

Safety Data Sheet

Report Date 2/7/2024

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Section 1 - Product Information

3D Resin Solutions, LLC
1610 Shanahan Drive
South Elgin, IL 60177

Company Phone (non emergency) (800) 254-0171
American Association of Poison Control Centers:
(800) 222-1222

Product Id # DLPCG2-16 3D
Trade Name Mutli-Purpose Thermal
Product Class Liquid Plastic
Product Description 3D Printing Resin

Section 2 - Hazardous Identification



Signal Word Danger

May be harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Suspected of causing cancer. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Acute Toxicity-Oral - Category 5 _ Acute Toxicity Inhalation (misting / Spray) - Category 4 - Carcinogenicity - Category 2

Eye Damage/Irritation - Category 1

Long Term Hazaedous to the Aquatic Environment - Category 3

Skin Corrosion/Irritation - Category 2

Skin Sensitization - Category 1

STOT-RE - Category 2 _ STOT-SE - Category 3

IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing. And wash it before reuse. Store in a well-ventilated place. Keep container tightly closed. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe fumes or vapours. Wash effected areas thoroughly after handling. Use in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves and eye protection. Immediately Call a Doctor. Call a Doctor if you feel unwell. See section (4) of the SDS for first aid instruction. Store in a closed container. Store locked up. Dispose of contents/ container in accordance with local regulations.

Section 3 - Composition/Information on Ingredients

Chemical Name	CAS #	%
Acrylated Oligomer Blend	Trade Secret	25-35.00 %
Tri(propylene glycol) Diacrylate, mixture of isomers	42978-66-5	5-15 %

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Aliphatic Urethane	Proprietary	5-15 %
Monomer Diluent Blend	Trade Secret	45-55%
Photoinitiator	84434-11-7	2.00 - 6%

Section 4 - First aid measures

4.1: Description of first aid measures

Immediately remove any clothing soiled by the product. Involve doctor immediately

4.2: After Inhalation

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stable in side position for transportation.

In the case of accidental inhalation of monomers, provide fresh air, rest and warmth.

4.3: After Skin Contact

Immediately wash with water and soap and rinse thoroughly.

Avoid contact with UV – and sunlight.

4.4: After eye Contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

4.5: After Swallowing

Call a doctor immediately. Rinse out mouth and then drink plenty of water

Section 5 - Fire Fighting Measures

5.1: Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment.

5.2: For safety reasons unsuitable extinguishing agents:

Water with full jet: Special hazards arising from the substance or mixture

5.3 Advice for fire fighters Protective equipment.

Wear self-contained respiratory protective device. Wear fully protective suit.

Section 6 - Accidental Release Measures

6.1: Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Keep people at a distance and stay upwind

6.2: Environmental precautions

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

6.3: Methods and material for containment and cleaning up

Absorb with liquid-binding material (Sand, diatomite, acid binders, universal binders, sawdust)

Section 7 - Handling and storage

7.1: Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace. NIOSH approved respirator for organic vapors is recommended when handling any 3D photopolymer and its cleaning solutions (typically IPA). Use Eye, Face, and skin protection. Open and handle receptacle with care. Keep away from the reach of children.

7.2: Information about protection against explosions and fires

Keep ignition sources away – Do not smoke.
Protect from heat.

7.3: Conditions for safe storage

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Store receptacle in a well ventilated area.

Store under lock and key or with access restricted to technical experts or their assistants only. Do not expose to temperatures above 40 degrees Celsius.

Section 8 - Personal Protection

8.1: Personal Protective and Hygienic measures

The usual precautionary measure for handling chemicals should be followed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work

8.2: Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Use suitable respiratory protective device only when aerosol or mist is formed

8.3: Protection of Hands:

Wear protective gloves suitable for skin protection.

8.4: Eye protection

tightly sealed goggles are recommended

8.5: Body protection:

Impervious protective clothing

Section 9 - Physical and chemical properties.

9.1 General Properties

Boiling Point: > 200°C

Vapor Pressure: (MM HG at 25°C) < 1

Appearance: Viscous solution

Odor: Mild acrylate odor.

Solubility in water: Insoluble.

WPG: 9.00

Evaporation Rate (n-Butyl Acetate = 1) < 1

Vapor Density (air = 1) > 1

Section 10 - Stability and Reactivity

10.1: Stability and Reactivity

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

Polymerization occurs when exposed to white light, ultraviolet light or heat.

Mixtures may separate over time, mixture maintenance may be required.

10.2 Incompatible materials

Avoid contact with radical forming initiators, peroxides, strong alkalis or reactive metals to prevent exothermic polymerization.

Section 11 - Toxicological Information

The toxicological information below is listed from the individual raw ingredients in this mixture. They are not representative of the mixture as a whole. This mixture has not been tested for toxicological effects.

