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Aminuo Bio-Tech Co., Ltd.

Build Healthy Soil,Grow Superior Crops.Premium Organic Nutrients Inside

Organic Nitrogen Fertilizer

Complete Organic Nutrition for Soil&Crop Success

- *COMPOUND AMINO ACID*
- *HUMIC ACID*
- *SEAWEED EXTRACT*

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About US

Aminuo Bio-Tech Co., Ltd. is a leading innovator in the research, development, and production of high-quality organic fertilizers. We uphold product quality as our fundamental principle, demonstrated by a rigorous Quality Management System (CQC)certified to the international ISO 9001:2008 standard and EU BV requirements, ensuring excellence from raw materials to finished goods.

Driven by R&D innovation

We possess strong in-house capabilities focused on creating efficient, eco-friendly organic fertilizers. Our comprehensive product range delivers complete nutritional support for diverse crops throughout their entire growth cycle, optimizing plant health and yield potential.

Precision Customization

Understanding that every field and crop has unique needs, specializes in developing and manufacturing bespoke fertilizer formulations, We collaborate closely with clients to analyze specific requirements – including soil composition, crop type, climate factors, and yield objectives – and engineer tailored nutrient solutions. This dedicated customization capability ensures optimal results for every agricultural challenge.

Quality Control

Customer satisfaction is a top priority with us. We take matters very seriously when it comes to quality control and following proper protocol. Our QC

program was put in place to ensure that whenever there are any quality issues, they are corrected as quickly as possible.

Commitment

Empowers sustainable agriculture through exceptional quality, cutting-edge technology, and responsive customer partnerships, dedicated to mutual success.

CORE ADVANTAG

Our product represents a new paradigm in modern organic

fertilization - a comprehensive bio- system engineering solution that orchestrates soil-plant-microbe interactions. Its six-dimensional synergy delivers full-spectrum

functionality from mineral substrates to living organisms, fundamentally transcending the single-nutrient limitation of conventional fertilizers. This integrated approach unlocks system-level benefits: soil

revitalization, crop resilience, premium quality, and verifiable carbon sequestration gains."

Key Commercial Terminology chnices.

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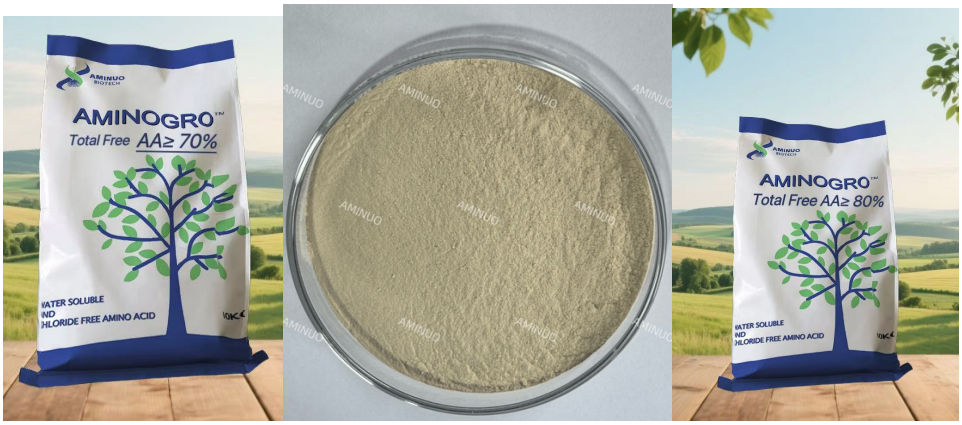
COMPOUND AMINO ACID

Salt-Free High-Content Compound Amino Acid



Definition:

Salt-free high-content compound amino acid powder is an organic nutritional formulation derived from hydrolyzed animal/plant proteins .Through hydrolysis and purification, it yields ≥70% total free amino acids (premium grades reach 70%+). Its core function is to provide plants with readily absorbable organic nitrogen and bioactive stimulants.

Key Characteristics:

1. High Bioavailability

- Small molecular weight enables direct absorption via roots/leaves, bypassing energy-intensive conversion processes.

