22. februar 2023
Deres ref:
DTU DOCX: 23/1000290
Kkn0

Konjac glucomannan - specifikation

References

Oplysninger fra virksomheden
Virksomheds materiale 1
Virksomheds materiale 2

Name of the substance Konjac Glucomannan LV(1)M K grade

Synonyms Glucomannan polysaccharide, konjac glucomannan oligosaccharide (KGMOS)

Chemical name Hydrolysed low weight form of E425 ii Konjac flour/Konjac gum: Konjac flour oligo-saccharides

Chemical / Structural formula Linear backbone chain of random ß (1->4) linked beta-D-mannopyra-nose and beta-D-glucopyranose units with acetyl groups (3 to 20%) as lateral residues. G/M ratio of 1/1.6 (between 1.5 to 2)

Particle size Small particles (120 mesh)

Molecular weight Konjac Glucomannan, grade LV1M K: below 200 KDa (EU specification for konjac glucomannan E425 ii is 500 to 2,000 KDa)

Assay Total dietary fibers: not less than 95% on a dry weight basis

Description: White to cream powder with fine particles with a slight odor (amines “fishy”)

Relative density: 0.35 to 0.85

Bulk density: 350 – 880 kg/m^3

Solubility: Soluble in cold and hot water

pH in solution: pH between 5 to 8 in a 1% solution

Viscosity 0 to 40,000 cps at 1%; 5,000 to 200,000 cps at 2%

DTU Fødevareinstituttet
Fødevareinstituttet

Kemitorvet
Bygning 201
2800 Kongens Lyngby

Tlf. 35 88 70 00
Dir. 35 88 75 21

Mailadresse Link til hjemmeside for DTU food

The product can form a stable heat resistant gel in presence of alkali. The product can form an adhesive gel alone when in solution (in water?) at concentrations above 2%

Flash point 280 °C

Suggested methods of analysis: 1) by estimation of total dietary fiber (TDF) after calculation of ash, moisture, protein, fat and free sugars and starch at 75-90% in LV1M (and 85-95% LV3M; 90-95% for LV5M). 2) other methods including chromatography, NMR, enzymatic or acid hydrolysis, etc.

Production of the "hydrolysed" konjac glucomannan The hydrolysed product is obtained by a slightly acidic (food grade acid) preparation of konjac flour. This results in partial hydrolysis of the glucomannan but without any other modifications to the chemical composition albeit a slight water/alcohol extraction of solubles (minerals, mono and disaccharides). The washing of the particles removes most starch dust left at the surface of the glucomannan particles during the dry milling steps.

Specifications for Konjac Glucomannan "KONJAC LV1MK" by KALYS™

Physicochemical properties	
Source	*A. konjac* Koch
Identification of grade	Konjac LV 1M K*
Aspect of powder	White to creamy white fine free flowing
Odour	Slight
Viscosity of 1% solution, 12 rpm at 25°C (mpa.s = cps) Viscosity of 1,5 solution, 12 rpm at 25°C Viscosity of 2% solution, 12 rpm at 25°C Viscosity of 3% solution, 12 rpm at 25°C	1000 ± 1000 Typically ~ 5-10000 Typically ~ 10-20000 Typically > 50000
pH	5-7
Moisture (%)	≤ 10%
Ash (%) on powder	≤ 4%
Total Dietary Fiber (DF) contents on powder	≥ 75%
Glucomannan (as DF) on dry matter	≥ 80%
As (ppm)	< 3,0
Pb (ppm)	< 1,0
Hg (ppm)	< 0,1
Cd (ppm)	< 1,0
Sulfites (SO2 in ppm) / EU Standard Method (NF 1988-2-1998)	≤ 10 at 7%
Microbiology analysis	
Total plate count / 1g	M**≤ 1500
Yeast and moulds / 1g	≤ 100
E. coli / 5g	Absence
Salmonella / 25g	Absence
Staphylococcus aureus / 1g	Absence
Shelf life	2 years

* LV 1M K is a special low viscosity food grade konjac flour extract standardized in tis glucomannan contents and characterized by a low viscosity (~1000 cps) despite a very high purity and a low sulfite content.
** sampling plan: for n=1, C=1; for n=5, C=2, m=1500, 3m=4500, M=15000 // TPC <3m is conform; ≤ c/n values of TPC between 3m and 10m is acceptable, TPC above 10m=M is NC