

4BONE™ SBS
Fully Synthetic Bone Substitute



mis
Keep it Simple

Background

100% Bone substitution. Greatest clinical and fundamental literature review of 15 years of human and animal use of micro and macroporous biphasic calcium phosphate materials (4BO/1E™ SBS).

Safety

100% Synthetic. No human or animal origin. 15 years of clinical studies have demonstrated efficiency, biocompatibility and safety of 4BO/1E™ SBS bioceramic.

Efficiency

Bioactive. 4BO/1E™ SBS allows cell attachment, proliferation and cell expression.

Architectural bone remodeling

Specific microstructure and macro structure represents a dynamic process, including physico-chemical processes, crystal/protein interactions, cell and tissue colonization and bone remodelling.

Easy

Easy to handle. The granules of the 4BO/1E™ SBS bone replacement substance easily absorb the patient's blood or physiological solution in the syringe, which is easily applied to the implant site.



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Note: This guide is for educational use only.

4BONE™ SBS

MIS 4BONE™ SBS is a fully synthetic bone substitute made of HA & β TCP. A 70% interconnected Micro & Macroporosity promotes invasion of osteogenic cells by osteoconduction and allows biological fluid diffusion. The 4BONE™ SBS contains optimized morphology and resorption properties that achieve predictable treatment outcomes. The unique packaging (syringe) has excellent wetting properties, that allow a simple approach to handling the product. The 4BONE™ SBS offers the practitioner flexibility in a large range of oral regeneration procedures.

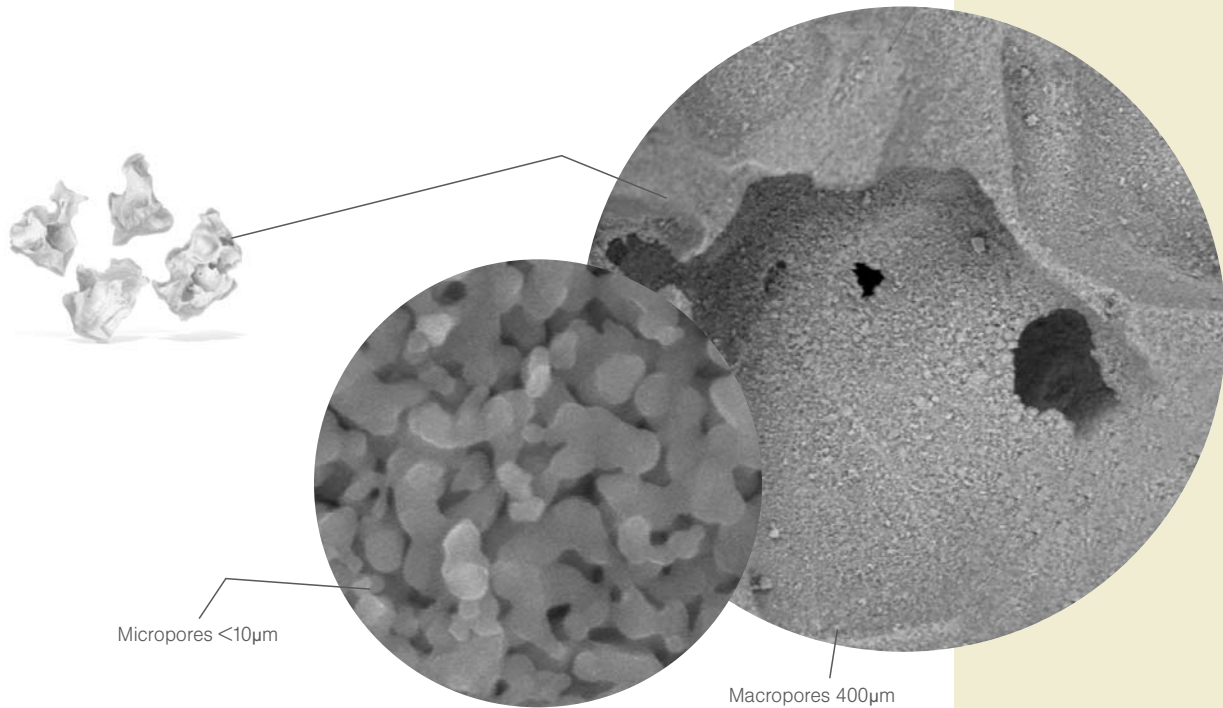


Product description.

Porosity 70% Global Porosity. The micro & macroporous structure is compatible with cell size. Micropores allow the diffusion of biological fluids: The patient's blood cells permeate into the granules through the material micropores that are interconnected, allowing vascularization.

2/3 Macroporosity: 300-600 μm , promoting deep invasion of osteogenic cells by Osteoconduction. 1/3 Interconnected Microporosity: < 10 μm , allowing biological fluids diffusion. Crystal size: < 1 μm .

