



ENCAPSULATION

Neutral Pellets & Coating Polymers

Sugar Pellets

Sugar Pellets Definitions:

- SPRAYSPHERES™ - SS contains not more than 92 percent of sucrose. Calculated on the dried basis. The dried basis. The remainder consists of corn starch as per the European Pharmacopoeia.
- Compliance with Ph. Eur., USP/ NF and JP.
- Produced in accordance with the cGMP.

Sugar pellets particle size specifications:

Particle size distribution (analyzed by laser diffraction) shows the symmetrical character of the distribution. The single model profile, associated a very homogeneous population of SPRAYSPHERES™ - SS.

Sugar Pellets Application:

Used as cores to be coated in the manufacture of dry pharmaceutical forms especially for controlled release & specially formulations.

SPRAYSPHERES™ - Speciality Products (SP):

Definition:

SPRAYSPHERES™ - SP base of sugar pellets and microcrystalline pellets coated with cationic polymers.

Application:

- Suitable for very low / high dosage forms and for drugs with a low therapeutic margin.
- Fillers for dispersible Tablets.
- Used as cores to be coated in the manufacture of highly hygroscopic / soluble drugs / unstable drug.
- Using SPRAYSPHERES™ - Sp products are interesting into a transfer strategy of capsule with pellets to tablets.



Sr. No.	Grade	Mesh Size (ASTM)	Diameter In mm (µm)	Application
1	Sugar Pellets SS	120 – 140	0.106 – 0.125	Used as drug - free cores for controlled or sustained release systems.
2	Sugar Pellets SS	100 – 120	0.125 – 0.150	
3	Sugar Pellets SS	80 – 100	0.150 – 0.180	
4	Sugar Pellets SS	70 – 80	0.180 – 0.212	
5	Sugar Pellets SS	60 – 70	0.212 – 0.250	
6	Sugar Pellets SS	50 – 60	0.250 – 0.300	
7	Sugar Pellets SS	45 – 50	0.300 – 0.355	
8	Sugar Pellets SS	45 – 60	0.250 – 0.355	
9	Sugar Pellets SS	40 – 60	0.250 – 0.425	
10	Sugar Pellets SS	40 – 50	0.300 – 0.425	
11	Sugar Pellets SS	40 – 45	0.355 – 0.425	
12	Sugar Pellets SS	35 – 55	0.355 – 0.500	
13	Sugar Pellets SS	35 – 50	0.300 – 0.500	
14	Sugar Pellets SS	35 – 45	0.400 – 0.450	
15	Sugar Pellets SS	35 – 40	0.425 – 0.500	
16	Sugar Pellets SS	30 – 35	0.500 – 0.600	
17	Sugar Pellets SS	25 – 30	0.600 – 0.710	
18	Sugar Pellets SS	20 – 25	0.710 – 0.850	
19	Sugar Pellets SS	18 – 20	0.850 – 1,000	
20	Sugar Pellets SS	16 – 20	0.850 – 1,180	
21	Sugar Pellets SS	16 – 18	1,000 – 1,180	
22	Sugar Pellets SS	14 – 16	1,180 – 1,400	
23	Sugar Pellets SS	12 – 16	1,400 – 1,700	
24	Sugar Pellets SS	12 – 14	1,400 – 1,700	
25	Sugar Pellets SS	10 – 12	1,700 – 2,000	

We do customized Projects / Development for customer based on their annual requirement of the product.

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Starch Pellets

Starch or amyllum is a carbohydrate consisting of a large number of glucose units joined together by glycosidic bonds. This polysaccharide is produced by all green plants as an energy store. It is the most common carbohydrate in the human diet and is contained in large amounts in such staple foods as potatoes, wheat, maize (corn), rice, and cassava.

Pure starch is a white, tasteless and odorless powder that is insoluble in cold water or alcohol. It consists of two types of molecules: the linear and helical amylose and the branched amylopectin. Depending on the plant, starch generally contains 20 to 25% amylose and 75 to 80% amylopectin. Glycogen, the glucose store of animals, is a more branched version of amylopectin.

Starch is processed to produce many of the sugars in processed foods. Dissolving starch in warm water gives wheat paste that can be used as a thickening, stiffening or gluing agent. The biggest industrial non-food use of starch is as adhesive in the papermaking process.



