

MATERIAL SAFETY DATA SHEET

Photosensitive Resin

FILE NO.: 3860-1

MSDS DATE: 12/05/2017

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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:

SECTION 2: Hazard Identification

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:

SECTION 3: Composition | Information on Ingredients

Chemical Nature

Chemical Name	CAS No	Weight - %
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:

SECTION 4: FIRST AID MEASURES

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:

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media:

Foam, dry chemical, water fog or CO₂

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:

SECTION 6: ACCIDENTAL RELEASE MEASURES

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:

SECTION 7: HANDLING AND STORAGE

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:

SECTION 8: EXPOSURE CONTROLS | PERSONAL PROTECTION

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

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

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

Other Information

No information available

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SECTION 10: STABILITY AND REACTIVITY

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:

SECTION 11: TOXICOLOGICAL INFORMATION

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

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
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:

SECTION 12: ECOLOGICAL INFORMATION

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:

SECTION 13: DISPOSAL CONSIDERATIONS

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:

SECTION 14: TRANSPORT INFORMATION

UN/ID No.	Not regulated
UN proper shipping name	Not regulated
Hazard class	Not regulated
Packing group	Not regulated
Special precautions	No information available
Marin pollutant	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

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:

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