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Product Information

Calcium phosphate tribasic

Product Number **C 5267**

Store at Room Temperature

Replacement for Product Code 23,093-6

Product Description

Molecular Formula: $\text{Ca}_5(\text{OH})(\text{PO}_4)_3$

Molecular Weight: 502.3

CAS Number: 12167-74-7

Synonyms: tricalcium phosphate, tricalcium orthophosphate¹

Calcium phosphate tribasic is a reagent that is used in various industrial processes. These include the manufacture of fertilizers, polishing and dental powders, porcelain and pottery, and enameling.¹

Calcium phosphate tribasic is also utilized to engineer new biomaterials for applications such as bone grafts and fillers.^{2,3,4} Rat and human tumor cell osteoclasts have been investigated with respect to their resorption properties on calcium phosphate tribasic.⁵ The effect on the proliferation of MRC-5 fibroblasts on calcium phosphate tribasic ceramics, which have been sintered at different temperatures, has been studied.⁶

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in 1 M HCl (50 mg/ml), yielding a slightly hazy, colorless to faint yellow/gray solution. It is essentially insoluble in water, alcohol, or acetic acid.¹

References

1. The Merck Index, 12th ed., Entry# 1741.
2. Wolfe, M. S., et al., *In vitro* degradation and fracture toughness of multilayered porous poly(propylene fumarate)/ β -tricalcium phosphate scaffolds. *J. Biomed. Mater. Res.*, **61(1)**, 159-164 (2002).
3. Verdonshot, N., et al., Time-dependent mechanical properties of HA/TCP particles in relation to morsellized bone grafts for use in impaction grafting. *J. Biomed. Mater. Res.*, **58(5)**, 599-604 (2001).
4. Lin, M., et al., Transforming growth factor- β 1 adsorbed to tricalcium phosphate coated implants increases peri-implant bone remodeling. *Biomaterials*, **22(3)**, 189-193 (2001).
5. Monchau, F., et al., *In vitro* studies of human and rat osteoclast activity on hydroxyapatite, β -tricalcium phosphate, calcium carbonate. *Biomol. Eng.*, **19(2-6)**, 143-152 (2002).
6. Cox, M., et al., Effect of TCP sintering temperatures on MRC-5 fibroblast proliferation and viability. *Biomed. Sci. Instrum.*, **38**, 173-178 (2002).

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