Sr. No.	Grade	Mesh Size (ASTM)	Diameter In mm (µm)	Application
1	Starch Pellets STS	12 - 14	1,400 – 1,700	Used as spherical seed cores for drug layering & film coating. Also used in manufacture of granules / beadedlets with sustained / controlled release, taste masking & other special properties.
2	Starch Pellets STS	16 - 18	1,000 – 1,180	
3	Starch Pellets STS	18 - 20	0,850 – 1,000	
4	Starch Pellets STS	20 - 30	—	
5	Starch Pellets STS	30 - 40	—	
6	Starch Pellets STS	40 - 50	0,300 – 0,425	
7	Starch Pellets STS	50 - 60	0,250 – 0,300	
8	Starch Pellets STS	60 - 80	—	
9	Starch Pellets STS	80 - 100	0,150 – 0,180	
10	Starch Pellets STS	100 - 200	—	

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Lactose Pellets

Lactose is a disaccharide sugar that is found most notably in milk and is formed from galactose and glucose. Lactose makes up around 2~8% of milk (by weight), although the amount varies among species and individuals.

It is extracted from sweet or sour whey. The name comes from lac or lactis, the Latin word for milk, plus the -ose ending used to name sugars.



Sr. No.	Grade	Mesh Size (ASTM)	Diameter In mm (µm)	Application
1	Lactose Pellets LS	18 / 20	0,850 – 1,000	Used as spherical seed cores for drug layering & film coating. Also used in manufacture of granules / beadedlets with sustained / controlled release, taste masking & other special properties.
2	Lactose Pellets LS	20 / 30	—	
3	Lactose Pellets LS	30 / 40	—	
4	Lactose Pellets LS	40 / 50	0,300 – 0,425	
5	Lactose Pellets LS	50 / 60	0,250 – 0,300	
6	Lactose Pellets LS	60 / 80	—	
7	Lactose Pellets LS	80 / 100	0,150 – 0,180	
8	Lactose Pellets LS	100 / 200	—	

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calcium carbonate Pellets

SPRAYSPHERES™ - CS

- Calcium Carbonate Neutral Pellets consist of CaCO_3 and also used for the controlled release and MUPS formulations in nutraceutical and pharmaceutical medicine.
- Adapted for controlled release or sustained release formulations to produce spherical granules or pellets which have the most suitable size and dissolution profile.

Calcium Carbonate Pellets Definitions

- The SPRAYSPHERES™ - CS have been developed using calcium carbonate (90%) as base and other ingredient is maize starch.
- Calcium carbonate complying with Ph. Eur / USP / NF.
- Manufacturing in accordance with the cGMP.

Calcium Carbonate General properties:

- Nearly white hard, uniform and spherical particles. (sphericity degree average >90%)
- Very low friability level.
- Calcium carbonate high physicochemical inertness improves the stability of the finished product.
- Uniform and consistent loading.
- Calcium give a improved taste and mouth feel for the pellets.



Calcium Carbonate Particle Size Specifications:

- Minimum of 96% (w/w) of SPRAYSPHERES™ - CS are between the lower and the upper limits of the size stated on the label.
- The SPRAYSPHERES™ - CS selection is obtained by the decreasing size by sieving method.

Calcium Carbonate Application:

- Used as cores to be coated in the manufacture of dry pharmaceutical forms. It enables greater accuracy and consistency in drug layering and coating.
- Suitable for non-carcinogenic products.
- Adopted to controlled release or sustained release formulations SPRAYSPHERES™ - MS make it easy to produce spherical micro granules which has the most suitable size and dissolution profile to each specific purpose.

Sr. No.	Grade	Particle size range (µm)	Diameter in mm (µm)	Application
1	Calcium Carbonate Pellets CS-100	75 - 212	—	Used as spherical seed cores for drug layering & film coating. Also used in manufacture of granules / beads with sustained / controlled release, taste masking & other special properties.
2	Calcium Carbonate Pellets CS-102	106 - 212	—	
3	Calcium Carbonate Pellets CS-203	150 - 300	—	
4	Calcium Carbonate Pellets CS-305	300 - 500	—	
5	Calcium Carbonate Pellets CS-507	500 - 710	—	
6	Calcium Carbonate Pellets CS-708	710 - 850	—	

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Tartaric Acid Pellets

Tartaric Acid is widely used in food products, oral, topical and parenteral pharmaceutical formulations and is generally regarded as a nontoxic and nonirritant material.