- Absorption efficiency exceeds conventional organic fertilizers and some synthetic nitrogen sources.

2. Comprehensive Nutrition

- Contains 18+ plant-essential amino acids (including all 9 essential AAs) + trace peptides/organic compounds.

3. Biostimulant Properties

- Growth Promotion: Glycine, glutamic acid & arginine act as precursors to phytohormones (auxins/cytokinins), accelerating cell division and root/shoot development.

- Stress Resistance: Proline enhances drought/salt/temperature/extreme weather tolerance; upregulates protective enzymes; mitigates chemical damage.

- Photosynthesis Boost: Glycine supports chlorophyll synthesis, improving photosynthetic efficiency.

- Quality Enhancement: Increases brix, protein, vitamins, pigmentation, and flavor in fruits.

- Chelation: Naturally binds Ca, Mg, Fe, Zn, Mn, Cu to prevent nutrient lockup and improve micronutrient uptake.

4. Eco-Friendly

- Biodegradable, improves soil structure/microbial activity, reduces synthetic fertilizer dependency.

5. Application Safety

- Compatible with most agrochemicals (pH-dependent); low phytotoxicity risk at recommended doses.

Primary Functions in Crops:

- Rapid nutrient supplementation during root stress/abiotic stress

- Seed treatment: Improves germination rate and seedling vigor

- Vegetative stage: Stimulates leaf expansion and biomass accumulation

- Reproductive stage: Enhances fruit set, cell expansion, sugar accumulation & color development

- Stress recovery (drought, frost, chemical injury)

- Synergy with fertilizers: Increases nutrient use efficiency (NUE)

- Soil microbiome activation

Target Crops:

- High-value: Fruits (citrus, grapes, strawberries), vegetables (solanaceous, leafy greens), cash crops (tea, tobacco)

- **Staple crops:** Rice, wheat, corn

- Specialty: Flowers, nursery stock, turf

Application Methods:

Method	Concentration	Key Use Cases
Foliar spray	0.3-1.0%	Quick absorption; stress mitigation
Drip/root drench	0.1-0.5%	Root development; soil application
Seed coating	Manufacturer spec	Improved germination&early vigor
Fertilizer blend	1-5%	Organic fertilizer enhancement

Selection & Usage Guidelines:

1. Quality Indicators:

- Total AA content ≥70% (higher = better efficacy)
- Low Cl^- content (<1%) to avoid salinity stress
- Heavy metals within FAO/WHO limits

2. Critical Precautions:

- ❌ **Not a complete fertilizer:**Must supplement NPK base nutrition
- ⚠️ Avoid mixing with strong alkalis or copper-based pesticides

- 🌡️ Apply mornings/evenings; avoid high-temperature/UV exposure
- 🔄 Limit frequency: 2–4 sprays per critical growth phase

3. Optimal Use Cases:

- Transplant recovery
- Flowering/fruit enlargement
- Post-stress rehabilitation
- Low-organic-matter soils

Technical Summary:

This high-efficiency organic input acts as both a *direct nutrient source* and *plant biostimulan***t.** Its multifunctional role in enhancing crop resilience, yield quality, and nutrient efficiency makes it integral to sustainable precision agriculture systems. Product performance correlates strongly with amino acid purity, molecular weight distribution, and absence of phytotoxic contaminants.

Let me know if you need a simplified version or specific data sheets for formulation/application rates!

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Below is the Core Specifications Table for Salt-Free High-Content Compound Amino Acid:

Compound Amino Acid Powder 80%

Total Amino Acid	85%
Total Free Amino Acid	80%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	14% min
Heavy Metals	Undetected

Compound Amino Acid Powder 70%

Total Amino Acid	75%
Total Free Amino Acid	70%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	14% min
Heavy Metals	Undetected

