

EKÖMUL™

DISTILLED MONOGLYCERIDES & MONO- AND DIGLYCERIDES



Why Futura Ingredients' Ekömul MG Series Distilled Monoglycerides & Mono- and Diglycerides?

Futura Ingredients' **Ekömul MG Series** Mono- and Diglycerides and Distilled Monoglycerides are manufactured from the highest quality, vegetable-based oils and fats. Our world-class GFSI accredited manufacturing facility ensures quality consistency in our products for superior functionality. A strategic alignment to key raw materials provides a strong proposition in creating value for our customers with cost competitive performance.



Product Description

Ekömul MG series products provides outstanding flexibility in use, and come in a variety of monoglyceride contents, product forms, raw material sources, degree of unsaturation and particle sizes. Monoglycerides are non-ionic, fat soluble ingredient. It is applied to food products in the fat phase, incorporated in dry blends, or in the form of an aqueous dispersion. The **Ekömul MG** series is frequently used in conjunction with other emulsifiers.

PRODUCT NAME

- **Ekömul MG Series**
- **Ekömul XTND Series**
- **Ekömul FASE Series**
- **Ekömul MYXT Series**

Winner of
Frost & Sullivan's
2016 Best Practices Award
Entrepreneurial Company
of the Year

Winner of
Frost & Sullivan's
2018 Best Practices Award
Food Ingredients
Company of the Year

Ekömul XTND series is designed for the bakery industry with its improved dough dispersibility properties. **Ekömul FASE** series comes with better dispersion within a water system, for example in bakery hydrates, and in dairy emulsions. **Ekömul MYXT** series are specific combinations of emulsifiers to meet desired functionalities in targeted applications.

Ekömul MG, XTND, FASE & MYXT series are available in both palm and non-palm variants. In efforts to meet the growing demand for sustainable palm products, Mass Balance and Segregated RSPO (Roundtable on Sustainable

Palm Oil) certified products are offered. While our non-palm variants are made from soybean, rapeseed or sunflower oil.

All products are certified Halal, Kosher, and is not produced from genetically modified raw materials.



British Retail Consortium
Global Standards
for Food Safety



Segregation & Mass Balance RSPO
Supply Chain Certification System
(SIRIM QAS International)

