

EKÖLITE PGPR 90 FOR CHOCOLATES & CHOCOLATE COMPOUNDS

Chocolate anything is amazing!

Chocolate bars, chocolate coated candies, chocolate filled biscuits and chocolate coated chocolates are the best...what would the world be like if there was no chocolates. However, working with chocolate is very tricky. Processes like tempering, moulding and coating become very technical and have the risks of graininess in your chocolate formulation. Ekölite PGPR 90 is the solution to getting your chocolate formulations right from the get go.

Ekölite PGPR 90 is the perfect solution to address

Plastic viscosity

- The force required to keep liquid chocolate flowing once it has started moving and the viscosity of chocolate at high shear rate.
- It is also used to determine:
 - Coating thickness of chocolate on a sweet
 - Size of pumps needed to pump liquid chocolate

Yield value

- The force required to start the flow of liquid chocolate
- Viscosity of chocolate at low shear rate
- High value for putting markings on sweets;
- Low value for thin coating of chocolate over biscuits.

Ekölite PGPR 90 has a relatively small effect on plastic viscosity, **BUT** significantly reduces the yield value of liquid chocolate.

Having said that chocolates & compounds with the same plastic viscosity, could have different yield values. However, with the addition of Ekölite PGPR 90, the formulation allows for processing at lower temperatures and simplifies the handling of liquid chocolate. Ekölite PGPR 90 eases moulding, with better chocolate flow & distribution. This results in better coating of inclusions with fewer air bubbles in the mould.

Easier coating Easier flow - Fewer air bubbles - Uniform and complete coat - Better control of thickness of the chocolate layer

DARK CHOCOLATE REFERENCE FORMULATION

Ingredients	Without PGPR	With PGPR*
Sugar (%)	48	51
Vegetable Fat (%)	31	28
Cocoa Powder (%)	14	14
Skim Milk Powder (%)	7	7
Lecithin (%)	0.4	0.4
Ekölite PGPR 90 (%)	-	0.2
Yield Value (Pa)	24.01	28.82

EU - Maximum 0.4% in spreadable fat only (having a fat content of 41% or less)

USA - Generally Recognized As Safe (GRAS) based on 21 CFR 170.30

The use of 0.2% PGPR could reduce use of approximatel 3% fat



PRODUCT APPLICATION GUIDE

FUTURA
ingredients
designed by nature

EköLITE KRYS SERIES FOR CHOCOLATE SPREAD

Chocolate spreads are paste/spreads made from a suspension of particles in an oils/fats matrix. A layer of liquid oil tends to surface to the top over time. The addition of **EköLITE KRYS Series** forms crystal matrix that improves rigidity of mass and prevents oiling-out. **EköLITE KRYS series** aids in maintaining physical integrity of the chocolate spreads during shipment and storage, hence improves the products' shelf stability. In addition, the use of **EköLITE**

KRYS series improves organoleptic properties of chocolate spreads in terms of mouthfeel & creaminess. It also enhances product texture by improving its spreadability.

Products

EköLITE KRYS Series
Dosage: 1-2%

EköLITE PGPR series
Dosage:
0.10-0.20%

Functions

- Controls oiling out
- Improves mouthfeel
- Flow modifier

FORMULATION EXAMPLE

INGREDIENT	(%)
Sugar	45.00
Oils / Fats Blend	24.00
Cocoa Powder	21.50
Skim Milk Powder	8.00
EKÖLITE KRYS SERIES	1.00
Lecithin	0.25
EKÖLITE PGPR SERIES	0.10
Vanilla	0.10
Salt	0.05
Total	100.00

EKÖLITE SE SERIES FOR COMPOUND CHOCOLATE -CONCHING PROCESS

Oils & Fats: Cocoa Butter Alternatives

EköLITE SE 65 L Sorbitan Tristearate is non-ionic, lipophilic, non-polymorphic emulsifier which is commonly used in oils & fats and confectionery applications as a gloss enhancer and an anti-blooming agent. **EköLITE SE 65 L** is a specially designed Sorbitan Tristearate that imparts superior anti-blooming properties with good free fatty acid stability in chocolate, compound chocolate and cocoa butter alternatives such as cocoa butter substitute (CBS) that helps to improve the product quality and extend its shelf life.

FORMULATION EXAMPLE

INGREDIENT	(%)
Icing Sugar	40.00
Cocoa Butter Substitute (CBS) - Added with 2% fat weight EköLITE SE 65 L	32.00
Cocoa Powder Alkaline	6.00
Skim Milk Powder	14.00
Full Cream Milk Powder	8.00
Lecithin	0.30
Vanilla	0.05

Products

Sorbitan
Tristearates
EköLITE SE 65 L
Dosage: 2%

Functions

- Gloss enhancer
- Improve crystallisation rate
- Better thermal properties

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