

AMINO ACID BIOSTIMULANTS

Protein science for crop nutrition,
root vitality and resilient growth.



EA SERIES / HA SERIES / PLANT-BASED SERIES

3 product families. 10 grades. Powder and liquid formats.

New Ecology / New Efficiency / New Origin

A practical guide to the Pepaid range

For fertilizer manufacturers, formulators, importers, distributors and agricultural brands.

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How to use this handbook

Start with the application objective, then compare source, amino acid measurement, nitrogen content, peptide size and chloride. Select the exact model before evaluating the finished formulation. Technical tables and individual grade profiles are followed by practical handling and formulation guidance.

Pepaid Agriculture

An agricultural brand of Jiangxi Hanfei Biotechnology Co., Ltd., connecting protein hydrolysis expertise with crop-nutrition formulations.

2005

Manufacturing roots

15,000 t

Annual plant capacity

B2B

Factory supply model

HANFEI began in protein hydrolysates for human nutrition. Pepaid applies this manufacturing background to agricultural amino acid and peptide ingredients, with grade selection, bulk supply and formulation support for international partners.

The NEO brand platform

Brand pillar	What it means for formulation
New Ecology	Bio-based raw-material routes and attention to soil-oriented crop programs.
New Efficiency	Select the amino acid profile, physical form and delivery route around the crop objective.
New Origin	Defined animal or plant sources, with distinct hydrolysis and fermentation options.

From ingredient supply to a market-ready product

- Compare standard grades and request an evaluation sample.
- Develop a crop- and market-specific formula with the Pepaid team.
- Request TDS, SDS/MSDS, batch COA and relevant export or testing documents.
- Discuss bulk packaging, OEM/private label requirements and order planning.

The 15,000-ton capacity is the manufacturing-plant figure reported by the Pepaid website; it is not a separate capacity claim for each grade.

Defined sources. Different routes.

Source and processing route help distinguish peptide-rich powders, free amino acid grades and plant-origin formulations.

Product family	Raw-material source	Processing route	Supplied format
EA Series	Animal meat proteins	Enzymatic hydrolysis; spray-dried powders	Powder
HA80	Animal meat proteins	Hydrolysis to a high free-amino-acid profile	Powder
HA40 / HA20 liquids	Animal hair and feathers	Hydrolysis; powder or liquid presentation	Powder / liquid
EP60 / EP60P	Corn / soybean proteins	Enzymatic hydrolysis	Powder
FP90	Corn-derived source	Fermentation-derived route	Powder

Two complementary roles in crop nutrition

Nutrient contribution. Nitrogen and amino acid measurements describe the material supplied. Use the selected model, assay basis and final inclusion rate when calculating the nutrient contribution of a finished fertilizer.

Biostimulant positioning. The portfolio is intended for nutrient-efficiency, root-vitality, crop-recovery and soil-oriented programs. Evaluate the agronomic response with the target crop and formulation rather than assuming one result across all use conditions.

Peptides and free amino acids are different

EA models are differentiated by average peptide molecular weight. HA powder models emphasize free amino acids. HA liquids are listed by total amino acids. Protein, total amino acids, free amino acids and amino acid nitrogen are separate measurements and must not be substituted for one another.

The grades are ingredients for formulation. No phosphorus or potassium guarantee is inferred from the product names or from a general NPK application description.

Choose by the formulation objective

Use this first-pass selection guide alongside the complete specifications on the following pages.

Grade	Source / form	Key differentiator	Typical program
EA80	Animal / Powder	6-7 kDa peptides	Base fertilizer / root zone
EA80-LMW	Animal / Powder	0.7-0.9 kDa peptides	Root establishment / transplanting
EA80-uLMW	Animal / Powder	0.5-0.7 kDa peptides	Seedling / stress-recovery trials
HA80	Animal / Powder	Free amino acids ≥75%	Foliar nutrition / NPK blending
HA40	Animal / Powder	Free amino acids ≥40%; chloride ≤30%	Chloride-tolerant crop programs
HA20-LLC	Animal / Liquid	Total amino acids ≥22%; chloride ≤1.5%	Low-chloride liquid / drip systems
HA20L	Animal / Liquid	Total amino acids ≥18%; total N ≥8.5%	Root irrigation / liquid formulation
EP60	Plant / Powder	Corn protein ≥60%	Plant-origin nutrition / leaf vigor
EP60P	Plant / Powder	Soy protein ≥60%	Root establishment / flowering programs
FP90	Plant / Powder	Free amino acids ≥90%	Soil amendment / base-fertilizer blends

