



# Bilby 3D

## **MATERIAL DATA SAFETY SHEET**

Issued in Australia by Bilby 3D Pty Ltd.

The attached Material Data Safety Sheet has been prepared by the manufacturer outside Australia.

In accordance with Australia WHS regulations the following Australian contact details apply

### **Section 1: AUSTRALIAN COMPANY DETAILS**

In Australia the product is imported and distributed by:  
Bilby 3D Pty Ltd

Mailing Address :

Kingsgrove Business Centre, 7/192 Kingsgrove Rd, Kingsgrove NSW 2208

Head Office Address :

Kingsgrove Business Centre, 7/192 Kingsgrove Rd, Kingsgrove NSW 2208

Contact Phone: 1800 847 333

### **Section 2: AUSTRALIAN EMERGENCY CONTACT**

#### **Emergency Contact**

In the event of an emergency please contact:

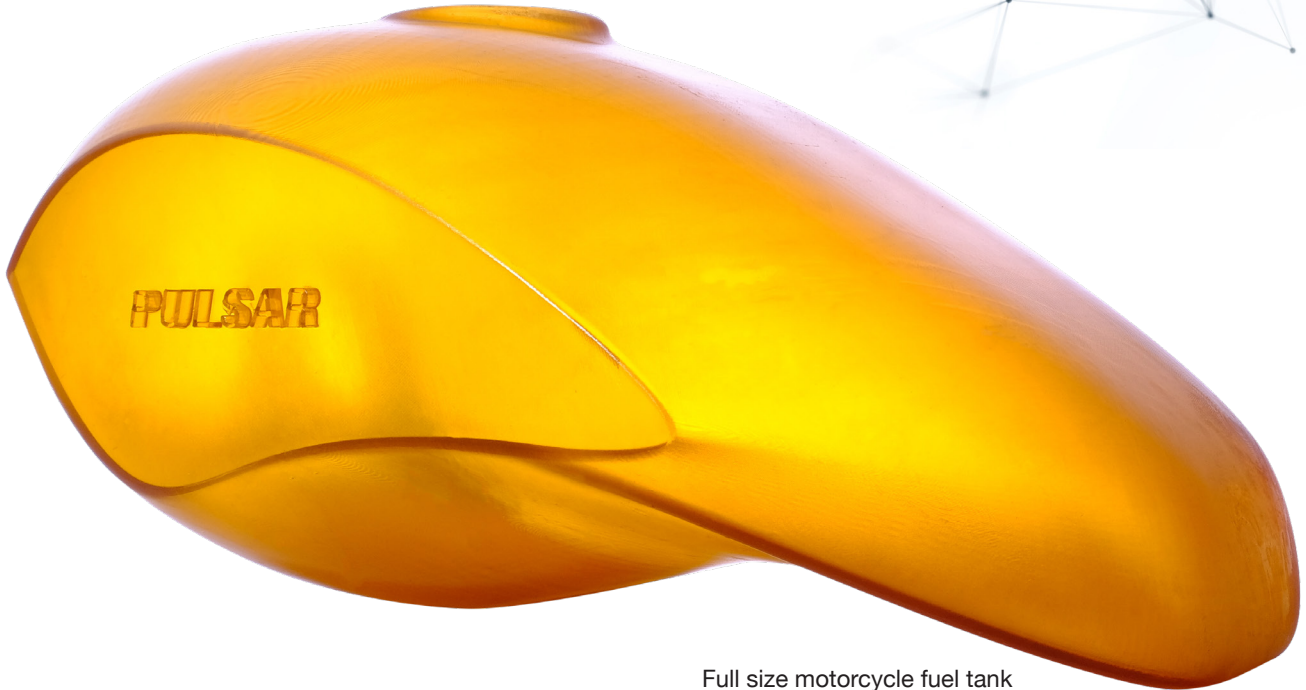
Poisons Information Centre 24 hour Telephone Advice Line on 13 11 26

### **Section 3: AUSTRALIAN ISSUE DATA**

**Date of Issue** : 1 March 2020



## HighTemp DL400



Full size motorcycle fuel tank

### Properties

#### Temperature resistance



Low

High

#### Tensile Modulus



Low

High

### Compatible

Daylight 3D Printers



Liquid Crystal  
MAGNA

### Colours

 Amber

Available in 5kg bottles

### Introduction

Photocentric's HighTemp DL400 is the first Photocentric high temperature resistant resin possessing superior properties of both strength and stiffness. It can handle impact, compression, fatigue, high temperatures and moisture without bending or deforming, able to print with an impressive layer thickness of 350µm.

### Best Used for:

- Hot fluid and gas manifolds
- Moulds and inserts
- Heat resistant housings and fixtures
- Outdoor applications

### Unique Features:

- Temperature resistant (Heat Deflection Temperature of 230°C)
- Excellent long-lasting performance under heat and stress
- Able to print with an impressive layer thickness of 350µm.
- Simulating the strength and stiffness of glass filled Nylon 6
- Dry and Smooth surface finish and ability to print fine details
- Minimal shrinkage

## Processing Instructions

- To print with Photocentric Liquid Crystal Magna, choose 'HighTemp DL400' and the desired layer thickness when preparing your print file in Photocentric Studio.
- Heat the resin to 60°C for 5 hours or until the resin is fully liquified in the bottle. Failure to do so prior to printing will result in the resin crystalizing, leading to print failures.
- Shake the resin bottle for 2 minutes before pouring into the resin vat.

## Post Processing

- Parts can be washed in 15 minutes using Photocentric Resin Cleaner or alternatively, in 10 minutes using Photocentric Resin Cleaner 30.
- Once washed, rinse with warm water for 2 minutes
- Dry with compressed air to remove any remaining water. Or alternatively, leave to air-dry.
- Place the platform into the Photocentric Cure L2 for a minimum of 2 hours at 60°C or until parts are fully cured (4 hours maximum).
- Remove the platform from the Cure L2 and immediately submerge in cold water for thermal shocking. Parts can be removed from the platform with minimal effort.
- Draining and cleaning the vat is highly recommended after print job completion as the ambient temperature may drop below 23 °C resin crystallization temperature.

## Properties

### Tensile Properties

Tensile Modulus *	4000 MPa	ASTM D638
Ultimate Tensile Strength *	80 MPa	ASTM D638
Elongation at break *	4%	ASTM D638

### Flexural Properties

Flexural Modulus *	3300 MPa	ASTM D790
Flexural Strength *	109 MPa	ASTM D790

### Impact Properties

Impact Strength Notched Izod *	15.6 J/m	ASTM D256
Impact Strength Notched Izod *	3.1 kJ/m <sup>2</sup>	ISO 180

### General Properties

Hardness *	95 Shore D	ASTM D2240
Heat Deflection Temperature *	230 °C	ASTM D648 (0.455 MPa)
Water Absorption (Short Term)	0.35%	ASTM D570
Viscosity	650 cPs	At 25°C Brookfield spindle 3
Density	1.10 g/cm <sup>3</sup>	
Storage	10<T>50°C	

### Biocompatibility

Cytotoxicity*	Passed	ISO 10993-5
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**\*Mechanical properties stated based on fully cured material.**