

Granular

Effective Date: November 1, 2011

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Supplier: Ajinomoto North America, Inc., Nutrition and Health Division
8430 West Bryn Mawr Ave., Suite 635, Chicago, IL 60631
Tel: 1-800-456-4666 Fax: 641-969-4409 www.aji-aspartame.com

Description: Aspartame is a nutritive sweetener based on two amino acids. It is metabolized like a food protein. Aspartame is a white, crystalline substance, approximately 200 times sweeter than sugar. Aspartame provides a clean sugar-like sweetness, without any bitter or metallic aftertaste.

Trade name: Ajinomoto Aspartame Granular

Product synonyms: Aspartame; aspartyl phenylalanine methyl ester; APM

Chemical name: N-L- α -Aspartyl-L-phenylalanine-1-methyl ester

Molecular Formula: C₁₄H₁₈N₂O₅ **Molecular Weight:** 294.3 **CAS Number:**22839-47-0

Tests:	Methodology	Specifications	Typical Analysis: ⁽¹⁾
Identity:	FCC/EP/JSFA	Conform to standard	Conform to standard
Purity:			
Assay (Dried Basis):	FCC/EP/USP/JSFA	98.0 % - 102.0 %	> 99%
Loss on Drying:	FCC/EP/USP/JSFA	≤ 4.5 %	< 3.2 %
Diketopiperazine (DKP):	EP	≤ 1.5 %	< 0.2 %
Residue on Ignition:	FCC/EP/USP/JSFA	≤ 0.2 %	< 0.1 %
Heavy Metals (as Lead):	EP/USP	≤ 10 mg/kg	< 10 mg/kg
Arsenic:	ASE	≤ 3 mg/kg	< 3 mg/kg
Lead:	ASE	≤ 1 mg/kg	< 1 mg/kg
Specific Rotation:	FCC/EP/USP/JSFA	+14.5° to +16.5°	15.5°
Transmittance:	USP	≥ 95.5 %	> 99%
pH:	FCC/JSFA	4.5 - 6.0	5.3
Conductivity:	EP	≤ 30 μScm^{-1}	< 15 μScm^{-1}
Impurities other than			
Diketopiperazine:	ASE	≤ 1.0 %	< 1.0 %
Other related substances ⁽²⁾ :	EP/USP	≤ 2.0 % USP; 1.5 % EP	< 2.0 % USP; < 1.5 % EP
L-Phenylalanine:	EP	≤ 0.5 %	< 0.5 %
Residual Solvents:	EP	Meets requirements	Meets requirements
Microbiological Properties:			
Total Aerobic bacteria:	ASE	≤ 250 cfu/g	< 10 cfu/g
Yeast and Mold:	ASE	≤ 100 cfu/g	< 10 cfu/g
Coliforms:	ASE	≤ 10 cfu/g	negative/g
E-Coli:	ASE	negative/g	negative/g
Salmonella:	ASE	negative/25 g	negative/25 g
Physical Properties:			
Particle Size:	ASE	≤ 3.5% through 180 μm 80 – 100% on 250 μm	≤ 3.5% through 180 μm 80 – 100% on 250 μm
Bulk Density:	ASE	≤ 3% on 850 μm 0.6 ± 0.1 kg/l	≤ 3% on 850 μm 0.60 – 0.64 kg/l

FCC = Food Chemical Codex
EP = European Pharmacopoeia
USP = US Pharmacopoeia
ASE = Ajinomoto Sweeteners Europe S.A.S.
JSFA = Japanese Standards for Food Additives

(1) Typical analysis: not to be considered as a guarantee

(2) USP/EP different definition:
USP includes L-Phenylalanine, EP does not include L-Phe

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- Conformity With:** FAO-WHO Specifications; Food Chemicals Codex (FCC VI); EU Commission Directive 2008/60/EC; European Pharmacopoeia 6th edition and Supplement; French Pharmacopoeia; US Pharmacopoeia 31/National Formulary 26; DAB 10; Japanese Standards for Food Additives
- Shelf life:** 5 years at ambient room temperature (15°C-30°C, 35-75 % relative humidity), when properly stored in sealed, original container. Product should be reevaluated after this period. Do not store near products with a strong odor.
- Packaging:** Standard packaging, 25 kg recyclable cardboard drums with double-liner polyethylene inner sacks and safety seal. Drums are designed to be stacked no more than 2 pallets high. Further packaging units are: 500 kg, 750 kg, and 1000 kg big bags and 5 kg cardboard box.
- Lot coding:** Example Lot: **E 005110:**
- E** = Plant Code: **E** = Ajinomoto Sweeteners Europe, France (**T** = Tokai, Japan)
 - 0** = Year Manufactured: 2010
 - 05** = Month manufactured: May
 - 11** = Day manufactured: 11th day of month
 - 0** = Optional plant code
- Nutritional Info:** Ajinomoto Aspartame is chemically pure and contains no additives, preservatives or colors.

