

## ESUN-PLA-PLUS-3KG-GRIS

### ROLLO DE FILAMENTO 3KG ESUN PLA PLUS 1.75 MM GRIS



#### DESCRIPCIÓN

Filamento eSUN PLA plus se modifica en base a material PLA. Además, PLA plus mejora la dureza y la adherencia de las capas. Tiene buena resistencia, rigidez, equilibrio de dureza, fuerte resistencia al impacto; PLA plus es un material respetuoso con el medio ambiente, fácil de imprimir y tiene una superficie lisa. Por lo tanto, PLA plus se considera adecuado para la impresión de piezas funcionales. Está aprobado por la FDA, por lo cual lo hace más seguro de usar; PLA profesional se puede utilizar para modelado y creación rápida de prototipos.

#### CARACTERÍSTICAS

- Buena tenacidad
- fuerte resistencia al impacto
- Impresión de alta velocidad
- Superficie impresa lisa
- Fácil de imprimir
- Difícil de romper
- Rollo 3KG



AG Electrónica SAPI de CV  
República del Salvador N° 20 2do Piso.  
Teléfono: 55 5130 - 7210  
<http://www.agelectronica.com>

|         |            |
|---------|------------|
| Realizó | AGN        |
| Revisó  | JMLM       |
| Fecha   | 29/11/2023 |

## ESPECIFICACIONES

|                                                 |                                           |
|-------------------------------------------------|-------------------------------------------|
| Filamento de Impresión 3D                       | PLA+                                      |
| Densidad(g/cm3)                                 | 1.23                                      |
| Temperatura de distorsión de calor (°C,0.45MPa) | 53                                        |
| Índice de flujo de fusión (g/10min)             | 5.2 (190°C/2.16kg)                        |
| Resistencia a la tracción (MPa)                 | 60                                        |
| Elongación de rotura (%)                        | 20                                        |
| Resistencia a la flexión (MPa)                  | 74                                        |
| Módulo de flexión (MPa)                         | 1973                                      |
| Resistencia al impacto IZOD (kJ/m)              | 6                                         |
| Durabilidad                                     | 4/10                                      |
| Imprimibilidad                                  | 9/10                                      |
| Temperatura del extrusor (°C)                   | 210 – 230°C Temperatura Recomendada 215°C |
| Temperatura de la cama(°C)                      | 45 – 60°C                                 |
| Velocidad del ventilador                        | 100%                                      |
| Velocidad de impresión                          | 40 - 100mm/s                              |
| Cama caliente                                   | Opcional                                  |
| Superficie de construcción recomendada          | Papel Masking, Pegamento solido PVP, PEI  |

Más información de parámetros: <https://www.esun3d.com/uploads/eSUN-Fast-filaments-print-parameters.pdf>

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| <br><b>Job file</b> | Shenzhen eSUN Industrial Co;Ltd   | <b>The Document Number</b> | GH-XG-YF-12 |
|                                                                                                      | <b>Material Safety data sheet</b> | <b>Version / time</b>      | A 2.0       |



## Material Safety data sheet

### 1. Identification

**Product Name:**PLA+ filament

**Manufacture/Supplier:**

Shenzhen eSUN Industrial Co;Ltd

**More Information:**

[www.brightcn.net](http://www.brightcn.net)

Wuhan University Building A403- I , No.6 Yuexing 2 Road, Nanshan District,  
Shenzhen,, 518057, China

TEL (086)-0755-86581960

FAX (086)-0755-26031982

Email:bright@brightcn.net

### 2. Composition

Chemical Character:

| Ingredient Name          | CAS NO.    | Content (%) |
|--------------------------|------------|-------------|
| Polylactic acid resin    | 26100-51-6 | 92-96       |
| Calcium carbonate powder | 471-34-1   | 2-4         |
| Other additives          | --         | 2-5         |

### 3. Hazards Identification

Hazard designation: XI

Hazard designation: IV

Information pertaining to particular dangers for man and environment:

Long-term exposure can make skin dry, chapped, induced dermatitis.

