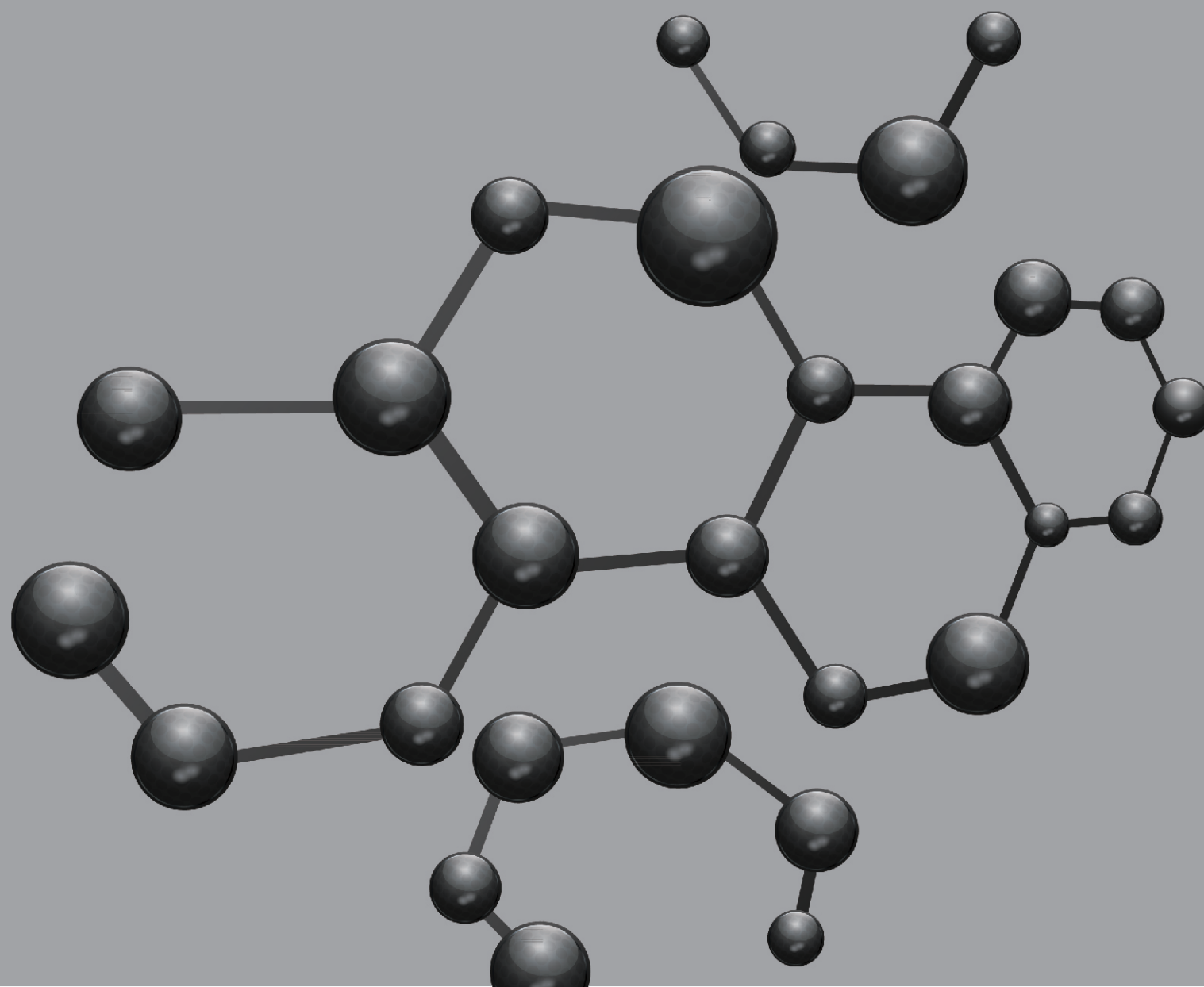




INDIVIDUALIZED CUSTOMIZATION MEETING YOUR DIFFERENTIATED DEMANDS

TONCELLUS®
TOMOLLOSE®
TOMOSOL®
TOMOSIL™
TONSTALAC™
TOMITOL™
TOMPHOS™
TOMCELAC™
TONACELL™



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珠海市东辰制药有限公司
Zhuhai Topchain Pharmaceutical Co., Ltd



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COMPANY PROFILE

Individualized customization meeting
your differentiated demands

QUALITY IS THE RESULT OF DESIGN

Zhuhai Topchain Pharmaceutical Co., Ltd, established in 2012, specializes in research and manufacture of pharmaceutical excipients. Microcrystalline cellulose serial products are the main field of development of the company. The company has adequate technical resources and manufacturing capacities to satisfy individualized and differentiated demands of customers.

