

## MATERIAL SAFETY DATA SHEET

### 1. Product Name/Identification

ChitoVan™ HV (1.5%) Chitosan Acetate

### 2. Composition

Active Ingredient: <b>Chitosan (1.5% solution)</b>	CAS # 90-12-76-4, 64-19-7, 7732-18-5
Chemical name(s):	Chitosan, acetic acid and balance water
Source:	n/a

### 3. Physical/Chemical Properties

Appearance and Odor:	Clear to pale yellow viscous liquid with a pungent vinegar odor.
Solubility:	Completely soluble in water at pH < 6.5 and precipitates at pH > 6.5
Specific Gravity:	1.0 to 1.1
Boiling Point:	211°F
pH:	3.9 to 4.1

### 4. Toxicological Data

Acute oral, LD50 (mice)	>16 g/kg
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### 5. Ecological Information

LOEC (for Rainbow trout – most sensitive species)	167 mg/l
NOEC (for Rainbow trout – most sensitive species)	83.3 mg/l
GMATC (for Rainbow trout – most sensitive species)	118 mg/l

### 6. Fire and Explosion Hazard Data

Flash Point:	n/a
Flammability:	Non-flammable
Unusual Fire and Explosion Hazards:	In the form of a water solution, 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: ChitoVan™ is mildly irritating to eyes. Flush with water for 15 minutes to remove and call a physician. Skin Contact: ChitoVan™ is not hazardous but cleansing the skin after use is advisable. Inhalation: if a large amount of vapor 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:	n/a
Carcinogenicity:	n/a

**8. Personal Protective Equipment**

Respiratory Protection:	Not required, neither are local or mechanical exhausts.
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.

**10. Storage, Handling and Disposal**

Storage:	10-50 <sup>0</sup> C recommended (will freeze at ~3 <sup>0</sup> C). Shelf life is rated at 18 months and must be analyzed past the shelf life for applicable use.
For Spills of ChitoVan™:	Utilize protective clothing. Absorb with acid absorbent. Clean residue with soap and water.
Waste Disposal Method:	Land disposal of absorbed waste is acceptable as the compound is biodegradable. Follow local, state and federal regulations.
Work/Hygiene Practices:	Follow normal chemical hygienic and housekeeping practices.

**11. Transportation Information**

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

**12. Stability and Reactivity**

Chemical Family:	Natural polysaccharide
Stability:	Stable for up to 18 months from date of manufacture
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 <sup>0</sup> F (will boil)
Decomposition Products:	H <sub>2</sub> O and chitosan acetate salt (clear film).

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