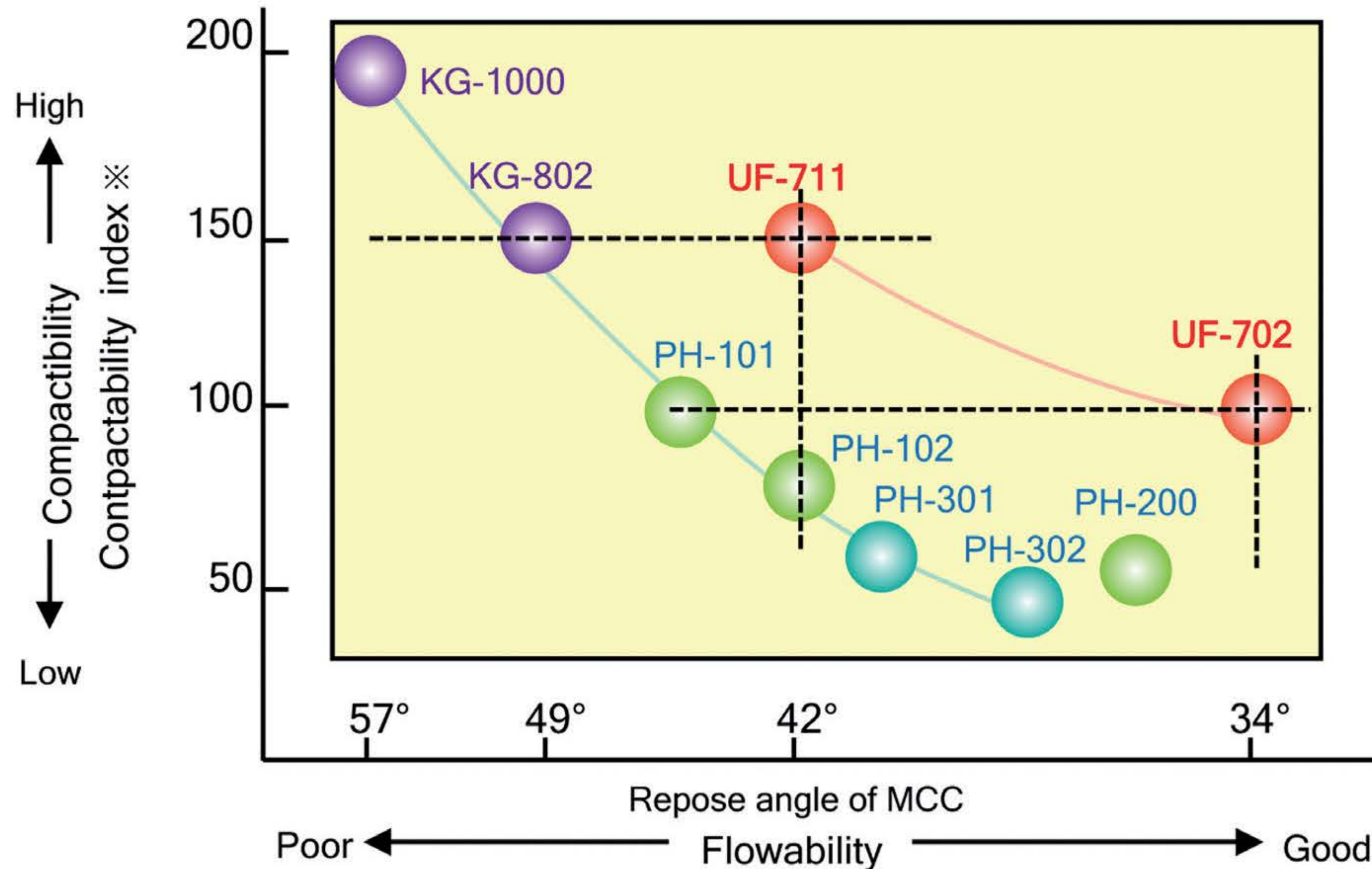