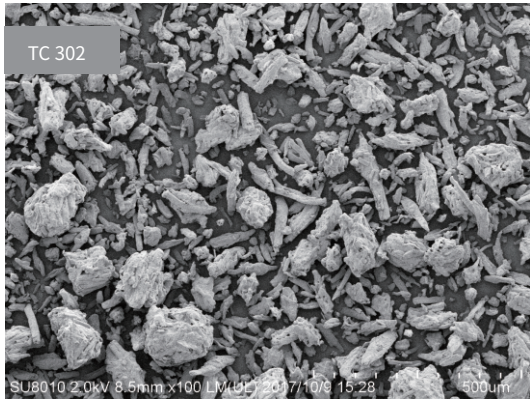
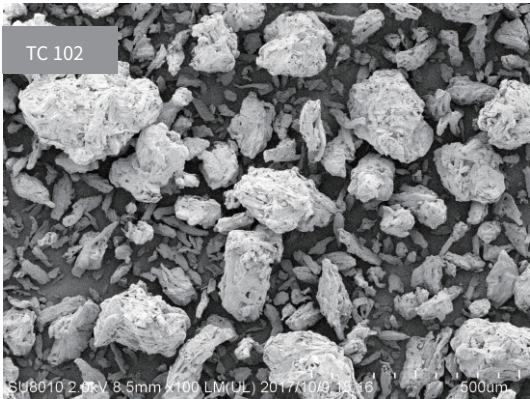
Products manufactured by Topchain include microcrystalline cellulose(DMF032755), nano-crystalline cellulose, croscarmellose sodium, microcrystalline cellulose core pellets, silicified cellulose, microcrystalline cellulose/sodium carboxymethyl cellulose, microcrystalline cellulose/anhydrous dibasic calcium phosphate, microcrystalline cellulose/pregelatinized starch, microcrystalline cellulose/mannitol, lactose / starch, etc. Product quality can satisfy requirements in NF, Ph.Eur, JP and CP specifications.

Manufacturing processes of the products are all independently developed by the company and possess independent intellectual property rights. Manufacturing workshops are designed and constructed as per EU API GMP standards following the quality by design (QbD) philosophy; clean manufacturing areas are of class D cleanliness. Established by reference to EU GMP standards, the quality management systems is sound and has been granted the Drug Manufacturing License by CFDA.

TONCELLUS® TC Series

Microcrystalline Cellulose TC Series

- The outstanding flowability can significantly improve the flowability of other powders
- Ensure the uniform mixing of drug ingredients, thus reducing tablet weight variations
- Structures have demonstrated excellent drug absorption capacity
- Demonstrate more prominent advantage in forming compressibility
- Compression can be performed under low pressures, thus reducing the wearing of tablet press machines and filling dies
- The optimal choice as filling diluents of solid preparations

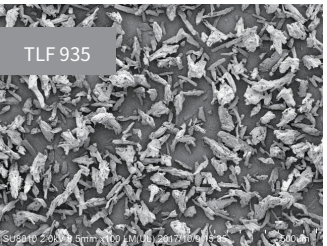


Model	D50 (um)	Bulk Density(g/cm³)	Loss on drying(%)	Angle(°)
TC 112	85-125	0.28 -- 0.34	≤ 1.5	42
TC 200	170-220	0.29 -- 0.36	≤5.0	36
TC 200XL	220-280	0.30 -- 0.38	≤5.0	<36
TC 101	45-70	0.26 -- 0.31	≤5.0	45
TC 102	85-125	0.28 -- 0.33	≤5.0	42
TC 301	45-70	0.35 -- 0.42	≤5.0	41
TC 302	85-125	0.35 -- 0.46	≤ 5.0	38
TC 302L	85-125	0.35 -- 0.46	≤ 2.0	38
TC 105	20-30	0.20 -- 0.30	≤ 5.0	46
TC 113	15-25	0.27 -- 0.34	≤ 2.0	48

