WINKLE

PLA 850

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1. Product identifier

Product name: Ingeo™ biopolymer
Product code: 3D850

2. Relevant identified uses of the substance or mixture and uses advised against

Product use: A biopolymer to be used in 3D printing applications.

3. Details of the supplier of the safety data sheet:

Supplier: Laboratorio Geométrico S.L.
Calle Segunda (Polígono Industrial El Montalvo III), 4,
37188, Carbajosa de la Sagrada
info@winkle.shop
670 37 88 29

4. Emergency telephone number

Emergency telephone numbers (24 hours a day): 112

2. HAZARDS IDENTIFICATION

1. Classification of the substance or mixture

Classification: This product is NOT classified

2. Label elements

Symbols/Pictograms None required
Signal word: None
Hazard Statements: None required
Precautionary Statements None required

3. Other hazards

No data available

The information in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate. This SDS contains a general summary of hazards known to Laboratorio Geométrico S.L., but does not purport to describe every hazard that exists. Laboratorio Geométrico S.L. and its subsidiaries ("Winkle") expect each customer or user of its products (each, a "User") to study this SDS carefully and consult appropriate expertise to become aware of any hazards associated with NatureWorks products. LABORATORIO GEOMÉTRICO MAKES NO WARRANTY, EXPRESS OR IMPLIED REGARDING THE INFORMATION CONTAINED HEREIN OR ITS PRODUCTS, INCLUDING BUT NOT LIMITED TO ANY WARRANTY AS TO ACCURACY OR COMPLETENESS OF INFORMATION, OR ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name and CAS	Weight %
Polylactide resin 9051-89-2	>98

Other standards: This material can generate Particulates Not Otherwise Classifiable (PNOC). The Occupational Safety and Health Administration (OSHA) PEL/TWA for PNOC is 15 mg/m3 for total dust and 5 mg/m3 for the respirable fraction. The American Conference of Governmental Industrial Hygienists (ACGIH) TLV/TWA for PNOC is 10 mg/m3 for inhalable particulates and 3 mg/m3 for respirable particulates.

4. FIRST AID MEASURES

1. Emergency telephone number

Emergency telephone numbers (24 hours a day):

(Medical Information) +34 670 37 88 29 (Transportation Information) LABORATIORIO GEOMÉTRICO S.L.: +34 670 37 88 29.

2. Description of first aid measures

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes Call a physician immediately

Skin contact: Rinse immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician Cool skin rapidly with cold water after contact with hot polymer. Do not peel polymer from the skin. Consult a physician

Inhalation: Move to fresh air. Call a physician immediately

Ingestion: Drink water as a precaution. Never give anything by mouth to an unconscious person Do not induce vomiting without medical advice Call a physician immediately.

Notes to physician: Treat symptomatically

3. Most important symptoms and effects, both acute and delayed

No information available

4. Indication of any immediate medical attention and special treatment needed

No information available

5. FIREFIGHTING MEASURES

Flammability:

Autoignition temperature: 338°C

Flammability Limits in Air:

Flammable limits in air - lower (%): Not applicable
Flammable limits in air - upper (%): Not applicable

1. Extinguishing media

Suitable 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

2. Special hazards arising from the substance or mixture

Burning produces obnoxious and toxic fumes Aldehydes, Carbon monoxide (CO), carbon dioxide (CO2)

3. Advice for firefighters

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Under fire conditions: Cool containers / tanks with water spray Water mist may be used to cool closed containers Fine dust dispersed in air may ignite. Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust, e.g. on floors and ledges.

6. ACCIDENTAL RELEASE MEASURES

1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

· Wear the mandatory personal protection equipment
· Avoid contact with eyes and skin
· Avoid dust formation
· Remove all ignition sources
· Sweep to avoid the risk of slipping

For emergency responders
· Use with proper personal protective equipment (see Section 8).

2. Environmental precautions
· Do not flush into surface water or sanitary sewer system
· Do not allow material to contaminate ground water system

3. Methods and material for containment and cleaning up
· Shovel into suitable container for disposal

4. Reference to other sections
· No information available

7. HANDLING AND STORAGE

1. Precautions for safe handling
· Wear the mandatory personal protection equipment
· Avoid contact with eyes and skin
· Low risk in case of normal industrial or commercial handling
· Workers must protect themselves against the risk of contact with the material melted during manufacture
· Avoid dust formation
· If small particles are generated during processing, handling, or by other means, concentrations of combustible dust in the air can form

2. Conditions for safe storage, including any incompatibilities
· Store at temperatures not exceeding 50 ° C / 122 ° F. Keep cool
· Incompatible products should not be specially mentioned.

3. Specific end use(s)
· No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

1. Control parameters
· None established.
· This material can generate particles not classified according to other criteria (PNOC). The U.S. Occupational Safety and Health Administration (OSHA) imposes a PEL / TWA (Permissible Exposure Level / Time Weighted Average) value for PNOC of 15 mg / m3 for total dust and 5 mg / m3 for the respirable fraction. The American Conference of Governmental Industrial Hygienists (ACGIH) imposes a TLV / TWA value (Product concentration limits / Weighted average in the time) for PNOC of 10 mg / m3 for inhalable particles and 3 mg / m3 for particles breathable.
· Where reasonably practicable, this should be done using ventilation local and a good overall draw.
· It must have adequate extraction in those places where it is formed dust.

