SILK SDS

Polylactide

1. **Product & Company Identification**
Company: AzureFilm d.o.o.- Orleška cesta 16.
6210 Sežana/ Slovenia - VAT No. SI58587837.
Product: PLA Silk Filament, diam. 1,75 mm – 2,85 mm.
Date of issue: 01.03.2016
Chemical name: 3, 6-dimethyl-1, 4-dione; polymer
Chemical family: Polyester
Common names: Polyactide, plyactic acid, PLA
Chemical structure: Lacdide, Polyactide.

2. Hazards Identification
Material CAS# Hazard
L-Lactide 4511-42-6 none known
DL-Lactide 95-96-5 none known
Poly (DL-lactide) 51063-13-9 none known
Poly (L-lactide) 33135-50-1 none known
Instability: None
Incompatibility: Stable
Decomposition: Slow reaction in the presence of water.
Polymerization: Will not occur, already a polymer.
Combustion: Carbon monoxide and/or carbon dioxide may from during the compustion of this product.
Emergency Overview: Caution! may cause eye/skin irritation. Burning produces obnoxious and toxic fumes. Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Appearance: Colorful filament.
Physical state: Solid.
Odor: None.
3. Composition/Information on Ingredients
Solubility in water: React very slowly with water to become soluble.
Appearance: Solid filament.

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Polymer:
Residual monomer:
Residual solvent
Residual solvent <200ppm
Heavy metal <10ppm
Water content ≤0.5%

4. **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.
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.

5. Firefighting Measures
Unusual Explosion Hazard and Fire: The material will burn if exposed to sufficient heat and an ignition source. Avoid dispersion of dust in the air to reduce dust explosion hazard potential.
Extinguished Media: Water, Carbon dioxide, Dry chemical power, Foam.
Special Extinguishing Procedures: Firefighters must wear self-contained breathing apparatus and fully protective equipment.
Flammability: Autoignition temperature: 388°C.
Flammability Limits in Air:
Flammable limits in air - lower (%): Not determined.

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Flammable limits in air - upper (%): Not determined.
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.
Extinguishing media which must not be used for safety reasons:
No information available.
Hazardous decomposition products:
Burning produces obnoxious and toxic fumes Aldehydes Carbon monoxide (CO) carbon dioxide (CO2).
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 spray water. Water mist may be used to cool closed containers.
Other information: 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.
Personal precautions: Use personal protective equipment. See Section 7. Remove all sources of ignition. Avoid dust formation.
Avoid contact with skin and eyes. Sweep up to prevent slipping hazard.
Environmental precautions: Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.
Methods for cleaning up:
Shovel into suitable container for disposal.

6. Handling and Storage

Safe handling advice:
Avoid contact with skin and eyes. Avoid dust formation. Workers should be protected from the possibility of contact with molten material during fabrication. Low hazard for

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usual industrial or commercial handling. Use personal protective equipment. See Section 7.
Storage: Store in cool place. Keep at temperatures below 122F (50 °C). No special restrictions on storage with other products.
Precautions: No special precautions required.

7. Exposure Controls and Personal Protection

Engineering measures: Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Provide appropriate exhaust ventilation at places where dust is formed.

Control parameters:

None.

PERSONAL PROTECTIVE EQUIPMENT:

Eye protection:

Safety glasses with side-shields. Goggles.

Skin and 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 in Section 3 are exceeded. Consult an industrial hygiene professional prior to respirator selection and use. Use a positive-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:

Avoid contact with skin, eyes and clothing.

Exposure limits:

See Section 3.

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8. Physical and Chemical Properties

Appearance: Colorful filament
Physical state: Solid
Odor: None
Odor threshold: No data available
pH: Not applicable
Vapor pressure: Not determined
Vapor density: Not determined
Evaporation rate: No data available
Density: 1.24 g/cc
Decomposition temperature: 250°C
Autoignition temperature: 388°C
Melting point/range: Not determined
Water solubility: Insoluble
Solubility in other solvents: None known

9. Stability and Reactivity

Stability:
Stable under recommended storage conditions.
Conditions to avoid: Temperatures above 50 °C.
Materials to avoid: Oxidizing agents. Strong bases.
Hazardous decomposition products: Burning produces obnoxious and toxic fumes. Aldehydes. Carbon monoxide (CO). carbon dioxide (CO2).
Polymerization: Not applicable.

10. Toxicological Information

Principle Routes of Exposure:
Eye contact. Skin contact. Inhalation. Ingestion.
Acute toxicity:
There were no target organ effects noted following ingestion or dermal exposure in animal studies.
Local effects:

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May cause eye/skin irritation. Product dust may be irritating to eyes, skin and respiratory system. Caused mild to moderate conjunctival irritation in eye irritation studies using rabbits. Caused very mild redness in dermal irritation studies using rabbits (slightly irritating). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Long term toxicity:

Did not cause skin allergic reactions in skin sensitization studies using guinea pigs.

Specific effects:

May cause skin irritation and/or dermatitis. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Burning produces irritant fumes.

Mutagenic effects:

No data is available on the product itself.

Reproductive toxicity:

No data is available on the product itself.

Carcinogenic effects:

No data is available on the product itself.

Target organ effects:

There were no target organ effects noted following ingestion or dermal exposure in animal studies.

Skin:

LD50/dermal/rabbit > 2000 mg/kg

Ingestion: LD50/oral/rat > 5000 mg/kg.

Further information:

No information available

11. Ecological Information Mobility:

No data available

Bioaccumulation:

Does not bioaccumulate. Inherently biodegradable.

Ecotoxicity effects:

EC50/72h/algae > 1100 mg/L

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12. Disposal Considerations

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.

13. Transport Information

U.S. Department of Transportation (DOT):
Proper shipping name: None
Hazard class: Not regulated.
UN-No: None
Packing group: None
Hazardous substances (RQ): None

IMDG:
Proper shipping name: None
Hazard class: Not regulated. UN/Id No.: None
Packing group: None ICAO/IATA:
Proper shipping name: None
Hazard Class: Not regulated.
UN-No.: None
Packing group: None.

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