

## MATERIAL SAFETY DATA SHEET

### 1. Product Name/Identification

<b>ChitoVan CF</b>
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### 2. Composition

Active Ingredient: Chitosan, dry flake	CAS # 90-12-76-4
Chemical names(s):	Chitosan
Source:	From recycled crab and shrimp shells

### 3. Physical/Chemical Properties

Appearance and Odor:	Dry oatmeal-like flakes
Solubility:	Completely insoluble in water
Specific Gravity	0.2±0.05 g/mL
Boiling Point:	NA
Chitosan Molecular Formula	C <sub>6</sub> H <sub>11</sub> NO <sub>4</sub>
Chitosan Molecular Weight	161
pH:	NA

### 4. Toxicological Data

Acute oral, LD50 (mice)	>g/kg
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### 5. Ecological Information

LOEC Acute Rainbow trout	>10,000 mg/l
NOEC Acute Rainbow trout	>10,000 mg/l
LC50 Acute Rainbow trout	>10,000 mg/l

### 6. Fire and Explosion Hazard Data

Flash Point:	n/a
Flammability:	Non-flammable.
Unusual Fire and Explosion Hazards:	There is no danger of fire or explosion
Fire Fighting Media:	Use water or foam (not flammable in nature).

### 7. Health Hazards Information

Acute Health Effects – Signs and Symptoms of Exposure, Emergency and First Aid Procedures:	Eye Contact: Chitosan may be mildly irritating to eyes. Flush with water for 15 minutes to remove and call a physician. Skin contact: Chitosan is not hazardous but cleansing the skin after use is advisable. Inhalation: If a large amount of dust is inhaled, remove to fresh air and call a physician. Ingestion: if swallowed, no specific intervention is indicated as the compound is not likely to be hazardous by ingestion. However, consult a physician if necessary.
Potential Chronic Health Effects:	There is no known effect from chronic exposure to this product.
Carcinogenicity	Not listed by ACGIH, IARC, NIOSH, NRP, or OSHA.

**8. Person Protective Equipment**

Respiratory Protection:	Not required.
Protective Gloves:	Rubber gloves are recommended.
Eye Protection:	Safety glasses are recommended.
Other Protective Clothing:	Not needed.

**9. Regulatory**

TSCA:	Not listed on the TSCA inventory.
OSHA:	Not considered hazardous.
EPA:	Exempt from EPA code.
SARA Section 302:	Does not have an RQ or TPQ
SARA Section 313:	Not reportable under Section 313
RCRA:	Under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a waste material containing the product, or derived from the product should be classified as a hazardous waste

**10. Storage, Handling and Disposal**

Storage:	Store away from strong oxidizers.
For Spills:	Utilize protective clothing. Sweep up spilled Chitosan and dilute residual dust with water and hose down.
Waste Disposal Method:	Land disposal is acceptable as the compound is biodegradable. Follow local, state and federal regulations.
Work/Hygiene Practices:	Follow good hygienic and housekeeping practices. Clean up areas where Chitosan was used.

**11. Transportation Information**

DOT Shipping Name:	Chitosan
Technical Shipping Name:	Chitosan
DOT Hazard Class:	Class 55, not regulated
Product RQ (lbs.):	None
DOT Label:	None
DOT Placard:	None required
Product Label:	Chitosan

**12. Stability and Reactivity**

Chemical Family:	Natural polysaccharide.
Stability:	Stable.
Hazardous Polymerization:	Polymerization will not occur.
Incompatibility:	Incompatible with strong oxidants and strong bases.
Decomposition:	Decomposition will not occur.
Instability Conditions:	Stable at normal temperatures and storage conditions.
Decomposition Temperature:	211 ° F
Decomposition Products:	NA

Reviewed by: Joel Van Ornum – Dungeness Environmental    May 2014
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