



## MATERIAL SAFETY DATA SHEET

PROTO-PASTA STAINLESS STEEL PLA

PRINT DATE: 1/15/2015

DOC VERSION: 1

REV DATE:

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:** Proto-pasta Stainless Steel PLA  
**SYNONYMS:** Proto-pasta SSPLA  
**PRODUCT CODES:**

**MANUFACTURER:** Proto Plant  
**ADDRESS:** 5601 East 18Th Street #102  
Vancouver, WA 98661

**EMERGENCY PHONE:** 503-877-5268  
**OTHER CALLS:** 503-877-5268  
**HOME PAGE:** www.protoplant.com / www.proto-pasta.com

**CONTACTS:** Dustin Cram – Chief Engineer                      dustin@protoplant.com  
Sara Shepherd – MSDS Coordinator                      sara@protoplant.com

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### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

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INGREDIENTS	CAS NO.	% WT	SARA 313 REPORTABLE
Poly lactide resin	9051-89-2		None
Stainless Steel	65997-19-5		None

**SECTION 2 NOTES:** All components of this product are either listed on or exempt from listing on the TSCA Inventory. All ingredients in quantities > 1.0% (0.1% for carcinogens) that are potentially hazardous per OSHA definitions.

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### SECTION 3: HAZARDS IDENTIFICATION

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#### EMERGENCY OVERVIEW:

This is a polymeric compound. All ingredients are encapsulated by the polymer and present no likelihood of exposure under normal conditions of processing and handling. Sanding and polishing of finished prints can result in exposure.

#### POTENTIAL HEALTH EFFECTS

**EYES:** Solid/dust may cause irritation due to mechanical action. Processing fumes may cause irritation.

**SKIN:** Excessive handling may result in slight skin irritation caused by fiber abrasion.  
Contact with molten material may cause thermal burns.  
Processing fumes may cause irritation.

**INGESTION:** Not a probable route of exposure. Obtain immediate medical attention.

**INHALATION:** Dust and fume are irritating to respiratory system. May cause sensitization by inhalation. In use, stainless steel fume from metallizing, welding or similar processes forms hazardous gases under both oxidizing and reducing conditions. Prolonged or repeated inhalation of dust or fume may produce irreversible effects in the lungs.

**CHRONIC HEALTH HAZARDS:** None known for this compound.

**SECTION 3 NOTES:** Low hazard for usual industrial or commercial handling.



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### SECTION 4: FIRST AID MEASURES

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**EYES:** Flush with water. Consult physician if symptoms persist.

**SKIN:** Wash with soap and water. For thermal burns, immediately flush with cold water. Do not attempt to remove polymer from skin. Obtain medical attention.

**INGESTION:** Obtain immediate medical attention. For a poison emergency in the U.S. call 1-800-222-1222.

**INHALATION:** Leave exposed area and seek fresh air. If irritation persists, seek medical attention.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Treat symptomatically.

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### SECTION 5: FIRE-FIGHTING MEASURES

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**FLAMMABILITY CLASS:** 1      **FLASH POINT:** None      **LEL:** None      **UEL:** None

**EXTINGUISHING MEDIA:**

Foam. Water. Carbon Dioxide (CO<sub>2</sub>). Dry Chemical. Alcohol resistant foams are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

**SPECIAL FIREFIGHTING PROCEDURES:**

Persons exposed to products of combustion should wear NIOSH approved self contained breathing apparatus and full protective equipment.

**UNUSUAL FIRE & EXPLOSION HAZARDS:**

This compound has no unusual fire or explosion hazards.

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

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**PERSONAL PRECAUTIONS:**

Avoid dust formation. Avoid contact with skin and eyes. Sweep up to prevent slipping hazard.

