Maple Biotech Pvt. Ltd.
Works: J-253, M.I.D.C. Bhosari, Pune 411 037, India
Phone: 91 20 27470010/ 30628103/02; Fax: 27450510/ 30628101;
e-mail: sales@maplebiotech.co.in
www.maplebiotech.co.in

DISPERSIBLE CELLULOSE
COLLOIDAL CELLULOSE

MICROCRYSTALLINE CELLULOSE GEL
COLLOIDAL MICROCRYSTALLINE CELLULOSE

Co-processed
Microcrystalline Cellulose and
Carboxymethylcellulose Sodium

AMBICEL MBC

Ambicel MBC is water insoluble hydrocolloid. It has got excellent dispersibility in water. Sodium Carboxymethylcellulose is co-processed with partially depolymerized highly purified cellulose to make Ambicel MBC. Incorporation of Sodium Carboxymethylcellulose in the microfibrils of Microcrystalline Cellulose before drying prevents bonding of microfibrils during drying. This action of Sodium Carboxymethylcellulose (CMC) makes Ambicel MBC higly dispersible Gel forming cellulose.

After stirring in water Ambicel MBC forms either colloidal sol or white opaque gel, depending upon concentration. Individual microfibrils of cellulose get separated when dispersed in water and forms gel or colloidal dispersions. In water, with shear, Ambicel MBC forms a three-dimensional matrix comprised of millions of insoluble microcrystals that form a stable, thixotropic gel.

APPLICATIONS OF AMBICEL MBC:

Applications of Ambicel MBC by virtue of their special qualities are given below:

1. Emulsion Stabilizer	**Pharmaceutical & cosmetic creams**
2. Foam Stabilizer	**Aerosol Foams**
3. O/W Emulsifier	**Pharmaceutical & cosmetic lotions & creams**
4. Suspending agent	**Pharmaceutical & cosmetic suspensions , reconstitutable suspensions**
5. Body Agent, Stiffener, Opacifier	**Pharmaceutical & Cosmetic Creams, Cosmetic Gels, Vaginal Gels**

FOOD APPLICATIONS:

Ambicel MBC finds applications in food products as additive in dairy products like, Butter, Cheese. It gives good mouth feel to frozen deserts and ice creams. It prevents crystal formation in ice creams and acts as stabilizer. It

has excellent Freeze-Thaw stability and hence it finds application in wide range of frozen products. In cheese & butter it finds application to get better spreadability. Due to high water binding capacity and emulsion stabilization property, it imparts good texture and creaminess to dairy product, prevents fat separation. It reduces fat content and calorie reduction also imparts dietary fiber enrichment. In yogurts it improves creaminess and better mouth feel. It substitutes starch due to better gloss, appearance and color of the products. Anticaking property of Anbicel MBC is useful in Cheese powder, Grated and shredded cheese. Longer shelf life of dairy products by virtue of surface moisture reduction is the greatest advantage of Ambicel MBC in dairy products. Ambicel MBC provides a stabilizer system for preparing a product having a dairy-like base which can withstand sufficient heat processing to provide shelf stable cans of the product. The stabilizer system comprises a combination of Ambicel MBC in a base of milk solids, oils or partially hydrogenated oils, emulsifiers, acids, and phosphates. The texture of the product may that of fresh sour cream, fresh cream cheese, fresh cream, or fresh farmer cheese, depending upon the amount of stabilizer included in the formutation

Bakery Products:

Control flow property

- **Achieve desirable texture**
- **Extend shelf-life**
- **Reduce fat**
- **Improve cutting characteristics**

Beverages:

- **Suspend solids such as cocoa and minerals**
- **Improve mouthfeel**
- **Enhance creamy texture**
- **Provide creamy texture**
- **Provide stability under ambient and refrigerated conditions**
- **Benefits either hot or cold systems**
- **May be used for dairy, soy, whey or non-protein systems**

Dairy:

- **Increase yield**
- **Improve texture**
- **Provide creamy mouthfeel and excellent flavor release**

- **Control syneresis**
- **Enable organic labeling**

Deserts:

- **Provide wide range of textures**
- **Provide formulation flexibility for dry-mix or RTE**
- **Reduce preparation time for consumer**
- **Provide sheen**
- **Provide air-cell stabilization**
- **Enable cold or hot process**
- **Minimize syneresis and provide stability**
- **Enable gelatin-free or egg-free formulation**

Dressing, Sausages & Cream:

- **Provide wide range of textures**
- **Provide formulation flexibility for dry-mix or RTE**
- **Reduce preparation time for consumer**
- **Provide sheen**
- **Provide air-cell stabilization**
- **Enable cold or hot process**
- **Minimize syneresis and provide stability**
- **Enable gelatin-free or egg-free formulation**

ICE CREAME:

- **Impart rich and creamy texture in a wide range of ice creams**
- **Deliver the health benefits of reduced fat ice cream with indulgent taste**
- **Control melt-down and improve shape retention**
- **Facilitate mix uniformity and Improve extrusion properties**
- **Reduce heat-shock and shrinkage**

Meat & Seafood:

- **Increase yield and improve processing**
- **Improve natural juice and marinade retention**
- **Improve texture and sliceability**
- **Replace fat and enable lower sodium usage**
- **Enhance freeze-thaw stability**

PHARMACEUTICAL APPLICATIONS:

Ambicel MBC is used in pharmaceutical suspensions, emulsions, nasal sprays, and creams. The wide range of thixotropies, viscosities, gel strengths, and dispersion characteristics of this product line provide unparalleled suspension stability and functional versatility.