Nutrient	Per 100g:
Water	< 4.5 g
Protein ⁽¹⁾	95.3 g
L-Phenylalanine ⁽²⁾	56 g
Fat	0 g
Carbohydrates	0 g
Fibres	0 g
Ash	< 0.2 g
Cholesterol	0 mg
Calcium	< 2 mg
Iron	< 2 mg
Potassium	≤ 10 mg
Sodium	≤ 30 mg
Vitamins	0 mg
Calories / Joules	382 Kcal / 1600 kJ

(1) Aspartame is a dipeptide, which is digested and metabolized like a protein.

(2) Phenylalanine is an essential amino acid; required intake for adults: > 1 g/day

- Safety:** High safety based on ADI level; SCF / JECFA = 40; FDA = 50
ADI = Acceptable Daily Intake (mg/kg body weight/day)
- Regulatory:** Worldwide Approval (>100 countries) / In USA: CGMP
- Labeling:** "Phenylketonurics: Contains phenylalanine"

Further information about the laws and regulations of individual countries can be obtained from the Nutrition and Health Division of Ajinomoto North America, Inc.

Eat Well, Live Well.



AJINOMOTO CO., INC

Sweeteners Department

15-1, Kyobashi 1-Chome, Chuo-ku, Tokyo 104 Japan

Tel: 03-5250-8196 Fax:03-5250-8315

8-May-14

AminoSweet

Specification

Ajinomoto Aspartame (Micro-Test Powder)

Supplier:	Ajinomoto Co., Inc. 15-1, Kyobashi 1-Chome, Chuo-ku, Tokyo 104 Japan Tel: 03-5250-8196 Fax:03-5250-8315		
Description:	Aspartame is a high intense sweetener which is approximately 200 times sweeter than sugar, and it's a white, odorless and crystalline powder.		
Product name:	"AminoSweet" Aspartame Micro-Test Powder		
Synonyms:	Aspartyl phenylalanine methyl ester, APM		
Shelf Life:	Aspartame is stable for 5 years in normal conditions (temperature: 5-35°C ¹ , humidity: 45-85% ²), when properly stored in sealed, original container. In addition, don't store near products with a strong odor.		
Chemical Name:	N-L- α -Aspartyl-L-phenylalanine -1- methyl ester, *1&2 : Japanese Industrial Standards		
Molecular Formula:	C14H18N2O5	Molecular Weight:	294.3
Packaging:	Net 25kg x 1 bag in a carton box		

Specifications	Standard value	Test / Remarks
Identification	conform to standard	Ajinomoto Method (FT-IR;ATR)
Assay	98.0% - 102.0%	JPE, JSFA
Loss on drying	Not more than 4.5%	JSFA, JPE, JECFA, FCC, USP/NF, EP
5-Benzyl-3,6-dioxo-2-piperazine acetic acid(DKP)	Not more than 1.5%	FCC, USP/NF
Residue on ignition	Not more than 0.2%	JSFA, JPE, EP, USP/NF
Heavy metals (as Pb)	Not more than 10µg/g	JSFA, JPE, USP/NF, JECFA
Arsenic (as As2O3)	Not more than 3µg/g	JSFA, JPE
Lead	Not more than 1mg/kg	Ajinomoto Method (AAS)
Specific rotation [α] _D ²⁰	+14.5° to +16.5°	JSFA, JPE, JECFA, FCC, USP/NF, EP
Transmittance	Colorless, Transparent, Not less than 0.95	JSFA, JPE
pH	4.5 - 6.0	JSFA, JPE, JECFA, FCC
Conductivity	Not more than 30µs/cm	EP
Other related impurities FCC, Chromatographic purity USP/NF (Impurities other than DKP)	Not more than 2.0%	FCC, USP/NF
Other related substances EP (other than DKP, L-phe)	Not more than 1.5%	EP
L-phenylalanine	Not more than 0.5%	EP
Organic Volatile Impurities USP/ NF	Pass	Ajinomoto Method (GC, IC)
Appearance of solution EP	conform to standard	Ajinomoto Method (Spectrophotometer)
Other optical isomers	Not more than 0.02%	Ajinomoto Method (HPLC)
Particle size (on 150µm)	Not more than 1.0%	Ajinomoto Method
Bulk Density	0.10-0.30g/ml	Ajinomoto Method
Total aerobic bacteria	Not more than 250cfu/g	JP
Yeasts and molds	Not more than 100cfu/g	JP
Coliforms	Negative/g	FHTM
E.coli	Negative/g	FHTM
Salmonella	Negative/25g	FHTM