Selection sequence

1. Define the crop and field objective. 2. Check source requirements. 3. Review amino acid measurement and nitrogen target. 4. Check chloride and application route. 5. Confirm TDS/COA, then run compatibility and crop trials.

EA Series

Animal-derived enzymatic polypeptides in three molecular-weight ranges, for root-zone nutrition, root-establishment and abiotic-stress programs.

Parameter	EA80	EA80-LMW	EA80-uLMW
Total nitrogen	≥13.0%	≥13.5%	≥13.5%
Free amino acids	≥5%	≥10%	≥20%
α-amino nitrogen	≥1.0%	≥2.0%	≥4.0%
Average molecular weight	6,000-7,000 Da	700-900 Da	500-700 Da
pH	4-7	4-7	4-7
Chloride	≤4%	≤1.5%	≤1.5%
Ash	≤10%	≤7%	≤7%
Moisture	≤10%	≤10%	≤10%
Heavy metals	≤20 ppm	≤20 ppm	≤20 ppm

All percentages are reproduced as listed in the source specifications. The analytical method and reporting basis should be confirmed in the controlled grade TDS and batch COA.

Peptide selection

EA80: 6-7 kDa for base-fertilizer and root-zone programs. EA80-LMW: 0.7-0.9 kDa for root-establishment trials. EA80-uLMW: 0.5-0.7 kDa for seedling and recovery programs. Molecular weight is a grade identifier; it does not by itself establish field response time.

Additional free-amino-acid and chloride values come from the Pepaid formulation guide.

Pepaid EA80

Root-zone nutrition and base-fertilizer blends

A peptide-rich powder obtained from animal meat proteins by hydrolysis and spray drying. EA80 is the higher-molecular-weight member of the EA Series, intended for soil-oriented and root-zone nutrition programs.

Technical parameter	Specification
Raw-material source	Animal protein (meat proteins)
Physical form	Powder
Appearance	Yellow or brownish yellow powder
Solubility	Transparent in 5% aqueous solution
pH	4-7
Total nitrogen	≥13.0%
α-amino nitrogen	≥1.0%
Ash	≤10%
Average molecular weight	6,000-7,000 Da
Moisture	≤10%
Heavy metals	≤20 ppm
Free amino acids	≥5%
Chloride	≤4%

Application focus

- Base-fertilizer blending and soil-applied formulations.
- Root-zone conditioning and longer-term crop-nutrition trials.
- Nutrient-complexing formulations evaluated with the selected mineral package.

Selection note. Choose EA80 when the formulation calls for the 6-7 kDa peptide range. Compare with EA80-LMW or EA80-uLMW when lower-molecular-weight peptides are required.

Packaging and shelf life. 20 kg bag. 2 years in sealed original packaging under the stated storage conditions.

Technical note. The supplied Hanfei TDS also lists active matter at ≥79%. This is an active-matter measurement, not a free-amino-acid claim.

Pepaid EA80-LMW

Low-molecular-weight peptides for early root programs

EA80-LMW is a hydrolyzed meat-protein powder rich in oligopeptides. Its 700-900 Da average molecular-weight range distinguishes it from standard EA80 and the ultra-low-molecular-weight model.

