

FROSIN™ – MS-CWS -E1420

ACETYLATED COLD WATER SOLUBLE STARCH

DESCRIPTION

Frosin™–MS-CWS is a Chemically modified Pre-gelatinized (Cold water soluble) maize based starch. It is **Vegan, Gluten-Free, Plant-based and Non-GMO**. Pre-gelatinized acetylated starch with increased dispersibility enhances the multiple functionalities of this starch in various food applications.

SPECIFICATIONS

S.No	PARAMETERS	SPECIFICATIONS	METHOD OF ANALYSIS
1	APPEARANCE	OFF WHITE COLOUR FREE FLOWING GRANULAR POWDER	ASF/QP/QA/06/15
2	SOLUBILITY	MAX. 60% SOLUBLE IN COLD WATER	ASF/QP/QA/06/01
3	pH OF 5% (aqu. Soln)	5 - 7.5	IS 4706(PART 2)
4	VISCOSITY OF 5% SOLUTION IN BROOKFIELD VISCOMETER, Spindle No:2, RPM :100, Temp: 30° C)	50 - 300 cP	ISI 17- 1e
5	MOISTURE CONTENT (w/w)	Max 10%	IS 4706(PART 2)
6	BULK DENSITY (gms/ ml)	0.3 TO 0.6	ASF/QP/QA/06/08
7	PARTICLE SIZE (60 MESH)	MIN PASS 80%	BS 410 1986
8	ASH CONTENT (w/w)	Max 0.5%	IS 4706(PART 2)
9	ACETYL CONTENT,%	Max 2.5%	ISI 14- 2e

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MICROBIOLOGICAL PARAMETERS

S.No	TEST PARAMETERS	UNITS	LIMITS AS PER FSSAI	METHOD OF ANALYSIS
1	Total Plate Count	Cfu/g	Not more than 40000	IS 5402
2	Yeast & Mould	Cfu/g	Not more than 100	IS 5403
3	<i>E coli</i>	Present/Absent/g	Absent	IS 5887:PART 1
4	Salmonella	Present/Absent/25	Absent	IS 5887:PART 3
5	Coliform	Cfu/g	Absent	IS:5402
6	<i>Staphylococcus aureus</i>	Present/Absent/25	Absent	IS 5887:PART 2
7	<i>Listeria monocytogenes</i>	Present/Absent/25	Absent	IS 14988:PART 1

MINERALS AND HEAVY METALS PARAMETERS

S.No	TEST PARAMETERS	UNITS	LIMITS AS PER FSSAI	METHOD OF ANALYSIS
1	Arsenic	Mg/kg	Not more than 1.1	FSSAI MANUAL 2016
2	Lead	Mg/kg	Not more than 2.5	FSSAI MANUAL 2016
3	Cadmium	Mg/kg	Not more than 1	FSSAI MANUAL 2016
4	Mercury	Mg/kg	Not more than 0.25	FSSAI MANUAL 2016
5	Copper	Mg/kg	Not more than 30	FSSAI MANUAL 2016
6	Tin	Mg/kg	Not more than 250	FSSAI MANUAL 2016
7	Zinc	Mg/kg	Not more than 50	FSSAI MANUAL 2016

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APPLICATIONS

As Stabilizer in Frozen foods:

Frosin™ – MS-CWS is widely used in different frozen foods for its better water holding capacity and better freeze thaw stability. The starch molecules are partially gelatinized and converted in to cold water soluble starch. This process increases the integrity of the swollen starch granules which will not be completely dispersed in low temperatures. Consequently, starch retrogradation will be retarded thus providing better stability to frozen foods while storage and distribution.

- Frosin™ – MS –CWS can be used in frozen foods such as sausages, dumplings, fish ball, RTC frozen foods, pie fillings, RTC veg products

As Thickener:

Frosin™ – MS – CWS is also widely used as instant thickener with better water holding capacity. Pre-gelatinization process enhances the better water holding capacity of the starch matrix and development of more organized structure leading to higher resistance to deformation.

- Frosin™ –MS-CWS can be used in instant porridges, dry baking premixes, pastry flours, RTC frozen gravies, sauces, gravies, etc.,

As Mouth-feel enhancer:

Frosin™ –MS-CWS is primarily used as mouth feel enhancer in Instant noodles, Instant pasta, Instant macaroni and spaghetti. It improves the palatability of the products with enhanced chewiness.

For Gluten-Free Products:

It can be used as a Gluten-Free substitute in various foods including Instant noodles, Instant pasta, Macaroni, Spaghetti, Nuggets, Meat Balls, Cutlets, Chicken Finger, Popcorn, Sausages, Flavored Sausages and Ready to Fry Minced meats.

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Added attributes:

- Can be used in instant foods such as pie fillings, jellies, demouladle desserts and pudding due to their capacity to absorb water and swell promptly giving texture and appearance of cooked starches
- Can also be used as fat mimetic to reduce calorific load, adhesives in batter and coating applications and as texturizer
- Can also be used as encapsulants for volatile flavours and colours

FEATURES AND BENEFITS

Frosin™-MS-CWS has lower gelatinization temperature, better paste clarity and retarded retrogradation

Increases the palatability of foods holding other components in uniform suspension

It is highly bio-degradable and causes no harm to the Environment.

Frosin™-MS-CWS is a White powder that adds no color to application and blends well with other ingredients. It has a bland taste and so will not mask flavors or aromas.

Frosin™-MS-CWS contains no fat, protein, fiber, vitamins, or other minerals

DOSAGE

Use 1 to 3% Frosin™ –MS -CWS of total batch size. For excellent results, use 5% of total batch size.

STORAGE

Exhibits excellent stability when stored under cool and dry ventilated place. Avoid direct sun light.

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BEST BEFORE DATE

Twelve months from the date of manufacturing.

PACKING

Available in 25 Kgs net weight paper bags with moisture proof liner inside.

ADDITIONAL INFORMATION

FSSAI Certification	Yes
ISO 9001:2015 Certification standard from SGS	Yes
ISO 22000:2018 Certification standard from SGS	Yes
BRC Global Standard for Food Safety Certification from SGS	Yes
Kosher Certification by Kosher Check,British Columbia, Canada	Yes
Halal Certificate	Yes
ZED Certificate	Yes
Preservative	NOT PRESENT/ USED IN PRODUCT

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Technical Data sheet