**ENVIRONMENTAL PRECAUTIONS:**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

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### SECTION 7: HANDLING AND STORAGE

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**HANDLING AND STORAGE:**

Store in a cool, dry place. Product as shipped is not a combustible dust. Mechanical handling can cause the formation of dusts. To reduce the risk for dust explosion do not permit dust to accumulate. **--CONTINUED--**

**OTHER PRECAUTIONS:**

Proper purging and shut down procedures should be followed to avoid overheating of this compound. Product as shipped is not a combustible dust.



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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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**ENGINEERING CONTROLS:** Ensure adequate ventilation on workstation. Avoid dust build up.

**VENTILATION:** Local exhaust is preferred. If ventilation is inadequate, use certified respirator that will protect against toxic dust.

**RESPIRATORY PROTECTION:** NIOSH approved respirator is recommended for protection against processing fumes, or from dust generated from grinding, sanding, or sawing operations.

**EYE PROTECTION:** Safety glasses with side shields are recommended.

**SKIN PROTECTION:** Impervious clothing. For prolonged handling, canvas or cotton gloves are recommended.

**WORK HYGIENIC PRACTICES:** Wash hands and dry hands thoroughly before and after handling product.

**OCCUPATIONAL EXPOSURE LIMITS:**

Chromium: OSHA PEL = 1 mg/m<sup>3</sup>, ACGIH TLV = 0.5 mg/m<sup>3</sup>

Nickel: 0.5 mg/m<sup>3</sup> MEL

Molybdenum: ACGIH TVL 10 mg/m<sup>3</sup> OSHA 15.0 mg/m<sup>3</sup> NIOSH IDLH 5000 mg/m<sup>3</sup>

IDLH = Immediately dangerous to life and health.

Iron: ACGIH TLV 5.0 mg/m<sup>3</sup> OSHA PEL 10 mg/m<sup>3</sup> NIOSH IDLH 2500 mg/m<sup>3</sup> as Iron

IDLH = Immediately dangerous to life and health

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** Solid, gray, metallic, textured, filament strand

**ODOR:** No odor.

**PHYSICAL STATE:** Solid

**VOLATILES:** volume %: N/AP weight %: N/AP

**PH:** Not applicable

**DENSITY:** Approx 2.5 g/cc

**DECOMPOSITION TEMPERATURE:** 482F (250C)

**MELTING POINT/RANGE:** Not determined

**WATER SOLUBILITY:** Insoluble

**SOLUBILITY IN OTHER SOLVENTS:** None known



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### SECTION 10: STABILITY AND REACTIVITY

STABLE

UNSTABLE

X

**STABILITY:** Stable under recommended storage conditions

**CONDITIONS TO AVOID:** Temperatures above 446F (230 °C).

**MATERIALS TO AVOID:** Oxidizing agents. Strong bases.

**Hazardous decomposition products:** Burning produces obnoxious and toxic fumes. Aldehydes. Carbon monoxide (CO). carbon dioxide (CO<sub>2</sub>). Nitrogen oxide (Nox).

**Polymerization:** Not applicable

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### SECTION 11: TOXICOLOGICAL INFORMATION

**TOXICOLOGICAL INFORMATION:** No specific toxicological information is available.

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### SECTION 12: ECOLOGICAL INFORMATION

**ECOLOGICAL INFORMATION:** Ecological data not available.

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### SECTION 13: DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD:** In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. For recycling, contact local waste disposal centers.

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### SECTION 14: TRANSPORT INFORMATION

**SECTION 14 NOTES:** Not regulated under the US Department of Transportation.

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### SECTION 15: REGULATORY INFORMATION

**This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right To Know Act of 1986 and of 40 CFR 372: NONE**

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### SECTION 16: OTHER INFORMATION

**DISCLAIMER:** ProtoPlant believes that the information contained herein is accurate as of the date hereof. HOWEVER, NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREIN AS TO THE INFORMATION PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. The health and safety precautions contained herein may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. Nothing contained herein shall be construed as a license for the use of any product in a manner that would infringe existing patents.