

Method for producing microorganism carrier

Method for carrying living microorganism inside carrier

Overview

In recent years, bioreactors that utilize living microorganisms as catalysts to decompose harmful substances and synthesize valuable products have gained significant attention. To enhance reaction efficiency and operational convenience in such systems, it is essential to immobilize targeted microorganisms at high density onto a carrier. Calcium phosphate, a material known for its low toxicity to living organisms, environmental compatibility, and excellent adsorption properties, is expected to be used as the carrier.

However, achieving a microbial carrier that ensures a predetermined amount of microorganisms within the carrier while maintaining their biological activity has been a challenge.

The present invention relates to a method for obtaining a microbial carrier in which a predetermined amount of living microorganisms exist in a uniform density in calcium phosphate cement (CPC).

* As the patent has not been disclosed, please contact the following our company counter for the carrier manufacturing method.

Product Application

- Agricultural materials (carriers of soil microorganisms)
- Water purification material

IP Data

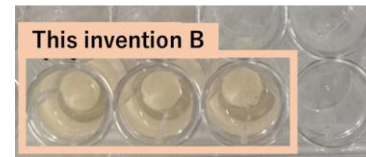
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Features・Outstandings

- The material is eco-friendly and biodegradable, causing minimal harm to organisms and decomposing naturally within a few years.
- It hardens at a low temperature (30–35°C), preserving the activity and viability of the microorganisms.
- The density and distribution of microorganisms within the carrier can be accurately controlled.
- Changing porosity can control the permeability of substrates and gases.



Microbial Activity of Dry Yeast-Mixed CPC Carriers prepared by the method of the present invention
(Orange indicates active.)



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