TONCELLUS® TLF Series

Microcrystalline Cellulose TLF Series

- The latest development achievements of TOPCHAIN PHARMA
- High-end individualized MCC products ,which are optimal diluents and fillers for compression
- With both high formability and high compressibility, the products have perfectly solved the problems about the compression of low-formability API powders and high-dose formulations of APIs
- Reduced tablet sizes and between-tablet abrasion
- The flowability of TLF935 is the best among all MCC products, while TLF525 has not only good flowability but also a formability that is much greater than that of TC101



Model	D50(um)	Bulk Density(g/cm³)	Loss on drying (%)	Angle(°)
TLF 525	45-70	0.18 -- 0.26	≤5.0	42
TLF 935	85-125	0.26 -- 0.33	≤ 5.0	34
TLF 935L	85-125	0.26 -- 0.33	≤ 1.5	34

TONCELLUS® TL Series

Microcrystalline Cellulose TL Series

- Abandoned the conventional way of improving the flowability of powders by increasing the sizes and altering the shapes of MCC particles
- Adopted unique special technology to maximize the flowability of MCC
- Provided a fine solution to mixed homogeneity of strongly sticky and adhesive API powders
- Solved such problems as non-uniform mixing of drug substances and great tablet weight variations under the conditions of high-dose formulations

Model	D50(um)	Bulk Density(g/cm³)	Loss on drying (%)	Angle(°)
TL 965	85-125	0.55-0.65	≤ 5.0	< 34

TONCELLUS® TF Series

Microcrystalline Cellulose TF Series

- Satisfactory tablet hardness can be achieved with relatively small pressure
- The high lubrication can effectively reduce the wear between tablets
- The ultra-high formability can significantly reduce the sizes of tablets
- Perfectly solved the issues about the compression of low-formability API powders and API high-dose formulas
- Support the providing of individualized customization of products to customers based on the characteristic requirements of API powders to satisfy the differentiated demands

Model	D50(um)	Bulk Density(g/cm³)	Loss on drying (%)	Angle(°)
TF 515	45-80	0.10 - 0.15	≤5.0	57
TF 515L	45-80	0.10 -0.15	≤ 1.5	57
TF 525	45-80	0.15-0.25	≤5.0	49
TF 525L	45-80	0.15-0.25	≤ 1.5	49

TONCELLUS® TP Series

Microcrystalline Cellulose Core Pellet TP Serie

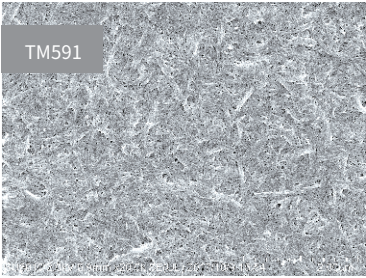
- Refer to pellets manufactured from 100% microcrystalline cellulose using a specific technology of TOPCHAIN
- Relatively high sphericity, mechanical strength and controllable water absorption rate
- Blank cores of sustained-release, controlled-release and other micropellet preparations
- Used for pellet core compression as the carrier of drug coatings

Model	TP 50	TP 102	TP 203	TP 305	TP 507	TP 708	TP 8100
Range of Particle size(um)	50 -100	100 -200	200 -300	300 -500	500 -700	700 - 800	800 -1000
Sphericity	1.3	1.1	1.1	1.1	1.1	1.1	1.1
Apparent density (g/cm³)	0.65	0.88	0.92	0.99	0.98	0.95	0.91
Water absorption(%)	0.7	0.7	0.8	0.8	0.9	0.9	0.8
Friability (%)	0	0	0	0	0	0	0

TOMOLLOSE® TM Series

Microcrystalline Cellulose-Carboxymethyl Cellulose Sodium TM Serie

TOMOLLOSE® TM Series products are high-quality suspending agents with a good lubrication texture. They are mixtures of micrycrystalline cellulose and carboxymethyl cellulose sodium manufactured using special technologies and mostly used in suspensions and preparations for dry suspension of indissolvable drugs.



Model	MCC % (%)	CMC-NA% (%)	Friability (mpa.s)	PH	Loss on drying (%)
TM 611	> 80	11.3 - 18.8	50 -118	6.0 -8.0	≤6.0
TM 591	> 80	8.3 -13.8	39 -91	6.0 -8.0	≤6.0

TOMOSOL® TS Series

Croscarmellose Sodium TS Series

TOMOSOL® TS Series products are super-disintegrants, which are suitable for dry and wet granulation and direct compression and can satisfy differentiated requirements of indissolvable and dissolvable drugs on disintegrants.

