



SAFETY DATA SHEET

PROTO-PASTA STAINLESS STEEL PLA

DOC VERSION: 1
PRINT DATE: 04/25/2016
REV DATE:

PRECAUTIONARY STATEMENT:

AS SHIPPED: NONE

IF GROUND/POLISHED/MACHINED

Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when handling dust generated from this product

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

HAZARDS THAT DO NOT RESULT IN CLASSIFICATION

- EYES:** Solid/dust may cause irritation due to mechanical action. Dust will not be generated under normal use conditions.
- SKIN:** Filament is not likely to cause irritation. Contact with molten material may cause thermal burns.
- BURNS:** Molten material will cause thermal burns, avoid contact.
- INHALATION:** Processing fumes may cause irritation to the respiratory tract, use in well ventilated areas only.

CHRONIC HEALTH HAZARDS: None known for this compound.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	CAS NO.	% WT
Poly lactide resin	9051-89-2	>30
Iron	7439-89-6	43-52
Chromium	7440-47-3	10-11
Nickel Powder	7440-02-0	6-14
Molybdenum	7439-98-7	1-1.5
Silicon	7440-21-3	.3-6

SECTION 4: FIRST AID MEASURES



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EYES:

First Aid not likely required. 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. When generating dust or processing use appropriate ventilation and protective equipment.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABILITY CLASS: 1

EXTINGUISHING MEDIA:

Foam. Water. Carbon Dioxide (CO₂). Dry Chemical. Alcohol resistant foams are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

UNSUITABLE EXTINGUISHING MEDIA:

None Known

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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Sweep up scrap and store material neatly 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.

METHODS FOR CLEANING UP:

Cut filament into short pieces to prevent tripping. Dispose of in suitable containers.

SECTION 7: HANDLING AND STORAGE



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Proper purging and shut down procedures should be followed to avoid overheating of this compound. Use only at recommended printing temperatures. Product as shipped is not a combustible dust. Mechanical abrasion such as cutting, sanding, and grinding can release metal powder which may cause skin, eye, and respiratory irritation. Use appropriate exposure controls (Section 8)

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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Iron

7439-89-6

ACGIH TLV

Nuisance dust: 15 mg/m³

OSHA PEL

Nuisance Dust: 15 mg/m³

Chromium

7440-47-3

ACGIH TLV

TWA: 0.5 mg/m³

OSHA PEL

TWA: 1 mg/m³

(vacated) TWA: 1 mg/m³

IDLH: 250 mg/m³

NIOSH IDLH

TWA: 0.5 mg/m³

Nickel Powder

7440-02-0

ACGIH TLV

TWA: 1.5 mg/m³ inhalable

Fraction

OSHA PEL

TWA: 1 mg/m³

(vacated) TWA: 1 mg/m³

NIOSH IDLH

IDLH: 10 mg/m³

TWA: 0.015 mg/m³ except Nickel carbonyl Ni

Molybdenum

7439-98-7

ACGIH TLV

TWA: 10 mg/m³ inhalable fraction

OSHA PEL

TWA: 3 mg/m³ respirable fraction

(vacated)

NIOSH IDLH

TWA: 10 mg/m³ IDLH: 5000 mg/m³

Silicon

7440-21-3

ACGIH TLV

Nuisance dust: 15 mg/m³

OSHA PEL

TWA: 15 mg/m³ total dust

TWA: 5 mg/m³ respirable fraction

(vacated) TWA: 10 mg/m³ total dust

(vacated) TWA: 5 mg/m³

respirable fraction

NIOSH IDLH

TWA: 10 mg/m³ total dust

TWA: 5 mg/m³ respirable dust

ENGINEERING CONTROLS:

Ensure adequate ventilation on workstation. Avoid dust build up from mechanical abrasion.

VENTILATION:

Local exhaust is preferred.

RESPIRATORY PROTECTION:



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A 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: light gray, textured/rough, thin strand

ODOR: Light sweet odor during processing, no odor at room temperature

ODOR THRESHOLD: Not determined

pH: Not Applicable

MELTING RANGE: 150C-180C

BOILING POINT/RANGE: Not applicable

FLASH POINT: Not Determined

EVAPORATION RATE: Not determined

FLAMMABILITY: Combustible if heated

UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: Not Determined

VAPOR PRESSURE: Not Determined

VAPOR DENSITY: Not Determined

DENSITY: 2.7 g/cc

WATER SOLUBILITY: Insoluble

SOLUBILITY IN OTHER SOLVENTS: Not determined

PARTITION COEFFICIENT: N-OCTANOL/WATER: Not Determined

AUTO-IGNITION TEMPERATURE: 300C-400C

DECOMPOSITION TEMPERATURE: 482F (250C)

VISCOSITY: Not applicable

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SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Stable when stored as recommended

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 (CO2).

Polymerization: Not applicable

SECTION 11: TOXICOLOGICAL INFORMATION

PRINCIPLE ROUTES OF EXPOSURE: Eye contact, Skin contact, Inhalation, Ingestion.

ACCUTE TOXICITY: None Known

SKIN CORROSION/IRRITATION: Contact with dust/fumes may cause irritation

SERIONS EYE DAMAGE/IRRITATION: Contact with dust/fumes may cause irritation

RESPIRATORY OR SKIN SENSITIZATION: None Known

GERM CELL MUTAGENICITY: Not Determined

CARCINOGENICITY: Not Determined

REPRODUCTIVE TOXICITY: Not Determined

STOT-SINGLE EXPOSURE: Not Determined

STOT-SINGLE EXPOSURE: Not Determined

ASPITIATION HAZARD: Not Determined

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY EFFECTS: Not Determined

DEGRADABILITY AND PERSISTENCE: Not Determined

BIOACCUMULATIVE POTENTIAL: Not Determined

MOBILITY IN SOIL: Not Determined

SECTION 13: DISPOSAL CONSIDERATIONS



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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.

SECTION 14: TRANSPORT INFORMATION

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

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:

Chromium	7440-47-3
Nickel Powder	7440-02-0

The end user must determine whether a report is required to EPA for any amounts of this material disposed of or otherwise released to into the environment.

SECTION 16: OTHER INFORMATION

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