

### Section 1 - Identification of the substance/preparation and of the company/undertaking

#### Product identifier

Product name

: PLA PLUS/PLA+ filament

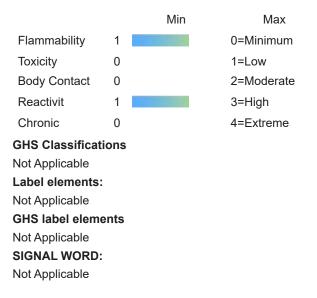
Details of the supplier of the safety data sheet

Premier Farnell 150 Armley Road Leeds LS12 2QQ Tel. : +44 (0) 8701 202530

## Emergency telephone number

+44 1865 407333

## Section 2 - Hazards Identification



## Section 3 – Composition/Information on Ingredients

Ingredient Name	CAS No.	EC No.	Content (%)
L-Lactide	4511-42-6	224-832-0	5
DL-Lactide	95-96-5	202-468-3	5
Poly (DL- lactide)	51063-13-9		35
Polylactide resin	9051-89-2	618-575-7	55

## **Section 4 - First Aid Measures**

#### INGESTION

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

#### EYE

If this product comes in contact with eyes:

· Wash out immediately with water.





- If irritation continues, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### SKIN

- If skin or hair contact occurs:
- Flush skin and hair with running water (and soap if available).
- · Seek medical attention in event of irritation.

#### Inhalation

- · If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- · Other measures are usually unnecessary.
- Indication of any immediate medical attention and special treatment needed
- · Treat symptomatically.

## **Section 5 - Firefighting Measures**

#### EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

#### FIRE FIGHTING

- · 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.

#### FIRE/EXPLOSION HAZARD

- · Combustible solid which burns but propagates flame with difficulty.
- Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions).

#### FIRE INCOMPATIBILITY

 Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

### Section 6 – Accidental Release Measures

#### MINOR SPILLS

· Generally not applicable

#### **MAJOR SPILLS**

• Generally not applicable

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## Section 7 - Handling and Storage

#### PROCEDURE FOR HANDLING

- · Limit all unnecessary personal contact.
- · Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Avoid contact with incompatible materials.





- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.

#### SUITABLE CONTAINER

- · Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.
- · Packing as recommended by manufacturer.

#### STORAGE INCOMPATIBILITY

Avoid contamination of water, foodstuffs, feed or seed.

· Avoid reaction with oxidising agents

### **Section 8 - Exposure Controls, Personal Protection**

#### EXPOSURE CONTROLS

#### Appropriate engineering 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.

#### Personal protection



#### Eye and face protection

- Safety glasses with side shields.
- · Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

#### Skin protection

See Hand protection below

#### Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Suitability and durability of glove type is dependent on usage.

#### Body protection

See Other protection below

#### Other protection

- Overalls.
- P.V.C. apron.
- Barrier cream.



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## Section 9 - Physical and Chemical Properties

Information on basic physical and chemical p	properties	
Odour	Odorlessness	
Form	Solid	
Melting Range (°C)	No data	
Boiling Range (°C)	No data	
Flash Point (°C)	No data	
Decomposition Temp (°C)	No data	
Autoignition Temp (°C)	No data	
Upper Explosive Limit (%)	No data	
Lower Explosive Limit (%)	No data	
Volatile Component (%vol)	No data	
Solubility in water (g/L)	Insoluble in water	
p H (1% solution)	No data	
p H (as supplied)	No data	
Print Temp (°C)	205-225	
Bed Temp(°C)	No heating/ (60-80)	
Density(g/cm3)	1.24	
Distortion Temp (°C, 0.45MPa)	52	
Melt Flow Index (g/10min)	2 (190°C/2.16kg)	
Tensile Strength (MPa)	60	
Elongation at Break (%)	29	
Bending Strength (MPa)	87	
Flexural Modulus (MPa)	3642	
IZOD Impact Strength (kJ/m²)	7	

## Section 10 - Stability and Reactivity

#### Reactivity

See section 7

#### **Chemical stability**

- Unstable in the presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

## Section 11 - Toxicological Information

Information on toxicological affects Acute Toxicity LD/LC50 values relevant for classification No data. Primary irritant effect On the skin No data. On the eyes No data. Inhaled No data.





#### Sensitization:

No data.

## Section 12 - Ecological Information

Ingredient	Persistence:Water/Soil	Persistence: Air	Bioaccumulation	Mobility
L-Lactide	LOW	LOW	LOW	LOW
DL-Lactide	LOW	LOW	LOW	LOW
Poly (DL- lactide)	No Data available	No Data available	No Data available	No Data available
Polylactide resin	No Data available	No Data available	No Data available	No Data available

### Section 13 - Disposal Considerations

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

## Section 14 - Transport Information

Labels Required Marine Pollutant: NO NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADR, IATA, IMDG, ADN

## Section 15 - Regulatory Information

REGULATIONS

The product needs to follow local regulations.

## **Section 16 - Other Information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.



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