Prepare on 2017/04/18

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Version: 2.3

Material Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product Name: EEEZCAST RESIN

Product Use: Printing material for 3d printers

Company: XYZprinting, Inc.

Address: No.147, Sec. 3, Beishen Rd., Shenkeng Dist., New Taipei City, Taiwan (R.O.C.)

Information Phone No.: 886-2-7705 8001

Emergency Phone No.: 886-2-7705 8001

SECTION 2: Hazards identification

EMERGENCY OVERVIEW

Color: Yellow

Physical State: Liquid

Odor: Low odor

Classification of the substance or mixture:

Skin corrosion/irritation: Category 2

Skin sensitisation: Category 1

Serious eye damage/eye irritation: Category 2

GHS LABELLING

Hazard pictograms:

Signal word: Warning

Hazard substance:

Methacrylate monomer

Hazard statements:

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H413: May cause long lasting harmful effects to aquatic life.

Precautionary statements:

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P264: Wash contact place thoroughly after handling.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P362: Take off contaminated clothing and wash before reuse.

P391: Collect spillage.

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

PBT / vPvT: —

SECTION 3: Composition/information on ingredients

Identification name	CAS No./EC No.	Hazard Statement(s)	Weight % content (or range)
Methacrylate monomer	Proprietary/	H315; H317; H319	80~90
Acrylate Oligomer	Proprietary/	H319	10~20
Phenylbis(2,4,6-trimethyl benzoyl)-phosphine oxide	162881-26-7/423-340-5	H317;H413	0~5

SECTION 4: First aid measures

Description of first aid measures

Inhalation:

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Skin contact:

Remove contaminated clothing as needed. Wash skin thoroughly with mild soap/water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

Eyes contact:

In case of eye contact, immediately rinse with clean water for 20-30minutes. Retract eyelids often. Obtain emergency medical attention if pain, blinking, tears or redness persists.

Ingestion:

If large quantity swallowed, give lukewarm water (pint) if victim completely conscious/alert. Do not induce vomiting/risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

The most important symptoms and hazardous effects:

Harmful in contact with skin and causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

The protection of first-aiders:

Wear C class protective equipment and first aid in safety area.

Notes to physicians:

Harmful in contact with skin and causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

SECTION 5: Firefighting measures

Suitable fire extinguishing media:

Water spray, dry powder, foam, carbon dioxide, or appropriate foam.

Specific hazards may be encountered during fire-fighting:

High temperatures, inhibitor depletion, accidental impurities, or exposure to radiation or oxidizers may cause spontaneous polymerizing reaction generating heat/pressure. Closed containers may rupture or explode during runaway polymerization. Harmful vapors evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Specific fire-fighting methods:

Full protective equipment, including self contained breathing apparatus is needed to protect fire fighters from exposure.

Special equipment / instructions for the protection of firefighters:

Chemical splash goggles and/or face shield, respiratory protection equipment, protective gloves, apron, boot.

SECTION 6: Accidental release measures

Personal precautions:

Wear proper protective equipment, avoid raw material contact and vapor inhalation.

Environmental precautions:

Extinguish all ignition sources and ventilate area. Dispose/report per regulatory requirements. Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Clean-up procedures:

Avoid contact spilled or released material. Reduce spill or release in safety condition. Soak up small spill with inert solids (such as vermiculite, clay) and sweep/shovel into vented disposal container. Dike and recover large spill. Obtain emergency help by fire or emergency unit.

SECTION 7: Handling and storage

Handling procedures:

Avoid direct contact with the substance. This product is inhibited to prevent uncontrolled polymerization. A polymerization can generate heat and pressure and may cause product container to

rupture.

Storage procedures:

Maintain head space in storage containers to support oxygen requirements of the inhibitor(s). Do not blanket or mix with oxygen free gas, and prevent material from freezing (inhibitor can separate from product as a solid). Store the products above 10℃/50℉ and below 32℃/90℉. Store the products away from heat sources, strong oxidizers, radiation and other initiators. Use product within three months of receipt for optimum results. If material freezes, heat and mix to redistribute the inhibitor. Product may also be heated to facilitate handling. Heat product container slowly to 40℃/104℉ for not more than 24 hours. Convection ovens or warm water bath (preferred due to more efficient heat transfer) are recommended for heating. Do not use drum heater. An air space, preferably an air bubble flow, should be provided for at all times during heating.

SECTION 8: Exposure controls/personal protection

Control parameters:

Component	TWA*	STEL*	CEILING*	BEIs*
Methacrylate monomer	/	/	/	/
Acrylate Oligomer	/	/	/	/
Phenylbis(2,4,6-trimethyl benzoyl)-phosphine oxide	/	/	/	/

*TWA - 8 hours time weighted average exposure limits

*STEL - Short-term exposure limits

*CEILING - Maximum exposure limits

*BEIs - Biological standards

Exposure controls:

Appropriate engineering controls

1. Using no spark, grounding ventilation system, and separate from general ventilation system.
2. Exhaust waste gas to outdoor, and take applicable measure to protect environment.
3. Using local exhaust ventilation and closed processing system when mass production.
4. Complement exhaust air by ventilation system with supply plenty fresh air.

