
SECTION 1: Identification

1.1 Product identifier

Product name	Caverna PP
Product number	PR00600; PR00625; 711285500G; 711175500G; 10080 3D4PR006251KG; 3D4PR006255KG; 3D4PR0062510KG
Brand	Infinite Material Solutions TM

1.2 Other means of identification

Polypropylene Caverna (pellet, 1.75mm filament, or 2.85mm filament); Caverna PP (pellet, 1.75mm filament, or 2.85mm filament);

1.3 Recommended use of the chemical and restrictions on use

Partially water dispersible polymeric composite material to be extruded, molded, compounded, or 3D printing.

1.4 Supplier's details

Name	Infinite Material Solutions TM
Address	N4660 1165th St. Prescott, WI 54021 United States
Telephone	715-629-9390
Fax	n/a
email	info@ifllc.com

1.5 Emergency phone number(s)

715-629-9390

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with paragraph (d) of 29 C.F.R. §1910.1200

Not a hazardous substance or mixture.

2.2 GHS label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Other hazards which do not result in classification

Polymeric materials do not generally pose a health hazard unless heated to decomposition. Under normal conditions of processing and use, exposure to the chemical constituents in this product are unlikely. All ingredients are tightly bound in a polymeric matrix that has negligible vapor pressure so there is low potential for inhalation or ingestion of ingredients. Classifications are based on the hazards of those components.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

No Hazardous components

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	If medical attention is sought, show this safety data sheet to the doctor in attendance. Provide general supportive measures and treat symptomatically.
If inhaled	Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Remove dusty or contaminated clothing. Wash with soap and water as a precaution. If symptoms persist, consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water. If symptoms persist, consult a physician.
If swallowed	Rinse mouth with water. Never give anything by mouth to an unconscious person. This product is not considered toxic. Consult a physician.
Personal protective equipment for first-aid responders	None needed.

4.2 Most important symptoms/effects, acute and delayed

Eye/skin contact with hot or molten material may cause injury, including possible blindness/thermal burns. Ingestion may produce mild gastrointestinal irritation and disturbances. Thermal processing fumes may cause irritation, pulmonary edema and a possible asthma-like response.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Treatment of exposure should be directed at the control of symptoms and the condition of the patient.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Avoid high pressure, direct water stream that may spread molten or burning resins.

5.2 Specific hazards arising from the chemical

At high temperatures, this material may emit various oligomers, waxes and oxygenated hydrocarbons as well as carbon dioxide, carbon monoxide, and small amounts of other organics vapors. Inhalation of these decomposition products may be irritating and/or hazardous.

5.3 Special protective actions for fire-fighters

In the event of fire, wear self-contained breathing apparatus for firefighting.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing dust, vapors, mist, or gas. Ensure adequate ventilation. For personal protection see section 8.

6.2 Environmental precautions

Prevent further spillage if safe to do so. Discharge into the environment should be controlled. This product is not regulated by RCRA. This product is not regulated by CERCLA.

6.3 Methods and materials for containment and cleaning up

Contain spill. Prevent entry into sewers and drains, underground or confined spaces, water intakes and waterways. Spilled product may create a slipping hazard.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handle in properly designated containers. Keep away from uncontrolled sources of ignition and incompatible materials (solvents and strong oxidizing agents). Processing may result in the formation of combustible and/or hazardous respirable dusts. The potential for combustible dust formation should be taken into consideration before additional processing.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated storage area, away from uncontrolled heat sources and incompatible materials (water, solvents, and strong oxidizing agents).

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.3 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Polyvinyl alcohol copolymer

TLV® (Inhalation): 10 mg/m³ inhalable particles; 3mg/m³ respirable particles (ACGIH)

2. Polyvinyl alcohol copolymer

TWA (Inhalation): 15 mg/m³ total dust; 5 mg/m³ respirable fraction (OSHA)

3. Polyvinyl alcohol copolymer

TLV® (Inhalation): 10 mg/m³ inhalable particles; 3mg/m³ respirable particles (ACGIH)

4. Organic Dust

TWA (OSHA): 5 mg/m³ respirable fraction; 15 mg/m³ total dust

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Use eye protection which has been tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wash and dry hands after use.

