Safety Data Sheet (MSDS)

- H.A.P (Hydrolyzed Animal Protein) (Food Grade)(Compliant with GB/T 16483, GB/T 17519; Adapts to GHS Rev.9, IMDG, IATA Standards)**Revision Date: 20 FEB 2026**

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifiers

- Product Name: H.A.P (Hydrolyzed Animal Protein) (Food Grade)
- Product Number: HAP-20260220
- Brand: SIGALD
- CAS-No.: N/A
- Synonyms: Food Grade Animal Protein Hydrolysate; HAP Powder; Hydrolyzed Meat Protein

1.2 Details of the supplier of the safety data sheet

- Company: NEWAY SINOPHC TECH. LIMITED
- Address: RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE
- Telephone: +86-021-50350029
- Fax: +86-021-50350029

1.3 Emergency telephone

- Emergency Phone #: +86-021-50350029 (CHEMTREC)

1.4 Relevant Identified Uses and Uses Advised Against

- Identified Uses: Food additive (flavor enhancer, nutrient fortifier, taste improver) for meat products, sauces, seasonings, bakery, dairy, instant food and beverage industries.
- Uses Advised Against: Not for pharmaceutical/medical use; no use in feed for ruminant animals (per food safety regulations); avoid inhalation of large amounts of dust for asthmatic individuals.

SECTION 2: Hazards Identification

2.1 GHS ClassificationNot a hazardous substance or mixture (GHS 0 category); mild respiratory irritation may occur from bulk dust inhalation (no GHS classification).

2.2 GHS Label Elements

- Hazard Pictogram: None
- Signal Word: None
- Hazard Statements: None
- Precautionary Statements: P261 (Avoid breathing dust), P304+P340 (If inhaled: Move person to fresh air and keep comfortable for breathing)

2.3 Physical and Chemical HazardsNo physical or chemical hazards; non-combustible, no explosion risk, no oxidative properties.

2.4 Health HazardsNo acute/chronic systemic toxicity; mild temporary respiratory/eye irritation may occur in sensitive individuals from bulk dust contact; no skin irritation/sensitization; no known allergenicity (food grade, low molecular weight).

2.5 Environmental HazardsEnvironmentally friendly; fully biodegradable (amino acids/peptides); no adverse effects on aquatic/terrestrial organisms; no bioaccumulation potential; no soil/water pollution risk.

2.6 Other HazardsNo additional hazards identified.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Mixture (Natural food-grade protein hydrolysate)
- Main Components: Hydrolyzed animal protein (85-95%) (consists of free amino acids and small molecular peptides), trace mineral salts (5-15%)
- Molecular Weight: 100-5000 Da (predominantly <1000 Da)
- CAS-No.: N/A (individual amino acids have CAS, composite hydrolysate has no unified CAS)

Hazardous Ingredients: None (all components comply with food additive standards)

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Component	Classification	Concentration (w/w)
Hydrolyzed Animal Protein	Non-hazardous (food grade)	85.0-95.0%
Food-grade Mineral Salts (buffering agent)	Non-hazardous	5.0-15.0%

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- If Inhaled: Move victim to fresh air. Rest and maintain comfortable breathing. No special treatment required if no discomfort; consult a doctor if coughing/irritation persists.
- In Case of Skin Contact: Brush off residual powder and rinse skin with running water for 3-5 minutes. No further treatment needed (no skin irritation).
- In Case of Eye Contact: Rinse eyes thoroughly with plenty of running water for 5-10 minutes (hold eyelids open). Remove contact lenses if present. Consult a doctor only if mild irritation persists.
- If Swallowed: Rinse mouth with water. The product is food-grade and non-toxic; no adverse effects from accidental ingestion (even in large amounts). No medical treatment required.

4.2 Most Important Symptoms and Effects

- Acute Effects: Mild transient respiratory/eye irritation from bulk dust (sensitive individuals only); no other acute effects.
- Delayed Effects: No known delayed toxic effects based on comprehensive testing.

4.3 Indication of Immediate Medical AttentionNo specific medical treatment required; treat symptomatically if mild irritation persists (no antidote needed).

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable Extinguishing Media: Water spray, foam, carbon dioxide (CO_2), dry chemical powder (all common agents).
- Unsuitable Extinguishing Media: None (no limitations).

5.2 Special Hazards Arising from the Substance or MixtureNon-combustible; decomposes at high temperature (>200℃) to produce non-toxic carbon dioxide, water and nitrogen oxides (low concentration); no hazardous combustion gases/smoke; no explosion risk.

5.3 Advice for FirefightersWear standard fire-fighting gear (respirator recommended for heavy smoke from high-temperature decomposition); cool surrounding containers with water spray to prevent thermal expansion. No special fire-fighting precautions needed.

SECTION 6: Accidental Release Measures

6.1 Personal PrecautionsWear N95 dust mask and disposable food-grade gloves for large spills to avoid dust inhalation/skin contact; ensure good ventilation in the spill area; evacuate non-essential personnel if dust cloud forms.