Characteristics 4BO/18[®] SBS is a fully synthetic bone substitute with a geometry of macro/micropores (70:30) of fully synthesized homogeneous Hydroxyapatite and Béta - Tricalcium Phosphate (HA/ β -TCP) 60/40.



One function **Bone resorption/substitution.**

Facilitates architectural bone formation by providing an osteoconductive scaffolding. Homogenous phase distribution that controls excessive resorption

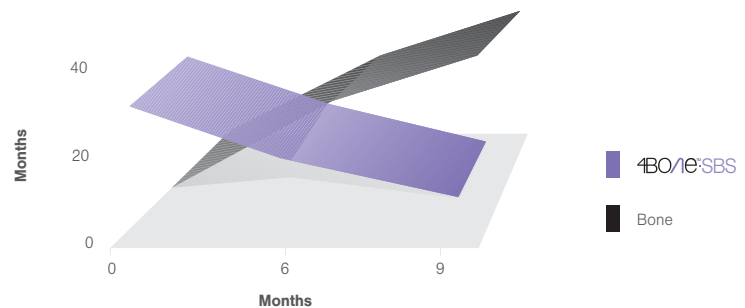
4BO/1E[®] SBS serves as a scaffold for bone deposition during the bone formation process. The mechanical stability of the augmented volume is maintained, as a result of the slow resorption rate of hydroxyapatite which prevents excessive resorption. Unlike other biphasic calcium phosphates, 4BO/1E[®] SBS is not only a mixture of HA and TCP, but is chemically synthesized as a composite, in order to ensure homogenous distribution of the two phases.

4BO/1E[®] SBS is integrated during the natural remodelling process of the human bone, and is replaced by natural bony crystals similar to human bone.

Effective bone regeneration, safety, and biocompatibility that HAS been clinically and scientifically proven for over 20 years in all scopes of surgery.

4BO/1E[®] SBS benefits from the largest scientific and clinical literature on the market since 1986 (500 publications).

4BO/1E[®] SBS is used for new therapeutic processes based on tissue engineering procedures (bone reconstruction in irradiated sites).



Packaging & Indication.

The unique packaging of 4Bone™ SBS in a syringe, offers the clinician an easy procedure of mixing the substance with the patient's blood and/or saline water. After the blood and/or saline water is fully absorbed in the 4Bone™ SBS, placing the substance in the patient's mouth is simple to perform with the syringe.

MIS 4Bone™ SBS is indicated for filling and/or augmenting intra oral/maxillofacial osseous defects. The indication for using MIS 4Bone™ SBS includes bony dehiscences and fenestrations around dental implants. 4Bone™ SBS is also very efficient in immediate implanting.

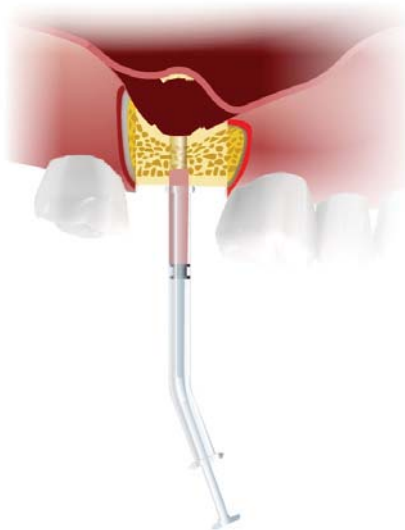


1.

Easy procedure for mixing 4Bone SBS with patient's blood and/or saline water.

2.

Injecting the fully absorbed 4Bone SBS substance into the implantation site.



The 4Bone™ SBS comes in an easy to use syringe
Quantity: 0.5cc
Granules size: 0.5-1.00 mm

Bone substitute comparison table.

Type of bone graft origin	Autograft	Allograft (cadaver) Xenograft	Hydroxyapatite	4BO/1E ⁺ SBS ⁺
Origin	Patient bone	Human origin Animal origin	Calcium Phosphate	Biocompatible calcium phosphate
Quantity	Limited	Unlimited	Ships/blocs	Granules/Blocs Paste
Benefits	Best & fastest results Autograft takes 4 to 6 months to mature in the sinus.	Large volumes Mechanical properties	100% Synthetic Biocompatible	100% Synthetic Biocompatible
Disadvantages	<ul style="list-style-type: none"> - Considerable volume needed (5cc-10cc per side) for typical sinus augmentation. - Harvested from intra-oral donor sites. 	<ul style="list-style-type: none"> - Dead bone limited cell proliferation - Very slow resorption - Contamination risks - Limited storage 	Very slow resorption	No initial mechanical properties

* Controlled resorption/substitution
HA acts as a scaffold for cell adhesion
TCP allows ionic exchange essential to angiogenesis.

** Architectural bone in growth
Within 6 months 4BO/1E⁺SBS is replaced by natural bone.

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