In general tartaric acid is also used:

- in beverages, confectionary, food products and pharmaceutical formulations as an acidulent
- as a sequestering agent
- as an antioxidant synergist
- in pharmaceutical formulations with bicarbonates, as the acid component of effervescent granules, powders and tablets.



Tartaric Acid Pellets Application:

Tartaric Acid Pellets (TAP) are highly spherical particles optimized for coating and layering processes to achieve reproducible product characteristics. In extended release pellet formulations Tartaric Acid Pellets (TAP) can be integrated to reduce the pH-dependency of the drug release therefore achieve the desired dissolution profile.

Sr. No.	Grade	Particle size range (µm)	Diameter In mm (µm)	Application
1	Tartaric Acid Pellets TS	20 / 30	—	Used as spherical seed cores for drug layering & film coating. Also used in manufacture of granules / beads with sustained / controlled release, taste masking & other special properties.
2	Tartaric Acid Pellets TS	30 / 40	—	
3	Tartaric Acid Pellets LS	40 / 50	—	
4	Tartaric Acid Pellets TS	50 / 60	—	
5	Tartaric Acid Pellets TS	60 / 80	—	
6	Tartaric Acid Pellets TS	80 / 100	—	
	Tartaric Acid Pellets TS	100 / 200	—	

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Mannitol Pellets

Mannitol is a white, crystalline organic compound with the formula. This polyol is used as an osmotic diuretic agent and a weak renal vasodilator.

It was originally isolated from the secretions of the flowering ash, called manna after their resemblance to the Biblical food, and is also referred to as mannite and manna sugar. In plants, it is used to induce osmotic stress.



Sr. No.	Grade	Mesh Size (ASTM)	Diameter In mm (µm)	Application
1	Mannitol Pellets MAS	18 / 20	0.850 – 1,000	Used as spherical seed cores for drug layering & film coating. Also used in manufacture of granules / beadiets with sustained / controlled release, taste masking & other special properties.
2	Mannitol Pellets MAS	20 / 30	—	
3	Mannitol Pellets MAS	30 / 40	—	
4	Mannitol Pellets MAS	40 / 50	0.300 – 0.425	
5	Mannitol Pellets MAS	50 / 60	0.250 – 0.300	
6	Mannitol Pellets MAS	60 / 80	—	
7	Mannitol Pellets MAS	80 / 100	0.150 – 0.180	
8	Mannitol Pellets MAS	100 / 200	—	

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Silica Pellets

SPRAYSPHERES™ - AS

Silica Pellets Neutral pellets Consist of SiO₂ and mainly used as a core for drug loading of insoluble and instable drug. Also used in MUPS technology.

Silica Pellets Definitions:

- The SPRAYSPHERES™ - AS have been developed using Silicon dioxide (< 75%) as base.
- Silica complying with Ph. Eur / USP / NF.
- Manufacturing in accordance with the cGMP.

Silica Pellets General properties:

- Nearly white hard, uniform and spherical particles. (sphericity degree average >90%)
- Very low friability level.



Sr. No.	Grade	Particle size range (µm)	Diameter In mm (µm)	Application
1	Silica Pellets AS-100	75 - 212	—	Used as spherical seed cores for drug layering & film coating. Also used in manufacture of granules / beads with sustained / controlled release, taste masking & other special properties.
2	Silica Pellets AS-102	106 - 212	—	
3	Silica Pellets AS-203	150 - 300	—	
4	Silica Pellets AS-305	300 - 500	—	
5	Silica Pellets AS-507	500 - 710	—	
6	Silica Pellets AS-708	710 - 850	—	

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MCC Pellets

SPRAYSPHERES™ - MS

Microcrystalline Cellulose Pellets Neutral pellets for sugar free products, highly soluble & controlled released formulation products.

MCC Pellets Definitions:

- The SPRAYSPHERES™ - MS have been developed using microcrystalline cellulose (MCC) as base.
- Microcrystalline cellulose is purified, partly devolymerised cellulose, prepared from alpha cellulose.
- MCC complying with Ph. Eur.
- Manufacturing in accordance with the cGMP.

MCC Pellets General properties:

- Nearly white hard, uniform and spherical particles. (sphericity degree average >90%)
- Very low friability level.
- MCC high physicochemical inertness improves the stability of the finished product.
- Insoluble in water, absolute ethanol, acetone.