- JSFA : Japan's Specifications and Standards for Food Additives
- JPE : Japanese Pharmaceutical Excipients
- JECFA : Joint FAO/WHO Expert Committee on Food Additives
- FCC : Food Chemicals Codex
- EP : European Pharmacopoeia
- USP/NF : United States Pharmacopoeia/National Formulary
- FHTM : Guideline for Food Hygiene Test Method
- JP : Japanese Pharmacopoeia



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Ajinomoto Co., Inc

Sweeteners Department

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Tel: 03-5250-8196 Fax:03-5250-8315

Specification

Ajinomoto Aspartame (Powder)

Supplier:	Ajinomoto Co., Inc. 15-1, Kyobashi 1-Chome, Chuo-ku, Tokyo 104 Japan Tel: 03-5250-8196 Fax:03-5250-8315		
Description:	Aspartame is a high intense sweetener which is approximately 200 times sweeter than sugar, and it's a white, odorless and crystalline powder.		
Product name:	Ajinomoto Aspartame Powder		
Synonyms:	Aspartyl phenylalanine methyl ester, APM		
Shelf Life:	Aspartame is stable for 5 years in normal conditions (temperature: 15-35°C \ humidity:45-85%"), when properly stored in sealed, original container. In addition, don't store near products with a strong odor.		
Chemical Name:	N-L-Aspartyl-L-phenylalanine -1- methyl ester, *1&2 : Japanese Industrial Standards		
Molecular Formula:	C14H18N2O5	Molecular Weight:	294.3
Packaging:	Net 25kg x 1 bag in a carton box Net 1kg x 10 bags in a carton box		

Specifications	Standard value	Test / Remarks
Identification	conform to standard	Ajinomoto Method (FT-IR;ATR)
Assay	98.0% - 102.0%	JPE, JSFA
Loss on drying	Not more than 4.5%	JSFA, JPE, JECFA, FCC, USP/NF, EP
5-Benzyl-3,6-dioxo-2-piperazine acetic acid(DKP)	Not more than 1.5%	FCC, USP/NF
Residue on ignition	Not more than 0.2%	JSFA, JPE, EP, USP/NF
Heavy metals (as Pb)	Not more than 10µg/g	JSFA, JPE, USP/NF, JECFA
Arsenic (as As203)	Not more than 3µg/g	JSFA, JPE
Lead	Not more than 1mg/kg	Ajinomoto Method(AAS)
Specific rotation $[\alpha]_D^{20}$	+14.5° to +16.5°	JSFA, JPE, JECFA, FCC, USP/NF, EP
Transmittance	Colorless, Transparent, Not less than 0.95	JSFA, JPE
pH	4.5 - 6.0	JSFA, JPE, JECFA, FCC
Other related impurities FCC	Not more than 2.0%	FCC, USP/NF
Other optical isomers	Not more than 0.02%	Ajinomoto Method (HPLC)
Total aerobic bacteria	Not more than 250cfu/g	FHTM
Yeasts and molds	Not more than 100cfu/g	FHTM
Coliforms	Negative/g	FHTM
E.coli	Negative/g	FHTM

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JSFA	Japan's specifications and standards for food additives
JPE	Japanese pharmaceutical excipients
FCC	Food chemicals codex
EP	European pharmacopeia
USP/NF	United States Pharmacopeia/National Formulary
FHTM	Guideline for Food Hygiene Test Method

Form 2021 09/20

Supersedes 09/19

Product Id: 31753 (25kg Box)