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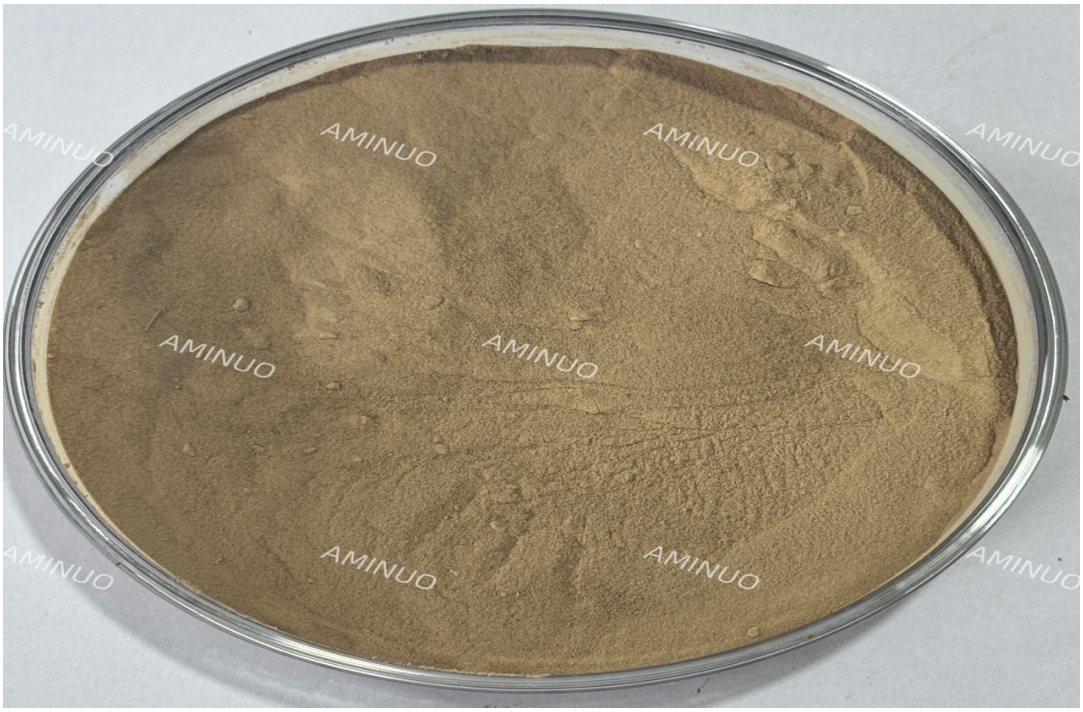
Ammonium Sulfate- Compound Amino Acid Powder



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Ammonium Sulfate-Hydrolyzed Composite Amino Acid Powder (Agricultural Grade)

A Cost-Effective N-S-Amino Acid Synergy for Alkaline Soils

Production & Composition

Raw Materials:

- Animal-derived proteins (hair, feathers)
- Plant proteins (soybean/rapeseed meal, optional)

Process Flow:

1. **Acid Hydrolysis**: Proteins hydrolyzed by concentrated H_2SO_4 under high T/P (120-130°C).

2. **Neutralization:** Hydrolysate neutralized with $NH_3 \cdot H_2O$ → generates **$(NH_4)_2SO_4$** byproduct.

3. **Drying:** Spray-dried into powder containing amino acids + ammonium sulfate.

Typical Composition

Component	Content	Functionality
Total Free Amino Acid	40-60%	18 free AAs; direct absorption
Ammonium Sulfate	30-50%	Fast-release N(21%)+S(24%)
Moisture	⩽5%	

Agronomic Advantages

1. Triple-Action Nutrition

- Instant N-S Supply: $(NH_4)_2SO_4$ corrects acute N/S deficiencies within 48h.

- Organic Nitrogen Efficiency: AAs boost protein synthesis by 30-50% vs. inorganic N alone.

- Sulfur Enrichment: Critical for Alliin (garlic), glucosinolates (cabbage), and oil synthesis.

2. Soil Remediation

- **PH Reduction**: Lowers alkaline soil pH (optimal for pH 7.5-8.5 calcareous soils).

- **Micronutrient Mobilization:** ↑ Fe/Mn/Zn availability in high-$CaCO_3$ soils.

3. Biostimulant Effects

- Stress Tolerance: Proline & glycine enhance osmotic regulation under drought/salinity.

- Photosynthesis Boost: Sulfur-containing AAs (cysteine, methionine) support chlorophyll formation.

