BB Chemicals

CORN DIETARY FIBRE

Corn dietary fibre is a high-purity functional ingredient obtained from corn (Zea mays L.) bran by milling and physical or enzymatic refining. It is supplied as an insoluble grade, in which cellulose and hemicellulose (arabinoxylan) dominate, and as a soluble grade of corn bran arabinoxylan. Both grades are neutral in flavour and odour, carry a total dietary fibre content above 74 % of dry matter and provide water binding, texture and yield in bakery, cereals and snacks.

APPLICATIONS

Bakery goods, cereals, extruded snacks and bars, where the insoluble grade raises fibre content, binds water and improves moisture retention, yield and shelf stability.

Fibre-enriched and calorie-reduced formulations, beverages, dairy and confectionery, where the soluble grade adds fibre with a neutral taste and good digestive tolerance.

CORN DIETARY FIBRE · INSOLUBLE GRADE · SOLUBLE GRADE · NON-GMO

Specification:

IDENTITY, PHYSICAL AND CHEMICAL CHARACTERISTICS

ITEM OF TEST	TEST RESULTS	METHOD / REFERENCE
APPEARANCE	Free-flowing powder, free from visible foreign matter	Visual; producer technical data sheet
COLOUR	Cream to tan, grade-dependent	Visual; producer technical data sheet
ODOUR, TASTE	Odourless, neutral to slightly sweet, free from off-flavours	Organoleptic; producer technical data sheet
TOTAL DIETARY FIBRE, insoluble grade, dry matter	75 – 85 %	AOAC 991.43 / 985.29 (enzymatic-gravimetric); producer technical data sheet
TOTAL DIETARY FIBRE, soluble grade (arabinoxylan)	74 – 90 %	AOAC 2009.01 / 2011.25; producer technical data sheet
MOISTURE, max.	10 % (soluble grade max. 9 %)	Gravimetry; producer technical data sheet
ASH, dry basis, max.	6 %	Mod. AOAC 923.03 / 942.05; producer technical data sheet
PROTEIN (N × 6.25), dry matter, typical	5 %	Kjeldahl; producer technical data sheet
FAT, dry matter, typical	2.5 %	Acid hydrolysis / Soxhlet; producer technical data sheet
pH, soluble grade	4.0 – 6.0; insoluble grade as agreed per order	Potentiometry; producer technical data sheet
PARTICLE SIZE, insoluble grade	D10 10 – 70 µm; D50 71 – 300 µm; D90 301 – 800 µm	Laser diffraction; producer technical data sheet
GRANULATION, soluble grade, mesh	Passes US standard 20 mesh	Sieve analysis; producer technical data sheet
WATER-BINDING CAPACITY, moist basis	approx. 3.0 g water/g (± 0.5)	Producer technical data sheet
OIL- / FAT-BINDING CAPACITY, moist basis	approx. 1.4 g/g	Producer technical data sheet
BULK DENSITY	approx. 630 g/l	Producer technical data sheet
GLUTEN, max.	20 mg/kg ("gluten-free")	R5 ELISA (AOAC 2012.01); Reg. (EU) No 828/2014
GENETICALLY MODIFIED ORGANISMS (GMO)	Absent	Reg. (EC) No 1829/2003, (EC) No 1830/2003

Functional and compositional values are taken from producer technical data sheets for insoluble maize fibre and for soluble corn bran arabinoxylan; they are typical values of the respective grade and are confirmed per lot in the certificate of analysis. The product contains corn-derived material and none of the allergens listed in Annex II to Regulation (EU) No 1169/2011.

