PLA

1. IDENTIFICATION

1.1.	**Product identifier**	
	Trade name	**3DGence PLA**
	Product type	**Polylactic Acid Filament**
1.2.	**Recommended use**	Filament used in 3D printers
1.3.	**Company**	3DGence sp. z o.o. Mickiewicza 29 40-085 Katowice, Poland
	Telephone	+48 32 438 98 65
	E-mail	sales@3dgence.com
1.4.	**Emergency telephone number**	+48 32 438 98 65

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

According to UN GHS criteria
No need for classification according to GHS criteria for this product.

2.2. Label elements

Globally Harmonized System (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

Labeling of special preparations (GHS):
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 78 - 80 %, oral

2.3. Other hazards

According to UN GHS criteria

The product may cause burns, if handled in the melted state.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature	Polymer
Hazardous ingredients (GHS)	According to UN GHS criteria No particular hazards known.

4. FIRST-AID MEASURES

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:	Remove the affected individual into fresh air and keep the person calm. If symptoms persist, seek medical advice.
On skin contact:	Wash thoroughly with soap and water If irritation develops, seek medical attention. Burns caused by molten material require hospital treatment.
On contact with eyes:	In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.
On ingestion:	Rinse mouth immediately with water. Immediate medical attention required.

4.2.	**Most important symptoms and effects, both acute and delayed**
	Symptoms: (Further) symptoms and / or effects are not known so far. Hazards: No hazard is expected under intended use and appropriate handling.
4.3.	**Indication of any immediate medical attention and special treatment needed**
	Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. FIRE-FIGHTING MEASURES

5.1.	**Extinguishing media**	
	Suitable extinguishing media:	water spray, foam, dry powder, carbon dioxide
5.2.	**Special hazards arising from the substance or mixture**	
	The substances/groups of substances mentioned can be released in case of fire:	carbon oxides
5.3.	**Advice for fire-fighters**	
	Special protective equipment:	Wear a self-contained breathing apparatus.
	Further information:	Dust can form an explosive mixture with air. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. ACCIDENTAL RELEASE MEASURES

Avoid dispersal of dust in the air (e.g. by clearing dusty surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

6.1. Personal precautions, protective equipment and emergency procedures

No special precautions necessary.

6.2. Environmental precautions

Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

For small amounts: Sweep/shovel up.
For large amounts: Sweep/shovel up.
Dispose of absorbed material in accordance with regulations. Avoid raising dust.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid inhalation of dusts/mists/vapours. Ensure adequate ventilation. Provide suitable exhaust ventilation at the drying process and in the area surrounding the melt outlet of processing machines. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Avoid the formation and deposition of dust.

Protection against fire and explosion:
The product is not an oxidizer, not self-combustible and not explosive. Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Paper/Fibreboard
Further information on storage conditions: Avoid deposition of dust. Avoid extreme heat.

Storage stability:
Protect against moisture.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with occupational exposure limits.
No substance specific occupational exposure limits known.

8.2. Exposure controls

Personal protective equipment

Respiratory protection:	Breathing protection if breathable aerosols/dust are formed. Wear respiratory protection if ventilation is inadequate. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)
Hand protection:	Use additional heat protection gloves when handling hot molten masses (EN 407), e.g. of textile or leather.
Eye protection:	Safety glasses with side-shields (frame goggles) (e.g. EN 166)
Body protection:	Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Wear protective clothing to prevent contact during mechanical processing and/or hot melt conditions. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Form:	filament
Colour:	white
Odour:	odourless
Odour threshold:	not applicable, odour not perceivable
pH value:	not applicable, substance/mixture is non-soluble (in water)
Melting range:	not determined
Boiling point:	not applicable
Flash point:	not applicable, the product is a solid
Evaporation rate:	The product is a non-volatile solid
Flammability:	Not a flammable solid according to UN transport regulations division 4.1 and GHS chapter 2.7.
Lower explosion limit:	For solids not relevant for classification and labelling.
Upper explosion limit:	For solids not relevant for classification and labelling.
Ignition temperature:	not applicable

	Vapour pressure:	not determined
	Density:	1,25 g/cm^3 (25 °C)
	Relative vapour density (air):	The product is a non-volatile solid.
	Solubility in water:	insoluble
	Partitioning coefficient n-octanol/ water (log Kow):	not applicable for mixtures
	Self ignition:	not self-igniting
	Density:	1,25 g/cm^3 (25 °C)
	Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated. Prolonged thermal loading can result in products of degradation being given off.
	Viscosity, kinematic:	not applicable, the product is a solid
	Explosion hazard:	not explosive
	Fire promoting properties:	not fire-propagating
9.2.	**Other information**	
	Self heating ability:	It is not a substance capable of spontaneous heating.
	Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. STABILITY AND REACTIVITY

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:	No corrosive effect on metal.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.
The product is chemically stable.

10.4. Conditions to avoid

Temperature: > 300 °C
Prolonged exposure to elevated temperatures may result in exothermic decomposition accompanied by a pressure build-up in sealed containers. Avoid all sources of ignition: heat, sparks, open flame.

10.5. Incompatible materials

Substances to avoid:	oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products:	monomers, gases/vapours, oxides, hydrocarbons

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity	
Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact. Contact with molten product may cause thermal burns. (by inhalation):The inhalation of dusts represents a potential acute hazard. (dermal):No applicable information available. The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 78 - 80 %	
Irritation	
Assessment of irritating effects:	May cause slight irritation to the skin. May cause slight irritation to the eyes.
Respiratory/Skin sensitization	
Assessment of sensitization:	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	
Assessment of mutagenicity:	Based on available data, the classification criteria are not met.
Carcinogenicity	
Assessment of carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity	
Assessment of reproduction toxicity:	Based on available data, the classification criteria are not met.
Developmental toxicity	

Assessment of teratogenicity:	Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure)	
Assessment of STOT single:	Based on available data, the classification criteria are not met.
Repeated dose toxicity and Specific target organ toxicity (repeated exposure)	
Assessment of repeated dose toxicity:	Based on available data, the classification criteria are not met.
Aspiration hazard	
not applicable	

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Assessment of aquatic toxicity:	There is a high probability that the product is not acutely harmful to aquatic organisms.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):	Experience shows this product to be inert and non-degradable.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:	Accumulation in organisms is not to be expected.
Bioaccumulation potential:	Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:

Adsorption in soil: Study scientifically not justified.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria.

12.6. Additional information

Add. remarks environm. fate & pathway:

Due to the consistency of the product, dispersion into the environment is impossible. Therefore no negative effects on the environment may be anticipated based on the present state of knowledge.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.
A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage.

The waste code in accordance with the European waste catalog (EWC) must be specified in cooperation with disposal agency/manufacturer/authorities.

Contaminated packaging:
Packs that cannot be cleaned should be disposed of in the same manner as the contents.
Uncontaminated packaging can be re-used.

14. TRANSPORT INFORMATION

Land transport	
ADR	**Not classified as a dangerous good under transport regulations**
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known
RID	**Not classified as a dangerous good under transport regulations**
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport	
ADN	**Not classified as a dangerous good under transport regulations**
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known
Transport in inland waterway vessel	Not evaluated
Sea transport	
IMDG	**Not classified as a dangerous good under transport regulations**
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

	Air transport	
	IATA/ICAO	**Not classified as a dangerous good under transport regulations**
	UN number or ID number:	Not applicable
	UN proper shipping name:	Not applicable
	Transport hazard class(es):	Not applicable
	Packing group:	Not applicable
	Environmental hazards:	Not applicable
	Special precautions for user	None known

14.1. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. OTHER INFORMATION

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.