Due to versatility in thixotropic properties and Gel strengths Ambicel MBC is highly useful in Cosmetic preparations like, creams, lotions and pastes. It also finds application in topical drug delivery system.

Ambicel MBC is also used in oral care formulations like tooth paste and dentifrice.

AMBICEL MBC IN COSMETICS:

Ambicel finds application in variety of cosmetics due to its following properties

- **ABSORBENT**
- **ANTICAKING**
- **BULKING**
- **EMULSION STABILISING**
- **OPACIFYING**
- **STABILISING over wide *p*H range**
- **VISCOSITY CONTROLLING**

SPECIFICATION SHEET

DISPERSIBLE MICROCRYSTALLINE CELLULOSE GEL
AMBICEL MBC 591

TEST	SPECIFICATIONS
Description	A white to off white Powder
Identification	USPNF Monograph Identification Tests A,B,C
Viscosity 1.2% Solids at 25°C Brookfield/LVF	65± 26 CPS

pH	6.0 – 8.0
Residue on Ignition %	NMT 5.0
Assay as Sodium Carboxymethyl Cellulose %	8.3 - 13.8
Loss on Drying%	NMT 6.0
Particle Size **Retention on 60 mesh** **Retention on 325 mesh**	 NMT 0.1% NMT 45%
Heavy Metals	Max. 10 ppm
Clarity of solution	soluble
Chlorides %	NMT 0.355
Sulphate %	NMT 0.48
Total Aerobic Microbial Count **Total Molds and Yeast Count**	max. 100 cfu/gm Max. 10 cfu/gm
E. Coli Salmonella **S. Aureus Pseudomonas**	absent (Pharma Eur/ USP)

TEST	SPECIFICATIONS
Description	A white to off white Powder
Identification	USPNF Monograph Identification Tests A,B,C
Viscosity 1.2% Solids at 25°C Brookfield/LVF	120 ± 50 CPS
pH	6.0 – 8.0
Residue on Ignition %	NMT 5.0
Assay as Sodium Carboxymethyl Cellulose %	11.0± 3
Loss on Drying%	NMT 8.0
Particle Size **Retention on 60 mesh** **Retention on 200 mesh**	 NMT 0.1% NMT 40%
Heavy Metals	Max. 10 ppm
Total Aerobic Microbial Count **Total Molds and Yeast Count**	max. 100 cfu/gm Max. 10 cfu/gm
E. Coli Salmonella **S. Aureus Pseudomonas**	absent (Pharma Eur/ USP)

SPECIFICATION SHEET

DISPERSIBLE MICROCRYSTALLINE CELLULOSE GEL

AMBICEL MBC 581

APPLICATIONS OF AMBICEL IN FOOD INDUSTRY
EXAMPLES

Application:
Bar Mixes

Chocolate Drinks
Confections
Dressings
Fillings
Food Service
High Fiber Drinks
Icings
Lowfat Sour Cream
Puffed Snacks
Sauces
Whipped Toppings

Heat treated cream cheese preparations

Properties of AMBICEL in cream cheese:

- neutral in taste and smell

- light to white color
- low bioburden / microorganisms
- calorie-free
- synergistic effect with hydrocolloids
- high water and oil-binding capacity
- food

Advantages

- improvement of texture
- protein stabilization
- improved sensory properties

Processed cheese and processed cheese preparations

- higher water-binding capacity
- better spreadability
- good creaminess and emulsification ability
- partial substitute for phosphate
- dietary fiber enrichment / fat reduction

Cheese substitutes

- improved texture
- better water-binding
- good re-melting properties
- improved shelf-life
- prevents fat separation

Yogurt, yogurt drinks

- substitute for conventional thickening agents
- stabilization with simultaneous dietary fiber enrichment
- not sensitive to pH value and temperature influences
- creamier, well-rounded taste

Grated cheese, shredded cheese, cheese powder

- ideal anticaking agent

ICE CREAMS
• Provides a creamy mouthfeel and smooth texture
• Imparts added body and mouthfeel normally associated with higher fat products
• Offers significant protection against shrinkage in frozen desserts
• Enhances ice cream quality of novelties extruded at higher temperatures
• Interacts with casein for enhanced functionality
• Replaces 1% to 2% butterfat or milk solids non fat when used at recommended levels
• Provides protection against whey off in resale mix and under slow hardening condition

YOGURT
• Control meltdown
• Allow clean flavor release
• Impart foam stability
• Improve extrusion properties
• Impart smooth texture and creamy mouthfeel
• Heat shock protection

AMBICEL IN PHARMACEUTICAL PREPARATIONS

Ambicel Microcrystalline Cellulose is useful in Pharmaceutical Applicationsas:

- Suspending agent
- Emulsion Stabilizer
- Oil/ Water Emulsifier

- Nasal Sprays
- Topical Sprays and lotions
- Oral Suspensions
- Reconstitutable suspensions
- Oral Suspensions

AMBICEL IN COSMETICS PREPARATIONS

- After-Sun Moisturizing Sprays
- Eyeliner
- Fluid Foundations
- High SPF Water-resistant Sunscreen Lotion
- Mascara
- Moisturizing Lipsticks
- Self-Tanning Sprays
- Sunscreen Sprays
- Emulsifier-free Moisturizing Lotion
- Moisturizing Wipes
- Shaving Foams
- Sunscreen Creams
- Sunscreen Lotion