Application Guidelines

Scenario	Target Crops	Method & Dosage
AlkalineSoil Amendment	Wheat, maize(N.China calcareous zones)	100-200kg/ha
Sulfur Deficiency Fix	Alliums, oilseed rape, soybean	Top-dressing: 60-100kg/ha
Quality Enhancement	Fruits (apple, grape), solanaceae	Foliar:0.3-0.5% solution
Saline-Alkali Soils	Cotton, sugar beet	Drip irrigation: 40-60kg/ha

Critical Precautions

1. Soil Compatibility:

- ✅ **Recommended:** Alkaline/calcareous soils (pH >7.0)

- ❌ **Avoid**: Acidic soils (pH <5.5; exacerbates acidity)

2. Salinity Management:

- ⚠️ Do not apply when soil EC >15 mS/cm (salt accumulation risk).

3. Mixing Restrictions:

- ❌ **Incompatible with**: Lime, wood ash, Ca/Mg fertilizers (causes NH_3 volatilization):

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$(NH_4)_2SO_4 + Ca(OH)_2 \rightarrow 2NH_3\uparrow + CaSO_4 + 2H_2O$

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4. Heavy Metal Compliance:

- Must meet **NY 1429-2010** standards (As≤10ppm, Pb≤50ppm, Cd≤3ppm).

Premium Product Specifications

- **Total Amino Acids**: ≥45%

- Total Nitrogen (N): ≥16% (60% as inorganic N)

- Sulfur (S): ≥10.5%

- PH (1:250): 4.5-6.0

- Water Solubility: ≥95%

Agronomic Recommendations

- Cash Crops: Foliar spray (0.3%) pre-bloom → improves fruit setting.

- Field Crops: Replace 20% urea at basal application → reduces NH_3 emissions.

- Greenhouses: Limit to 3 applications/season → prevents SO_4^{2-} accumulation.

Key Value Proposition:

This hydrolysis-derived product delivers **exceptional cost efficiency for alkaline soil remediation and N-S supplementation**. Its rapid nutrient availability supports high-yield farming systems, though salt/contaminant management is essential. Ideal for large-scale field crops; supplement with fermented AAs for premium horticulture.

Let me know if you need ISO certification or application case studies!

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Below is the Core Specifications Table for Ammonium Sulfate- Compound Amino Acid Powder:

Compound Amino Acid Powder 40%.

Total Amino Acid	45%
Total Free Amino Acid	40%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	15.5% min
Heavy Metals	Undetected

Compound Amino Acid Powder 50%.

Total Amino Acid	55%
Total Free Amino Acid	50%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	15% min
Heavy Metals	Undetected

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Compound Amino Acid Powder 60%

Total Amino Acid	65%
Total Free Amino Acid	60%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	13% min
Heavy Metals	Undetected

Packaging and storage

- 20kgs/25kg kraft paper bags with inner liner.
- 1kg, 5kgs, 10kgs printing aluminium foil bag +10kgs, 20kgs printing carton box.
- 20kgs/25kg color printing PP/PE bags with inner liner.
- According to customer's requirement.

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Compound Amino Acid Chelate

Next-Generation Biostimulant Fertilizer with Enhanced Nutrient Use Efficiency

Core Technology

1. Dual-Action Formulation:

- Amino Acid Matrix: 40-60% enzymatically hydrolyzed plant/animal proteins (15+ free AAs)

- Chelated Nutrients: Trace elements (Fe, Zn, Cu, Mn, B, Mo) + Secondary elements (Ca, Mg, S) bound via coordinate bonds

2. Chelation Mechanism:

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Metal²⁺ + H₂N—R—COOH → [Metal←N—R—COO]⁺ + 2H⁺
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- Forms stable 5-6 membered rings (logK stability: 8-12)

- pH stability range: 3.0-11.0 (superior to EDTA chelates)

Key Advantages vs. Conventional Fertilizers

Parameter	AA-Chelated Powder	Inorganic Salts	Synthetic Chelates
Foliar Absorption	90-95%	10-20%	60-75%
Soil Fixation	<5%	70-90%	15-30%
Phytotoxicity Threshold	5x higher	Baseline	2-3x higher
Biostimulant Effect	Amino acid-mediated stress resistance	None	None
Environmental Impact	Fully biodegradable	Metal leaching risk	Persistent (EDTA)