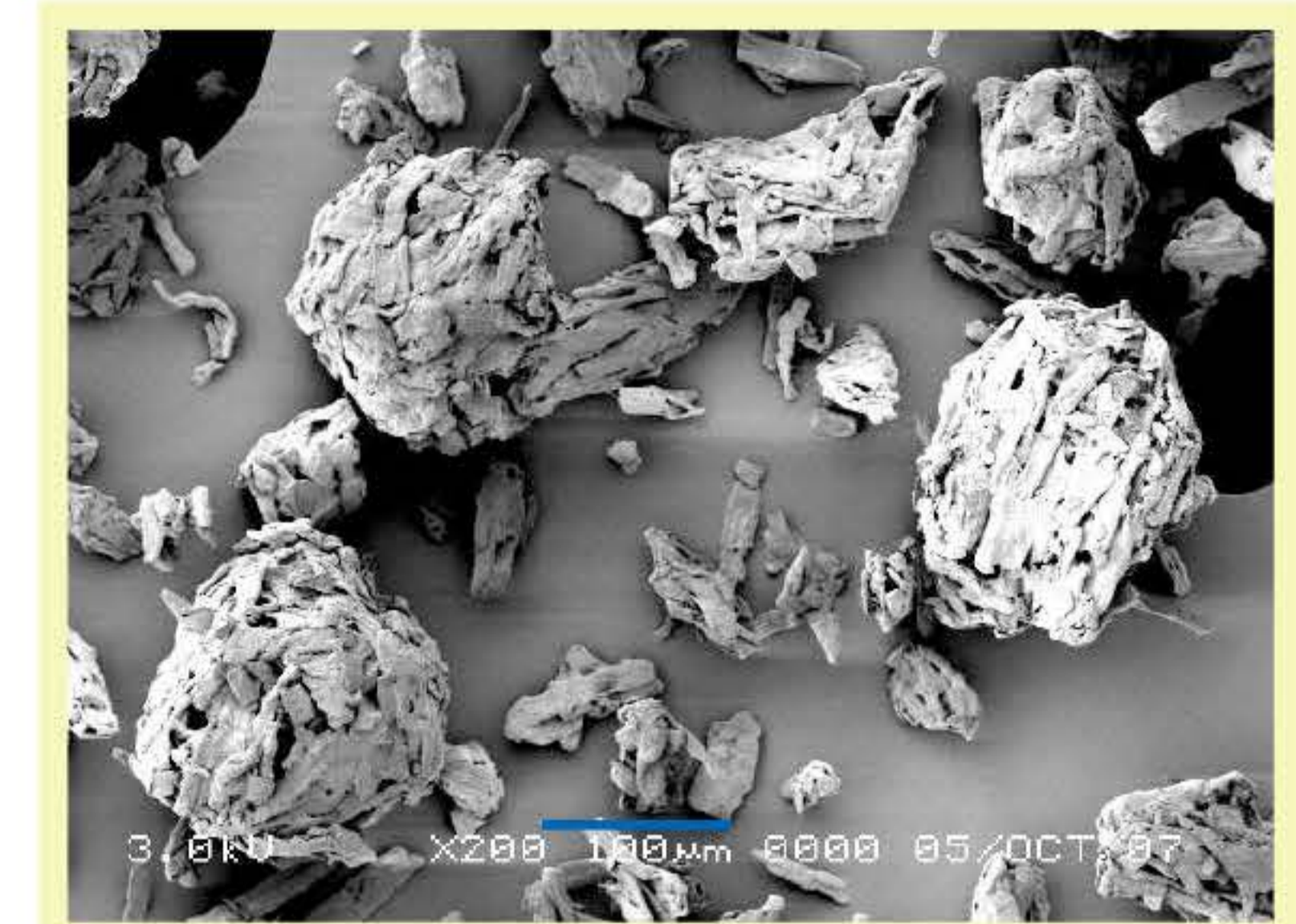


