

# SAFETY DATA SHEET

In accordance with Safe Work Australia GHS requirements

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

|                      |   |
|----------------------|---|
| <b>Product Name</b>  | VEXA PETG Matte   |
| <b>Chemical Name</b> | Polyethylene Terephthalate Glycol (PETG) with additives |
| <b>CAS Number</b>    | 25038-59-9 (PETG)                                       |
| <b>Product Use</b>   | 3D printing filament for FDM/FFF printers               |

### 1.2 Relevant Identified Uses and Uses Advised Against

**Identified Uses:** Thermoplastic material for additive manufacturing (3D printing) via Fused Deposition Modeling (FDM).

**Uses Advised Against:** Not for food contact applications. Not for medical implantation. Not for use in applications requiring compliance with specific regulatory standards unless tested and certified.

### 1.3 Details of the Supplier

**Company Name:** 3Docity

**Address:** 3/29 Bailey Crescent, Southport QLD 4215, Australia

**Website:** [www.3docity.com.au](http://www.3docity.com.au)

### 1.4 Emergency Telephone Number

**Poisons Information Centre (Australia):** 13 11 26 (24 hours)

**Emergency Services:** 000

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the Substance or Mixture

**GHS Classification:** Not classified as hazardous according to Safe Work Australia criteria.

### 2.2 Label Elements

**Signal Word:** None

**Hazard Statements:** None

**Precautionary Statements:** None required

**Pictograms:** None

### 2.3 Other Hazards

When heated above melting temperature (128°C), this material may release irritating fumes containing decomposition products.

Dust generated from cutting, sanding, or grinding printed parts may cause mechanical irritation to eyes and respiratory system.

Prolonged exposure to UV light may cause yellowing/discolouration but does not significantly affect safety properties.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component                                | CAS Number  | Concentration % | Classification |
|--|-------------|-----------------|----------------|
| Polyethylene Terephthalate Glycol (PETG) | 25038-59-9  | >95             | Not classified |
| Additives (pigments, modifiers)          | Proprietary | <5              | Not classified |

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of First Aid Measures

**Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical attention if symptoms persist.

**Skin Contact:** Wash with soap and water. Remove contaminated clothing. If irritation develops or persists, seek medical attention.

**Eye Contact:** Flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

**Ingestion:** Rinse mouth with water. Do not induce vomiting. Seek medical attention if large quantities are swallowed or if symptoms develop.

### 4.2 Most Important Symptoms and Effects

**Acute:** Potential for mechanical irritation from dust. Fumes from heated material may cause respiratory irritation.

**Delayed:** No known delayed effects under normal use conditions.

### 4.3 Indication of Immediate Medical Attention

Treat symptomatically. No specific antidote required. This material exhibits extremely low toxicity.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing Media

**Suitable:** Water fog, dry chemical, foam, carbon dioxide (CO<sub>2</sub>).

**Unsuitable:** None known.

### 5.2 Special Hazards Arising from the Substance

Combustion may produce carbon monoxide, carbon dioxide, and other toxic fumes. Burning material may produce acrid smoke.

### 5.3 Advice for Firefighters

Wear self-contained breathing apparatus (SCBA) and full protective clothing. Fight fire from upwind position. Move containers from fire area if safe to do so. Cool containers with water spray.

**Flammability Classification (UL 94):** HB (Horizontal Burn)

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Avoid creating dust. Ensure adequate ventilation. Use appropriate personal protective equipment (PPE) as specified in Section 8.

### 6.2 Environmental Precautions

Prevent entry into waterways, sewers, or confined spaces. This material is biodegradable but should not be deliberately released into the environment in large quantities.

### 19.2 Methods and Materials for Containment and Cleaning Up

Sweep up or vacuum spilled material and place in appropriate container for disposal. Avoid creating dust. Clean spill area with water if necessary.

**Waste Disposal:** Dispose of in accordance with local regulations. Material may be suitable for industrial composting facilities. See Section 13 for more information.

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for Safe Handling

Avoid breathing dust or fumes from heated material. Use in well-ventilated areas. Avoid prolonged or repeated skin contact. Maintain good housekeeping practices to minimize dust accumulation.