2. Exposure controls

Eye protection:	Safety glasses with side-shields. Goggles
Skin & body protection:	Impervious clothing
Respiratory protection:	Respirator must be worn if exposed to dust. Wear respirator with dust filter. Respiratory protection is needed if any of the exposure limits listed in the control parameters are exceeded. Consult an industrial hygiene professional prior to respirator selection and use. Use a postive-pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.
Hand protection:	Preventive skin protection.
Hygiene measures:	Evitar el contacto con la piel, ojos y ropa.
Special Hazard:	Workers should be protected from the possibility of contact with molten material during fabrication.

9. PHYSICAL AND CHEMICAL PROPERTIES

1. Information on basic physical and chemical properties

Physical state:	Solid Pellet
Appearance:	Clear, translucent, opaque, pellets
Color:	Clear, translucent, opaque
Odor:	Sweet
pH:	Not applicable
Vapor pressure:	Not determined
Vapor density:	Not determined
Evaporation rate:	Not determined
Density:	1.25
Decomposition temperature:	482°F (250°C)
Boiling point/range:	Not applicable
Fusion point/range:	150-180°C (302- 356°F), Tg (Glass Transition Temperature): 55-60°C (131-140°F)
Autoignition:	388°C
Flammability:	Fine dust dispersed in air may ignite
Flammability limits in air:	No information available
Water solubility:	Insoluble
Solubility in other solvents:	Not determined

2. Other information

No information available

10. STABILITY AND REACTIVITY

1. Reactivity

None expected under conditions of normal use

2. Chemical stability

Stable under recommended storage conditions

3. Possibility of hazardous reactions

None expected under conditions of normal use

4. Conditions to avoid

Temperatures above 446F (230 ° C).
Avoid keeping the resin molten for excessive periods of time at temperatures elevated. Prolonged exposure will cause degradation of the polymer.
Prolonged exposure will cause polymer degradation

5. Incompatible materials

Oxidizing agents, strang bases

6. Hazardous decomposition products

Burning produces obnoxious and toxic fumes Aldehydes, Carbon monoxide (CO), carbon dioxide (CO2)

11. TOXICOLOGICAL INFORMATION

1. Information on toxicological effects

Principle routes of exposure:	Eye contact Skin contact Inhalation Ingestion
Acute toxicity:	In animal studies, no effect on the organs studied after ingestion or dermal exposure.
Local effects:	May cause eye/skin irritation. Product dust may be irritating to eyes, skin and respiratory system Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
Specific effects:	May cause skin irritation and/or dermatitis Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough Burning produces irritant fumes
Long term toxicity:	Did not cause allergic skin reactions in studies of skin sensitization with guinea pigs.

Mutagenic effects:	Not mutagenic in AMES test
Reproductive toxicity:	No data is available on the product itself.
Carcinogenic toxicity:	This product does not contain any carcinogens or possible carcinogen as listed on the OSHA, IARC or NTP lists
Target organ effects:	In animal studies, no effect on the organs studied after ingestion or dermal exposure.
Skin:	LD50 / dermal / rabbit> 2000 mg / kg
Ingestion:	LD50/ oral/ rat > 5000 mg/kg
Further information:	No information available

12. ECOLOGICAL INFORMATION

1. Toxicity

EC50 / 72h / algae> 1100 mg / L

2. Persistence and degradability

No data available

3. Bioaccumulative potential

Not expected to bioconcentrate or bioaccumulate

4. Mobility on soil

No data available

5. Results of PBT and vPvB assessment

No applicable

6. Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

1. Waste treatment methods

In compliance with the requirements of Directive 2008/98/EC

Waste from residues / unused products: In accordance with local and national regulations Do not contaminate ponds, waterways or ditches with chemical or used container. Contact manufacturer.

Contaminated packaging: Empty remaining contents Do not re-use empty containers. Empty containers should be transported/delivered using a registered waste carrier to local recyclers for disposal.

THE COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION

14. TRANSPORT INFORMATION

1. Packaging group

15. REGULATORY INFORMATION

1. Safety, health and environmental regulations/legislation specific for the substance of mixture

No information available

2. Chemical safety assessment

Regulatory Information:

(not meant to be all inclusive - selective regulations represented)

Regulatory requirements are subject to change and may differ between locations. It is the User's responsibility to ensure that all activities comply with all federal, state or provincial and locals laws and regulations. The following specific information is made for the purpose of complying with numerous national, federal, state or provincial, and local laws and regulations.

See other sections for health and safety information.

16. OTHER INFORMATION

Label information:
Ingeo ™ biopolymer

Product code:
3D850

Reason for revision:
Updated to be compliant with 2015/830/EC

Revision Number:
3

Revision date:
10/14/2016
10/14/2016

Preparada by:
Laboratrio Geométrico S.L. Health and Safety

NOTICE REGARDING APPLICATION RESTRICTIONS:

The company does not recommend any of its products, including samples, for use: (A) in any application which is intended for any internal contact with human body fluids or body tissues (B) as a critical component in any medical device that supports or sustains human life; and (C) specifically pregnant women or in any applications designed specifically to promote or interfere with human reproduction. Components of products intended for human or animal consumption.