Pharmaceutical Excipients

CEOLUS™

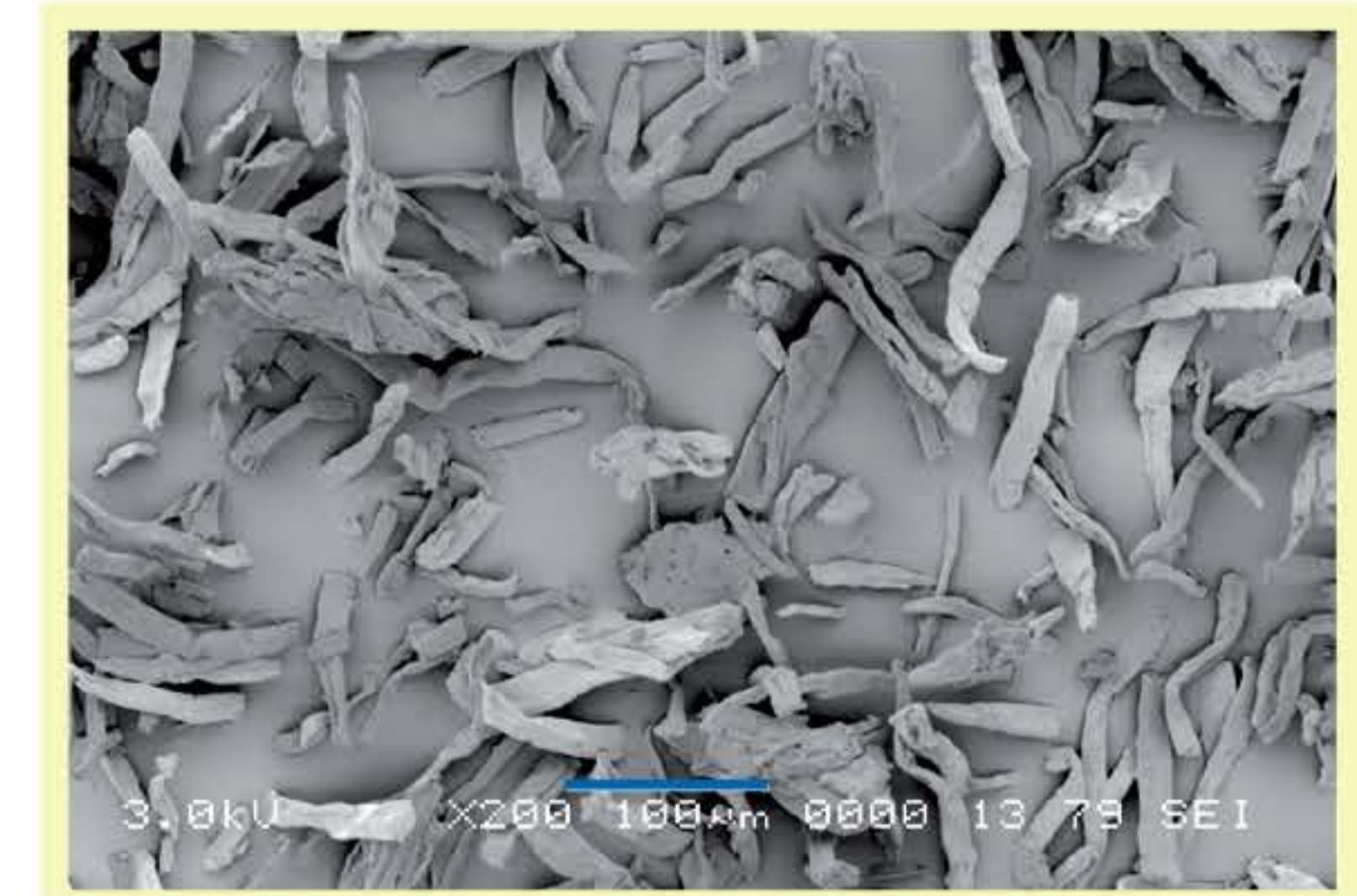


※Tablet Hardness of PH-101 formulation defined as 100.
Formulation : Acetaminophen / MCC=70 / 30, Tablet size : 500mg-φ11.3mm, Compression force : 7kN



UF-702

100μm



KG-1000

100μm

APPLICATION GUIDE

NO.	OUTLINE	METHOD	RECOMMENDED GRADES
1	Capping Prevention	Direct compression	KG - 1000 KG - 802 UF - 711
2	Capping Prevention (Extra Granular Addition)	High Shear Granulation	KG - 1000
3	Reduction of Tablet Size	Direct Compression	KG - 1000
4	Reduction of Tablet Size	Direct Compression	UF - 711
5	Improvement of Tablet Hardness	Roller Compaction	KG - 1000 KG - 802
6	Reducing Friability of Tablets for Film Coating	Direct Compression	KG - 1000
7	Pressure Sensitive APIs	Direct Compression	KG - 1000
8	Naturally Derived Ingredients in Nutraceuticals	Direct Compression	KG - 1000
9	Control of Disintegration / Dissolution (Decelerate)	Direct Compression	KG - 1000 KG - 802
10	Control of Disintegration / Dissolution (Accelerate)	Direct Compression	UF - 702 UF - 711
11	Improving Tablet Disintegration and Dissolution	High Shear Granulation	UF - 702
12	Improvement of Tablet Weight Variation	Direct Compression	UF - 702
13	High Speed Tableting	Direct Compression	UF - 702
14	Preventing Segregation of Low Dose APIs	Direct Compression	UF - 702
15	Prevention of Hardness Loss Due to Over Lubrication	Direct Compression	UF - 702
16	MUPS Tablet	Direct Compression	PC - 10 KG - 802
17	Powderization and Granulation of Plant Extract	High Shear Granulation	PC - 10
18	Stability Improvement	Stability Study	PC - 10

