CHITOSAN POLYMER

High-Purity Chitosan Polymer for Agriculture

Technical data sheet

CHITOSAN POLYMER

Specifications & Quality Assurance

Parameter	Specification	Result	Agricultural Significance
Deacetylation Degree	85-90%	91.70%	↑ Bioactivity, solubility & chelation
Appearance	White powder	Complies	Visual purity
Ash Content	≤1%	0.20%	↑ Purity, ↓ nozzle clogging
Insoluble Matter	≤1%	0.20%	↑ Solution stability
Solubility (1% Acetic Acid)	≥99%	Complies	Ease of formulation
Moisture	≤10%	7%	↑ Storage stability
pH	7~9	Complies	Neutral compatibility
Particle Size	80 Mesh	Complies	Optimal dissolution

Product Overview:

Chitosan Polymer is a premium-grade, naturally derived biopolymer produced through advanced deacetylation of chitin. this high-performance material serves as a versatile biostimulant, plant immunity inducer, and green adjuvant for sustainable agriculture. It enhances crop resilience, stimulates growth, and reduces dependency on conventional agrochemicals.

Core Agricultural Benefits:

1. Plant Immunity Activation: Triggers Systemic Acquired Resistance (SAR) against fungal, bacterial, and viral pathogens.
2. Growth Enhancement: Promotes seed germination, root development, chlorophyll synthesis, and fruit quality.
3. Soil Health Improvement: Suppresses soil-borne pathogens while stimulating beneficial microbes (e.g., Trichoderma, Bacillus).
4. Post-Harvest Protection: Forms bioactive coatings to extend shelf-life of fruits and vegetables.
5. Green Adjuvant Function: Enhances adhesion, spreading, and rainfastness of compatible pesticides.

CHITOSAN POLYMER

Optimized Pesticide Tank-Mix Compatibility

Optimized Pesticide Tank-Mix Compatibility (Precipitation-Resistant Pairings):

Leverages high solubility (≥99%), low insolubles (0.2%), and neutral pH (7-9). Always pre-dissolve chitosan in 1% acetic acid before mixing.

Category	Compatible Actives (Examples)	Key Advantages
FUNGICIDES	Triazoles: Difenoconazole, Tebuconazole, Myclobutanil Strobilurins: Azoxystrobin, Pyraclostrobin Others: Procymidone, Iprodione, Dimethomorph	Synergistic disease control ↑, ↓ chemical rates
INSECTICIDES	Neonicotinoids: Imidacloprid, Acetamiprid (verify pH) IGRs: Chlorfluazuron, Lufenuron Acaricides: Spirodiclofen, Etoxazole	↑ Penetration, ↓ resistance development
BIOPESTICIDES	Bacillus thuringiensis (Bt), NPV viruses, Streptomyces antibiotics	Enhanced efficacy of biologicals
PGRs	Brassinolide, Gibberellic Acid (GA3), Sodium Nitrophenolate	Coordinated growth promotion & stress tolerance

Critical Compatibility Guidelines:

1. Dissolution Protocol:

- Step 1: Fully dissolve chitosan powder in 1% acetic acid solution to form clear stock solution;
- Step 2: Cool stock to 25°C before adding to diluted pesticide mixture under agitation.

CHITOSAN POLYMER

Optimized Pesticide Tank-Mix Compatibility

2. pH Management: Maintain final spray solution pH between 4.0–7.0. Adjust alkaline pesticides with citric acid before adding chitosan;

3. High-Risk Incompatibilities:

✗ Strongly alkaline formulations (e.g., lime sulfur);

✗ High-electrolyte products (e.g., Cu-based fungicides, Zn/Mn salts);

✗ Oxidizing agents (e.g., bleach, peroxides);

4. Mandatory Jar Testing: Conduct compatibility tests before field application:

Mix scaled-down proportions in clear glass

Observe for 30 mins for precipitation, flocculation, or heat generation

5. Use Fresh Solutions: Apply tank-mixes within 24 hours of preparation.

Technical Support & Ordering

Chitosan Polymer delivers unmatched bioactivity through its industry-leading 91.7% deacetylation. For formulation guidance, SDS, or bulk inquiries, contact our technical team

Disclaimer

Compatibility may vary with formulation additives. Always verify physical/chemical stability through jar testing prior to commercial use. Storage: Keep sealed in cool, dry conditions (<25°C).