

# MATERIAL SAFETY DATA SHEET

Photosensitive Resin

FILE NO.: 3860-1

MSDS DATE: 12/05/2017

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## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:**

Photosensitive Resin

**SYNONYMS:**

Rapid UV 3D Printer Resin

**PRODUCT CODES:**

30830, 30831, 30832, 30833, 30834, 30835, 30836, 30837, 21824, 30994

**MANUFACTURER:**

Monoprice, Inc.

**ADDRESS:**

1 Pointe Drive Brea CA, 92821

**PREPARED BY:**

David Fuge

**SECTION 1 NOTES:**

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## SECTION 2: Hazard Identification

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**GHS Classification:**

Acute toxicity – Oral Category 4

Skin Corrosion/Irritation Category 2

Serious eye damage / eye irritation Category 1

Skin sensitization Category 1

Chronic aquatic toxicity Category 3

**Label elements:**

Symbols / Pictograms



**Signal Word:**

Danger

**Hazard Statements:**

H302 – Harmful if swallowed

H315 – Causes skin irritation

H318 – Causes serious eye damage

H317 – May cause allergic skin reaction

H373 – May cause damage to organs through prolonged or repeated exposure

H412 – Harmful to aquatic life with long lasting effects

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## Precautionary statements

### **Prevention:**

- P264 – Wash face, hands and any exposed skin thoroughly after handling
- P270 – Do not eat, drink or smoke when using this product
- P280 – Wear protective gloves / protective clothing / eye protection / face protection
- P261 – Avoid breathing dust / fume / gas / mist / vapors / spray
- P272 – Contaminated work clothing should not be allowed out of the workplace
- P273 – Avoid release to the environment

### **Response:**

- P301 + P312 – If swallowed: Call a poison center or doctor / physician if you feel unwell
- P330 – Rinse mouth
- P302 + P352 – If on skin: wash with plenty of soap and water
- P362 – Take off contaminated clothing and wash before reuse
- P305 + P351 + P338 – If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 – Immediately call a poison center or doctor / physician
- P314 – Get medical advice / attention if you feel unwell

### **Storage:**

No information available

### **Disposal:**

- P501 – Dispose of contents / container to an approved waste disposal facility

## **SECTION 2 NOTES:**

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## **SECTION 3: Composition | Information on Ingredients**

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### **Chemical Nature**

<b>Chemical Name</b>	<b>CAS No</b>	<b>Weight - %</b>
Polyurethane acrylate	-	45 – 47
Morpholine, 4-(1-oxo-2-propenyl)	5117-12-4	34 – 36
Tripropylene glycol diacrylate	42978-66-5	15 – 17
Phosephine oxide, phenylbis (2-4-6-trimethybenzoyl)	162881-26-7	1.6 – 2.0
Pentaerythritol triacrylate	3524-68-3	0.8 – 1.2
4-Methoxyphenol	150-76-5	0.02 – 0.07

## **SECTION 3 NOTES:**

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## **SECTION 4: FIRST AID MEASURES**

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### **Description of first aid measures:**

#### **General Advice:**

Remove contaminated clothing and shoes. Do not get in eyes, on skin, or on clothing. Do not breathe dust / fume / gas / mist / vapors / spray. In the case of skin irritation or allergic reactions see a physician. If symptoms persist, call a physician.

#### **Inhalation:**

If inhaled: relocate to fresh air and keep at rest in a position comfortable for breathing. Get medical advice / attention if you feel unwell

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## **Skin Contact:**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

## **Eye Contact:**

If in eyes: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists: Seek medical advice / attention.

## **Ingestion:**

Rinse mouth. Seek medical attention. Never give anything by mouth to an unconscious person

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

Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.

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

Treat symptomatically

## **SECTION 4 NOTES:**

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## **SECTION 5: FIRE-FIGHTING MEASURES**

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### **Extinguishing Media**

#### **Suitable extinguishing media:**

Foam, dry chemical, water fog or CO<sub>2</sub>

#### **Unsuitable extinguishing media:**

High volume water jet

### **Specific hazards arising from the chemical**

Thermal decomposition can lead to release or irritation and toxic gases and vapors, such as carbon oxides, nitrogen oxides, and phosphorous oxides.

### **Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Evacuate personnel to safe areas.

## **SECTION 5 NOTES:**

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## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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### **Personal precautions, protective equipment and emergency procedures:**

Evacuate personnel to safe areas. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Avoid breathing mist / vapors / spray. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash thoroughly after handling.

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## **Methods and material for containment and clean up**

Local authorities should be advised if significant spillage cannot be contained. Prevent entry into waterways, sewers, basements or confined areas.

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

## **SECTION 6 NOTES:**

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## **SECTION 7: HANDLING AND STORAGE**

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### **Precautions for safe handling:**

Handle in accordance with good industrial hygiene and safety practices. Keep away from heat/sparks / open flames / hot surfaces. No smoking. Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Do not breathe mist / vapors / spray. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash thoroughly after handling.