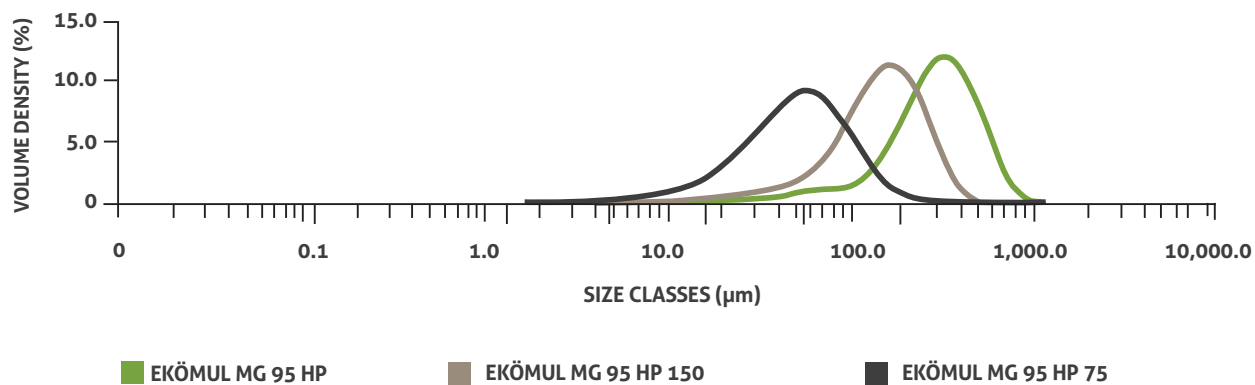


Product Name	Iodine Value	Melting Point, approx.	Average Particle Size Distribution (Microns)	Acid Value (Mg Koh/G) Max	Free Glycerol (%) Max	Trans Fatty Acids Content (%)	RSPO Certified		Fat Source
							MB	SG	
Distilled Monoglycerides & Mono- and Diglycerides MG - Series									
MG 45 HP	Max. 3	58°C	300	3	1.5	<1	●	●	Palm
MG 45 HO	Max. 3	58°C	300	3	1.5	<1	●	●	Palm
MG 60 HP	Max. 3	60°C	300	3	1.5	<1	●	●	Palm
MG 95 HP	Max. 2	65°C	300	3	1.0	<1	●	●	Palm
MG 95 HO	Max. 2	66°C	300	3	1.0	<1	●	●	Palm
MG 90 HO FLOW - 3FP	Max. 2	66°C	75	3	1.0	<1	●	●	Palm
MG 95 PS	Max. 2	67°C	300	3	1.0	<1	●		Proprietary Blend
MG 95 HV	Max. 2	69°C	300	3	1.0	<1	●		Soya
MG 95 HVX	Max. 2	69°C	300	3	1.0	<1	Non Palm		Soya
MG 90 HVX FLOW - 3FP	Max. 2	69°C	75	3	1.0	<1	Non Palm		Soya
MG 95 HR	Max. 2	69°C	300	3	1.0	<1	●		Rapeseed
MG 95 HRX	Max. 2	69°C	300	3	1.0	<1	Non Palm		Rapeseed
MG 95 HNPN	Max. 2	69°C	300	3	1.0	<1	Non Palm		Non Palm
MG 90 S	95-110	45°C	-	3	1.0	<3	●		Sunflower
MG 90 SX	95-110	45°C	-	3	1.0	<3	Non Palm		Sunflower
MG 90 SP	70-80	51°C	-	3	1.0	<2	●	●	Proprietary Blend
MG 90 R	55-70	57°C	-	3	1.0	<57	●		Rapeseed
FASE 45 HP	Max. 3	58°C	300	3	2.5	<1	●	●	Palm
FASE 30 HP	Max. 2	65°C	300	3	2.5	<1	●	●	Palm
FASE 30 HRX	Max. 2	69°C	300	3	2.5	<1			Rapeseed
XTND 95 P	18-26	60°C	175	3	1.0	<1	●		Palm
XTND 95 D	20-27	58°C	225	3	1.0	<1	●		Palm
Emulsifier Blends MYXT - Series									
MYXT 272 XTI	14-21	58°C	250	3	1.0	<1	●		Palm
MYXT 370 XTI	10-17	58°C	250	3	1.0	<1	●		Palm
MYXT 250 MGI	Max. 6	60°C	200	3	1.5	<1			Palm & Corn
MYXT 220 KRI	Max. 3	58°C	200	1 (FFA)	1.2	<1	●	●	Palm
MYXT 101 PEI	-	Paste	-	5	-	<1	●		Sunflower
MYXT 230 PE	Max. 3	54 - 58°C	300	-	-	<1	●		Palm
MYXT 260 PE	Max. 3	60°C	300	-	-	<1	●		Palm
MYXT 373 PGI FLOW	Max. 3	-	180	30	-	<1	●		Palm
MYXT 245 LCI	-	54 - 58°C	300	-	-	<1	●	●	Vegetable
MYXT 280 LCI	-	63 - 69°C	300	-	-	<1	●	●	Vegetable

Note: MB – Mass Balance

SG – Segregated

Particle Size Variants of Distilled Monoglycerides



Note: Test conducted using Malvern Mastersizer 3000.

By harnessing 21st century European technology in our manufacturing facilities, Futura Ingredients' are able to produce product of better quality with shelf life stability and has the capability to create a range of finished

product forms from bead to fine powders. Products with finer particle size provide extra benefits in certain applications where dispersibility of the **Ekömul™** range product is critical.

