



P L A S M A B I O T A L L I M I T E D

# TECHNICAL DATA SHEET

CAPTAL<sup>®</sup> ACP 1.5

'AMORPHOUS' CALCIUM PHOSPHATE

Captal<sup>®</sup> ACP 1.5 is a synthetic high-purity, medical grade bio-resorbable bone substitute material. Captal<sup>®</sup> ACP 1.50 is the pre-crystalline precursor to our bioactive beta-tricalcium phosphate ( $\beta$ -TCP) material. Due to the controlled Ca:P ratio Captal<sup>®</sup> ACP 1.5 resolves into fully crystalline  $\beta$ -TCP when sintered under appropriate regime.

Captal<sup>®</sup> ACP 1.5 is beneficial in a variety of applications. Acting as a rapidly resorbable osteoinductive bulk filler in its unsintered form, or when sintered, offering a transient solution for implantation in areas where repeat surgery is not viable, such as osteochondral defects. The unsintered nature, high-purity and customisable particle size make this an ideal material for research use.

## Chemical Specification (Typical values)

Phase Purity	$\text{Ca}_3(\text{PO}_4)_2$	> 95 %
Ca:P Ratio		1.48-1.52
Heavy Metals	Arsenic (As)	< 1 ppm
	Cadmium (Cd)	< 1 ppm
	Mercury (Hg)	< 1 ppm
	Lead (Pb)	< 3 ppm
Other Impurities (Average Values)	Magnesium (MgO)	< 3500 ppm
	Silicon (SiO <sub>2</sub> )	< 850 ppm
	Aluminium (Al <sub>2</sub> O <sub>3</sub> )	< 500 ppm
	Strontium (SrO)	< 500 ppm
	Sodium (Na <sub>2</sub> O)	< 300 ppm
	Iron (Fe <sub>2</sub> O <sub>3</sub> )	< 200 ppm
	Manganese (Mn <sub>3</sub> O <sub>4</sub> )	< 100 ppm

## Physical Properties (Typical Values)

Morphology	Spherical (Spray Dried)
Colour	White
Particle Size d Distribution	$D_v(10) = > 1 \mu\text{m}$
	$D_v(50) = 15 - 25 \mu\text{m}$
	$D_v(90) = < 40 \mu\text{m}$
Surface Area (BET)	> 30 m <sup>2</sup> /g
Moisture Content (Loss on Drying at 110 °C)	< 2.5 wt%

Custom Particle Size distributions available on request – please contact us.

## Storage and Handling

Captal<sup>®</sup> ACP 1.5 is stable when stored under the correct conditions. Ensure the container is correctly sealed and store in a cool, dry environment. Captal<sup>®</sup> ACP 1.5 is sold as non-sterile material and is not packaged in a clean room environment. Please refer to the safety data sheet for more information on the storage and handling of Captal<sup>®</sup> ACP 1.5 material.

## Further Information

For more information on this or any other Plasma Biototal products, please either go to the website: [www.plasma-biototal.com](http://www.plasma-biototal.com) or sent an enquiry via the contact form at [Plasma Biototal - Contact Us \(plasma-biototal.com\)](#).

