



PLASMA BIOTAL LIMITED

TECHNICAL DATA SHEET

CAPTAL® 'S' SINTERED HYDROXYAPATITE

CAPTAL® 'S' sintered hydroxyapatite is a medical-grade, synthetic, high-purity, highly crystalline bio-active bone substitute material designed to closely mimic the mineral phase of natural bone. The material we produce is fully traceable and adheres to the latest international standards (ISO 13779-6).

CAPTAL® 'S' is manufactured as matured nanoscale dendritic crystallites, which upon sintering the material forms a cohesive, densified bulk ceramic at markedly high crystallinity. This can then be milled to a range of sizes from the macro scale particles down to the sub-micron scale.

This material has applications in a variety of medical products, from bulk filler applications such as bone graft substitutes or bone cement to complex devices such as regenerative scaffolds or bio composite materials utilising CAPTAL 'S' as a bioactive structural component.

Chemical Specification (Typical values)

Phase Purity (%)	$\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$	> 95
Crystallinity (%)		> 95
Ca:P Ratio		1.66-1.72
Heavy Metals (ppm)	Arsenic (As)	< 1
	Cadmium (Cd)	< 1
	Mercury (Hg)	< 1
	Lead (Pb)	< 3
Other Impurities (Average Values)	Magnesium (MgO)	< 3500 ppm
	Silicon (SiO ₂)	< 850 ppm
	Aluminium (Al ₂ O ₃)	< 500 ppm
	Strontium (SrO)	< 500 ppm
	Sodium (Na ₂ O)	< 300 ppm
	Iron (Fe ₂ O ₃)	< 200 ppm
	Manganese (Mn ₃ O ₄)	< 100 ppm

Physical Properties (Typical Values)

Morphology	Angular or Spherical
Colour	Pale Blue
Surface Area (BET) (cm ² /g)	Size Dependent
Bulk Density (g/cm ³)	0.55 - 0.90
Tapped Density (g/cm ³)	0.75 - 1.20

Particle Size Specification (µm)

Custom Particle Size distributions between 2 µm and 2 mm are manufactured to customer specification – please contact us.

Storage and Handling

CAPTAL® 'S' Hydroxyapatite is stable if stored under the correct conditions. Ensure the container is correctly sealed and store in a cool, dry environment. CAPTAL® 'S' HA is sold as non-sterile material. Please refer to the Safety Data Sheet for more information on the storage & handling of CAPTAL® 'S' HA materials.

Further Information

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

