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(54) Title: A METHOD FOR INDUSTRIAL PRODUCTION OF BIOCATALYSTS IN THE FORM OF ENZYMES OR MI-
CROORGANISMS IMMOBILIZED IN POLYVINYL ALCOHOL GEL, THEIR USE AND DEVICES FOR THEIR PRODUC-
TION

(57) Abstract: A method for the industrial production of the biocatalysts with biologically active material in the form of im-
mobilized enzymes or microorganisms which are immobilized into the polyvinyl alcohol gel, and their use based on the fact, that the
active biological material, formed by the mixture of free native or pretrated (aggregated) enzyme catalyst, or production microor-
ganism, or part of them, and the polyvinyl alcohol gel, is used for their industrial production, the mixture is gelated and shaped in a
stream of drying air at the temperature of 800C to 150C, considering the extent of the biologically active material, at the biocatalyst
geometrical ratio of the surface to the volume kept larger than 7 mm³/l, and consequently thus prepared biocatalysts can be cultivated
or stored and then use in biotechnological processes in the conditions, which ensure given biotechnological process higher produc-
tivity, higher production and enzymatic stability, long-term and repeated usage or definable process control with consequence easy
separation of the biocatalyst. The industrial production device, providing optimization of the biological carrier volume and surface
in dependence on biologically active material extent, consisting of a casting mechanism (17) mounted in front of a drying channel
(2), through which a continuous conveyor belt (1) runs, is equipped with at least one casting head (17) with two rows of casting
needle injectors connected to a pressure tempered tank (15) and a compressor (16), the conveyor belt (1) and a drying system - the
source (4) of a drying air, which is blown by means of ventilator into an air distribution system (6) with incorporated heating elements
(5), which runs into the upper drying channel (2), and further the lower final drying channel (3) and a reswelling tank (7), between
which a wiping and collecting device (9) is mounted, designed on the basis of mechanical wiping and high-pressure rinse, which is
connected to a pipeline with integrated high-pressure pump (10) and low-pressure pump (11) running into a collecting reservoir (8)
with cooling and further a rinse box (13) for continuous conveyor belt (1) final cleaning by jets connected to a low- pressure pump
(14), which is connected to a rinse tank (12) by pipeline.

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