Typical Application Areas

EKÖMUL	Applications																	
	Biscuits, Cookies & Crackers	Breads, Buns, Rolls & Improvers	Cakes & Cake Mixes	Flour Premixes	Pasta & Noodles	Fillings & Spreads	Margarines & Shortenings	Aerated Whipped Toppings	Cream & Cream Liquers	Ice Cream & Soft Serves	Non Dairy Creamers	Recombined Milk & SoyMilk	Caramel	Chocolates	Compound Coatings	Gums & Chewing Gums	Infant Nutrition	Sports Nutrition
Distilled Monoglycerides & Mono- and Diglycerides MG-Series																		
MG 45 HP								●	●	●	●	●	●			●	●	●
MG 45 HO								●	●	●	●	●	●			●	●	●
MG 60 HP								●	●	●	●	●	●			●	●	●
MG 95 HP	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●
MG 95 HO	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●
MG 90 HO FLOW - 3FP	●	●	●	●	●								●	●	●	●	●	●
MG 95 PS	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●
MG 95 HV	●	●	●	●	●	●	●				●	●	●	●	●	●	●	●
MG 95 HVX	●	●	●	●	●	●	●				●	●	●	●	●	●	●	●
MG 90 HVX FLOW - 3FP	●	●	●	●	●								●	●	●	●	●	●
MG 95 HR	●	●	●	●	●	●	●				●	●	●	●	●	●	●	●
MG 95 HRX	●	●	●	●	●	●	●				●	●	●	●	●	●	●	●
MG 95 HNPN	●	●	●	●	●	●	●				●	●	●	●	●	●	●	●
MG 90 S	●					●	●				●	●				●		
MG 90 SX	●					●	●				●	●				●		
MG 90 SP	●					●	●				●	●				●		
MG 90 R	●					●	●				●	●				●		
FASE 45 HP								●	●	●	●	●						
FASE 80 HP		●						●	●	●	●	●						
FASE 80 HRX		●						●	●	●	●	●						
XTND 95 P	●	●	●	●	●			●	●		●							
XTND 95 D	●	●	●	●	●			●	●		●							

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Emulsifier Blends MYXT - Series																
MYXT 272 XTI										●						
MYXT 370 XTI										●						
MYXT 250 MGI										●						
MYXT 220 KRI						●	●									
MYXT 101 PEI						●	●									
MYXT 230 PE						●	●									
MYXT 260 PE			●				●									
MYXT 373 PGI FLOW			●													
MYXT 245 LCI												●				
MYXT 280 LCI												●				

Key Application Benefits

APPLICATIONS	BENEFITS
Biscuits, Cookies & Crackers	- Fat dispersion improver - Improves texture (tenderness) - Aeration & emulsion stabiliser
Breads, Buns, Rolls & Improvers	- Crumb softener & shelf life extender - Anti staling - Improves crumb structure & texture
Processed Potatoes, Pasta, Noodles & other Flour Products	- Improves palatability & texture - Improves water holding ability, heat stability & sheeting - Enhances mouthfeel & increases stability - Anti-sticking & provides resistance to overcooking
Cakes & Cake Mixes	- Improves cake batter performance - Crumb structure - Aeration stability & extends shelf life - Anti staling
Margarines & Shortenings	- Improves whipping properties & plasticity - Facilitates emulsification & ideal rate of crystallisation
Spreads	- Facilitates emulsification - Smooth spreading consistency - Provides stable crystalline structure - Pleasant mouthfeel & fat reduction
Cream Fillings & Icings	- Facilitates emulsification - Improves aeration & better aeration stability
Confectionery Products	- Anti-sticking - Fat crystallisation & dispersion improver
Ice Cream & Frozen Products	- Improves meltdown resistance & heat shock stability - Imparts smoothness & creaminess - Facilitates air incorporation & stabilises foam
Recombined Dairy & Non-Dairy Products	- Improves heat stability of the fat emulsion, dispersion & whitening - Enhances palatability

Disclaimer: The information and recommendations contained herein are to the best of our knowledge reliable. However, nothing herein is to be construed as a warranty of representation in respect of safety in use, suitability, efficacy or otherwise including freedom from patent infringement. Users should conduct their own tests to determine the suitability of our product for their own specific purposes and the legal status for their intended use of the product.

MANUFACTURING SITE

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