

MATERIAL SAFETY DATA SHEET

1. Product Name/Identification

ChitoVan™ HV (1.5%) Chitosan Acetate

2. Composition

Active Ingredient: Chitosan (1.5% solution)	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 ^o F
pH:	3.9 to 4.1

4. Toxicological Data

Acute oral, LD50 (mice)	>16 g/kg
-------------------------	----------

5. 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)

6. 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

7. 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.

8. 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.

9. Storage, Handling and Disposal

Storage:	10-50°C recommended (will freeze at ~3°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.

10. 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™

11. 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 °F (will boil)
Decomposition Products:	H ₂ O and chitosan acetate salt (clear film).

Reviewed by: Joel Van Ornum – Dungeness Environmental May 2014

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Dungeness Environmental. The data on this MSDS relates only to the specific material designated herein. Dungeness assumes no legal responsibility for use or reliance upon these data.