

### Product Specification: Artesa™ Chickpea Protein

Botanical Name	: <i>Cicer arietinum</i>
Family Name	: Fabaceae
Parts of the Plant	: Seed
Shelf life	: 24 months from date of manufacture (see storage conditions)
Ingredients	: 100% chickpea, no additives
Organoleptic	: Clean and neutral with no off-flavors and having a slight vanilla character

#### Product Description:

**Artesa™ Chickpea Protein (min. 60%)** is a white, free flowing, concentrated protein powder produced using unique milling and separation techniques. Due to the clean flavor profile, small particle size and protein content, Artesa™ Chickpea Protein has exceptional product application in the areas of extruded snacks and cereals, nutritional blends and protein fortified bars. Processing techniques typically result in: particles sized between 8-11 micron, solubility >90% and bulk density at 0.70 g/mL.

#### Physical Specifications:

Attribute	Value	Method
Total Protein	Min. 60% dry basis	AOAC 990.03
Moisture	<8%	AOAC 930.15

#### Microbiological Specifications:

Analysis	Value	Method
Aerobic plate count	<50,000 cfu/g	AOAC 990.12, 8 <sup>th</sup> Ed.
Yeast & Mold	<100 cfu/g	AOAC 997.02 16 <sup>th</sup> Ed.
Total coliforms	<10 cfu/g	AOAC 991.14 18 <sup>th</sup> Ed.
E. coli	n.d. cfu/g	AOAC 991.14 18 <sup>th</sup> Ed.
Salmonella	Negative/100g	AOAC 967.27 18 <sup>th</sup> Ed.
Staphylococcus aureus	Negative/25g	AOAC 987.09 16 <sup>th</sup> Ed.

#### Chemical Specifications:

Analysis	Value	Method
Arsenic	<500 ppb	ICP-MS
Lead	<250 ppb	ICP-MS
Mercury	<100 ppb	ICP-MS
Cadmium	<500 ppb	ICP-MS
Pesticides	<MRL per USP 565	GC-MS

**Storage conditions:** Store in cool, dry place below 25°C    **Packaging:** 20 kg bags

\*Each lot accompanied by a certificate of analysis



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### Product Specification: Artesa™ Chickpea Flour

Product Code : 100-F-1  
 Botanical Name : *Cicer arietinum*  
 Family Name : Fabaceae  
 Parts of the Plant : Seed  
 Shelf life : 24 months from date of manufacturer (see storage conditions)  
 Ingredients : Chickpea

#### Product Description:

Artesa™ Chickpea Flour is a white, free flowing powder produced using unique milling and separation techniques. Due to its exceptionally clean flavor profile, small particle size and protein content, Artesa™ Chickpea Flour is an excellent substitution for traditional wheat and pastry flours including starch-based gluten-free flour blends. The pH is neutral, typically in the range of 5.5-7.5. Artesa™ Chickpea Flour has proven functionality in both leavened and unleavened dough, as well as pasta and pastry applications. Typical particle size is <20 micron with a typical bulk density of 0.90 g/mL.

#### Physical Specifications:

Analysis	Value	Method
Moisture	≤7%	AOAC 930.15
Total Protein	14% (+/-4%) dry basis	AOAC 990.03

#### Microbiological Specifications:

Analysis	Value	Method
Aerobic plate count	<50,000 cfu/g	AOAC 990.12 18 <sup>th</sup> Ed.
Yeast & Mold	<100 cfu/g	AOAC 997.02 16 <sup>th</sup> Ed.
Total coliforms	<10 cfu/g	AOAC 991.14 18 <sup>th</sup> Ed.
E. coli	n.d. cfu/g	AOAC 991.14 18 <sup>th</sup> Ed.
Salmonella	Negative org/100g	AOAC 967.27 18 <sup>th</sup> Ed.
Staphylococcus aureus	Negative/25g	AOAC 987.09 16 <sup>th</sup> Ed.

#### Chemical Specifications:

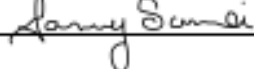
Analysis	Value	Method
Arsenic	<500 ppb	ICP-MS
Lead	<100 ppb	ICP-MS
Mercury	<100 ppb	ICP-MS
Cadmium	<100 ppb	ICP-MS
Pesticides	<MRL per USP 565	GC-MS
**Gluten residue	<10ppm	Neogen Veratox

Storage conditions: Store in cool, dry place below 25°C

Packaging: 25 kg bags

\*Each lot accompanied by a certificate of analysis

\*\* Tested as gliadin <5 ppm

Signature: 

Version 1.0 Revision level 2.0

