

CADworks3D




μMICROFLUIDICS

Material Safety Data Sheet Clear Microfluidics Resin

1. Chemical Product & Company Identification

Identification of the substance:	Clear Microfluidics Resin
Use of the substance / preparation:	UV photopolymer for 3D printers
Company / undertaking identification:	Creative CADWorks Inc 30 Great Gulf Dr. Unit 28 Concord, Ontario, L4K0K7, Canada
Emergency telephone:	+1 416 368 7266

2. Hazardous Identification

GHS	Regulation (EC) No. 1272/2008, HazCom 29 CFR 1910, Australian Dangerous Goods Code <table border="1"> <tr> <td>Reproductive toxicity</td> <td>Category 1</td> <td>H315 - Causes skin irritation. H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation H361f - Suspected of damaging fertility</td> </tr> </table>	Reproductive toxicity	Category 1	H315 - Causes skin irritation. H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation H361f - Suspected of damaging fertility
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Classification/Symbols	   <p style="text-align: center;">GHS07 GHS08</p>			
Hazard determining components of labelling:	Photoinitiator			
Hazard Statements	H315 - Causes skin irritation. H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation H361 - Suspected of damaging fertility			
Precautionary statements	P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P233 - Keep container tightly closed P260 - Do not breathe dust/fume/gas/mist/vapors/spray P261 - Avoid breathing dust, fume, gas, mist, vapors, spray P262 - Do not get in eyes, on skin or on clothing P264 - Wash thoroughly after handling P271 - Use only outdoors or in a well-ventilated area. Hazardous polymerization may occur upon depletion of inhibitor			

	<p>P272 - Contaminated work clothing should not be allowed out of the workplace</p> <p>P273 - Avoid release to the environment.</p> <p>P280 - Wear protective gloves, protective clothing, eye protection</p> <p>P301+P317 - IF SWALLOWED: Get medical help.</p> <p>P302 & 352 - If on skin, wash with plenty of soap and water.</p> <p>P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308 & 313 - If exposed: Call a POISON CENTER or doctor/physician.</p> <p>P319 - Get medical help if you feel unwell.</p> <p>P333 P313 & P317 If skin irritation or rash occurs: Get medical advice/ attention</p> <p>P362+P364 - Take off contaminated clothing and wash it before reuse.</p> <p>P391 - Collect spillage.</p> <p>P405 - Store locked up.</p> <p>P501 - Dispose of contents/container in accordance with local/regional regulations</p>
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3. Composition/Information on Ingredients

Description: Organic mixture containing acrylate monomers and oligomers

Composition of components	Weight%	EC No.	Cas No.	Regulation (EC) 1272/2008 - Warning
Methacrylate oligomer	15-40%	Proprietary	72869-86-4	H315, H317, H319
Modified Acrylate Monomer	15-50%	Proprietary	68987-79-1	H315 H317
Photoinitiator	0.5%-4%	278-355-8	75980-60-8	Skin Sensitivity - 1, H317: Reproductive Toxicity - 2, H361f

4. First-aid measures

Contact with skin	Immediately take off all contaminated clothing. Wash skin immediately with mild soap/water for at least 15 minutes. If resin is not completely removed, use a waterless cleaner first. Seek medical advice if irritation persists.
Contact with eyes	Wash the eye and under eyelid immediately with water for 20-40 minutes. Seek medical advice if irritation, pain, tears or redness persists.
Swallowing	DO NOT INDUCE VOMITING. If vomiting occurs naturally, keep airways clear. Immediately obtain medical attention.
Inhalation	If overcome by exposure, ventilate the premises. Remove victim from contaminated area to well ventilated areas or outdoors. If needed, provide oxygen or artificial respiration. Get immediate medical attention.

5. Fire fighting measures

Recommended extinguishers	CO2, Foam, Chemical powders, sand or earth. Use water based extinguishing media with caution
Extinguishers not to be used	None in particular.
Risks arising from combustion	Avoid inhaling the fumes. Incomplete combustion releases toxic gases.
Protective equipment	Use protection for the airways.

6. Measures in case of accidental release

Measures for personal safety	Use a mask, gloves and protective clothing.
Environmental measures	Limit leakages with earth or sand. If the product has flown off into a water course, into the drainage system, or has contaminated the ground or vegetation, notify the responsible authorities.
Cleaning methods	Rapidly collect the product. To do so, wear a mask and protective clothing. If the product is in a liquid form, stop it from entering the drainage system. Recover the product for re-use if possible, or

	for elimination in compliance with waste disposal regulations in force. The product might, where appropriate, be absorbed by inert material.
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7. Handling and storage

Handling precautions	Avoid contact with and inhalation of vapours and/or dusts. Do not eat or drink or smoke while working.
Incompatible materials	Keep away from amines, strong bases, acids and strong oxidants.
Storage conditions	Storage temperature: between 15°C/59°F to 35°C/95°F Keep in a dry place, in the original containers tightly closed, avoid heat/ignition and light sources. Prevent contamination by foreign materials and water. For industrial use only, keep away from children.