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases

Acute Toxicity/Effects

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Of moderate toxicity after short-term inhalation. Of moderate toxicity after short-term skin contact. The substance can be absorbed through the skin. The substance can be absorbed through the skin.

Oral Type of value: LD50 Species: rat Value: 1,022 mg/kg (980 µl/kg) (BASF-Test)

Inhalation Type of value: LC50 Species: rat Value: 3.07 mg/l (BASF-Test) Exposure time: 4 h An aerosol was tested.

Dermal Type of value: LD50 Species: rat (male/female) Value: 1,043 mg/kg

Assessment other acute effects Assessment of STOT single: Causes temporary irritation of the respiratory tract.

Irritation / corrosion Assessment of irritating effects: Not irritating to the skin. May cause severe damage to the eyes.

Skin Species: rabbit Result: non-irritant Method: Draize test

Eye Species: rabbit Result: Risk of serious damage to eyes. Method: Draize

Sensitization Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Buehler test Species: guinea pig Result: Non-sensitizing. Method: OECD Guideline 406

Aspiration Hazard No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity Assessment of repeated dose toxicity: Harmful: Danger of serious damage to health by prolonged exposure through inhalation.

Genetic toxicity Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals.

Carcinogenicity Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity Assessment of reproduction toxicity: No data available. Study scientifically not justified. The results of animal studies suggest a fertility impairing effect.

Teratogenicity Assessment of teratogenicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

Medical conditions aggravated by overexposure Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See SDS section 11 - Toxicological information.

Toxicity

Aquatic toxicity Assessment of aquatic toxicity: Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish LC50 (96 h) 976 mg/l, *Salmo gairdneri*, syn. *O. mykiss* (OECD Guideline 203, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates EC50 (48 h) 45 mg/l, *Daphnia magna* (OECD Guideline 202, part 1) The details of the toxic effect relate to the nominal concentration.

Aquatic plants EC50 (72 h) > 1,000 mg/l (growth rate), *Scenedesmus subspicatus* (DIN 38412 Part 9, static) The details of the toxic effect relate to the nominal concentration.

EC10 (72 h) 530 mg/l (growth rate), *Scenedesmus subspicatus* (DIN 38412 Part 33, static) The details of the toxic effect relate to the nominal concentration.

Chronic toxicity to fish Study scientifically not justified.

Chronic toxicity to aquatic invertebrates Study scientifically not justified.

Assessment of terrestrial toxicity No data available concerning terrestrial toxicity. Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms DIN 38412 Part 8 aerobic bacterium/EC50 (17 h): 4,812 mg/l The details of the toxic effect relate to the nominal concentration.

OECD Guideline 209 aerobic activated sludge, industrial/EC20 (30 min): > 1,995 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H₂O) Readily biodegradable (according to OECD criteria).

Elimination information

90 - 100 % DOC reduction (28 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic)

Assessment of stability in water In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis) t_{1/2} 20 - 40 min (37 °C, pH value 2.2), (other, other)

t_{1/2} 40.9 h (25 °C, pH value 4), (OECD Guideline 111, pH 4)

t_{1/2} > 120 h (50 °C, pH value 7), (OECD Guideline 111, pH 7)

t_{1/2} > 120 h (50 °C, pH value 9), (OECD Guideline 111, pH 9)

Section 12 - Ecological Information

12.1: Ecological Information

Water hazard class 2 (Self-assessment): Hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic to aquatic organisms

Section 13 - Disposal

13.1: Disposal

Can be incinerated, when in compliance with local regulations.
Disposal must be made according to official regulations.

Section 14 - Transportation Information

14.1: Transportation Information

ADR/RID Class - Not registered
ADNR Class - Not registered
IMDG Class - Not registered
IATA Class - Not registered

Section 15 - Regulatory Substances

R100 - Section 355 (Extremely hazardous Substances):

To the best of our knowledge, this product does not contain any products listed in reportable Levels.

R101 - Section 313 (Specific toxic chemical listing)

Contact us if applicable

R102 - TSCA (Toxic Substances Control Act)

Released / Listed

R103 - Proposition 65: Chemicals Known to cause Cancer

Less than 5% TMPTA CAS# 15625-89-5

R104 - Proposition 65: Chemicals known to cause reproductive harm

Less than 0.02% Toluene

R105 - REACH: (SVHC) Substances of Very High Concern:

To the best of our knowledge, this product does not contain any products listed in reportable Levels.

Section 16 - Other Information

16.2 Other Information

The data are based on the current state of our knowledge, and are intended to describe the product with regard to the requirements of safety. The data should not be taken to imply any guarantee of a particular or general specification. It is the responsibility of the user of the product to ensure to his satisfaction that the product is suitable for the intended purpose and method to use. We do not accept responsibility for any harm caused by the use of this information. Furthermore nothing contained herein shall be construed as recommendation to use any product in conflict with existing patents covering any material or its use. In all cases, our general conditions of sale apply.

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