Technical parameter	Specification
Raw-material source	Animal protein (meat proteins)
Physical form	Powder
Appearance	Yellow or brownish yellow powder
Solubility	Transparent in 5% aqueous solution
pH	4-7
Total nitrogen	≥13.5%
α-amino nitrogen	≥2.0%
Free amino acids	≥10%
Ash	≤7%
Average molecular weight	700-900 Da
Moisture	≤10%
Heavy metals	≤20 ppm
Chloride	≤1.5%

Application focus

- Early root establishment and transplanting programs.
- Pre-stress conditioning as part of a managed crop program.
- Foliar or fertigation formulations requiring a low-molecular-weight peptide ingredient.

Selection note. The free-amino-acid minimum is 10%, with total nitrogen ≥13.5%. Select this grade by peptide size and intended program, not by assuming it is interchangeable with HA80.

Packaging and shelf life. 20 kg bag. 1 year in sealed original packaging under the stated storage conditions.

Technical note. Ash ≤7% follows the current Pepaid series page. The older supplied Hanfei TDS lists ≤10%; confirm the ordered grade against the batch COA.

Pepaid EA80-uLMW

Ultra-low-molecular-weight peptides for recovery programs

EA80-uLMW is the 500-700 Da member of the animal-derived EA Series. The powder is intended for seedling-resilience and crop-recovery formulations, with a higher free-amino-acid minimum than EA80-LMW.

Technical parameter	Specification
Raw-material source	Animal protein (meat proteins)
Physical form	Powder
Appearance	Yellow or brownish yellow powder
Solubility	Transparent in 5% aqueous solution
pH	4-7
Total nitrogen	≥13.5%
α-amino nitrogen	≥4.0%
Free amino acids	≥20%
Ash	≤7%
Average molecular weight	500-700 Da
Moisture	≤10%
Heavy metals	≤20 ppm
Chloride	≤1.5%

Application focus

- Seedling-stage crop-vitality trials.
- Recovery programs after abiotic stress, within the crop-management plan.
- Soluble foliar and fertigation formulations requiring very small peptides.

Selection note. Free amino acids are listed at ≥20% and amino nitrogen at ≥4.0%. These are separate assays. A lower molecular-weight range does not establish a universal treatment rate or guaranteed recovery time.

Packaging and shelf life. 20 kg bag. 1 year in sealed original packaging under the stated storage conditions.

Technical note. Ash ≤7% follows the current Pepaid series page; the older supplied Hanfei TDS lists ≤10%.

HA Series

Animal-derived free-amino-acid powders and liquid amino acid grades. The model determines nitrogen profile, chloride level and the reported amino acid measurement.

Parameter	HA80	HA40	HA20-LLC	HA20L
Free amino acids	≥75%	≥40%	Not specified	Not specified
Total amino acids	Not specified	Not specified	≥22%	≥18%
Total nitrogen	≥13.5%	≥17.5%	≥3.5%	≥8.5%
Amino acid nitrogen	Not specified	Not specified	≥3.0%	≥3.0%
pH	3.5-5.5	4-7	4.5-5.5	4.0-6.0
Chloride	≤3%	≤30%	≤1.5%	≤15%
Moisture	≤5%	≤5%	Not specified	Not specified
Specific gravity	Not specified	Not specified	≥1.11	≥1.15

All percentages are reproduced as listed in the source specifications. The analytical method and reporting basis should be confirmed in the controlled grade TDS and batch COA.

Chloride is a model-level decision

HA40 allows substantially more chloride than HA80 or HA20-LLC. HA20L is a standard liquid grade; HA20-LLC is the low-chloride alternative. Assess total chloride and electrical conductivity in the diluted finished formula for the target crop.

Pepaid HA80

High-free-amino-acid powder for foliar nutrition

HA80 is produced by hydrolyzing animal meat proteins. It is supplied as a concentrated powder with a free-amino-acid minimum of 75%, for foliar-nutrition and fertilizer-formulation programs.

Technical parameter	Specification
Raw-material source	Animal protein (meat proteins)
Physical form	Powder
Appearance	Yellow or brownish yellow powder
Solubility	Transparent in 5% aqueous solution
pH	3.5-5.5
Free amino acids	≥75%
Total nitrogen	≥13.5%
Moisture	≤5%
Chloride	≤3%

Application focus

- Foliar programs for high-value crops.
- Nutrient-deficiency recovery evaluations within a balanced nutrition plan.
- Powder NPK or micronutrient formulation where amino acid inclusion is required.