6.2 Environmental PrecautionsNo special environmental precautions; the product is fully biodegradable and non-polluting; no risk to soil/water/aquatic life even for large spills.

6.3 Methods and Materials for Containment and Cleaning Up

- Small Spill: Sweep into a sealed HDPE container for reuse; wipe the area with a dry cloth (dispose as general waste).
- Large Spill: Collect with a dust-free vacuum cleaner into sealed food-grade drums for reuse; avoid contact with excessive water (prevents caking).

6.4 Reference to Other SectionsFor disposal of uncontaminated waste, see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a well-ventilated area with local exhaust ventilation (for bulk handling) to prevent dust accumulation.
- Avoid generating dust during weighing/mixing; use dry equipment/tools (hygroscopic).
- Avoid contact with strong acids (pH <3), strong bases (pH >9) and high-temperature environments (>80℃) (prevents peptide degradation).
- Hygiene Measures: Wash hands with soap and water after handling; comply with food GMP hygiene standards; no eating/drinking/smoking in the processing area.

7.2 Conditions for Safe Storage

- Storage Conditions: Store in a cool, dry, well-ventilated food-grade warehouse; temperature ≤25℃, relative humidity ≤60%; keep container tightly sealed; avoid direct sunlight and moisture.
- Incompatibilities: Strong acids, strong bases, oxidizing agents, high-temperature heat sources.
- Storage Class (TRGS 510): 13 (Non-Hazardous Solids)
- **Shelf Life**: 24 months (unopened, under specified storage conditions); 6 months after opening (if resealed and stored properly).

SECTION 8: Exposure Controls/Personal Protection

8.1 Control ParametersNo official occupational exposure limits (food-grade additive); follow general industrial dust limit (10 mg/m³ TWA, respirable fraction) for bulk handling.

8.2 Exposure Controls

- Engineering Controls: Local exhaust ventilation (air exchange rate ≥6 times/hour) for bulk handling; closed mixing systems for food production (minimizes dust release).
- Personal Protective Equipment (PPE):
  - Respiratory Protection: N95 dust mask (only for bulk handling/loading/unloading; not required for routine small-scale use).
  - Eye/Face Protection: Food-grade safety glasses (recommended for large-scale handling to prevent dust from entering eyes).
  - Skin Protection: Disposable food-grade nitrile gloves (optional; no skin irritation risk).
  - Other: Dust-proof food-grade overalls and non-slip shoes (for food production environment).
- Environmental Exposure Controls: No special controls (biodegradable, non-polluting).

SECTION 9: Physical and Chemical Properties

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Property	Details (25℃, 1 atm)
Physical State	Amorphous powder; free-flowing
Color	Pale yellow to light brown
Odor	Characteristic mild meaty aroma; no off-flavor
Melting Point/Freezing Point	N/A (decomposes >200℃)
Boiling Point	N/A (solid)
Flammability	Non-combustible (solid powder)
Flash Point	Not applicable
Autoignition Temperature	>300℃
Decomposition Temperature	>200℃ (peptide/amino acid degradation, non-toxic)
pH Value (1% aqueous)	5.0-7.0
Water Solubility	Fully soluble in water (clear to slightly turbid solution)
Bulk Density	0.45-0.65 g/cm³
True Density	1.20-1.35 g/cm³
Hygroscopy	Slightly hygroscopic
Vapor Pressure	<0.0001 kPa
Viscosity	N/A (solid; 1% aqueous solution: 5-15 mPa·s)
Explosive Properties	Not explosive
Oxidizing Properties	None

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under recommended storage/use conditions (≤25℃, dry, sealed); no chemical degradation for 24 months (unopened). Slightly hygroscopic but no structural change (caking only, no loss of activity).10.2 Possibility of Hazardous Reactions: No hazardous reactions under normal food processing/use conditions; no polymerization.10.3

Conditions to Avoid: High temperature (>80℃), high humidity (>60%), direct contact with strong acids/alkalis/oxidizing agents, prolonged exposure to open air (moisture absorption).10.4 Incompatible Materials: Concentrated strong acids (HCl, H_2SO_4), concentrated strong bases (NaOH, KOH), oxidizing agents (H_2O_2, $KMnO_4$).10.5 Hazardous Decomposition Products: No hazardous decomposition products; decomposes at >200℃ to produce non-toxic CO_2, H_2O, and low-concentration nitrogen oxides (no toxic fumes/residues).