KEY FACTS

- Founded: 1922
- HQ: Tokyo
- Production sites: Japan

KEY ATTRIBUTES

- Performance
- Reliability
- Premium Quality
- Consistency
- Regulatory
- Innovations

QUALITY MANAGEMENT SYSTEM

- ISO
- JPEC-GMP

COMPENDIAL STATUS

- Ph.Eur.
- USP
- JP

CEOLUS™ KG&UF: High Performance MCC

CEOLUS™ UF: Superior in both flowability and compactibility due to its porous morphology
 CEOLUS™ KG: Specialized in the performance of compactibility due to its fibrous morphology

Grade	Bulk density [g/cm ³]	Average particle size [μm]	Repose angle (Powder)	Water absorption capacity [%]	Vitamin E absorption capacity [%]
UF-702	0.29	100	34	260	190
UF-711	0.22	50	42	260	200
KG-1000	0.12	50	57	350	270
KG-802	0.21	50	49	260	200

GELPHERE™ 100% MCC spherical seed core

Insoluble, Robust for MUPS Tablets and Capsule

	CP-102	CP-203	CP-305	CP-507	CP-708
Particle size range (μm)	106~212	150~300	300~500	500~710	710~850
Sphericity	1.2	1.1	1.1	1.2	1.2
Bulk density (g/cm ³)	0.83	0.87	0.97	0.97	0.93
Flowability (%)	0.0	0.0	0.0	0.0	0.0
Water absorption (%)	100	100	110	70	65

PC-10 Partly Pregelatinized Starch

Partly pregelatinized starch derived from corn with high water-holding capacity and very small water-soluble content

Ave. particle size	70μm	Water-soluble content	≤ 3%
Repose angle	38~40°	Water-holding capacity	3.7g/g
Bulk density	0.5g/cm ³	Swelling volume in water	8~9cm ³ /g

KICCOLATE™ Croscarmellose Sodium

Croscarmellose sodium superdisintegrant for tablets, capsules, and granules
 ND-200 is for soluble, ND-2HS for poorly soluble APIs

Grade	Density (g/cm ³)		Particle size (μm)	Settling volume (cm ³ /g)
	Bulk	Tapped		
ND-200	0.45	0.69	≤ 5% on 75μm	15
ND-2HS	0.44	0.65		23

Note: All values are presented only for the purpose of basic reference and not as specifications.

ASAHI KASEI CORPORATION

CEOLUS Marketing & Sales Department

Functional Additives Division

1-1-2, Yurakucho, Chiyoda-ku, Tokyo 100-0006, Japan
 Phone: +81-(0)3-6699-3361
 ceolus@om.asahi-kasei.co.jp

CHINA:

Asahi Kasei (China)Co.,Ltd.

8/F, One ICC, Shanghai International Commerce Centre, No.999 Huaihai Zhong Road, Shanghai 200031 China
 Phone: +86-21-6391-6111

Asahi Kasei Corp., Beijing Office

Suite 2008, Gemdale Plaza 91 Jianguo Road; Chaoyang District, Beijing, China
 Phone: +86-10-6569-3939

EUROPE:

Asahi Kasei Europe GmbH

Fringsstraße 17, 40221 Düsseldorf Germany
 Phone: +49-(0)211-33992000

INDIA:

Asahi Kasei India Pvt. Ltd.

The Capital 1502B, Plot No. C70 G Block, Bandra Kurla Complex Bandra(East), Mumbai 400051 India
 Phone: +91-22-6710-3962

USA:

Asahi Kasei America Inc.

800 Third Avenue, 30th Floor, New York, NY 10022 USA
 Phone: +1-212-371-9900