8. Exposure control/personal protection

Exposure limit values	General Product Information: No occupational exposure limits (PEL/TWA) have been established for this product.	
	Component	Component Manufacturer IEL (Internal Exposure Limit)
	Diphenyl (2,4,6-trimethylbenzoyl)phosphine oxide	3.5 mg/m ³
Precautionary measures	Provide adequate ventilation to the areas where the product is stored and/or handled.	
Respiratory protection	Required where ventilation/aspiration is insufficient or exposure is prolonged, or for applications in which the product is sprayed or heated. Required in case of machining or applications that release dust.	
Protection for hands	Use protective gloves. For an extended exposure of the product, wear nitrile/neoprene gloves.	
Eye protection	Safety goggles.	
Protection for skin	Use clothing that provides complete protection to the skin.	

9. Physical and chemical properties

Appearance and color	Liquid: Transparent
Odour	Light
pH	Not available
Melting point	Not available
Boiling point	Not available
Flash point	Not available
Explosive properties	Not available
Combustion-related properties	Not available
Specific gravity ASTM D 1475	1.0 g/cm ³ at 25° C
Viscosity Solubility in water	<300 Not available

10. Stability & Reactivity

Conditions to avoid	Stable under normal conditions.
Substances to avoid	The product reacts exothermically with amines, Lewis acids and mercaptans.
Hazardous decomposition products	Upon incomplete combustion carbon monoxide is formed.

11. Toxicological information

Toxicokinetics, metabolism and distribution	Not available			
Acute effects	Component	LD₅₀ Oral	LD₅₀ Dermal	LC50 (Inhalation)
	Diphenyl (2,4,6-trimethylbenzoyl) phosphine oxide	> 5000 mg/kg	>2000 mg/kg	
Irritation to respiratory tract Skin irritation, Eye irritation	Irritating			
Sensitisation	Causes sensitisation			
General remarks	None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.			

12. Ecological Information

The experimental information related to the eco-toxicological properties of the mixture itself is not available but it can be assumed that the material may have an adverse impact or may be harmful to aquatic organisms and aquatic environment.

Toxicity	Diphenyl (2,4,6-trimethylbenzoyl) phosphine oxide: EC50 – 3.53mg/l (daphnia) LC50 (48h) – 6.53 mg/l (oryzias latipes)
Persistence and degradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	Not available
Results of PBT and vPvB assessment	Non-applicable
Other adverse effects	Non-applicable

13. Disposal Considerations

Recover if possible. In doing so, comply with the local and national regulations currently in force. Avoid release to the environment. Refer to special instructions/Safety data sheets. Where applicable, refer to the following regulatory provisions : 91/156/EEC, 91/689/EEC, 94/62/EC and subsequent amendments. Additionally, where possible follow waste codes / waste designations according to EWC / AVV: 070208

14. Transport information

US Department of Transportation (DOT)	Not Regulated
International Maritime Dangerous Goods Code (IMDG)	Not Regulated
IATA	Not Regulated
Land transport (ADR/RID/GGVSE)	Not Regulated

15. Regulatory Information

All components are in compliance with the following inventories

US FEDERAL	TSCA Section 6 restricted substances This formulation DO NOT contain substances listed under the EPA Regulation of Persistent, Bioaccumulative, and Toxic Chemicals Under TSCA Section 6(h). TSCA (Toxic Substances Control Act) - Section 5(a)(2) - Chemicals with Significant New Use Rules (SNURs) – None TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification – None California Prop. 65 Components This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.																		
Australian regulations	SUSDP, Industrial Chemicals Act 1989: Australian Inventory of Chemical Substances, AICS: Listed																		
EU regulations	EINEC/ELINCS/NLP: All materials are listed REACH Annex XVII: None listed																		
National EU regulations	Water Hazard - Germany. WGK2: Hazard to waters																		
International Inventories	<table><tr><td>TSCA</td><td>All ingredients are listed (Active) or exempt.</td></tr><tr><td>DSL/NDSL</td><td>All ingredients are listed or exempt.</td></tr><tr><td>EINECS/ELINCS</td><td>All ingredients are listed or exempt.</td></tr><tr><td>IECSC</td><td>All ingredients are listed or exempt.</td></tr><tr><td>KECL</td><td>All ingredients are listed or exempt.</td></tr><tr><td>PICCS</td><td>Contact supplier for inventory compliance status.</td></tr><tr><td>AICS</td><td>All ingredients are listed or exempt.</td></tr><tr><td>TCSI</td><td>All ingredients are listed or exempt.</td></tr><tr><td>NZIoC</td><td>All ingredients are listed or exempt.</td></tr></table> Legend: TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances IECSC - China Inventory of Existing Chemical Substances KECL - Korean Existing and Evaluated Chemical Substances PICCS - Philippines Inventory of Chemicals and Chemical Substances AICS - Australian Inventory of Chemical Substances All ingredients are listed or exempt.	TSCA	All ingredients are listed (Active) or exempt.	DSL/NDSL	All ingredients are listed or exempt.	EINECS/ELINCS	All ingredients are listed or exempt.	IECSC	All ingredients are listed or exempt.	KECL	All ingredients are listed or exempt.	PICCS	Contact supplier for inventory compliance status.	AICS	All ingredients are listed or exempt.	TCSI	All ingredients are listed or exempt.	NZIoC	All ingredients are listed or exempt.
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Information provided by	Creative CADWorks 30 Great Gulf Dr., Unit 28 Concord, Ontario, L45K0K7, Canada
Date	May 30 2024
Version	2.0

16. Disclaimer:

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific intended use.