Chemical characterisation:** Mixtures
- **3.2 Mixtures**
- **Description of the mixture:** Viscous liquid.
- **Hazardous ingredients:**

Substance	Concentration (% w/w)	CAS No.	Classification regulations 1272/2008/EC, REACH
Acrylated monomer 1	5~20%	CBI	Acute Tox. 4*, H302 STOT RE 2*, H373** Eye Dam. 1, H318 Skin Sens. 1, H317
DPGDA	10~20%	57472-68-1	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Dam. 1, H318
Acrylated monomer 2	1~10%	CBI	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Chronic 2, H411
Acrylated oligomers	20~40%	CBI	Not applicable
TPO	0.5~2%	75980-60-8	Repr. 2, H3361f
Additives	1~6%	25190-06-1	Aquatic Chronic 3, H412 Eye Irrit. 2, H319
Titanium dioxide	<1%	13463-67-7	Carc. 2, H351
Pigment	<0.1%	84632-65-5	Carc. 2, H351

- **Additional information:** For full text of H- and EUH- phrases: see section 16.

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures:**
- Move the victim to fresh air.
- Do not leave the victim unattended.

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- Move out of dangerous area.
- Show this safety data sheet to the doctor in attendance.
- **After skin contact:** Wash off immediately with soapy and plenty of water.
- **After eye contact:** Immediately flush eye(s) with plenty of water.
- Flush eyes with water as a precaution.
- Remove contact lenses.
- Keep eye wide open while rinsing.
- If eye irritation persists, consult a specialist.
- **After swallowing:** Keep the respiratory tract clear.
- **After inhalation:** If unconscious, place in recovery position and seek medical advice.
- If symptoms persist, call a physician.
- **4.2 Most important symptoms and effects, both acute and delayed**
- **Symptoms:** Causes skin irritation.
- May cause an allergic skin reaction.
- Suspected of damaging the unborn child.
- **Effects:** not available.
- **4.3 Indication of any immediate medical attention and special treatment needed:**
- No further relevant information available.

## SECTION 5: *Firefighting measures*

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
- **Suitable extinguishing media:** Dry sand, ABC powder, foam.
- **Unsuitable extinguishing media:** High volume water jet.
- **5.2 Special hazards arising from the substance or mixture**
- **Specific hazards during firefighting:** Do not allow run-off from fire fighting to enter drains or water courses.
- **Hazardous combustion products:** Possible decomposition products are COx, NOx.
- **5.3 Advice for firefighters**
- **Special protective equipment for fire fighters:**
- Water self-contained breathing apparatus for firefighting if necessary.
- **Additional information:** Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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#### SECTION 6: *Accidental release measures*

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **For non-emergency personnel**
- **Personnel precautions:** Evacuate personnel to safe areas. Use personnel protective equipment.
- **Protective equipment:** Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Wear protective gloves/clothing and eye/face protection.
- **Emergency procedures:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breath vapour or mist.
- **Personal protective equipment:** If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.
- **For emergency responders**
- **Personal protective equipment:** If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- **6.2 Environmental precautions:** Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- **6.3 Methods and material for containment and cleaning up:** Prevent further leakage or spillage if safe to do so.
- **6.4 Reference to other sections:**
- For personal protection, see section 8.

#### SECTION 7: *Handling and storage*

- **7.1 Precautions for safe handling**
- **Protective measures**
- **Advice on safe handling:** Do not breathe vapours/dust. Avoid exposure – obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating, and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory diseases should not be employed in any process in which this mixture is being used.

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- **Fire preventions:** Normal measures for preventive fire protection.
- **Advice on general occupational hygiene**
- **Hygiene measures:** Do not eat, drink, or smoke when using. Wash hands before breaks and at the end of workday.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Technical measures and storage conditions**
- **Packing materials:** Original container, plastic containers with cover.
- **Requirements for storage room and vessels**
- **Requirements for storage areas and containers:** Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Keep container closed when not in use.
- **Hints on storage assembly**
- **Storage class:** Store in original container. Keep containers tightly closed in a cool, well-ventilated place.
- **Materials to avoid:** Keep away from sources of ignition, oxidizing agents, strongly alkaline and strongly acidic materials to avoid exothermic reactions.
- **Further information on storage conditions:** Protect from humidity and water.
- **7.3 Specific end uses:** This information is not available.