Body protection

Wear protective clothing (such as gloves, long sleeved shirts, and long pants) whenever molten material is present. Safety footwear with good traction is recommended to help prevent slipping.

Respiratory protection

Respirable dust should be avoided. If excessive dust is present, air-purifying respirators may be appropriate. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection (NIOSH N95, N99, or N100).

Thermal hazards

Use appropriate personal protective equipment when processing this material. Molten material may cause burns.

Environmental exposure controls

Prevent leakage or spillage if safe to do so. Discharge into the environment should be controlled.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	white to light tan colored pellets, granules, or filament
Odor	None
Odor threshold	No data available.
pH	No data available.
Melting point/freezing point	180-240 °C
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	Negligible
Flammability (solid, gas)	No data available.
Upper/lower flammability limits	No data available.
Upper/lower explosive limits	No data available.
Vapor pressure	Negligible, non-volatile solid
Vapor density	No data available.
Relative density	1.2 - 1.6
Solubility(ies)	Partially insoluble in water
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	>285 °C
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

Other property information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

None under normal conditions of use.

10.2 Chemical stability

Stable under recommended storage and conditions of use.

10.3 Possibility of hazardous reactions

Keep away from uncontrolled sources of ignition and incompatible materials (strong oxidizing agents). Water, organic solvents, acids, or bases may degrade this product.

10.4 Conditions to avoid

Avoid sources of ignition, flames and sparks. Avoid strong oxidizing agents. Avoid processing material >260 °C.

10.5 Incompatible materials

Components of this material are incompatible with strong oxidizing agents. Organic solvents, acids, or bases may react with and/or degrade this product.

10.6 Hazardous decomposition products

None known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product test data not available.

Skin corrosion/irritation

Product test data not available.

Serious eye damage/irritation

Product test data not available.

Respiratory or skin sensitization

Product test data not available.

Germ cell mutagenicity

Product test data not available.

Carcinogenicity

Product test data not available.

Reproductive toxicity

Product test data not available.

Summary of evaluation of the CMR properties

Product test data not available.

STOT-single exposure

Product test data not available.

STOT-repeated exposure

Product test data not available.

Aspiration hazard

Product test data not available.

11.2 Additional information

To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been thoroughly investigated.

SECTION 12: Ecological information

Toxicity

Product test data not available.

Persistence and degradability

This product is non-anticipated to be inherently biodegradable in aquatic or terrestrial environments.

Bioaccumulative potential

Bioaccumulation of this material is not likely.

Mobility in soil

Mobility of this material in the terrestrial environment has not been evaluated.

Results of PBT and vPvB assessment

This product is not anticipated to bioaccumulate, and is not toxic therefore it does not meet criteria to be classified as Persistent, Bioaccumulative and Toxic (PBT), nor does it meet criteria to be classified as very Persistent or very Bioaccumulative (vPvB).

Other adverse effects

Due to the composition and intended use of this product, post-process water should not be discharged to the environment.

SECTION 13: Disposal considerations

Disposal of the product

Do not dispose of waste into sewer. Offer surplus and non-recyclable pellets/filament/material to a licensed company for recycling or disposal.

Disposal of contaminated packaging

Dispose of as unused product.

Other disposal recommendations

Dispose of material and process water in accordance with local, regional, national, and international regulations.

SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Toxic Substances Control Act (TSCA) Inventory

All components listed.

California Prop. 65 Components

This product does not contain any substances known to the State of California to cause cancer.

Canadian Domestic Substances List (DSL)

All components listed.

REACH

All components registered. This product does not contain substances of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 57).

SARA 313 Components

No components are SARA 313 listed.

SARA 311/312 Hazards

No components are SARA 313 listed.

SARA 302 Components

No components are SARA 302 listed.

15.2 Chemical Safety Assessment

This material is non-reactive, chemically stable, and inert under recommended storage and use conditions. This material may be melted upon heating and thermal hazards may be associated with the molten material. Human and ecological impacts of this material have not been tested.

HMIS Rating

Health	1
Flammability	1
Physical hazard	0
Personal protection	B

NFPA Rating

Health hazard	1
Fire hazard	1
Reactivity hazard	0
Special hazard	

SECTION 16: Other information

16.1 Further information/disclaimer

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