Sr. No.	Grade	Particle size range (µm)	Diameter In mm (µm)	Application
1	MCC Pellets MS-100	75 - 212	—	Used as spherical seed cores for drug layering & film coating. Also used in manufacture of granules / beads with sustained / controlled release, taste masking & other special properties.
2	MCC Pellets MS-102	106 - 212	—	
3	MCC Pellets MS-203	150 - 300	—	
4	MCC Pellets MS-305	300 - 500	—	
5	MCC Pellets MS-507	500 - 710	—	
6	MCC Pellets MS-708	710 - 850	—	

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Herbal Pellets

Pellets	Botanical Name	Use
Capsicum Pellets 2.5% EC		Analgesic, Anti-cancer
Azadirachta Indica Pellets	Azadirachta Indica	Antidiabetes, Anti-inflammatory, Anti-cancer
Aswagandha pellets 40%	Withania somnifera	Immunity, Nephrology, Anti-anxiety, Bone strength
Curcumin Pellets 70%	Curcuma longa	CVS, CNS, Antidiabetes, PCOS, Anti-inflammatory, Metabolism, Nephrology, Anti-cancer Bone strength, UTI, Respiratory health
Soya Iso Flavanes 40% pellets.		
Adhatodha Vasica 0.5% pellets.	Adhatodha Vasica	Antidiabetes, Anti-inflammatory, Respiratory health
Mamordica Charantia Pellets 1.25%	Mamordica Charantia	Antidiabetes, Respiratory health
Terminalia Arjuna Pellets 10%	Terminalia Arjuna	CVS, Anti diarrhea
Centella Asiatica Pellets 10%	Centella Asiatica	Memory strength, PCOS, Anti-anxiety
Red clover Pellet	Trifolium pretense	Expectorant, Antioxidant, Anti-inflammatory, Estrogenic
Lemon Balm Pellets	Melissa officinalis	Anti-anxiety
Devil's Claw Pellets	Harpagophytum procumbens	CVS, Anti-inflammatory, Anti-arthritis
Garlic EC Pellets	Allium Sativum	CVS, Antidiabetes, ENT, Blood circulation, Anti-inflammatory, Nephrology, Anti-cancer, Eye care, Bone strength, Thrombolytic, Respiratory health
Spirulina Thallus Pellets	Allium Sativum	Weight management/ Antioxidant
Rosemary Pellets	Spirulina Thallus	Antioxidant, Memory strength, CNS, Anti-cancer, Eye care
Turmeric Pellets	Rosmarinus officinalis	CVS, CNS, Antidiabetes, PCOS, Anti-inflammatory
Amla Pellets	Curcuma longa	Antidiabetes, Immunity, Anti-inflammatory, Eye care
Arjuna Pellets	Emblica officinalis	CVS, Anti diarrhea
Cinchona Pellets	Terminalia Arjuna	CVS, Muscle relaxant, Anti-malarial
Grape seed Pellets	Cinchona officinalis	Antioxidant, CVS
Black Pepper pellets	Vitis vinifera	Bronchitis, Anti-cancer, Anti anxiety
Milk Thistle Pellets	Piper nigrum	Digestion, CVS, Hepatoprotectant, Anti-diabetes
Oat straw Pellets	Silybum marrianum	CVS, Immunity
Ginkgo biloba IR Pellets		PCOS, Blood circulation, Immunity, Anti-cancer, Eye care
Ginger EC Pellets	Ginkgo biloba	CVS, Antidiabetes, ENT, Immunity, Anti-inflammatory, Metabolism
Cranberry Pellets	Zinziber officinalis	Antioxidant, UTI
Green Coffee Pellets	Vaccinium oxycoccos	Metabolism, CVS, Antidiabetes, Weight loss management
Green Tea Pellets	Coffea arabica	CVS, CNS, Antidiabetes, PCOS, Bone strength, UTI
Papaya Pellets	Camellia sinensis	Nephrology, Anti-inflammatory
Olive Tree	Carica papaya	CVS, Arthritis, Anti-cancer, Anti-inflammatory, Antidiabetes
Hibiscus Pellets	Olea europaea	CVS, Antidiabetes,
Fenugreek Pellets	H. sabdariffa	Antidiabetes, PCOS, Anti-inflammatory, Metabolism, Eye care
Flaxseed DC Granules	Trigonella foenum-graecum	Anti diarrhea, CVS, Antidiabetes, Women Health
Garcinia Cambogia Pellets		Weight Loss Management
L- Speciosa 0.5%	Garcinia Cambogia	Anti diabetes, Weight loss management
Methylcobalamine Pellets 2%	Lagerstroemia speciosa	CVS, Anti depression, Anti-cancer, Memory strength
Aloe	Aloe vera	CNS, Antidiabetes, Anticancer, Bone strength
Bacopa	Bacopa moneirii	CVS, Memory strength, PCOS, Anti-inflammatory, Anti-cancer
Guggul	Commiphora wightii	CVS, Anti-inflammatory, Blood circulation,
Mango	Mangifera indica	CVS, Antidiabetes, Blood circulation, Anti-inflammatory, Bonestrength
Guduchi	Tinospora cordifolia	CVS, CNS, Antidiabetes, Anti-cancer, Bone strength
Ginseng	Panax ginseng	CVS,CNS, Antidiabetes, Immunity, Anti-inflammatory, Anti-cancer
Tulsi	Ocimum sanctum	Antidiabetes, PCOS, Anti-inflammatory,
Aegle marmelos	Aegle marmelos	Antidiabetes, Anti-inflammatory, Anti-cancer
Onion	A. cepa	Antidiabetes, Blood circulation, Respiratory health
Liquorice	G. glabra	Antidiabetes, PCOS, Immunity, Anti-inflammatory, Anti-cancer
Pomegranate	Punica granatum	Antidiabetes, UTI, Respiratory health
Cinnamon	C.zeylanicum	PCOS, Immunity, Metabolism, Anti-cancer, Respiratory health
Tribula Terrestris	Tribula Terrestris	CVS, PCOS, Nephrology, Weight management
Saw palmetto	Saw palmetto	PCOS, UTI
Cardamom	Elettaria cardamomum	Immunity, Metabolism, Respiratory health
Echinacea	Echinacea purpurea	Immunity, Eye Care, Respiratory health
Boswellia	Boswellia serrata	Anti-inflammatory, Anti-cancer, Anti-anxiety
Cassia fistula	Cassia fistula	Anti-inflammatory, Anti-anxiety
Carrot	P. platyloba	Anti-anxiety
Bilberry	Vaccinium myrtillus	Eye care
Marigold	Tagetes erecta	Antioxidant, Eye care
Black currant	Ribes nigrum	Antioxidant