Model	Settling volume (ml)	PH(1%dispersion)	Water-soluble material (%)	Substituting degree	Ash content (%)
TS 692	10.0 - 30.0	5.9 -7.0	1.0 -5.5	0.63 -0.85	14.0 -28.0
TS 692B	10.0 -30.0	5.9 -7.0	1.0 -5.5	0.63 -0.85	14.0 -28.0

TOMOSIL™ TMS Series

TOMOSIL™ TMS Series products are polyfunctional excipients and dried products of microcrystalline cellulose and silicon dioxide mixed using special technologies. The products have good flowability, compressibility and dispersity in the formulas. When used for direct compression, while saving the granulation procedure, the products can also greatly reduce the categories and dosages of excipients. The TOMOSIL™ formulas can be adopted to prepare extraordinary tablets with extremely high cost performance.

Model	Bulk density (g/cm ³)	Water content (%)	Mean particle diameter (um)	pH
TMS 635	0.30 - 0.35	≤5.0	45 - 70	5.0 - 7.0
TMS 935	0.30-0.35	≤ 5.0	85 - 125	5.0 - 7.0
TMS 635L	0.30- 0.38	≤ 1.5	45 - 70	5.0 - 7.0
TMS 935L	0.30- 0.38	≤ 1.5	85 - 125	5.0 - 7.0

TONSTALAC™ TSL Series

Composed of 85% lactose monohydrate and 15% corn starch, TONSTALAC™TSL Series products have both excellent direct compression performance and rapid disintegration feature. With outstanding flowability, they can guarantee the consistency in tablet weight at various compression speeds and are used in direct compression and low-dose formulas. In addition, they can also be used as capsule diluents.

Model	Mean particle diameter (um)	Bulk density (g/cm ³)	Water content (%)
TSL 271	170-220	0.60 - 0.75	< 1.0

TOPCHAIN PHARMA TONACELL™ Series

Nanocrystalline cellulose

Nanocrystalline cellulose(NCC) has large specific surface area, excellent biocompatibility, excellent mechanical properties, low coefficient of thermal expansion, excellent dispersion stability in water, thixotropic properties, surface functional group changeability, light excitation performance, electromagnetic performance . NCC has been widely used in food, biomedicine, personal care and many other fields .

Model	Loss on drying (%)	pH	Specific surface area(m ² /g)	Mean particle diameter(μm)	Bulk density (g/cm ³)
NC 100	≤ 5.0	5.0 - 7.0	≥560	≤25	0.7- 0.9

TOPCHAIN PHARMA TOMITOL™ Series

Microcrystalline Cellulose - Mannitol

TOMITOL™ TMT series products are mixed-type excipients prepared with microcrystalline cellulose and mannitol. The products can change the flowability, compressibility and disintegration of products and have an extremely low sensitivity to lubricants.

Model	Loss on drying (%)	pH	Mannitol content (%)	Mean particle diameter(μm)	Bulk density (g/cm ³)
TMT 934	≤ 4.5	5.0 - 7.0	10	85-125	0.27 - 0.32

TOPCHAIN PHARMA

TOMPHOS™ Series

Microcrystalline Cellulose - Anhydrous calcium phosphate dibasic

TOMPHOS™ TOP Series products are high-efficacy functional excipients suitable for use in dry granulation. They are prepared with microcrystalline cellulose and anhydrous calcium phosphate as raw materials mixed using special technologies followed by drying.

Model	Loss on drying(%)	pH	Anhydrous calcium phosphate dibasic content (%)	Mean particle diameter (μm)	Bulk density(g/cm³)
TOP 435	≤5.0	5.5 - 7.5	25	35 - 55	0.25 - 0.40

TOPCHAIN PHARMA

TOMCELAC™ Series

Microcrystalline cellulose-lactose

Mircocrystalline cellulose-lactose is a high quality and high performance new type of pharmaceutical excipient which combines the brittle deformation of lactose monohydrate with the plastic deformation of microcrystalline cellulose;Its excellent fluidity and compressibility make it suitable for direct compression process;This product uses a special process to mix microcrystalline cellulose with lactose and obtain it by spray drying .

Model	Loss on drying(%)	pH	Lactose content(%)	Mean particle diameter (μm)	Bulk density (g/cm³)
TMC 935	≤5.0	5.0 - 7.0	25	85 - 125	0.26 - 0.32