Selection note. HA80 combines a free-amino-acid-rich profile with chloride ≤3%. Review the complete finished formula, application water and crop tolerance before defining field use.

Packaging and shelf life. 20 kg bag; 550 / 600 kg jumbo bag. 2 years in sealed original packaging under the stated storage conditions.

Technical note. Free amino acids ≥75% is the controlled profile; the product name HA80 is not an 80% free-amino-acid guarantee.

Pepaid HA40

General fertilizer blending for chloride-tolerant programs

HA40 is a hydrolyzed animal hair-and-feather powder. It supplies free amino acids and nitrogen in a grade intended for compound-fertilizer blending and maintenance programs where chloride is acceptable.

Technical parameter	Specification
Raw-material source	Animal protein (hair and feathers)
Physical form	Powder
Appearance	Yellow or brownish yellow powder
Solubility	Transparent in 5% aqueous solution
pH	4-7
Free amino acids	≥40%
Total nitrogen	≥17.5%
Moisture	≤5%
Chloride	≤30%

Application focus

- Compound-fertilizer blending.
- General crop-maintenance and soil-applied programs.
- Fertigation evaluation for chloride-tolerant crops and suitable water conditions.

Selection note. Chloride is specified at ≤30%. This distinguishes HA40 from the low-chloride HA grades and makes chloride loading a central selection criterion.

Packaging and shelf life. 20 / 550 / 600 kg bag. 2 years in sealed original packaging under the stated storage conditions.

Technical note. pH 4-7 follows the current Pepaid page. The older supplied Hanfei TDS lists pH 3.5-5.5; verify the current supply specification.

Pepaid HA20-LLC

Low-chloride liquid for drip-irrigation formulations

HA20-LLC is the liquid HA model selected for low-chloride formulation requirements. It is derived from animal hair and feathers and supplied with a chloride maximum of 1.5%.

Technical parameter	Specification
Raw-material source	Animal protein (hair and feathers)
Physical form	Liquid
Appearance	Red transparent liquid
Solubility	100% soluble in 5% aqueous solution
pH	4.5-5.5
Total amino acids	≥22%
Total nitrogen	≥3.5%
Amino acid nitrogen	≥3.0%
Chloride	≤1.5%
Specific gravity	≥1.11

Application focus

- Drip-irrigation and fertigation formulations.
- Programs for crops with low chloride tolerance.
- Liquid formulas where direct addition avoids a separate powder-dissolution step.

Selection note. Compare HA20-LLC with HA20L by total nitrogen, total amino acids and chloride. Evaluate the entire diluted formula; low chloride does not imply zero salinity or universal crop safety.

Packaging and shelf life. 1,200 kg IBC; 1,000 kg liquid bag. 2 years in sealed original packaging under the stated storage conditions.

Technical note. HA20-LLC is the public name confirmed by the supplier for the TDS model HA20L-LCC. Current website values are used for the specification table.

Pepaid HA20L

Standard liquid amino acid grade for root irrigation

HA20L is an animal hair-and-feather-derived liquid for root irrigation, fertigation and soluble crop-nutrition formulations. It supports direct liquid dosing where storage, water quality and compatibility have been assessed.

Technical parameter	Specification
Raw-material source	Animal protein (hair and feathers)
Physical form	Liquid
Appearance	Reddish brown liquid
Solubility	100% soluble in 5% aqueous solution
pH	4.0-6.0
Total amino acids	≥18%
Total nitrogen	≥8.5%
Amino acid nitrogen	≥3.0%
Chloride	≤15%
Specific gravity	≥1.15

Application focus

- Root-irrigation and fertigation programs.
- Soluble liquid fertilizers and nutrient formulations.
- Dosing-system trials with crop-appropriate chloride and electrical conductivity.

Selection note. HA20L has total amino acids ≥18%, total nitrogen ≥8.5% and chloride ≤15%. It is a different specification from the low-chloride HA20-LLC model.

