

# SAFETY DATA SHEET



## Dynamism Tough PLA

According to Hazard Communication Standard (29 CFR 1910.1200)

Version 1.0

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SDS record number: S2C20170207A

## 1. Product and Company Identification

### Product Information

**Material name**

Dynamism Tough PLA

**CAS#**

See section 3

**Product use**

3D Printing Filament

### Supplier

**Dynamism, Inc.**

207 E Ohio St  
Suite 200  
Chicago, IL 60611

**Email**

sales@dynamism.com

**Toll-Free Phone**

800-711-6277

## 2. Hazards identification

### Emergency Overview

Not likely to be an irritant in the solid form.  
Burning produces obnoxious and toxic fumes.  
Avoid prolonged contact with skin and contact with eyes. Not likely to form a dust in the solid filament form.

### Potential Acute Health Effects

**Inhalation**

Not likely to form an inhalable dust in the solid filament form and for the intended use. Aerosols generated during printing may cause shortness of breath, tightness of the chest, a sore throat and cough.

**Eye**

May cause slight skin irritation.

**Skin**

May cause slight skin irritation.

**Ingestion**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Potential Chronic Health Effects

**Carcinogenic Effects**

No known carcinogenic effects

**Mutagenic Effects**

No known mutagenic effects

**Teratogenic Effects**

No known teratogenic effects

**Developmental Toxicity**

No known developmental toxicity

### 3. Composition / Information on Ingredients

CHEMICAL NAME	CAS#	WEIGHT %	EXPOSURE LIMITS
Poly(lactic acid) resin	9051-89-2	80-100%	None
Acrylic polymer(s)	-	0-20%	None

### 4. First Aid Measures

#### Inhalation

Move to fresh air and keep at rest in a position comfortable for breathing. Call a physician immediately if irritation persists.

#### Skin contact

Rinse immediately with plenty of water. If skin irritation persists, call a physician. Cool skin rapidly with cold water after contact with hot polymer.

#### Eye contact:

Rinse immediately with plenty of water. 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. Fire Fighting Measure

#### General Information

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

#### Suitable Extinguishing Agents

Foam. Water. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Alcohol resistant foams are preferred if available. General-purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

#### Products of Combustion

Burning produces obnoxious and toxic fumes, aldehydes, carbon monoxide (CO), and carbon dioxide (CO<sub>2</sub>).

#### Special Fire Fighting Procedures

Firefighters should wear self-contained breathing apparatus and full fire-fighting turn-out gear (bunker gear). Keep personnel removed and upwind of fire. Water should be used to keep fire-exposed containers cool.

#### Special Remarks on Fire and Explosion Hazards

Toxic gases/vapors/fumes may emit in a fire.

### 6. Accidental Release Measures

#### General

Wear gloves when handling hot melt of the material.

#### Environmental precautions

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

#### Methods and material for containment and cleaning up

Shovel into suitable container for disposal.

## 7. Handling and Storage

### Precautions

No special precautions required.

### Handling

Wear gloves when handling molten material. Low hazard for usual industrial or commercial handling.

### Storage

Store in cool place. Keep at temperatures below 122F (50 ° C). No special restrictions on storage with other products.

## 8. Exposure Controls / Personal Protection

### Ventilation protection:

Provide good ventilation during 3D printing processes.

### Skin protection:

avoid direct contact to the hot melt of material or wear gloves.

### Eye and face protection:

Safety glasses if necessary.

### General

Wear protective clothing to prevent contact with hot melt materials.

## 9. Physical & Chemical Properties

### Appearance

Filament, Solid

### Color

Various

### Odor

Odorless

### pH

Not applicable

### Melting point

> 140 °C

### Boiling point

Not applicable

### Density

1.22 g/cm<sup>3</sup>

### Vapor pressure

Not applicable

### Partition coefficient (n -octanol/water)

Not applicable

### Solubility(ies)

Not determined

### Flash point

Not determined

### Auto-ignition temperature

> 350 °C

## 10. Stability and Reactivity

### Reactivity

The substance is stable under normal storage and handling conditions.

### Stability

Stable under recommended storage conditions

### Polymerization

Not applicable

### Dangerous Decomposition Products

Burning produces obnoxious and toxic fumes. Aldehydes. Carbon monoxide (CO). carbon dioxide (CO<sub>2</sub>).

### Conditions to avoid

Temperatures above 446F (230 ° C).

### Materials to avoid

Oxidizing agents. Strong bases.

## 11. Toxicological Information

### Routes of entry

N.A.

### Acute toxicity

Not likely to cause targeted organ effects or skin allergic reactions.

## 12. Ecological Information

### Mobility

No data available

### Ecotoxicity effects

Data not available.

### Bioaccumulation

The main resin is biodegradable.

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## 13. Disposal Considerations

### Waste Disposal Methods:

In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. Contact manufacturer if needed.

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## 14. Transport Information

### No a DOT controlled material (United States)

#### UN number

Not regulated

#### Proper shipping name

Not regulated

#### Hazard class

Not regulated

#### Packing group

Not regulated

#### IMDG EMS

Not regulated

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## 15. Regulatory Information

### European/International Regulations

This product is on the European Inventory of Existing Commercial Chemical Substances.

### European Labeling in Accordance with EC Directives

#### Hazard Symbols

N/A

#### Risk phrases

N/A

#### Safety phrases

N/A

#### HMIS (U.S.A.)

Health Hazard: 0

Fire Hazard: 1

Reactivity: 0

Personal Protection

#### National Fire Protection Association(U.S.A.)

Health: 0

Flammability: 1

Reactivity: 0

Specific Hazard

#### Federal and State Regulations

##### TSCA 8(b) inventory

Listed

Canada---WHMIS: Not controlled

**For details regulations you should contact the appropriate agency in your country.**

## 16. Other Information

### Revision information

Date of this revision: Feb 07 2017

### Declare to reader

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. This shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.