There are less harmful to the environment, air, water, environment and water pollution.

Deflagration hazard: It can burn.

### 4. First aid measures

--After skin contact

Instantly wash with plenty of soap and water thoroughly.

-After eye contact

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Flush eyes with flowing water, then consult doctor..

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Consult doctor if symptoms persist.

**-After swallowing**

Seek immediate medical advice.

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## 5. Fire-fighting measures

**Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Can be released in case of fire: carbon monoxide and carbon dioxide.

Protective equipment: Wear self-contained breathing apparatus.

Wear full protective suit.

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## 6. Accidental Release Measures/ Steps to be Taken if

### Material is Released or Spilled

**Personal Precautions:** None needed

**Environmental precautions:** None needed

**Methods for Cleanup:** Vacuum or sweep up and place in a standard disposal container. Avoid the use of air jets.

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## 7. Handling and Storage

**Safe Handling:**

Keep containers tightly sealed.

**Storage:**

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Stay away from oxidizing agent.

**Protection against explosions and fires:**

Keep ignition sources away. No smoke.

**Requirement on storeroom and container:**

No special requirement.

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## 8. Exposure Control Measures/ Personal protection

**Exposure Guidelines:** Fiber dust should be considered a nuisance dust, i.e. particulates (not **otherwise classified**): ACGIH Threshold Limit Value: 10 mg/m<sup>3</sup> total dust; 3 mg/m<sup>3</sup> respirable dust.

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**Engineering Controls:** Local exhaust recommended to reduce exposure to fiber dust.

**Specific Personal Protective Equipment:**

**Respiratory:** For operations where inhalation exposure can occur, a NIOSH approved dust mask/respirator is recommended.

**Eye:** For operation where eye contact can occur, eye protection such as goggles or safety glasses is recommended.

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## 9. Physical and Chemical Properties

### General Information:

Form: Solid

Smell: Not determined.

### Change in condition:

Melting point: 155–185℃

Ignition temperature: Not determined

Decomposition Temperature: Not determined

Danger of explosion: Not determined

Vapor pressure: Not determined

Density at 25 °C: 1.24g/cm<sup>3</sup>

Solubility (Water): Not determined

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## 10. Stability and Reactivity

### Thermal decomposition to be avoided:

No decomposition if used and stored according to specifications.

### Materials to be avoided:

Oxidizing agent.

### Dangerous reactions:

No dangerous reactions known.

Dangerous products of decomposition: Carbon monoxide and carbon dioxide.

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## 11. Toxicological Information

### Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral LD50 4290mg/kg(rat)

Dermal LD50 5990uL/kg(rabbit)

Primary irritant effect: Irritant for skin and mucous membranes.

**On skin:** Irritant effect.

**On eye:** No sensitizing effect known.

### Additional information:

To the best of our knowledge the acute and chronic toxicity of this substance is not

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fully known. No classification date on carcinogenic properties of this material is available from the EPA IAPV NTP OSHA or ACGIH.

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## 12. Ecological Information

Water hazard class 1 (self assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

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## 13. Disposal Considerations

### Product:

Dispose of in a manner consistent with federal, state, and local regulations. Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations.

### Uncleaned package:

Disposal must be made according to official regulations.

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## 14. Transport Information

No dangerous according to ADR/RID GGVS/GGVE IMDG/RID ICAO-TI.

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## 15. Regulatory Information

### International:

Canada :DSL/NDSL: Included on the Canadian Domestic Substance List.

Canada: WHMIS: Not a controlled product.

Europe: Not classified as dangerous according to Directive 1999/45/EC.

UN: Does not appear on the Dangerous Goods List.

### Federal(U.S.):

EPA: Not regulated.

OSHA: Not hazardous under the criteria of Occupational Safety and Health Standard 29 CFR 1910 Subpart Z.

### State:

CA: Proposition 65: Does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

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## 16.Other Information

Employers should use this information only as a supplement to other information gathered by them and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of the employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet or in combination with any other product or process is the responsibility of the user.

### **Contact:**

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