Umang was inception in the year 1982, with an objective to serve the clients with all kinds of equipments and accessories under one roof. Within a very short span of time, we succeeded to be the most reliable brand name in the market supplying equipments and solutions to the Pharmaceutical industry for Pelletization and granulation solutions.

In 2007, the company ventured into solutions for Personal care industry majorly focusing on Oral care products, giving encapsulated ingredients for cooling applications. In 2009, the company further integrated it self to give solutions for Bakery and food applications like Chewing gum, mouth dissolving films etc. Today the company has three major divisions : Personal care, Bakery and food ingredients, Pharmaceutical division for innovative dosage form development.

Umang Engineering



Today the company has three major divisions: Personal care, Bakery and food ingredients, Pharmaceutical division for innovative dosage form development.

Websites:

www.umangpharmatech.com
www.umangengineering.com
www.extruderspheronizer.com

Concept Range



Today the company has three major divisions: Personal care, Bakery and food ingredients, Pharmaceutical division for innovative dosage form development.

Websites:

www.concept-machines.com
www.coating-machines.com

Personal Care & Detergents



Today the company has three major divisions: Personal care, Bakery and food ingredients, Pharmaceutical division for innovative dosage form development.

Websites:

www.umangpharma.com
www.cosmeticbeads.com

Bakery & Food Decoration



Today the company has three major divisions: Personal care, Bakery and food ingredients, Pharmaceutical division for innovative dosage form development.

Websites:

www.umangpharma.com
www.edibleglitters.com
www.ediblefilm.co.uk

Pharmaceutical & Nutraceutical



Today the company has three major divisions: Personal care, Bakery and food ingredients, Pharmaceutical division for innovative dosage form development.

Websites:

www.umangpharmaceuticals.com
www.pharmaceuticalpellets.com
www.pharma-spheres.com

Neutral Pellets & Coating Polymers



Today the company has three major divisions: Personal care, Bakery and food ingredients, Pharmaceutical division for innovative dosage form development.

Websites:

www.umangpharmaceuticals.com
www.micro-pellets.com
www.pharma-spheres.com

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A truly global organization...

