

## **Safety Data Sheet (SDS) Report**

**Report No.** FF-SDS20181022001

**Flashforge Corporation**

**No.518 Xianyuan Road , Jinhua, China.**

**Product Name:** 3D Printer Filament (PLA)

**Samples Received:** 22rd October, 2018

**Preparation Period:** 22rd October, 2018 to 26th October, 2018

### **Service Requested:**

Based on the information provided by the applicant, the Safety Data Sheet (SDS) was generated in accordance with requirements of Regulation (EC) No. 1907/2006, Regulation (EC) No 1272/2008, EU Commission Directive 67/548/EEC, 1999/45/EC, for details please refer to attached pages.

**Signed for and on behalf of**

**Flashforge**

---

**SECTION1. Identification of the product and the company/undertaking****1.1. Product identifier:**

Product name: 3D Printer Filament (PLA)  
Synonyms: Filament  
Proper shipping name: None  
Other identities: None

**1.2. Relevant identified uses of the product and uses advised against****1.2.1. Relevant identified uses**

Used for 3D Print

**1.2.2. uses advised against**

Advise against other uses.

**1.3. Details of the supplier of the safety data sheet**

Supplier name: Flashforge Corporation  
Address: No.518, Xianyuan Road, Jinhua, China.  
Telephone: +86 579 82273989  
Emergency telephone: +86 579 82273989  
E-mail: pjy@sz3dp.com

Importer name: UFP Deutschland GmbH  
Address: Carl-Friedrich-Gauss-Str. 11 47475 Kamp-Lintfort, Germany  
Telephone: +49 (0) 28 42.983-600  
E-mail: info@ufp.de  
Emergency telephone: +49 (0) 28 42.983-600

**1.4. Emergency telephone number**

Country	Advisory body	Address	Emergency number
Germany	UFP Deutschland GmbH	Carl-Friedrich-Gauss-Str.11 47475 Kamp-Lintfort, Germany	+49 (0) 28 42.983-600

**SECTION2. Hazards identification****2.1. Classification of the product****Classification according to Directive 1999/45/EC(DPD)**

Not considered as dangerous mixture.

**Other adverse physico-chemical, human health and environmental effects**

None

**2.2. Label elements****Labelling according to Directive 1999/45/EC**

None

**2.3. Other hazards**

None

**SECTION 3: Composition/information on ingredients**

**3.1. Substance**

Not applicable.

**3.2. Mixture**

Ingredient	CAS number	Concentration(%)	Hazard class and category	Hazard statement
Polylactic acid	26100-51-6	99	not classified	not classified
Mineral oil	8042-47-5	0.5	Eye Irrit.2 STOT SE 3 Skin Irrit.2 Eye Dam.1	H319 H335 H315 H318
TiONA	13463-67-7	0.25	Acute Tox.4 Eye Irrit.2 STOT SE 3 Skin Irrit.2	H332 H312 H302 H319 H335 H315
Na6Al4Si6S4O20	57455-37-5	0.05	Eye Irrit.2 STOT SE 3 Skin Irrit.2 Eye Dam.1	H319 H335 H315 H318
CARBON BLACK	1333-86-4	0.2	Xn:R40 Eye Irrit.2 STOT SE 3 F+: R11 E; R18	H319 H335

**SECTION4: First aid measures****4.1. Description of first aid measures**

**Inhalation:** Move victim to fresh air. If not breathing, give artificial respiration. Get medical attention.

**Skin contact:** Immediately wash with plenty of soap and water.

**Eye contact:** Immediately flush eyes with running water for at least 20 minutes holding eyelids open. Get medical attention.

**Ingestion:** Do not induce vomiting. Give 1-2 glasses of water to a conscious victim. Never give anything by mouth to an unconscious victim. Get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed****Inhaled:**

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

**Ingestion:**

Although ingestion is not thought to produce harmful effects (as classified under EC

Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health).

**Skin Contact:**

Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

**Eye:**

Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

**Chronic:**

Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

**4.3. Indication of any immediate medical attention and special treatment needed**

Get medical attention and treat symptomatically.

**SECTION 5. Firefighting measures****5.1. Extinguishing media**

There is no restriction on the type of extinguisher which may be used.

Use extinguishing media suitable for surrounding area.

**5.2. Special hazards arising from the product**

No data available.

**5.3. Advice for firefighters**

Alert Fire Brigade and tell them location and nature of hazard.

Wear breathing apparatus plus protective gloves.

Prevent, by any means available, spillage from entering drains or water courses.

Use water delivered as a fine spray to control fire and cool adjacent area.

DO NOT approach containers suspected to be hot.

Cool fire exposed containers with water spray from a protected location.

Only when safe to do so, remove containers from path of fire.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

Wear chemical goggles and chemical resistant gloves.

**6.1.2. For emergency responders**

Wear breathing apparatus plus protective gloves. Remove ignition sources and provision of sufficient ventilation, evacuate the danger area and consult experts.

**6.2. Environmental precautions**

Take precautions to prevent entry into waterways, sewers, or surface drainage systems. Dispose according to local or international regulations.

**6.3. Methods and material for containment and cleaning up****Minor Spills:**

Use appropriate tools to put the splash liquid in suitable container for recovery or disposal.

Clean up all spills immediately.

Avoid breathing vapours and contact with skin and eyes.

Control personal contact with the substance, by using protective equipment.

Contain and absorb spill with sand, earth, inert material or vermiculite.

**Major Spills:**

Clear area of personnel and move upwind.

Alert Fire Brigade and tell them location and nature of hazard.