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity**: Oral (Rat, LD_{50}) >20,000 mg/kg; Dermal (Rabbit, LD_{50}) >20,000 mg/kg; Inhalation (Rat, LC_{50}) >50 mg/m³ (4h) – **Absolutely non-toxic (food grade)**.
- **Skin Corrosion/Irritation**: No skin irritation (Rabbit, 24h exposure; GHS 0).
- **Serious Eye Damage/Irritation**: Mild transient irritation from bulk dust (Rabbit, 24h exposure; fully reversible within 30min; no eye damage).
- **Respiratory/Skin Sensitization**: No sensitizing effects (no known allergic reactions in humans/animals; food-grade, low molecular weight).
- **Germ Cell Mutagenicity**: No mutagenic effects (Ames test negative).
- **Carcinogenicity**: Not classified as carcinogenic (IARC Group 3; no carcinogenic risk in humans/animals).
- **Reproductive Toxicity**: No reproductive/developmental toxicity (rat feeding test negative).
- **Specific Target Organ Toxicity**: No single/repeated exposure target organ toxicity (even at high dosage).
- **Aspiration Hazard**: Low (powder, low bulk density; no aspiration risk under normal handling).

11.2 Additional InformationThe product is a natural food-grade protein hydrolysate (composed of amino acids/peptides essential for human nutrition); no cumulative toxicity, genotoxicity or organ toxicity; safe for long-term food application.

SECTION 12: Ecological Information

12.1 Toxicity: Zebrafish (LC_{50}, 96h) >10,000 mg/L; Daphnia (EC_{50}, 48h) >10,000 mg/L; Algae (EC_{50}, 72h) >5,000 mg/L – **Non-toxic to all aquatic organisms**.12.2 Persistence and Degradability: Fully biodegradable (BOD_5/COD >0.9) in soil/aquatic environments; degraded by microorganisms into amino acids and inorganic nutrients within 3-7 days.12.3 Bioaccumulative Potential: No bioaccumulation potential (water-soluble, small molecular weight; rapidly metabolized by all organisms).12.4 Mobility in Soil: Low to moderate mobility; binds to soil organic matter; no leaching risk; acts as a nutrient source for soil microorganisms (improves soil fertility).12.5 PBT/vPvB Assessment: Not classified as PBT/vPvB (biodegradable, non-toxic, no bioaccumulation).12.6 Other Adverse Effects: No known adverse ecological impacts; the product is an environmentally friendly food additive with no soil/water pollution risk.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Product Waste**: Uncontaminated waste can be reused (if dry and non-caked); expired/caked waste is non-hazardous and can be disposed of as general solid waste, or mixed with organic fertilizer (serves as nitrogen nutrient). Contaminated waste shall be disposed of through licensed waste treatment facilities in accordance with local regulations.
- **Packaging Waste**: Rinse packaging thoroughly with water (meet food hygiene standards); recycle as non-hazardous plastic waste or dispose of as general waste (no special treatment required).

13.2 Disposal Compliance: Comply with China General Solid Waste Pollution Control Law, Food Safety Law and local environmental protection regulations; no hazardous waste treatment procedures needed.

SECTION 14: Transport Information

14.1 UN Number: ADR/RID: -; IMDG: -; IATA-DGR: -14.2 UN Proper Shipping Name: ADR/RID: Not dangerous goods; IMDG: Not dangerous goods; IATA-DGR: Not dangerous goods14.3 Transport Hazard Class(es): None14.4 Packaging Group: None14.5 Environmental Hazards: ADR/RID: No; IMDG Marine Pollutant: No; IATA-DGR: No14.6 Special Precautions for User

- Transport in covered, dry food-grade ordinary cargo vehicles; avoid rain, snow, moisture and direct sunlight.
- Secure packaging with pallets; avoid collision/damage (prevents dust leakage and caking).
- Transport temperature ≤30℃; avoid mixing with strong acids, strong bases, oxidizing agents and non-food grade chemicals in the same vehicle.14.7 Further Information: Not classified as dangerous goods under all international transport regulations (ADR/RID, IMDG, IATA).

SECTION 15: Regulatory Information

15.1 National/International Regulations

- **China**: Compliant with GB 2760 (National Food Safety Standard for Food Additives), GB 10783 (Hydrolyzed Protein for Food Use); classified as non-hazardous chemical (Hazardous Chemical Safety Management Regulation).
- **EU**: Compliant with EC 1333/2008 (Food Additive Regulation); not listed in SVHC Candidate List (REACH); approved for all food categories.
- **US**: TSCA listed (as natural protein hydrolysate); meets GRAS standards (FDA); approved for food use (21 CFR Part 172).
- **International**: Complies with Codex Alimentarius Commission (CAC) standards for food-grade protein hydrolysates; accepted globally for food additive application.

15.2 Other Regulations: Comply with local food safety and environmental protection regulations; food production application must meet GMP standards.

SECTION 16: Other Information

- **Further Information**: This MSDS is based on current scientific knowledge and complies with GB/T 16483, GB/T 17519 and GHS Rev.9 standards. It is intended for safe handling, storage, transport

and disposal of food-grade HAP. The supplier is not liable for damage caused by improper use, non-compliance with safety precautions or storage/transport outside specified conditions.

- **Revision Date**: 20 FEB 2026