



# 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

# NANOe

Zetamix Ceramic & Metal 3D printing filaments



**ζetamix<sup>®</sup>**

***3D printing filament***

*Al<sub>2</sub>O<sub>3</sub> ZrO<sub>2</sub> ZTA 316L*



## ***Ceramic and Metal filament manufacturing***

New method for 3D printing of ceramics and metals.

Key benefits are :

- Complete freedom of shape
- Low investment with our Zetaprint system
- High building speed
- Soluble or detachable support



## ***Available materials***

Zetamix is a mix of plastic binders and between 50 and 60 vol% of raw material

All our materials are available, in 1,75 and 2,85 mm diameters

The available ceramics are :

- Al100 (Alumina)
- 3Y-TZP (3<sub>mol</sub>% Yttria Stabilized Zirconia)
- Black Zirconia.

The available metal is Stainless Steel 316L.

Materials in development include SiC, Si<sub>3</sub>N<sub>4</sub>, WC-Co, Inconel and Titanium.



## ***High quality parts***

After debinding and sintering, density > 99% can be obtained, with homogeneous microstructure.

Best results should be obtained by using Zetaprint system, but you can also adapt the filament on any filament 3D printing machine.



## ***Zetaprint***

Nanoe recommends to use Zetaprint machine in order to benefit from our experience and advices on printing parameters.

Main features include :

- Dual extrusion for supports or bi material printing
- Flexible plate for unloading of the printed parts
- High accuracy (z down to 50  $\mu\text{m}$ , xy down to 20  $\mu\text{m}$ )
- Build size 300\*300\*300 mm



## ***Solvent debinding and sintering***

Zetamix is compatible with solvent debinding. This allows a stress free detachment from the building plate and supports, and a quicker debinding.

Nanoe offers a complete solution, Zetaprint system, with debinding equipment and Zetasinter, a tube furnace to debind and sinter your printed parts, whether it be in ceramics or metal.

Zetasinter can be used under air atmosphere for ceramics parts and under inert atmosphere, to protect metal parts against oxidation.

The working temperature is between 800 and 1600°C for a tube size of  $\varnothing 100 \times 205 \text{mm}$ .



## ***Services***

Nanoe also offers printing and sintering services for our customers who wish to test the technology on a first part, and training services if needed.

# NANOE

Zetamix Ceramic & Metal 3D printing filaments

*Are you interested in Nanoe ?  
More information about our filaments and materials on our website  
[www.nanoe.com](http://www.nanoe.com)*

## ***Nanoe / Headquarters***

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