

Title (en)

Water insoluble encapsulated enzymes protected against deactivation by halogen bleaches.

Title (de)

Wasserunlösliche, eingehüllte Enzyme, geschützt gegen die Deaktivierung durch Halogenbleichmittel.

Title (fr)

Enzymes encapsulées insolubles dans l'eau protégées contre la désactivation par des agents de blanchiment halogénés.

Publication

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Application

EP 88100045 A 19880105

Priority

US 4019187 A 19870417

Abstract (en)

A composition capable of releasing active enzyme into an aqueous, active chlorine containing media which in a first aspect comprises an enzyme core encapsulated with an initial coating of a time-release substance, a first coating of a bleach-neutralizing substance and a second coating of a time-release substance. In a second aspect, the composition comprises an enzyme encapsulated in a time-release substance designed to delay release of the enzyme in dissolution for a first-time delay, and a bleach-neutralizing substance, present as either a core material and/or a first coating on a diluent core, which is encapsulated in a time-release substance designed to delay release of the bleach-neutralizing substance into solution for a second-time delay; the first-time delay being longer than the second-time delay so that the bleach-neutralizing substance will be released and completely neutralize all active chlorine present in the solution before the enzyme is released. In a third aspect, the composition comprises an enzyme core encapsulated with a time-release substance, a diluent core encapsulated with a first coating of a bleachneutralizing substance and a second coating of a time-release substance, and a bleach-neutralizing substance core encapsulated with a time-release substance. The invention further includes a cleaning composition which is particularly effective in warewashing which comprises one of the encapsulated enzyme-containing compositions described above, chlorine bleach, and at least one additional detergent component.

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Cited by

US6730652B1; US5254287A; US5225102A; EP0415652A3; US5733763A; EP0723006A3; WO2012169997A1; EP2557938A4; WO9009440A1; WO2017102477A1; WO9009428A1; WO2018183662A1; WO0063341A1; WO2011093770A1; EP0809687B2

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