# Palsgaard® 1388 Product Profile

**Product Type:**

Palsgaard® 1388 is an emulsifier combination, based on mixtures of mono- and diglycerides of vegetable fatty acids (E 471) and polyglycerol esters thereof (E475). Palsgaard® 1388 is based on high oleic sunflower oil as lipid source.

Palsgaard® 1388 is a unique, all vegetable, liquid, non trans and non-GMO product.

**Application Areas:**

Palsgaard® 1388 is in a liquid or pumpable form. It means easier handling in production because it is not necessary to melt up the emulsifiers before use.

Palsgaard® 1388 is a multipurpose emulsifier system excellent for cream (whipped) margarines and fillings.

Palsgaard® 1388 is also good for cake margarines, shortenings and other fat systems for cake baking. The margarines or shortenings give margarines better results compared to normal standard bulk emulsifiers.

**Functional Properties:**

Palsgaard® 1388 provides the following advantages:

Secures a stable and fine water distribution in the margarine.

**Cream margarine & fillings**

Palsgaard® 1388 is an emulsifier system with a much better effect on aeration, structure and stability in the whipped margarine ore filling comparing to standard emulsifier systems.

| Whipping g/l | | | | Remarks |
|---|---|---|---|---|
| 5 min. | 10min. | 15min. | 20 min. | |
| 624 | 548 | 566 | 579 | Monoglycerids E471 |
| 500 | 390 | 320 | 313 | Palsgaard® 1388 |

Palsgaard® 1388 is a combination of :
Lipophilic emulsifiers: Mono-diglycerides based on high oleic sunflower oil
Hydrophilic emulsifiers: Polyglycerol esters based on high oleic sunflower oil


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For cream margarine, shortening and fat fillings the emulsifying effect of Palsgaard® 1388 in combination with whipability gives better stability if syrup is being used because it can be incorporated into the whipped margarine or filling.

**Cake margarine & shortening**

Palsgaard® 1388 can also be used in cake margarines and it provides cake margarine with good volume, very fine and soft crumb structure.

At the same time Palsgaard® 1388 improves the baking performance in different bakery application.

| | Emulsifier | Volume raw dough (g/l) | Volume cake (ml) | Softness (method Cake) 1. pressure (g) |
|---|---|---|---|---|
| * | **Monoglycerids E471** | **773** | **782** | **441** |
| | **Palsgaard®1388** | **697** | **880** | **360** |

The easy distribution of the margarine cake or shortening with Palsgaard® 1388 into the dough system gives better baking performance because of the unique combination of emulsifiers which effect the dough and baking performance.

Additions of Palsgaard® 1388 to margarine or shortening will help dispersing the fat into the batter. The number of fat crystals projecting from the surface of the oil droplets into the aqueous phase is increased when emulsifiers are used.
The crystals have absorbed interfacial materials. Emulsifiers form a membrane around the dispersed oil globules and prevent the oil from destabilizing the foam, which is stabilized by egg proteins

Palsgaard® 1388 helps in production of very fine fat particles which improve the cake structure

- Palsgaard® 1388 improves the flexibility with respect to selection of raw materials like eggs and during the process.

- Palsgaard® 1388 in the margarine stabilises a large number of air bubbles in the raw dough.

- Palsgaard® 1388 contains hydrophilic emulsifiers (polyglycerol esters) and they increase the viscosity of the water phase, which contributes to a higher volume and a better crumb structure.

Shortenings for cake baking: Easy to incorporate Palsgaard® 1388 in the shortening and with the same effect as for cake margarine


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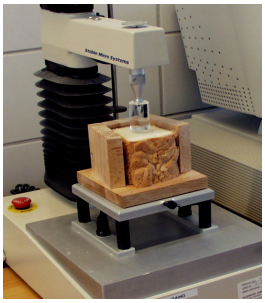

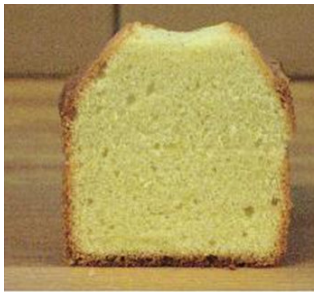

**Dosage:** 0.3% - 0,8 %, calculated in the finished product

**Recipes:** Cream margarine for whipping with Palsgaard® 1388
Cake margarine with Palsgaard® 1388


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