### **Conditions for safe storage, including incompatibilities:**

Keep container tightly closed in a dry and well-ventilated space. Keep away from heat, sparks, flame and other sources of ignition. Keep locked up and out of reach of children. Keep away from food, drink and animal feeding stuffs. Store in accordance with local regulations.

## **SECTION 7 NOTES:**

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## **SECTION 8: EXPOSURE CONTROLS | PERSONAL PROTECTION**

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<b>Chemical Name</b>	<b>ACGIH TLV</b>	<b>OSHA PEL</b>	<b>NIOSH IDLH</b>	<b>Denmark</b>	<b>European Union</b>
4-Methoxyphenol (CAS # 150-76-5)	TWA: 5mg/m <sup>3</sup>	(vacated) TWA: 5	TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	-
<b>Chemical Name:</b>	<b>Latvia</b>	<b>France</b>	<b>Finland</b>	<b>Germany</b>	<b>Italy</b>
4-Methoxyphenol (CAS # 150-76-5)	-	TWA: 5mg/m <sup>3</sup>	TWA: 5mg/m <sup>3</sup>	-	-
<b>Chemical Name:</b>	<b>Poland</b>	<b>Portugal</b>	<b>Spain</b>	<b>Switzerland</b>	<b>Netherlands</b>
4-Methoxyphenol (CAS # 150-76-5)	TWA: 5mg/m <sup>3</sup>	TWA: 5mg/m <sup>3</sup>	TWA: 5mg/m <sup>3</sup>	-	-
<b>Chemical Name:</b>	<b>Norway</b>	<b>United Kingdom</b>	<b>Australia</b>	<b>Austria</b>	<b>Belgium</b>
4-Methoxyphenol (CAS # 150-76-5)	TWA: 5mg/m <sup>3</sup> STEL: 5 mg/m <sup>3</sup>	-	TWA: 5mg/m <sup>3</sup>	STEL: 5mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	-

### **Appropriate engineering controls:**

Ensure adequate ventilation, especially in confined areas. Showers, eyewash stations. Remove all sources of ignition.

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## Individual protection measures, such as personal protective equipment:

### **Respiratory Protection:**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

### **Hand Protection:**

Wear protective gloves

### **Eye / face protection:**

Wear safety glasses with side shields (or goggles)

### **Skin and body protection:**

Wear suitable protective clothing

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## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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### Information on basic physical and chemical properties:

<b>Appearance</b>	Liquid
<b>Color</b>	Transparent
<b>Order</b>	Orderless
<b>Order Threshold</b>	Not Determined
<b>pH</b>	Not Determined
<b>Melting point / freezing point</b>	Not Determined
<b>Boiling point / boiling range</b>	Not Determined
<b>Flash point</b>	Not Applicable
<b>Evaporation Rate</b>	Not Determined
<b>Flammability (solid, gas)</b>	Not flammable
<b>Flammability limit in air</b>	Not Applicable
<b>Vapor Pressure</b>	Not Determined
<b>Vapor Density</b>	Not Applicable
<b>Density</b>	Not Determined
<b>Relative density</b>	Not Determined
<b>Bulk density</b>	Not Determined
<b>Specific gravity</b>	Not Determined
<b>Water Solubility</b>	Not Determined
<b>Partition coefficient (LogPow)</b>	Not Determined
<b>Auto ignition temperature</b>	Not Applicable
<b>Decomposition temperature</b>	Not Determined
<b>Kinematic viscosity</b>	Not Determined
<b>Dynamic viscosity</b>	Not Determined
<b>Explosive properties</b>	Not an explosive
<b>Oxidizing Properties</b>	Not Determined

### Other Information

No information available

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## SECTION 10: STABILITY AND REACTIVITY

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### **Reactivity:**

No known effects under normal use conditions

### **Chemical stability:**

Stable under normal conditions

### **Possibility of hazardous reactions:**

None under normal processing

### **Conditions to avoid:**

Heat, flames, and sparks. Incompatible materials

### **Incompatible materials:**

Strong oxidizing agents. Strong bases.

### **Hazardous decomposition products:**

Carbon oxides, nitrogen oxides, phosphorous oxides

## SECTION 10 NOTES:

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### **Information on likely routes of exposure:**

#### **Inhalation:**

Inhalation of vapors in high concentration may cause irritation of respiratory system

#### **Eye contact:**

Causes serious eye damage

#### **Skin contact:**

Causes skin irritation. May cause allergic skin reaction.