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

- **8.1 Control parameters**
- **Occupational exposure limits:**

Substance name	CAS No.	Limit value – 8 hrs	Limit value – short term	Basis
TiO <sub>2</sub>	13463-67-7	10 mg/m <sup>3</sup>	-	BL OEL

- **Exposure limits at intended use**
- **Derived No Effect Level (DNEL) according to Regulation (EC) No, 1907/2006:**

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Substance name	CAS No.	End use	Exposure route	Effects	Threshold
Acrylated monomer 1	CBI	Workers	Inhalation (L)	Systemic	132.24 mg/m <sup>3</sup>
			Inhalation (S)	Systemic	132.24 mg/m <sup>3</sup>
			Dermal (L)	Systemic	300 mg/kg/bw/day
			Dermal (S)	Systemic	300 mg/kg/bw/day
DPGDA	5472-61-1	Workers	Inhalation (L)	Systemic	24.48 mg/m <sup>3</sup>
			Dermal (L)	Systemic	2.77 mg/kg/bw/day
		General population	Inhalation (L)	Systemic	7.24 mg/m <sup>3</sup>
			Dermal (L)	Systemic	1.66 mg/kg/bw/day
			Oral (L)	Systemic	2.08 mg/kg/bw/day
Acrylated monomer 1	CBI	Workers	Inhalation (L)	Systemic	8.22 mg/m <sup>3</sup>
			Dermal (L)	Systemic	2.3 mg/kg/bw/day
		General population	Inhalation (L)	Systemic	1.4 mg/m <sup>3</sup>
			Dermal (L)	Systemic	830 µg/kg/bw/day
			Oral (L)	Systemic	830 µg/kg/bw/day
TPO	75980-60-8	Workers	Inhalation (L)	Systemic	822 µg/m <sup>3</sup>
			(Dermal (L)	Systemic	233 µg/kg/bw/day

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	General population	Inhalation (L)	Systemic	145 µg/m <sup>3</sup>
		Dermal (L)	Systemic	83.3 µg/kg/bw/day
		Oral (L)	Systemic	83.3 µg/kg/bw/day

- **Note: (L) = Long-term; (S) = Short-term**
- **Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907:2006:**

Substance name	CAS No.	Environment type	Environmental compartment	Threshold
Acrylated monomer 1	CBI	Aquatic organisms	Freshwater	12 µg/L
			Sediment (freshwater)	9.428 µg/kg sediment dw
		Terrestrial organisms	Soil	1.442 µg/kg soil dw
DPGDA	57472-68-1	Aquatic organisms	Freshwater	3.4 µg/L
			Intermittent releases (freshwater)	34 µg/L
			Marine water	340 ng/L
			Sewage treatment plant (STP)	100 mg/L
			Sediment (freshwater)	8.84 µg/kg sediment dw
		Terrestrial organisms	Soil	1.3 µg/kg soil dw
Acrylated monomer 2	CBI	Aquatic organisms	Freshwater	2.7 µg/L
			Intermittent releases (freshwater)	27 µg/L
			Marine water	270 ng/L

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			Sewage treatment plant (STP)	10 mg/L
			Sediment (freshwater)	177.6 µg/kg sediment dw
			Sediment (marine water)	17.8 µg/kg sediment dw
		Terrestrial organism	Soil	33.9 µg/kg soil dw
TPO	75890-60-8	Aquatic organisms	Freshwater	1.4 µg/L
			Intermittent releases (freshwater)	14 µg/L
			Marine water	140 ng/L
			Intermittent releases (marine water)	1.4 µg/L
			Sediment (freshwater)	115 µg/kg sediment dw
			Sediment (marine freshwater)	11.5 µg/kg sediment dw
		Terrestrial organisms	Soil	22.2 µg/kg soil dw

- **8.2 Exposure controls**
- **Appropriate engineering controls**
- **Personal protective equipment**
- **Eye protection:** Goggles, safety glasses.
- **Hand protection:** Solvent-resistant gloves (butyl-rubber).
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The exact break through time can be obtained from the protective glove producer and this has to be observed. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

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- Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Recommended preventive skin protection. Skin should be washed after contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- **Skin and body protection:** Choose body protection according to the amount and concentration of the dangerous substance at the workplace.
- **Respiratory protection:** Use suitable breathing protection if workplace concentration requires.
- **Environmental exposure controls**
- **Water:** The product should not be allowed to enter drains, water courses or the soil.

#### SECTION 9: *Physical and chemical properties*

##### · **9.1 Information on basic physical and chemical properties**

##### · **General information**

##### · **Appearance:**

- **Form:** Viscous fluid.
- **Colour:** Refer to product label.
- **Smell:** Typical arylates.
- **Odour threshold:** Not determined.

· **pH-value:** Not determined.

##### · **Change in condition**

- **Melting point/Melting range:** Not determined.
- **Boiling point/Boiling range:** Not determined.

· **Flash point:** >110°C (Closed-cup).

· **Inflammability (solid, gaseous)** Not applicable.

· **Ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Self-inflammability:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive.

##### · **Critical values for explosion:**

· **Lower:** Not determined.