When processing above melting temperature (128°C), ensure adequate ventilation to prevent accumulation of decomposition fumes.

### 7.2 Conditions for Safe Storage

Store in a cool, dry, well-ventilated area away from direct sunlight and heat sources. Keep containers sealed when not in use to prevent moisture absorption.

**Storage Temperature:** Room temperature (15-30°C)

**Incompatibilities:** Strong oxidizing agents, strong acids, strong bases, ketones.

**Note:** *Prolonged exposure to UV light may cause yellowing. For optimal print quality, store with desiccant in sealed containers.*

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control Parameters

**Occupational Exposure Limits:** No specific exposure limits established for this product. For nuisance dust, refer to Safe Work Australia workplace exposure standards for particulates not otherwise classified (PNOC): 10 mg/m<sup>3</sup> (inhalable), 3 mg/m<sup>3</sup> (respirable).

### 8.2 Exposure Controls

#### Engineering Controls:

- Provide adequate general and local exhaust ventilation
- Use local exhaust ventilation when processing above melting temperature
- Maintain clean work environment to prevent dust accumulation

### Personal Protective Equipment (PPE):

**Respiratory Protection:** Not normally required under typical use conditions. If dust is generated (cutting, sanding, grinding), use approved dust respirator (P2/N95 minimum). When processing heated material with inadequate ventilation, use organic vapour respirator.

**Eye Protection:** Safety glasses with side shields recommended when handling solid material. Wear safety goggles when dust may be generated or when handling heated material.

**Hand Protection:** Protective gloves recommended when handling heated material. Heat-resistant gloves required when handling material above 71°C.

**Skin Protection:** Long sleeves and long trousers recommended to minimize skin contact.

**Hygiene Measures:** Wash hands thoroughly after handling. Do not eat, drink, or smoke when using this product. Remove and wash contaminated clothing before reuse.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| Property                                       | Value  |
|--|--|
| Appearance                                     | Solid filament, various colours                |
| Odour  | Slight sweet odour when heated                 |
| pH   | Not applicable (solid)                         |
| Melting Point                                  | 128°C  |
| Glass Transition Temperature (T <sub>g</sub> ) | 71°C   |
| Decomposition Temperature                      | ≥423°C   |
| Flash Point                                    | Not applicable (does not support flame)        |
| Flammability                                   | Class HB (Horizontal Burn) per UL 94           |
| Vapour Pressure                                | Not applicable (solid)                         |
| Relative Density (23°C)                        | 1.28 g/cm <sup>3</sup>                         |
| Solubility in Water                            | Insoluble                                      |
| Partition Coefficient (n-octanol/water)        | Not determined                                 |
| Auto-ignition Temperature                      | Not determined                                 |
| Viscosity                                      | Not applicable (solid)                         |
| Explosive Properties                           | Not explosive. Dust clouds may be combustible. |
| Oxidizing Properties                           | Not oxidizing                                  |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

Not reactive under normal conditions of use and storage.

### 10.2 Chemical Stability

Stable under normal conditions of use and storage. May degrade when exposed to prolonged heat above decomposition temperature or UV radiation.

### 10.3 Possibility of Hazardous Reactions

None under normal conditions. Hazardous polymerization will not occur.

### 10.4 Conditions to Avoid

Excessive heat, open flames, sparks, and other ignition sources. Prolonged exposure to temperatures above 200°C. Prolonged UV exposure.

### 10.5 Incompatible Materials

Strong oxidizing agents, strong acids (pH <3), strong bases (pH >10), ketones (e.g., acetone).

### 10.6 Hazardous Decomposition Products

Under normal use conditions, no hazardous decomposition products are expected. Thermal decomposition (>374°C) or combustion may produce carbon monoxide, carbon dioxide, and other toxic organic compounds.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects

#### Acute Toxicity:

Oral: Not classified. PLA has extremely low toxicity.

Dermal: Not classified. Non-irritating to skin.

Inhalation: Not classified under normal use. Fumes from heated material may cause temporary respiratory irritation.

