

EMSLAND GROUP[®]
using nature to create



Discover our Plant-Based
Ingredients ...
Potato Flakes and Granules

Processing Background Potato Flakes and Granules

Potato flakes and granules produced from fresh potatoes are applicable in a wide range of food products. Potato flakes are cold swelling and functional under cold conditions while potato granules require heat for swelling and thus can only be used in hot processes.

Potato flakes are available as a fully-processed (FP) or low leach (LL) version. Both product types are drum dried but the fully-processed flakes are produced by a more gentle production method leading to flakes containing less ruptured cells and thus provide a more pulpy texture and smaller amounts of free starch than low leach flakes. LL-flakes have more free starch and higher water binding capacity, which results in a more sticky and elastic texture.

The process for making potato granules is completely different – the air-fluidized drying process is based on the so-called gentle ‘add-back’-principle. Potato granules are in fact almost fully intact cells with very low free-starch content. The low cell-wall-damaging of granules causes their specific intense potato smell and taste.

Differences between Flakes and Granules

Flakes	Granules
Some ruptured potato cells	Intact single cells
Depending on customer's requirements different levels of free soluble starch	Low level of free soluble starch
Milling results in variable particle size and density	High density
Fluffy consistency, sensitive against shear	Compact consistency
Cold swelling	Hot swelling

Potato Flakes and Granules Portfolio

The Emsland Group produces a wide variety of potato flakes and granules with different characteristics, such as colour, particle size, amount of reducing sugars and amount and type of additives. In the tables below, an overview of a selection of our portfolio is given. More information on the different processing methods can be found on the next page.

	Empure KF 1500	Empure KF 1100	Emflake 3917	Emflake 3821	Emflake 3847	Emflake 3916 G	Emflake 3862a	Emflake 3899	Emflake 3824	Emflake 3806
Application	Snacks, Mashed Potato/Puree, Gnocchi, Gluten-free Pasta, Pasta Fillings, Soup & Sauces	Snacks, Mashed Potato, Potato Dumpling	Extruded Snacks (Direct Expanded Snacks)	Extruded Snacks (Direct Expanded Snacks)	Snack Pellets (Indirect Expanded Snacks)	Fried, Stackable Snacks	Fried, Stackable Snacks	Sheeted, Baked Snacks	Mashed Potato/Puree	Mashed Potato/Puree
Colour	Off-white to light yellow	Off-white to light yellow	Off-white	Light yellow	Off-white to light yellow	Off-white to light yellow	Off-white	Light yellow	Off-white	Light yellow
Max. reducing sugars (%)	1.5	1.5	1.5	1.0	1.5	1.5	1.5	1.4	3.0	3.0
Particle size	Medium	Coarse	Medium	Fine	Fine	Medium	Medium-Coarse	Coarse	Coarse	Medium-Coarse
Benefits	Clean label, multifunctional potato flake	Clean label	Good expansion and crispy texture	High expansion and crispy texture	Crispy and light texture, homogenous expansion	Good sheeting performance and texture	Compact dough with reduced stickiness, reduced expansion and homogenous shape	Excellent sheeting and cutting performance, uniform expansion	Delayed swelling, pulpy texture	Fast water binding, smooth and compact texture

	Emflake 3913	Emflake 13223	Emflake 3960	Emflake 3810	Emflake 4018	Emflake 3885	Emgranule 3364	Emgranule 3380	Emgranule 3355	Emgranule 3350
Application	Formed Potato Specialties	Potato Croquettes	Gnocchi	Potato Dumplings	Pasta Filling	Gluten-free Pasta, Potato Bread	Snacks	Snack Pellets	Baked Snacks, Pretzels	Bakery, Mashed Potato/Puree, Soups and Sauces
Colour	Yellow	Light yellow	Light orange	Yellow	Off-white to light yellow	Light yellow	Light Yellow	Light yellow	Light yellow	Light yellow
Max. reducing sugars (%)	3.0	3.0	2.0	3.0	n.a.	n.a.	1.6	1.2	1.2	2.5
Particle size	Medium	Coarse	Medium	Medium-Coarse	Medium	Coarse	n.a.	n.a.	n.a.	n.a.
Benefits	Fast and firm set	Pulpy texture and good dough performance and set	Good water binding, reduced stickiness and low starch loss	Reduced stickiness and starch loss	Multifunctional potato flake with good water binding	Good dough properties	Multifunctional granule for Snacks	Reduced stickiness/elasticity, homogenous expansion	Reduced stickiness/elasticity at sheeting	Good process stability, short and compact texture, good potato flavour, multifunctional

Potato flakes can also be used in gluten-free food coating as replacement for breadings or for decoration. For example, in meats, a fine potato flake gives a homogeneous appearance while more coarse flakes lead to a more home-style look.

Using nature to create is the guiding principle of the Emsland Group. As a global leader in refined products made from potatoes and peas, we offer a wide range of high quality innovative products.

Our plant-based ingredients include native, clean label and modified potato and pea starches, proteins and fibres, as well as potato flakes and granules, which can be applied to a wide range of products in various industries.

Innovation is a core driving force at the Emsland Group. Experts at our Innovation Centre in Germany are constantly developing and optimising products and concepts, working closely with customers to meet the evolving demands of both the industry as well as the end user.

Sustainability is a responsibility that, for us, begins in the field. Since 1928, we have been relying on the innovative power of nature and continue to be dedicated to working in harmony with our natural resources. We align ourselves with the latest sustainability benchmarks, helping drive the global trend towards more environmentally conscious options.

The Emsland Group is committed to producing consistently high-quality ingredients. Customer health and safety, as well as transparency regarding our manufacturing methods, are top priorities. To view a complete list of our certifications and qualifications, scan the QR code or visit our website.

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