RESIDUE LIMITS

ITEM OF TEST	TEST RESULTS	METHOD / REFERENCE
LEAD (Pb), max.	0.20 mg/kg	Reg. (EU) 2023/915, Annex I, 3.1.11; ICP-MS
ARSENIC (As), max.	0.2 mg/kg	BB Chemicals specification; ICP-MS
CADMIUM (Cd), max.	0.10 mg/kg	Reg. (EU) 2023/915, Annex I, 3.2.12.1; ICP-MS
MERCURY (Hg), max.	0.03 mg/kg	BB Chemicals specification; cold vapour AAS
AFLATOXIN B_1, sum of B_1, B_2, G_1, G_2, max.	2.0 µg/kg; 4.0 µg/kg	Reg. (EU) 2023/915, Annex I, 1.1.12; HPLC-FLD
DEOXYNIVALENOL (DON), max.	1,000 µg/kg	Reg. (EU) 2023/915, Annex I, 1.4.6.2; HPLC
ZEARALENONE, max.	200 µg/kg	Reg. (EU) 2023/915, Annex I, 1.5.6.2; HPLC
FUMONISINS, sum of B_1 and B_2, max.	1,400 µg/kg	Reg. (EU) 2023/915, Annex I, 1.6.4.2; HPLC
OCHRATOXIN A, max.	3.0 µg/kg	Reg. (EU) 2023/915, Annex I, 1.2.10; HPLC-FLD
PESTICIDES, HCH (α-, β-, γ-isomers); DDT and its metabolites, max.	0.5 mg/kg; 0.02 mg/kg	Reg. (EC) No 396/2005; GC-MS
CAESIUM-137, max.	On request	Gamma spectrometry, on customer request

Mycotoxin and lead limits are the statutory levels of Commission Regulation (EU) 2023/915 for maize milling products not intended for the final consumer; the arsenic, mercury and pesticide limits are BB Chemicals specification values and pesticide residues additionally comply with Regulation (EC) No 396/2005.

MICROBIOLOGICAL CHARACTERISTICS

ITEM OF TEST	TEST RESULTS	METHOD / REFERENCE
TOTAL PLATE COUNT (TPC), max.	5×10^4 CFU/g	BB Chemicals specification; ISO 4833-1
MOULDS, max.	50 CFU/g	BB Chemicals specification; ISO 21527-2
COLIFORMS / ENTEROBACTERIACEAE	Not permitted in 0.1 g	BB Chemicals specification; ISO 21528-2
Escherichia coli, max.	10 CFU/g	ISO 16649-2; producer technical data sheet
Salmonella spp.	Absent in 25 g	BB Chemicals specification; ISO 6579-1

Total plate count, mould and coliform limits are producer specification values tested by the ISO reference methods stated; absence of pathogens including Salmonella in 25 g is a producer specification requirement. Sample preparation per ISO 6887-4.

Botanical source: corn bran of Zea mays L.

CN / HS code: 2302 10 (bran and other residues of maize (corn))

Regulatory status: food ingredient; not a food additive under Reg. (EC) No 1333/2008

Appearance: free-flowing powder, cream to tan

Status: non-GMO, free from the allergens listed in Annex II to Reg. (EU) No 1169/2011

Applications: bakery goods, cereals and snacks, bars, fibre-enriched and calorie-reduced foods, dairy and beverages

Packaging: multi-ply paper or polypropylene bags 20 / 25 kg net; corrugated cartons 10 kg net with 0.5 kg polyethylene inner bags

Storage & transport: dry, clean, well-ventilated premises, max. +25 °C, relative humidity max. 70 %, protected from sunlight and odours

Shelf life: 24 months from production in unopened original packaging

COMPLIANCE & DOCUMENTATION

- The product is a food ingredient and complies with Commission Regulation (EU) 2023/915 on maximum levels for certain contaminants in food and with the hygiene requirements of Regulation (EC) No 852/2004 on the hygiene of foodstuffs.
- Naturally gluten-free raw material; a gluten content below 20 mg/kg for the "gluten-free" statement under Regulation (EU) No 828/2014 is confirmed per lot on request.
- Non-GMO within the meaning of Regulations (EC) No 1829/2003 and (EC) No 1830/2003; not irradiated, free from added preservatives or colours and from any allergen listed in Annex II to Reg. (EU) No 1169/2011.
- The corn-derived origin of the ingredient is declared in the ingredient list of the final product.
- Fibre nutrition claims of Regulation (EC) No 1924/2006 apply to the final product: "source of fibre" from 3 g fibre per 100 g and "high fibre" from 6 g fibre per 100 g.
- Kosher and halal statements, third-party audit certificates of the producing plant, allergen and pesticide-residue declarations are available on request; each consignment is accompanied by a certificate of analysis with batch-specific results.

References: Commission Regulation (EU) 2023/915 on maximum levels for certain contaminants in food, consolidated text, eur-lex.europa.eu; Limagrain Ingredients, Sofabran 184-400 maize fibre technical data sheet, knowde.com; US FDA GRAS Notice GRN 998, corn bran arabinoxylan specifications, fda.gov.