

# Raise3D Premium PC Safety Data Sheet

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Identification of the material

Raise3D Premium PC 3D Printing Filament

### 1.2 Identified uses

Used primarily for extrusion-based 3D printing processes

### 1.3 Manufacturer information

**Manufacturer:**

Shanghai Fusion Tech Co., Ltd.

**Address:**

4th Floor, B5 Building, No.1600 Guoquan N Rd, Shanghai, China 200438

**Tel:**

+86-21-6533 7855

### 1.4 Supplier information

**Supplier:**

Raise 3D Technologies, Inc.

**Address:**

43 Tesla, Irvine, CA 92618

**Tel:**

+1 888-963-9028

**Email:**

barbara.pries@raise3d.us

**Position Control Hot Line:**

+1 800-222-1222

## Section 2: HAZARDS IDENTIFICATION

### 2.1 GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)



## 2.2 Label elements

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

## 2.3 Other hazards

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form. See section 7 for more information. See section 8 for more information.

## Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

Chemical Name	CAS No.	Weight (%)	Exposure Limits
Polycarbonate	25037-45-0	90.0% - 100.0%	None

## Section 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

#### 4.1.1 Inhalation

Move exposed person to fresh air. Keep person warm and at rest. Get medical attention if symptoms occur. Loosen tight clothing such as a collar, tie, belt or waistband.

#### 4.1.2 Skin contact

Molten material can cause severe burns. Do NOT try to peel molten polymer from the skin. Cool rapidly with water. Wash with soap and water. Get medical attention if symptoms occur.

#### 4.1.3 Eye contact

Particles or fibers may cause slight discomfort similar to getting dust in the eye. Remove particles by irrigating with eye wash solution or clean water, holding the eyelids apart. Check for and remove any contact lenses. Get medical attention if irritation occurs.

#### 4.1.4 Ingestion

Wash out mouth with water. Move exposed person to fresh air. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

Burns resulted from contacting or handling heated/molten materials.

### 4.3 Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.



## Section 5: FIRE-FIGHTING MEASURES

### 5.1 Suitable extinguishing media

SMALL FIRE: Use dry chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

No specific hazard.

### 5.3 Advice for fire fighters

Follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Lab coat. Impervious gloves. Safety glasses with side shields.

### 6.2 Environmental precautions

Collect product for recovery or disposal. Notify applicable government authority if release is reportable or could adversely affect the environment.

### 6.3 Methods and materials for containment and cleaning up

If emergency personnel are unavailable, carefully scoop up spilled materials and use a non-sparking or explosion-proof means to transfer material to an appropriate container for disposal by incineration.

## Section 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Use normal good industrial hygiene and housekeeping practices. Take precautionary measures against static discharges. Take precautionary measures against static discharges.

### 7.2 Conditions for safe storage

Store in a cool, dry, well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Avoid moisture contamination. Transferring dry pellets or granules between containers or



charging into solvents can cause a build-up of static electricity which can be sufficient to cause fires and/or explosions in the presence of flammable materials.

Equipment should provide a means of dissipating any charges that may develop.

## Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

Substance	CAS-No.	Basis	Type	Value	Ceiling Limit Value	Remarks
phenol		CN OEL	TWA	10 mg/m <sup>3</sup>		
phenol		CN OEL				Dermal absorption possible
Chlorobenzene		CN OEL	TWA	50 mg/m <sup>3</sup>		
General limiting value of dust		CN OEL	TWA	8 mg/m <sup>3</sup>		Total dust
General limiting value of dust		CN OEL	STEL	10 mg/m <sup>3</sup>		Total dust

**Biological limit values:** No biological exposure limits noted for the ingredient(s)

**Recommended monitoring procedures:** Not available

**Derived no-effect level (DNEL):** Not available

**Predicted no effect concentrations (PNECs):** Not available

### 8.2 Engineering controls

Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to publications such as the ACGIH current edition of 'Industrial Ventilation, a manual of Recommended Practice.