Packaging and shelf life. 1,200 kg IBC; 1,000 kg liquid bag. 2 years in sealed original packaging under the stated storage conditions.

Technical note. The website reports total amino acids ≥18%; the older TDS lists active matter ≥20%. They are different measurements and are not treated as equivalent.

Plant-Based Series

Corn and soybean enzymatic hydrolysates plus a corn fermentation-derived amino acid grade, for plant-origin nutrition and soil-oriented formulations.

Parameter	EP60	EP60P	FP90
Protein	≥60%	≥60%	≥85%
Free amino acids	≥7.5%	≥7.5%	≥90%
Total nitrogen	≥8.5%	≥8.5%	≥14%
α-amino nitrogen	≥1.5%	≥1.5%	Not specified
pH	3.5-5.5	4.5-7.5	4-6
Chloride	≤3%	≤3%	Not specified
Ash	≤15%	≤15%	Not specified
Loss on drying	≤10%	≤10%	Not specified
Moisture	Not specified	Not specified	≤3.0%
Water insoluble matter	Not specified	Not specified	≤0.1%

All percentages are reproduced as listed in the source specifications. The analytical method and reporting basis should be confirmed in the controlled grade TDS and batch COA.

Plant-Based Series scope

EP60 is corn-protein enzymatic hydrolysate; EP60P is soybean-protein enzymatic hydrolysate; FP90 is corn fermentation-derived. Plant origin alone does not establish an organic-input registration, non-GMO certification or a pesticide claim.

Free-amino-acid and chloride values for EP60/EP60P come from the Pepaid formulation guide.

Pepaid EP60

Corn-protein hydrolysate for plant-origin nutrition

EP60 is obtained by enzymatically hydrolyzing corn proteins. It consists mainly of peptides with an amino acid fraction and is supplied as a soluble powder for plant-origin fertilizer formulations.

Technical parameter	Specification
Raw-material source	Corn protein · enzymatic hydrolysis
Physical form	Powder
Appearance	Yellow or brownish yellow powder
pH	3.5-5.5
Protein	≥60%
Total nitrogen	≥8.5%
α-amino nitrogen	≥1.5%
Loss on drying	≤10%
Ash	≤15%
Solubility	Completely soluble in water
Free amino acids	≥7.5%
Chloride	≤3%

Application focus

- Plant-origin crop-nutrition and leaf-vigor programs.
- Root-development trials, including saline-alkali field conditions.
- Foliar or drip formulations evaluated with the chosen water and application equipment.

Selection note. Protein ≥60%, total nitrogen ≥8.5% and amino nitrogen ≥1.5% describe different aspects of the grade. Check the assay basis before comparing EP60 with a free-amino-acid-rich material.

Packaging and shelf life. 20 kg bag. 2 years in sealed original packaging under the stated storage conditions.

Technical note. Complete water solubility and the 20 kg pack are covered by the supplied Hanfei TDS. Free-amino-acid and chloride figures are additional website-formulation values.

Pepaid EP60P

Soybean-protein hydrolysate for root and flowering programs

EP60P is an enzymatic soybean-protein hydrolysate containing peptides and amino acids. It is supplied as a powder, with chemical and microbiological limits for the listed grade.

Technical parameter	Specification
Raw-material source	Soybean protein · enzymatic hydrolysis
Physical form	Powder
Appearance	Yellow or brownish yellow powder
Solubility	Transparent in 5% aqueous solution
pH	4.5-7.5
Protein	≥60%
Total nitrogen	≥8.5%
α-amino nitrogen	≥1.5%
Ash	≤15%
Loss on drying	≤10%
Total plate count	≤50,000 cfu/g
Coliform bacteria	≤0.3 MPN/g
Free amino acids	≥7.5%
Chloride	≤3%
Pathogens / <i>S. aureus</i> / <i>E. coli</i>	Negative / Negative / Negative

Application focus

- Root establishment and transplanting formulations.
- Flowering and fruit-setting crop programs.
- Plant-origin soluble nutrition where the specified microbiological profile is relevant.