#### **Ingestion:**

Harmful if swallowed

### **Information on toxicological effects:**

#### **Acute Toxicity**

<b>Chemical Name</b>	<b>Oral LD50</b>	<b>Dermal LD50</b>	<b>Inhalation LC50</b>
Tripropylene glycol diacrylate (CAS # 42978-66-5)	= 6200 mg/kg (Rat)	> 2 g/kg (Rabbit)	-
Pentaerythritol triacrylate (CAS # 3524-68-3)	= 1350 mg/kg (Rat) = 1830 mg/kg (Rat)	= 4 mL/kg (Rabbit)	-
4-Methoxyphenol (CAS # 150-76-5)	= 1600 MG/KG (Rat)	-	-

#### **Skin corrosion / irritation:**

Causes skin irritation

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## Serious eye damage / eye irritation:

Causes serious eye damage

## Sensitization:

May cause an allergic skin reaction

## Germ cell mutagenicity:

No information available

## Carcinogenicity:

No information available

## Reproductive toxicity:

No information available

## STOT – single exposure:

No information available

## STOT – repeated exposure:

May cause damage to organs through prolonged or repeated exposure

## Aspiration hazard:

No information available

## SECTION 11 NOTES:

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## SECTION 12: ECOLOGICAL INFORMATION

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### Eco toxicity:

Chemical name	Algae / Aquatic plants EC50	Fish LC50	Crustacea EC50
Tripropylene glycol diacrylate (CAS # 42978-66-5)	28: 72 h Desmodesmus subspicatus mg/L EC50	4.5 – 10: 96 h Leuciscus idus mg/L LC50	88.7: 48 h Daphnia magna mg/l EC50
4-Methoxyphenol (CAS # 150-76-5)	-	84.3: 96 h Pimephales promelas mg/L LC50 flow-through 28.5: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	-

### Persistence and degradability:

No information available

### Bio accumulative potential:

Chemical name	Partition coefficient (LogPow)
Tripropylene glycol diacrylate (CAS # 42978-66-5)	2.77
4-Methoxyphenol (CAS # 150-76-5)	1.34

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## Mobility in soil:

No information available

## Other adverse effects:

No information available

## SECTION 12 NOTES:

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## SECTION 13: DISPOSAL CONSIDERATIONS

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### Waste treatment methods:

#### Disposal of wastes:

Disposal should be in accordance with applicable regional, national, and local laws and regulations

#### Contaminated packaging:

Disposal should be in accordance with applicable regional, national and local laws and regulations

Chemical Name	RCRA	RCRA – Basis for Listing	RCRA – D Series Wastes	RCRA – U Series Wastes
4-Methoxyphenol 150-76-5	-	Included in waste stream: K060	-	-

## SECTION 13 NOTES:

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## SECTION 14: TRANSPORT INFORMATION

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<b>UN/ID No.</b>	Not regulated
<b>UN proper shipping name</b>	Not regulated
<b>Hazard class</b>	Not regulated
<b>Packing group</b>	Not regulated
<b>Special precautions</b>	No information available
<b>Marin pollutant</b>	Non-marine pollutant

## SECTION 14 NOTES:



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**SECTION 15: REGULATORY INFORMATION**

Component	AICS	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	TSCA
Morpholine, 4-(1-oxo-2-propeny) - 5117-12-4 (34 – 36)	X	X	X	X	X	X	X	X
Tripropylene glycol diacrylate 42978-66-5 ( 15 – 17 )	X	X	X	X	X	X	X	X
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl) - 162881-26-7 ( 1.6 – 2.0 )	X	X	X	X	X	X	X	X
Pentaerythritol triacrylate 3524-68-3 ( 0.8 – 1.2 )	X	X	X	X	X	X	X	X
4-Methoxyphenol 150-76-5 ( 0.02 – 0.07 )	X	X	X	X	X	X	X	X

"- " Not Listed

'X' Listed

**US Federal Regulations:****SARA 313:**

Not applicable

**SARA 311/312 Hazard Categories**

Not applicable

**CWA (Clean Water Act)**

Not applicable

**CERCLA**

Not applicable

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals

**US State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
4-Methoxyphenol 150-76-5	X	X	X

**SECTION 15 NOTES:**

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## SECTION 16: OTHER INFORMATION

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### **Revision Note:**

Issue Date: December 5, 2017

Revision Date: December 5, 2017

Revision note: Not applicable

### **Key or legend to abbreviations and acronyms used in the safety data sheet:**

**TWA** – TWA (Time Weighted Average)

**STEL** – STEL (Short Term Exposure Limit)

**Ceiling** – Maximum limit value

**TSCA** – Toxic Substances Control Action Section 8(b) Inventory

**DSL/NDSL** – Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** – European Inventory of Existing Commercial Chemical Substances / European List of Notified Chemical Substances

**ENCS** – Japanese Existing and New Chemical Substances

**IESC** – Chinese Inventory of Existing Chemical Substances

**KECL** – Korea Existing Chemicals List

**PICCS** – The Philippine Inventory of Chemicals and Chemical Substances

**AICS** – The Australian Inventory of Chemical Substances

### **DISCLAIMER:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to other specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.