

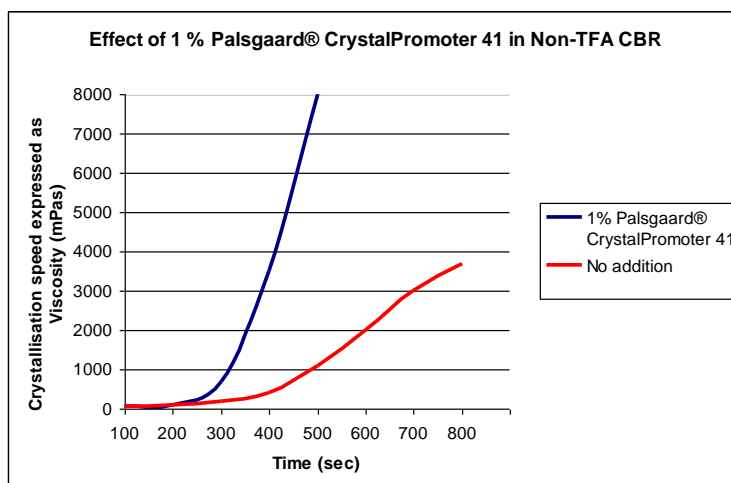
Palsgaard® CrystalPromoter 41

Product Profile

Product Type: Palsgaard® CrystalPromoter 41 promotes and initiates beta prime crystallisation of fats with no or only limited effect on the eating quality of the product. Palsgaard® CrystalPromoter 41 is an all-vegetable, trans-free, non-GMO and fully saturated triglycerides with special crystal promoting properties.

Application Areas: Palsgaard® CrystalPromoter 41 is specially designed to promote and stabilise crystallisation in confectionery products. Typical application areas are Cocoa Butter Replacers (CBR) based products and confectionery fillings.

Functional Properties: In confectionery production the crystallisation time has always been a capacity limiting factor. Achieving a proper crystallisation takes time, and if the confectionery product is not properly crystallized when packed, this will have a crucial effect on the quality and the shelf life. The trend toward low trans fat (low TFA) based products and products containing lower amounts of saturated fats has increased the overall crystallisation time and put even more pressure on the production capacity. As an example a change from a high TFA containing CBR to a non-TFA containing CBR can easily mean a 30 – 50 % longer cooling time which typically is not acceptable. A solution to this is Palsgaard® CrystalPromoter 41 where a small addition will have a dramatic effect. Practical tests with low-TFA CBR compound, where the crystallisation speed was measured by the time it takes to get a proper mould release, has been carried out with following result. An addition of 1.2% Palsgaard® CrystalPromoter 41 to a low-TFA CBR (0.35 % to the compound recipe) reduced the crystallisation time by 30%. To visualise the effect of Palsgaard® CrystalPromoter 41 on the initial crystallisation speed, the crystallisation in fats are measured in a Haake RotoVisco 1. The viscosity is measured during cooling of the fat and the increase in viscosity is an expression on how fast the crystallisation takes place. Below graph show the effect of an addition of 1 % Palsgaard® CrystalPromoter 41 to a non-TFA CBR.



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As seen from the graph a very big increase in the initial crystallisation is achieved by adding Palsgaard® CrystalPromoter 41, and as earlier described also a reduction in the total crystallisation time.

In confectionery fillings there is the same trend toward non-TFA and low in saturated fats. This also means a longer crystallisation time which may have an effect on the shelf life of the finished product. When a filling is deposited into a chocolate shell, both the chocolate shell and the filling are in the process of crystallisation and contain quite a high amount of liquid oil. It is a very critical moment as this is where the “start migration” or “initial migration” of oil from filling to chocolate and visa versa is strong and the longer the product is in this state the bigger the initial migration. Typically a confectionery product which has been exposed to a strong initial migration will have a short shelf life and will typically show bloom formation after a short time.

In other words by reducing the initial migration time the shelf life of the products can be extended and this can be done by adding Palsgaard® CrystalPromoter 41 to the filling. Palsgaard® CrystalPromoter 41 will secure a faster crystallisation of the filling, reduce the initial migration and therefore increase the shelf life of the filled confectionery product.



Advantages:

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|----------------------------------|--|
| ○ Powder form | Easy to handle/dose |
| ○ Very fast crystallisation | Increased capacity Faster de-moulding |
| ○ Reduction of initial migration | Longer shelf life |
| ○ Low dosage – big effect | No waxy taste |

Working instructions

As the functionality is based on a proper and correct crystallisation it is very important that Palsgaard® CrystalPromoter 41 is melted completely before added to the confectionery product. Due to the high melting point of Palsgaard® CrystalPromoter 41 it is recommended that it is completely melted (approx. 70°C) in part of the confectionery fat before added to the recipe

Please note that addition to cocoa butter based products (chocolate) is not recommended as this will disturb the tempering process.

Dosage:

Examples

| | |
|--------------|------------|
| CBR compound | 0.3 – 0.5% |
| CBR fat | 1 – 2% |
| Fillings | 0.3 – 0.5% |

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