Selection note. Select EP60P when soybean origin fits the formulation brief. Review the model-specific microbiological limits; do not extend these limits to other Plant-Based models.

Packaging and shelf life. 20 kg bag. 2 years in sealed original packaging under the stated storage conditions.

Technical note. The specification includes total plate count, coliforms and listed negative organism tests. Testing method, sampling and batch compliance are confirmed through the grade documentation.

Pepaid FP90

Corn fermentation-derived amino acids for soil programs

FP90 is the fermentation-derived model within the Plant-Based family. Its free-amino-acid-rich powder is intended for soil amendment, base-fertilizer enhancement and long-term soil-fertility formulations.

Technical parameter	Specification
Raw-material source	Corn · fermentation-derived
Physical form	Powder
Appearance	Yellow powder
Solubility	100% soluble
pH	4-6
Free amino acids	≥90%
Total nitrogen	≥14%
Protein	≥85%
Water insoluble matter	≤0.1%
Moisture	≤3.0%

Application focus

- Soil-amendment and base-fertilizer blends.
- Plant-origin amino acid inclusion in balanced NPK programs.
- Soluble formulas where the water-insoluble-matter limit is important.

Selection note. FP90 reports free amino acids ≥90%, protein ≥85% and total nitrogen ≥14% as separate specifications. Do not add or convert these assay results as if they were independent mass fractions.

Packaging and shelf life. 15 kg bag. 2 years in sealed original packaging under the stated storage conditions.

Technical note. pH 4-6 follows the current Pepaid page. The older supplied TDS gives pH 4-10. The handbook does not infer phosphorus or potassium contents.

Match the program to the grade

The following are formulation starting points. Final application conditions are set by the crop, water quality, product label and field evaluation.

Program objective	Grades to evaluate	What to assess
Root-zone nutrition / base fertilizer	EA80 / FP90	Nutrient contribution, soil application route and longer-term crop response.
Early roots / transplant recovery	EA80-LMW / EP60P	Establishment, root development and compatibility with the transplant program.
Seedling / abiotic-stress recovery	EA80-uLMW / HA80	Crop condition, nutrition balance and response after heat, drought, cold or salinity stress.
Foliar crop nutrition	HA80 / selected EA or EP powders	Dissolution, diluted pH/EC, crop tolerance, spray water and nozzle performance.
Low-chloride drip formulations	HA20-LLC	Total chloride loading, irrigation water and the complete diluted formula.
General liquid root irrigation	HA20L	Crop chloride tolerance, dosing uniformity and finished-formula stability.
Plant-origin leaf / root programs	EP60 / EP60P	Source requirements, crop objective and grade-specific documentation.

Application route checklist

- **Foliar:** verify dissolution and filtration; inspect diluted pH/EC and crop tolerance before treating a wider area.
- **Drip / fertigation:** evaluate the irrigation water, concentrate compatibility, precipitation and emitter suitability.
- **Soil / base fertilizer:** confirm the blend is uniform and the nutrient contribution fits the overall fertilizer program.

Application rate

No single universal field rate is assigned in this handbook. Request a grade- and crop-specific recommendation, then verify it through small-scale compatibility and agronomic trials. Website descriptions of intended benefits are not a guaranteed field outcome.

A practical development workflow

Develop the complete formula around the chosen grade, rather than transferring assumptions from one series to another.

01 Define the brief

Record the crop, growth stage, application route, water analysis, nutrient targets, source constraints and market requirements.

02 Select and document the grade

Compare amino acid measurement, total nitrogen, chloride, pH, molecular weight where specified, solubility and physical form. Obtain the current TDS and a representative COA.

03 Run the bench compatibility test

Evaluate the selected grade with the complete fertilizer or crop-protection mixture at the intended dilution. Check appearance, pH, precipitation, separation and filterability.

04 Assess storage and delivery

Check the concentrate in the intended package, then validate dissolution or liquid dosing and performance through the actual application equipment.

