

UNITED CHEMICAL

MATERIAL SAFETY DATA SHEET

1. Product Name/Identification

4 in 1 Clear Treat

2. Composition

Active Ingredient: Chitosan (1% 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°F
pH:	3.9 to 4.1

4. Toxicological Information

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

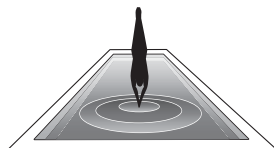
LOEC (for Rainbow trout – most sensitive species)	250 mg/l
NOEC (for Rainbow trout – most sensitive species)	125 mg/l
GMATC (for Rainbow trout – most sensitive species)	177 mg/l

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: 4 in 1 Clear Treat is mildly irritating to eyes. Flush with water for 15 minutes to remove and call a physician. Skin Contact: 4 in 1 Clear Treat 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



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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°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.

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:	4 in 1 Clear Treat™

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