Personal protective equipment

Respiratory protection:

If this material is handled at elevated temperature or under mist forming conditions, NIOSH/MSHA approved respiratory protection equipment should be used.

Hand protection:

Do not use natural rubber gloves. Products without solvents added: wear nitrile gloves. Products used with solvents: wear thick (>0.5 mm) nitrile gloves. Replace gloves immediately when torn or any change in appearance (dimension, color, flexibility, etc) is noticed.

Eye / face protection:

Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor. Contact lenses should not be worn.

Skin and body protection:

Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. This equipment should be cleaned thoroughly after each use.

Hygiene measures:

1. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
2. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities.
3. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.)	Yellow liquid at 25°C
Odor	Low odor
Odor threshold	—
Melting point/freezing point	—
pH value	AP 6.8 - 7.2
Boiling point/boiling range	—
Flammability (solid, gas)	—
Lower flammability or explosive limits	—
Upper flammability or explosive limits	—
Flash point	100°C Test Method: Closed cup
Decomposition temperature	—
Auto ignition temperature	—
Oxidising properties	—
Explosive properties	—
Explosion limits	—
Vapor pressure	—
Vapor density	—
Density	1.00 - 1.10g/cm^3

Solubility	Insoluble in water
Partition coefficient of n-octanol/water	—
Viscosity	—
Evaporation rate	—
Relative density	—

SECTION 10: Stability and Reactivity

Chemical Stability:

Stable on normal condition.

Possible hazardous reactions occurring under specific conditions:

Heat and pressure generation when polymerization and result in closed container broken and cracked.

Conditions to be avoided:

High temperatures, localized heat sources (i.e., drum or band heaters), oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing.

Materials to avoid:

Strong oxidizers, strong reducers, free radical initiators, inert gases, oxygen scavengers.

Hazardous decomposition products:

Acrid smoke-fumes/carbon monoxide/carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.

SECTION 11: Toxicological information

Routes of exposure:

Skin, inhalation, ingestion, eyes.

Symptoms:

After inhalation:

No significant signs or symptoms indicative of any adverse health hazard are expected to occur at standard conditions due to the low volatility of this material.

However, aerosols, or vapors which may be generated at elevated processing temperatures, may cause respiratory tract irritation. Symptoms of irritation may include coughing, mucous production and shortness of breath.

After skin contact:

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant. Symptoms of irritation may include redness or rash, swelling of the affected area and blistering. Repeated or prolonged skin contact may cause a more severe skin response such as ulcers and scarring. Symptoms of skin exposure may be delayed 24-48 hours.

Although no appropriate human or animal health effects data is known to exist, this material may cause an allergic skin reaction (sensitization) in susceptible individuals upon repeated exposure.

After eye contact:

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation. May cause moderate irritation with symptoms including burning sensation, tearing, redness or swelling.

After ingestion:

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a slight ingestion hazard.

Acute toxicity: —

Chronic toxicity or long term toxicity: —

SECTION 12: Ecological information

Ecological toxicity: —

Persistence and degradability: —

Bio-accumulative potential: —

Mobility in soil: —

Other adverse effects: —

SECTION 13: Disposal considerations

Waste treatment methods:

1. Residues and spilled material may be hazardous waste due to potential for internal heat generator. Disposal must be in accordance with applicable federal, state, or local regulations.
2. The container for this product can present explosion or fire hazards, even when emptied. To avoid risk of injury, do not cut, puncture, or weld on or near this container. Since the emptied containers retain product residue, follow label warnings even after container is emptied. This product is only for industrial application. The packing container must be disposed properly according to the local environmental protection law and regulation.

SECTION 14: Transport Information

United nations number (UN No): Not regulated

UN Proper shipping name: Not regulated

Transport hazard class(es): Not regulated

Packing group number: Not available

AIR (IATA): Not Regulated for Air Transport

Marine pollutant: No

Specific transport measures and precautionary conditions: Not available

SECTION 15: Regulatory information

EU Regulation

EINEC/ELINCS/NLP: All materials are listed

REACH Annex XVII: None listed

Hazard Symbols: Xi

WGK: (Water Danger/Protection)

US Federal

TSCA: All materials are listed on the TSCA Inventory or are not subject to TSCA requirements

SARA 302 EHS List (40 CFR355 Appendix A): None listed

SARA 313 (40 CFR 327.65): None Listed

CERCLA (40 CFR 302.4): None Listed

SECTION 16: Other information

Remark:

" – " = not available ; " / " = not applicable

Legal disclaimer:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

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