Agronomic Benefits

1. Corrects Deficiencies 3x Faster:

- Iron chlorosis recovery in 24-48h (vs. 7-10d for sulfates)

2. Synergistic Nutrient Activation:

- AA carriers enhance Ca/Mg mobility in phloem

- Zn-Mg-Ca combo increases fruit Brix by 15-25%

3. Stress Mitigation:

- Proline/Glycine boost osmotic regulation under salinity (↓ Na^+ uptake 30%)

4. Environmental Safety:

- Zero heavy metal accumulation (vs. 12-18% in inorganic salts)

Application Protocols

Method	Dosage	Timing	Efficacy
Foliar Spray	0.1-0.3% solution	Early growth stage to peak demand	90%nutrient utilization
Fertigation	1-2 kg/ha per app	Every 2-3 weeks during key phases	75% uptake in 72h
Seed Treatment	0.05% coating	Pre-sowing	↑ Germination rate by 20%

Quality Verification Metrics

1. Chelation Rate: ≥90% (FTIR-verified: 1600cm^{-1} -COO^{-} peak)

2. Molecular Weight: <500 Da (HPLC-confirmed for foliar penetration)

3. Heavy Metals:

- As ≤10 ppm, Cd ≤2 ppm, Pb ≤20 ppm (ISO 18644)

4. Bioactivity:

- Free AAs ≥45%, L-form ratio ≥98%

Economic Crop Performance Data

Crop	Formula	Application	Result
Citrus	Zn-Mn-Gly (0.2%)	Pre-flowering spray	↑ Yield 18%, ↓ HLB incidence 40%
Tomato	Ca-Mg-Glu (1.5kg/ha)	Weekly fertigation	↓ Blossom rot 90%, ↑ shelf life
Soybean	Mo-B-Ser (0.15%)	V3-V5 stages	↑ Nodulation 35%, protein +4%

This advanced formulation represents the convergence of precision nutrition and biostimulation, delivering measurable ROI through yield enhancement, resource efficiency, and reduced environmental footprint.

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Below is the Core Specifications Table for Compound Amino Acid Chelate Powder:

Multiple Trace Minerals Amino Acid Chelates

Total Amino Acid	45%
Multiple Trace Minerals	10%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	8% min
Heavy Metals	Undetected
MQQ	14MT

Copper Amino Acid Chelate.

Total Amino Acid	45%
Copper	15%
Appearance	Homogeneous Ultramarine blue powder
Water Solubility	Completely

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Copper Amino Acid Chelate.

PH Value	4.5-5.5
Organic Nitrogen	8% min
Heavy Metals	Undetected
MQQ	14MT

Borax Amino Acid Chelate.

Total Amino Acid	45%
Borax	15%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	8% min
Heavy Metals	Undetected
MQQ	14MT

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Selenium Amino Acid Chelate.

Total Amino Acid	45%
Selenium	15%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	8% min
Heavy Metals	Undetected
MQQ	14MT

Ferrous Amino Acid Chelate .

Total Amino Acid	45%
Ferrous	15%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	8% min
Heavy Metals	Undetected
MQQ	14MT

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Zinc Amino Acid Chelate.

Total Amino Acid	45%
Zinc	15%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	8% min
Heavy Metals	Undetected
MQQ	14MT

Magnesium Amino Acid Chelate.

Total Amino Acid	45%
Magnesium	15%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	8% min
Heavy Metals	Undetected
MQQ	14MT

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Manganese Amino Acid Chelate

Total Amino Acid	45%
Manganese	15%
Appearance	Light yellow powder
Water Solubility	Completely
PH Value	4.5-5.5
Organic Nitrogen	8% min
Heavy Metals	Undetected
MQQ	14MT

- Packaging and storage
- 20kgs/25kg kraft paper bags with inner liner.
- 1kg, 5kgs, 10kgs printing aluminium foil bag +10kgs, 20kgs printing carton box.
- 20kgs/25kg color printing PP/PE bags with inner liner.
- According to customer's requirement.