**Skin Corrosion/Irritation:** Not classified. Not expected to cause irritation.

**Serious Eye Damage/Irritation:** Not classified. May cause temporary mechanical irritation from dust.

**Respiratory Sensitization:** Not classified. No evidence of respiratory sensitization.

**Skin Sensitization:** Not classified. No evidence of skin sensitization.

**Germ Cell Mutagenicity:** Not classified. No evidence of mutagenic effects.

**Carcinogenicity:** Not classified. PLA is not listed as a carcinogen by IARC, NTP, or OSHA.

**Reproductive Toxicity:** Not classified. No evidence of reproductive toxicity.

**STOT - Single Exposure:** Not classified.

**STOT - Repeated Exposure:** Not classified.

**Aspiration Hazard:** Not classified (solid material).

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

PLA has low aquatic toxicity. Specific aquatic toxicity data for this product is not available.

### 12.2 Persistence and Degradability

PETG is recyclable but not biodegradable (58°C, high humidity, microbial activity). Degradation in natural environments is slow. Material will persist in marine environments.

### 12.3 Bioaccumulative Potential

Not expected to bioaccumulate. PLA is a thermoplastic polyester.

### 12.4 Mobility in Soil

As a solid material, mobility is limited. Not expected to leach into groundwater.

### 12.5 Results of PBT and vPvB Assessment

This product does not meet the criteria for PBT (Persistent, Bioaccumulative, and Toxic) or vPvB (very Persistent and very Bioaccumulative).

### 12.6 Other Adverse Effects

No additional adverse environmental effects identified. Do not deliberately release large quantities into the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste Treatment Methods

**Product:** Dispose of in accordance with local, state, and federal regulations. Material is recyclable where PETG recycling facilities exist. Can be incinerated in approved facilities with energy recovery. Landfill disposal is acceptable where permitted.

**Contaminated Packaging:** Dispose of as product. Empty containers may be recycled where facilities exist.

**Note:** Do not dispose of via household recycling streams. PLA is not compatible with PET recycling processes.

## SECTION 14: TRANSPORT INFORMATION

**UN Number:** Not regulated

**UN Proper Shipping Name:** Not applicable

**Transport Hazard Class:** Not applicable

**Packing Group:** Not applicable

**Environmental Hazards:** Not classified as environmentally hazardous

**Special Precautions for User:** None. Not subject to dangerous goods regulations.

This product is not classified as dangerous goods for transport by road, rail, sea, or air under ADG Code (Australia), IMDG (sea), or IATA (air) regulations.

## SECTION 15: REGULATORY INFORMATION

## 15.1 Safety, Health and Environmental Regulations

**Australian Inventory of Chemical Substances (AICS):** All components are listed or exempt.

**Poisons Standard (SUSMP):** Not scheduled.

**Work Health and Safety (WHS) Regulations:** Not classified as hazardous according to Safe Work Australia criteria.

**Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code):** Not classified as dangerous goods.

## SECTION 16: OTHER INFORMATION

### Abbreviations and Acronyms

AICS: Australian Inventory of Chemical Substances

CAS: Chemical Abstracts Service

FDM: Fused Deposition Modeling

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

IARC: International Agency for Research on Cancer

NTP: National Toxicology Program (USA)

OSHA: Occupational Safety and Health Administration (USA)

PBT: Persistent, Bioaccumulative, and Toxic

PLA: Polylactic Acid

PNOC: Particulates Not Otherwise Classified

PPE: Personal Protective Equipment

SCBA: Self-Contained Breathing Apparatus

SDS: Safety Data Sheet

STOT: Specific Target Organ Toxicity

SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons

vPvB: very Persistent and very Bioaccumulative

WHS: Work Health and Safety

### References

- Safe Work Australia - Hazardous Chemical Information System (HCIS)
- Safe Work Australia - Workplace Exposure Standards
- Safe Work Australia - Model Code of Practice: Managing Risks of Hazardous Chemicals
- Supplier technical data sheets

### Revision Information

**SDS Version:** 1.0

**Issue Date:** February 2025

**Revision Date:** Not applicable (initial version)

**Changes from Previous Version:** Initial release

### Disclaimer

The information contained in this Safety Data Sheet is based on data from sources considered technically reliable and has been provided in good faith in accordance with the

current state of knowledge. It is provided for guidance only. The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. For these reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of this product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

**End of Safety Data Sheet**

**VEXA - Premium 3D Printing Materials**

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