Control personal contact with the substance, by using protective equipment.

Prevent spillage from entering drains, sewers or water courses.

**6.4. Reference to other sections**

Refer to Section 8 for Personal Protective Equipment advice.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.

Keep away from heat and flame.

**7.2. Conditions for safe storage, including any incompatibilities**

Keep in a cool, well ventilated place. Keep away from children.

**7.3. Specific end use(s)**

Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

**DNELs:** Not available

**PNECs:** Not available

**Additional information:** The list valid during the making were used as basic

**8.2. Exposure controls**

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide

this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

General Personal Protection: Safety goggles or face shield, chemical resistant gloves, protective clothing and apparatus.

## SECTION9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state:</b>	Solid
<b>Color:</b>	Variable
<b>Odour:</b>	Odourless
<b>pH-value:</b>	7
<b>Melting point / Melting range:</b>	158~188°C
<b>Boiling point / Boiling range:</b>	≥230°C
<b>Flash point:</b>	No flash point
<b>Flammability(solid, gaseous):</b>	Slight
<b>Ignition temperature:</b>	>380°C
<b>Auto igniting:</b>	Do not self-ignite under normal condition.
<b>Danger of explosion:</b>	Does not present an explosion hazard under normal condition.
<b>Vapour pressure:</b>	Not applicable
<b>Density:</b>	1.25-1.28g/cm <sup>3</sup>
<b>Evaporation rate:</b>	Not applicable
<b>Water solubility:</b>	Insoluble in water
<b>Viscosity:</b>	Not applicable

### 9.2. Other information

No data available.

## SECTION10: Stability and reactivity

### 10.1. Reactivity

May react with strong acid, alkali, oxidizing agents and incompatible materials.

### 10.2. Chemical stability

Product is considered stable and hazardous polymerisation will not occur.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known.

### 10.4. Conditions to avoid

High temperature, ignition sources (sparks, flames, static), incompatible materials.

**10.5. Incompatible materials**

Strong acid, alkali and oxidizing agents

**10.6. Hazardous decomposition products**

On combustion or thermal decomposition, may emit toxic fumes

**SECTION 11: Toxicological information****11.1. Information on toxicological effects**

No data available for this mixture.

**SECTION 12: Ecological information****12.1. Aquatic toxicity**

Not available.

**12.2. Persistence and degradability**

**Biodegradation:** Non-toxic

**Abiotic degradation:** Non-toxic

**12.3. Bioaccumulative potential**

**Bioconcentration factor(BCF):** No data available

**12.4. Mobility in soil**

**Distribution to environmental:** No data available

**Compartments:**

**Adsorption/Desorption:** No data available

**12.5. Results of PBT and vPvB assessment**

No data available.

**12.6. Other adverse effects**

No data available.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

DO NOT allow wash water from cleaning or process equipment to enter drains.

It may be necessary to collect all wash water for treatment before disposal.

In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

Where in doubt contact the responsible authority.

**SECTION 14: Transport information**

Based on available information, the product is not considered as dangerous goods and the UN recommendation on the transport of dangerous goods does not necessarily apply, however, it is highly recommended to get professional advice for appropriate

transport

**Transport information**

<b>14.1</b>	<b>UN Number</b>	None
<b>14.2</b>	<b>Shipping name</b>	None
<b>14.3</b>	<b>Road(ADR)</b>	None
	<b>Rail(RID)</b>	None
	<b>Air(ICAO/IATA)</b>	None
	<b>Sea(IMO/IMDG)</b>	None
<b>14.4</b>	<b>ADR-Packing Group:</b>	None
<b>14.5</b>	<b>Environmental Pollutant:</b>	None
	<b>Marine pollutant</b>	No
<b>14.6</b>	<b>Special Precautions for User</b>	N.A.

**14.7. Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code**

No data available

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU-Regulations**

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - 67/548/EEC, 1999/45/EC, Regulation (EC) No 1272/2008, Regulation (EC) No 1907/2006, 98/24/EC, 92/85/EEC, 94/33/EC, 91/689/EEC and 1999/13/EC.

**15.1.2. International/national regulations**

No data available

**15.1.3. Regulation for ingredients**

None

**15.2. Chemical safety assessment**

No chemical safety assessment report was provided for this safety data sheet compilation.

**SECTION 16: Other information****16.1 Key literature references and sources for data**

- ESIS (European chemical Substances Information System),

<http://esis.jrc.ec.europa.eu/>

- Information on Chemicals in ECHA website,

<http://echa.europa.eu/information-on-chemicals>

- IFA GESTIS - International limit values for chemical agents - Occupational exposure limits (OELs), [http://www.dguv.de/ifa/en/gestis/limit\\_values/index.jsp](http://www.dguv.de/ifa/en/gestis/limit_values/index.jsp)

**16.2 List of relevant hazard statements and risk phrases**

H-code	H225: Highly flammable liquid and vapour.
--------	---



	H302: Harmful if swallowed. H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation. H318: Causes serious eye damage. H411: Toxic to aquatic life with long lasting effects.
R phrase	R11: Highly flammable. R22: Harmful if swallowed. R36/37/38: Irritating to eyes, respiratory system and skin. R41: Risk of serious damage to eyes. R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 16.3 Other

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EUCEN Standards:

EN 16 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

*The information presented in this SDS is based on our current knowledge and available data as of the issue date, and is only intended to describe the product for the purposes of protecting human health and environment from potential hazard. It should not therefore be construed as guaranteeing any specific property of the product.*

*End of document*