05 Conduct a crop trial

Compare the proposed program with a suitable control under recorded crop and field conditions. Evaluate crop tolerance, nutrition and the intended response.

06 Finalize the commercial specification

Agree the model, label, analytical basis, batch limits, pack, shelf-life conditions, documentation and supply terms before launch.

Keep the measurements separate

Powder weight %, liquid total amino acid %, specific gravity and g/L values use different reporting bases. Request a validated conversion when needed. The website formulation guide and HA model pages do not provide a common conversion basis for every liquid value.

Packaging, storage and release

Use model-specific packaging and shelf-life information when preparing a purchase specification.

Grade	Packaging	Shelf life*
EA80	20 kg bag	2 years
EA80-LMW	20 kg bag	1 year
EA80-uLMW	20 kg bag	1 year
HA80	20 kg bag; 550 / 600 kg jumbo bag	2 years
HA40	20 / 550 / 600 kg bag	2 years
HA20-LLC	1,200 kg IBC; 1,000 kg liquid bag	2 years
HA20L	1,200 kg IBC; 1,000 kg liquid bag	2 years
EP60	20 kg bag	2 years
EP60P	20 kg bag	2 years
FP90	15 kg bag	2 years

* Shelf life applies to sealed original packaging under the stated storage conditions. EA80-LMW and EA80-uLMW have a 1-year period; the other listed grades have a 2-year period.

Warehouse and transfer

- Store tightly closed in a cool, dry and well-ventilated location, protected from moisture, direct sunlight and contamination.
- Keep powder bags intact and control dust during transfer. Inspect liquid containers for seal integrity and leakage.
- Use appropriate work clothing, gloves and eye protection. Follow the current SDS/MSDS for spills, disposal and specific handling conditions.

Batch release and buyer documentation

The purchase pack should identify the exact model, batch, specification, manufacture/retest information and agreed packaging. Request the controlled TDS, model-covered SDS/MSDS and batch COA. Testing or certification reports should match the selected product and intended market.

The current ZXCHEM landing page lists a starting MOQ of 500 kg. Confirm the actual model, packaging, sample availability and order terms with the Pepaid team.

Document index and terminology

Clickable resources connect this handbook to the three Pepaid series and their current supporting specifications.

EA Series

[Pepaid series page](#)

[Complete product specifications](#)

[Download series TDS](#)

[Download series SDS / MSDS](#)

HA Series

[Pepaid series page](#)

[Complete product specifications](#)

[Download series TDS](#)

[Download series SDS / MSDS](#)

Plant-Based Series

[Pepaid series page](#)

[Complete product specifications](#)

[Download series TDS](#)

[Download series SDS / MSDS](#)

Key terms

Term	How to read it
Free amino acids (FAA)	Amino acids reported as the free fraction; distinct from protein or total amino acids.
Total amino acids	The total-amino-acid result listed for the model; HA liquids use this measurement.
Amino nitrogen / α -amino nitrogen	A nitrogen-based assay; it is not a direct percentage of total amino acids.
Average molecular weight	EA peptide grade range, expressed in Da or kDa. 1 kDa = 1,000 Da.
COA / TDS / SDS	Batch analytical results / technical specification / safety and handling information.

Document basis. Current Pepaid and ZXCHEM pages, the ten supplied Hanfei model TDS files and the revised series technical sheets were reviewed for this edition. Current website specifications follow the previously confirmed supply-page convention; older-TDS differences are identified on the affected grade pages.

Safety reference. HA20-LLC is the confirmed alias of HA20L-LCC. The consolidated HA safety reference uses HA20L liquid information for this grade and is not represented as an independently supplied low-chloride-model SDS.

Talk to the Pepaid team

Standard grades, bulk supply and custom amino acid biostimulant formulations.



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Send us your formulation brief

Share the model or series, target crop, application route, nutrient profile, source requirements, order quantity, destination market and packaging needs. The Pepaid team can help arrange samples, technical documents and a supply proposal.



Scan the Pepaid website

www.pepaidfertilizer.com

New Ecology / New Efficiency / New Origin