

# **Brief Summary**

MASTERGRAFT® Resorbable Ceramic Granules are indicated only for bony voids or gaps that are not intrinsic to the stability of the bony structure. MASTERGRAFT® Resorbable Ceramic Granules are to be gently packed into bony voids or gaps of the skeletal system (e.g., the posterolateral spine, pelvis, ilium, and/or extremities). These defects may be surgically created osseous defects or osseous defects created from traumatic injury to the bone. MASTERGRAFT® Resorbable Ceramic Granules provide a bone void filler that resorbs and is replaced with bone during the healing process.



Granules

# **Chemical Composition**

# Medical-grade Polyporous Resorbable Ceramic Granules

- » Granules are composed of:
  - 15% hydroxyapatite (HA).
  - 85% beta-tricalcium phosphate (β-TCP).



# Why Are the Granules Composed of 15% HA and 85% β-TCP?

- » To provide an osteoconductive porous scaffold composed of minerals similar to those found in bone.
  - Both HA and β-TCP contain calcium and phosphate the principal constituents of bone.
  - HA is the primary mineral found in bone matrix.
- » HA and  $\beta$ -TCP are the two most widely studied ceramics used for bone grafting applications, supported by more than 20 years of clinical experience.
- » The combination of HA and β-TCP provides an engineered combination of the desired characteristics\*:
  - Long-term stability.
  - Resorption.

# 65% to 70% Mineral 30% to 35% Organic Matrix Hydroxyapatite (HA)

**Bone Composition** 

• Calcium

Phosphate

• Beta-tricalcium Phosphate

(B-TCP)

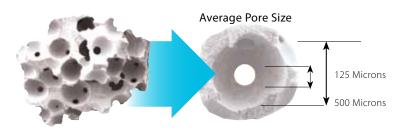
<sup>\*</sup>Data on file.

# MASTERGRAFT® Granules

# **Physical Properties of Resorbable Ceramic Granules**

## **Features**

- » 80% porosity.
- » 500 micron average pore size.
- » 125 micron average interconnected diameter.

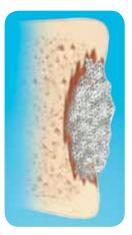


25× Magnification

# The Resorbable Advantage

## **Potential Benefits**

- » Aids osteointegration.\*
  - Supports the bone healing process by acting as a scaffold for new bone formation.
  - Allows creeping substitution to gradually replace the MASTERGRAFT® Granules with new host bone.
- » Supports bone growth throughout the entire defect site.\*
  - Forms strong bonds between MASTERGRAFT® Granules and natural bone surrounding the defect.
  - Residual granules are disbursed throughout the defect site and are in direct contact with woven bone and osteoid.
- » Designed to facilitate the regeneration of bone prior to complete resorption.\*
  - Allows for bony ingrowth.
  - Biphasic composition avoids complete resorption prior to bone regeneration.



Immediately Postoperative



6 Months Postoperative

# **Product Ordering Information**

## MASTERGRAFT® Granules



\*Data on file.



## www.medtronic.com

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