

ChitoVan™ LC Passive Treatment

ChitoVan™ is an organic, biodegradable biopolymer that removes suspended sediment and other contaminants from water.



From Our Dock to Your Treatment System



Dungeness Environmental invented *Passive Treatment* with Chitosan Lactate cartridges. Simply anchor the ChitoVan LC cartridge in flowing dirty water and it will convert to a slow-dissolving gel. As it dissolves it automatically doses the water causing sediment particles to coagulate. After coagulation the water may be gravity settled, biofiltered, infiltrated, sand filtered or filtered by dewatering bag.

ChitoVan LC Sample

Try It For Yourself!

Add a pinch of ChitoVan LC to a liter of dirty water and stir vigorously for 60 seconds. A penlight can help you to see the formation of floc.

Information
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Dungeness Environmental has introduced a powerful new natural water treatment agent called ChitoVan™ LC (chitosan lactate). This product is a combination of chitosan and lactic acid (milk acid) and is offered as a dry flake product designed to dissolve in water and coagulate suspended sediment. We also offer several devices for accurate and variable dosing with our ChitoVan LC Cartridges.

ChitoVan LC Safety

Nautilus Environmental was contracted to perform aquatic toxicity tests with our ChitoVan LC product. Simply put, this product has no observable effect on fish at a dose rate of 7.5 mg/l. Because the normal dose rate is less than 3 mg/l, it is not possible to cause aquatic toxicity when used properly..

“The chronic test with fathead minnows was the most sensitive test conducted in this evaluation. The highest concentration with no observed effect (NOEC) was 7.5 mg/l for survival and 15 mg/l for growth. The EC25 [toxic threshold] for fathead minnow survival and growth was 15.7 mg/l and 17.4 mg/l, respectively. For application of the product, the Washington State Department of Ecology requires a three-fold safety margin between the concentration of the product at discharge [intended discharge concentration], and the toxic threshold for the product (WDOE, 2003). Thus, the data supports application of [ChitoVan] chitosan lactate at a rate of 5.23 mg/l.”

Nautilus Environmental July 1, 2008

ChitoVan LC is non-toxic to people and animals and it is exceptionally safe for workers to handle.

Chitosan Lactate Toxicity Results

(Typical Dose Rate is Less Than 3 mg/l)

Sample Type	Species	Test Type	EC50 mg/l	EC25 mg/l
ChitoVan Lactate	Fathead minnow ¹	7-day chronic	23.4 (survival)	17.4 (biomass)
ChitoVan Lactate	Rainbow trout	7-day chronic	>30 (survival)	24.2 (biomass)
ChitoVan Lactate	Daphnia pulex	Acute	353 (survival)	138 (survival)
1 – Most sensitive species for ChitoVan lactate				
Tests performed by: AMEC Earth and Environmental Laboratory, later purchased by Nautilus Environmental Washington Laboratory				
Results are given in mg/L of whole product				