### 8.3 Personal protective equipment

**Eyes:** Safety glasses with side-shields

**Skin:** Lab coat

**Respiratory:** Wear appropriate respirator when ventilation is inadequate.

**Hands:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Personal protective:** Equipment (Pictograms)



## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Appearance:** Filament, Solid

**Color:** different according to coloration

**Odor:** odourless

**pH:** Not applicable

**Odor threshold:** Not available

**Softening point:** 110 – 150 °C

**Boiling point:** Not applicable

**Flash point:** Not applicable

**Evaporation rate:** Not applicable

**Flammability:** Not available

**Upper/lower flammability or explosive limits:** Not available

**Vapor pressure:** Not applicable

**Vapor density:** Not applicable

**Relative density:** 1.2 – 1.4 g/cm<sup>3</sup>

**Water Solubility:** Insoluble

**Partition coefficient (n-octanol/water):** No available

**Auto-ignition temperature:** >450°C

**Decomposition temperature:** Onset of decomposition > 380 °C

**Viscosity:** Not applicable

## Section 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

The product is stable.

### 10.2 Chemical stability

Material is stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid extreme heat. Avoid all sources of ignition: heat, sparks, open flames, etc.



## 10.5 Incompatible materials

Not available.

## 10.6 Hazardous decomposition products

Unlikely under normal industrial use. If the product is heated to temperatures excessively higher than those recommended on the technical data sheet, thermal decomposition is possible. Combustion products may include: carbon oxides (CO, CO<sub>2</sub>).

# Section 11: TOXICOLOGICAL INFORMATION

## 11.1 Likely routes of exposure

**Inhalation:** Non-irritating to the respiratory system.

**Skin contact:** Non-irritating. Molten polymer will adhere to skin causing deep thermal burns.

**Eye contact:** May cause physical abrasion in contact with eyes. Molten polymer will cause serious burns to the eyes.

**Ingestion:** Not hazardous in normal industrial use.

## 11.2 Symptoms

Dust may irritate throat and respiratory system and cause coughing. Direct contact with eyes may cause temporary irritation.

## 11.3 Information on toxicological effects

**Acute toxicity:** Not available.

**Skin corrosion/irritation:** Dust may irritate skin.

**Serious eye damage/eye irritation:** Dust may irritate the eyes. Exposed may experience eye tearing, redness, and discomfort.

**Respiratory sensitization:** Not classified.

**Skin sensitization:** Not a skin sensitizer.

**Germ cell mutagenicity:** Not expected to be mutagenic.

**Carcinogenicity:** The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

**Reproductive toxicity:** Not classified.

**Specific target organ toxicity - single exposure:** No data available.

**Specific target organ toxicity - repeated exposure:** No data available.

**Aspiration hazard:** Due to the physical form of the product it is not an aspiration hazard.

Mixture versus substance information: Not applicable.



**Other information:** Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

## Section 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

Fishes: Not available.

Algae: Not available.

### 12.2 Persistence and degradability

No data available.

### 12.3 Bioaccumulative potential

No data available.

### 12.4 Mobility in soil

Not available.

### 12.5 Other adverse effects

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

## Section 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

Dispose of waste in accordance with applicable local, regional and international regulations and standards. Do not exceed 1mg/L in a river which the waste liquid flow into when it is disposed of from a drain as water solution. Also, it should be diluted with water by at least 20 times when disposed of. It can be disposed of as water solution in a day with maximum 2kg as itself..

## Section 14: TRANSPORT INFORMATION

**ADR:** Not regulated as dangerous goods.

**RID:** Not regulated as dangerous goods.

**AND:** Not regulated as dangerous goods.

**IATA:** Not regulated as dangerous goods.

**IMDG:** Not regulated as dangerous goods.



**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**

This substance/mixture is not intended to be transported in bulk.

**Section 15: REGULATORY INFORMATION****15.1 International Inventories**

**TSCA:** Complies

**DSL/NDSL:** Complies

**EINECS/ELINCS:** Complies

**ENCS:** Complies

**IECSC:** Complies

**KECL:** Complies

**PICCS:** Complies

**AICS:** Complies

**15.2 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 ENCS** - Japan Existing and New 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

**15.3 US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

**Acute health hazard:** No

**Chronic Health Hazard:** No

**Fire hazard:** No

**Sudden release of pressure hazard:** No

**Reactive Hazard:** No





**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

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

This product does not contain any Proposition 65 chemicals.

**U.S. EPA Label Information**

**EPA Pesticide Registration Number:** Not applicable

**Section 16: OTHER INFORMATION****Revision information**

Date of this revision: December 18, 2018

**Declare to reader**

The information above is believed to be accurate and represents the best information currently available to us.

However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use.

This shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

