TOUGHPLA
by ideagen3D

IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product Name: Ideagen3D TOUGHPLA, all colors
Recommended use: Filament for 3D Printing
Supplier: ideagen3D Pte Ltd
Address: 3 Shenton Way, Shenton House, #14-02, Singapore 068805
Contact: sales@ideagen3d.com (email)
Website: www.toughpla.com

HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Classification: Not classified as hazardous

LABEL ELEMENTS

Symbols: NA

Signal Words: NA

OTHER HAZARDS

NA

3. Composition/information on ingredients

Chemical identity: Polylactic Acid
Common name, synonyms, etc.; PLA
CAS number and other unique identifiers; 9051-89-2
Product based on polylactic acid (PLA) with additives.
Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance: NA

4. First-aid measures

Ideagen3D TOUGHPLA is not expected to be hazardous under normal conditions and appropriate usage

Eye contact: Wash immediately with water. Call a doctor if necessary.

Skin contact: Rinse with cold water upon contact with molten filament. Call a doctor if necessary.

Inhalation: If fumes are inhaled, remove person from contaminated area to an open area with fresh air. Call a doctor if necessary.

Ingestion: Rinse mouth with water or consider inducing vomiting. Call a doctor if necessary

5. Fire-fighting measures

Suitable extinguishing media: Foam, Dry chemical powder, BCF, Carbon Dioxide
Unsuitable extinguishing media: High pressure water. Avoid contamination with oxidizing agents i.e., nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc.
Specific hazards arising from the chemical: Burning produces obnoxious and toxic fumes. Aldehydes, Carbon monoxide (CO), carbon dioxide (CO2)
Special protective equipment and precautions for fire-fighters: Wear gear with self-contained breathing apparatus, if necessary, plus protective gloves. In case of fire, tanks with fine water spray/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

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment as required. Remove all sources of ignition.
Environmental precautions: Prevent, by any means available, spillage from entering drains or water courses.
Methods and materials for containment and cleaning up: Sweep up any remains/dust into a container for disposal.

7. Handling and storage

Precautions for safe 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 (as mentioned in section 5).

Conditions for safe storage, including any incompatibilities:

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.
- Protect from moisture, excessive heat, direct sunlight and dust.
- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area (5-30 °C)

8. Exposure controls/personal protection

Appropriate engineering controls: Avoid contact with eyes, avoid prolonged contact with skin and avoid contact with food (directly or indirectly)

Individual protection measures: Avid contact with molten filament. Do not allow product to enter water sources or soil.

9. Physical and chemical properties

- Appearance (physical state, colour etc): Solid, Various Colours, Plastic wire
- Odour: Odourless
- pH: NA
- Melting point/freezing point: 150-180°C
- Initial boiling point and boiling range: NA
- Tg(Glass Transition Temperature): 55-60°C
- Flash point: NA
- Evaporation rate: NA
- Flammability (solid, gas): May ignite if in fine dust form
- Vapour pressure: NA
- Vapour density: NA
- Relative density: 1.24g/cm^3
- Solubility(ies); NA
- Auto-ignition temperature: 380-390°C
- Viscosity: NA

10. Stability and reactivity

Reactivity: Ideagen3D TOUGH PLA is not expected to be reactive under normal conditions and appropriate usage
Chemical stability: Stable under recommended storage conditions.
Possibility of hazardous reactions: None under recommended conditions of use.
Conditions to avoid (e.g., static discharge, shock or vibration): Avoid constant heat above 240°C
Hazardous decomposition products: Burning produces obnoxious and toxic fumes. Aldehydes, Carbon monoxide (CO), carbon dioxide (CO2)

11. Toxicological information

No adverse effects for human health are expected under normal conditions of usage.

Acute toxicity: NA

Irritation: NA

Sensitization: NA

Repeated dose toxicity: NA

Carcinogenic effect: This product does not contain any carcinogens or potential carcinogens.

12. Ecological information

(a) Ecotoxicity (aquatic and terrestrial, where available):NA
(b) Persistence and degradability: Biodegradable under industrial composting conditions.
(c) Bio accumulative potential: NA
(d) Mobility in soil: NA
(e) Other adverse effects: NA

13. Disposal considerations

Waste treatment: Dispose of in accordance with local regulations. Do not dispose into waterways, waterbodies and into nature. Do not dispose with common household waste; dispose as plastic waste.

Packaging: Dispose of in accordance with local regulations.

14. Transport information

The substance is not classified as dangerous for transport according to ADR/IATA/IMDG/ADN

15. Regulatory information

16. Other information including information on preparation and revision of the SDS

The information presented in this Material Safety Data Sheet (MSDS) is based on our best knowledge in combination with original MSDS provided by manufacturer. MSDS contains information on safety use, storage and disposal