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· <b>Upper:</b>	Not determined.
· <b>Steam pressure at 20°C:</b>	Not determined.
· <b>Density at 20°C:</b>	Not determined.
· <b>Relative density:</b>	ca. 1.12g/cm <sup>3</sup>
· <b>Vapour density:</b>	Not determined.
· <b>Evaporation rate:</b>	Not determined.
· <b>Solubility in/Miscibility with</b>	
· <b>Water:</b>	Not available.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity (25°C):</b>	260~300cP
· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
· <b>VOC EU:</b>	g/l
· <b>9.2 Other information:</b>	No further relevant information available.

#### SECTION 10: *Handling and storage*

- **10.1 Reactivity:** No decomposition if stored and applied as directed.
- **10.2 Chemical stability:** No decomposition if stored and applied as directed.
- **10.3 Possibility of hazardous reactions**
- **Hazardous reactions:** Contact with acids and alkalis may release hydrogen.
- Stable under recommended storage conditions.
- **10.4 Conditions to avoid:** High temperature, exposure to direct sun light.
- **10.5 Incompatible materials:** Acids, bases, oxidizing agents.
- **10.6 Hazardous decomposition products**
- **Contact with water or humidity:** No further information is available.
- **Thermal decomposition:** No further information is available.
- **Additional information:** -

#### SECTION 11: *Toxicological information*

- **11.1 Information on likely routes on exposure:** None known.
- **11.2 Information on toxicological effects**

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#### SECTION 12: *Ecological information*

- **12.1 Ecotoxicity**
- **Product:** No data available.
- **Components:** [Acrylated monomer 2] to fish: LC50 (4 days) 2.7 mg/L
- to aquatic invertebrates: EC50 (48h) 158.3 mg/L
- to aquatic algae and cyanobacteria: EC50 (72h) 11.3 – 25.7 mg/L
- to microorganisms: NOEC (14 days) 100 mg/L
- **12.2 Persistence and degradability**
- **Product:** No data available.
- **Components:** [Acrylated monomer 2] Biodegradation in water: inherently biodegradable (100%)
- Remarks: Data from ECHA REACH – dossier information.
- **12.3 Bioaccumulative potential:** No further relevant information available.
- **12.4 Mobility in soil**
- **Product:** No data available.
- **Components:** [Acrylated monomer 2] Adsorption/desorption: Koc 141.8 – 621.8 L/kg
- Remarks: Data from ECHA REACH – dossier information.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects:** No further relevant information available.

#### SECTION 13: *Disposal considerations*

- **13.1 Waste treatment methods**
- **Product:** The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, water ways or ditches with chemical or used container. Send to a licensed waste management company. In accordance with local and national regulations.
- **Contaminated packaging:** Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. In accordance with local and national regulations.

#### SECTION 14: *Transport information*

- **14.1 UN-Number**
- **ADR, ADN, IMDG, IATA**

Void

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<ul style="list-style-type: none"> <li>• <b>14.2 UN proper shipping name</b></li> <li>• <b>ADR, ADN, IMDG, IATA:</b> Void</li> </ul>
<ul style="list-style-type: none"> <li>• <b>14.3 Transport hazard class(es)</b></li> <li>• <b>ADR, ADN, IMDG, IATA</b></li> <li>• <b>Class:</b> Void</li> </ul>
<ul style="list-style-type: none"> <li>• <b>14.4 Packing group</b></li> <li>• <b>ADR, IMDG, IATA:</b> Void</li> </ul>
<ul style="list-style-type: none"> <li>• <b>14.5 Environmental hazards</b></li> <li>• <b>Marine pollutant:</b> Not classified as marine pollutant</li> </ul>
<ul style="list-style-type: none"> <li>• <b>14.6 Special precautions for user:</b> Not applicable</li> </ul>
<ul style="list-style-type: none"> <li>• <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:</b> Not applicable.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Transport/Additional information:</b> -</li> </ul>
<ul style="list-style-type: none"> <li>• <b>UN "Model Regulation":</b> Void</li> </ul>

#### SECTION 15: *Regulatory information*

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- REACH – Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable.
- **15.2 Chemical safety assessment** None

#### SECTION 16: *Other information*

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Reference** Global Harmonized System of Classification and Labelling of Chemicals (GHS), rev. 8, 2019 (EC) No. 1272/2008, Annex VI to CLP, ATP14, 2020

REACH – Dossier documents, ECHA

PBT assessment list, ECHA

IFA GESTIS – International limit values for chemical agents (occupational exposure limits, OELs)

TRGS 903 Biological Limit Values (BGW) Technical rule for hazardous substances

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· **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*

*ELINCS: European List of Notified Chemical Substances*

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

*VOCV: Lenkungsabgabe auf flüchtigen organischen Verbindungen, Schweiz (Swiss Ordinance on volatile organic compounds)*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

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