

Technology for manufacturing injectable biodegradable bone cement (with/ without drug)

IPR STATUS

Patented

APPLICATION/ USES

Healthcare; for the treatment of osteomyelitis, osteoporosis and other bone related disease and for trauma victims

SALIENT FEATURES

The cement is biodegradable and self-setting at body temperature. The unique feature of this cement is “non-exothermic” reaction, which provides complete safety to tissues. Further, the cement can be used to carry drugs and deliver at site. The product can be used to fill various bone, dental and other defects.

Composition: Calcium sulphate hemihydrate

Temp. generation: 37 to 40 °C

Liquid/Powder ratio: 0.3 to 0.6

Liquid: Water/ normal saline

Injectability: 88% @ 16N

Compressive strength: 13-16 MPa

Setting time: 6 to 9 min.

- Affordable and state-of-the-art healthcare solution.
- Novel biodegradable, injectable bone cement composition which can deliver different biomolecule or different drugs in a controlled fashion.
- This material can be successfully used for the treatment of osteomyelitis, osteoporosis and other bone related disease and for trauma victims.
- The cementation process developed is very less exothermic and many thermally unstable drugs and biomolecules can be used in the formulation.
- The composition can also be used as bone filler material.
- The cement can be modified with radiopaque particles to enable post-implantation identification and evaluation of bone cement.

LEVEL/ SCALE OF DEVELOPMENT

Completed single-centric clinical trials

LINE MINISTRY MAPPING/ USER SECTOR

Ministry of Health & Family Welfare



CSH based self-setting injectable bone cement

