



US005698210A

# United States Patent [19]

[11] Patent Number: **5,698,210**

Levy

[45] Date of Patent: **Dec. 16, 1997**

[54] **CONTROLLED DELIVERY COMPOSITIONS AND PROCESSES FOR TREATING ORGANISMS IN A COLUMN OF WATER OR ON LAND**

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[57] **ABSTRACT**

[21] Appl. No.: **434,313**

Controlled release compositions of matter are disclosed comprising complexes for treating a population of one or more aquatic organisms in a column of water. The complexes comprise at least one system wherein the system comprises at least one bioactive agent as a component selected for treating a population of aquatic organisms, at least one carrier component, and at least one coating component for regulating the controlled release rate and release profile of the bioactive agent in water or at least one bioactive agent and one joint-function component that can serve as both a carrier and coating to regulate the controlled release rate and release profile of the bioactive agent in water, with or without optional binder components and/or additional formulation materials. The components are selected to sink or float so that the complexes will permeate and/or remain in any planar or volumetric segment of a water column for a period of time that is sufficient to effectively treat a population of aquatic organisms. Methods for treating a column of water are also disclosed which comprises delivering the compositions to a column of water or to a dry pre-flood area (pretreatment) that will develop in a column of water or a flood area. The composition and process can also be used to treat terrestrial organisms.

[22] Filed: **May 2, 1995**

**Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 409,301, Mar. 24, 1995, abandoned, which is a continuation-in-part of Ser. No. 406,344, Mar. 17, 1995, abandoned.

[51] **Int. Cl.<sup>6</sup>** ..... **A01N 25/10**

[52] **U.S. Cl.** ..... **424/406; 424/405; 424/407; 424/409; 424/417; 424/418; 424/419; 424/420; 424/421; 424/485; 424/486; 424/487; 424/488; 424/489; 424/93.1; 424/93.461**

[58] **Field of Search** ..... **424/405, 407, 424/409, 417-421, 485-490, 93.1, 93.46, 93.461**

[56] **References Cited**

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**23 Claims, 1 Drawing Sheet**

