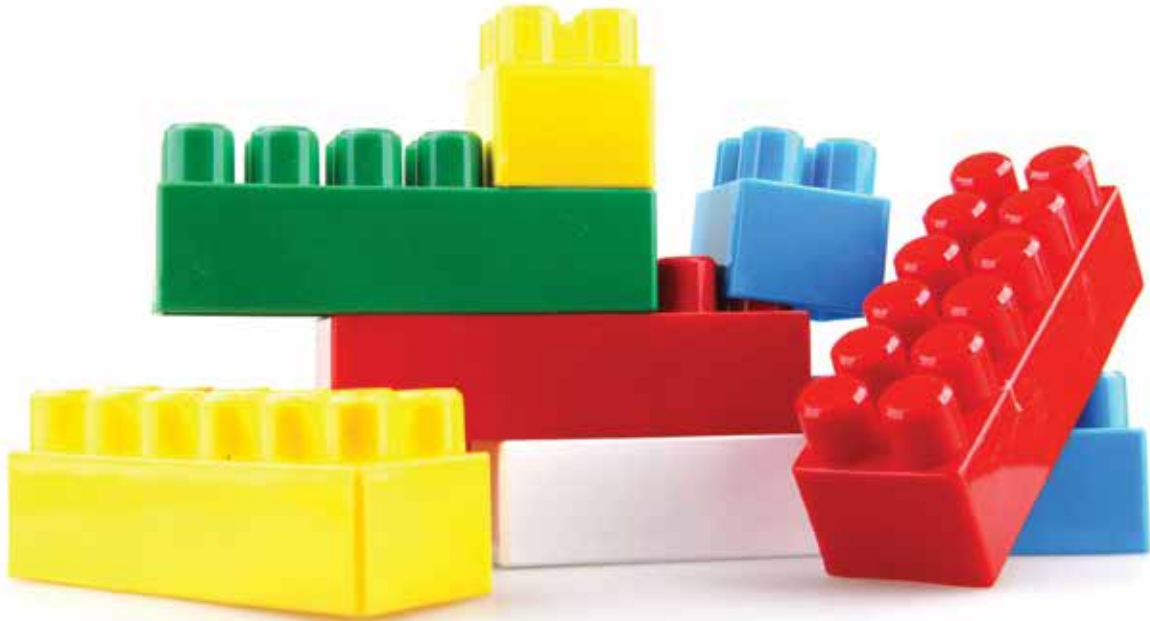


Polymer Processing Product Guide



committed to our customers



PMC Biogenix has a wide range of products for use in the processing of polymers such as polyolefins, engineering resins, and styrenics. From the reaction of monomer, to compounding, through to the extrusion and molding of polymers, PMC Biogenix has a product that can meet your needs.



About PMC Biogenix, Inc.

PMC Biogenix is a global, innovation-driven developer, manufacturer and marketer of specialty chemicals produced from renewable resources.

The combination of over fifty years of experience developing and manufacturing oleochemical derivatives, dedication to innovation in new products and chemistries, and strong technical application support create the foundation of a powerful portfolio of chemical products that find applications in virtually every chemical end market.

Our products are marketed under leading brand names such as Armoslip[®], Kemamide[®], Kemester[®], and Lubrazinc[®].

Located on our 50-acre integrated oleochemicals and derivatives manufacturing site in Memphis, Tennessee, the Center for Renewable Chemistry (CRC) includes a technical center and pilot scale manufacturing facility and serves as the cornerstone for our product, process and application development efforts. Our 16,000-square-foot technical center houses functional laboratories for product development, process development, application testing, instrumental analysis and wet analysis as well as an 8,000-square-foot pilot scale manufacturing facility equipped with a broad range of process equipment to develop new processes and produce scale-up quantities for PMC Biogenix customers.



The information contained herein is correct to the best of our knowledge. Your attention is directed to the pertinent Material Safety Data Sheets for the products mentioned herein. All sales are subject to PMC's standard terms and conditions of sale, copies of which are available upon request and which are part of PMC invoices and/or order acknowledgements. Except as expressly provided in PMC's standard terms and conditions of sale, no warranty, expressed or implied, including warranties of merchantability or fitness for a particular purpose, is made with respect to the products described herein. Nothing contained herein shall constitute permission or recommendation to practice any invention covered by a patent without a license from the owner of the patent.

Slip & Anti Block Agents

Erucamides	Acid Value (Max)	Iodine Value*	Melting Point °C*	Color, (Max) (Gardner)	Moisture % (Max)	Amide % Min (by IR)	Physical Form
Armoslip® E	1	77	82	2	0.25	98	Bead, powder
Kemamide® E-60	1	-	-	2	0.25	98	Fine powder
Kemamide® E Ultra	1	74	83	2	0.25	98	Bead, pellet, powder
Kemamide® EZ	1	75	81	2	0.25	98	Bead, pellet, powder

Other Amides	Acid Value (Max)	Iodine Value*	Melting Point °C*	Color, (Max) (Gardner)	Moisture % (Max)	Amide % Min (by IR)	Physical Form
Armoslip® CP Oleamide	1	84	74	2	0.25	98	Bead, powder
Armoslip® CPV Veg Oleamide	1	85	78	2	0.25	98	Bead
Armoslip® HT Stearamide	1	-	101	2	0.25	98	Bead, powder
Kemamide® BR Behenamide	1	-	108	2	0.25	98	Bead
Kemamide® OR Oleamide	1	84	74	2	0.25	98	Bead, powder
Kemamide® S Stearamide	1	-	102	2	0.25	98	Bead, powder
Kemamide® U Heat Stable Oleamide	1	81	73	2	0.25	97	Pellet, powder
Kemamide® VO Veg Oleamide	1	-	-	2	0.25	98	Bead, powder

Secondary Amides	Acid Value (Max)	Iodine Value*	Melting Point °C*	Color, (Max) (Gardner)	Physical Form
Kemamide® E-180 Stearyl Erucamide	1	44	74	2	Bead, powder
Kemamide® P-181 Oleyl Palmitamide	3	43	69	2	Bead, powder
Kemamide® S-180 Stearyl Stearamide	-	-	94	2	Bead, powder

*Typical values only



Slip & Anti Block Agents (cont.)

Bisamides	Acid Value (Max)	Melting Point °C*	Color, (Max) (Gardner)	Physical Form
Kemamide® EBS	7	143	3	Powder, prill
Kemamide® W-20	10	117	6	Pellet, prill
Kemamide® W-40 Vegetable	10	143	3	Flake, powder, prill

*Typical values only

Ester Additives

Glycerol & Sorbitol Esters	Acid Value (Max)	Iodine Value	Color, (Max) (Gardner)	SAP Value	Description
Kemester® 150	3	0 - 5	3	-	Partial ester of glycerin
Kemester® 300 K Special**	3	60 - 70	2	160 - 180	Partial ester of glycerin
Kemester® 400	3	-	4	140 - 150	Partial ester of glycerin
Kemester® 5721	2	0 - 2	2	110 - 130	Branched alcohol ester
Kemester® 695*	3	70 - 80	2	-	Partial ester of glycerin
Kemester® 695K**	3	70 - 80	2	-	Partial ester of glycerin
Kemester® 84*	3	0 - 2	-	150 - 180	Partial ester of glycerin
Kemester® MST	2	0 - 2	-	155 - 170	Partial ester of glycerin
Kemester® C-5632	15	-	12	160 - 180	Sorbitan Ester

*Vegetable grade available

**Kosher



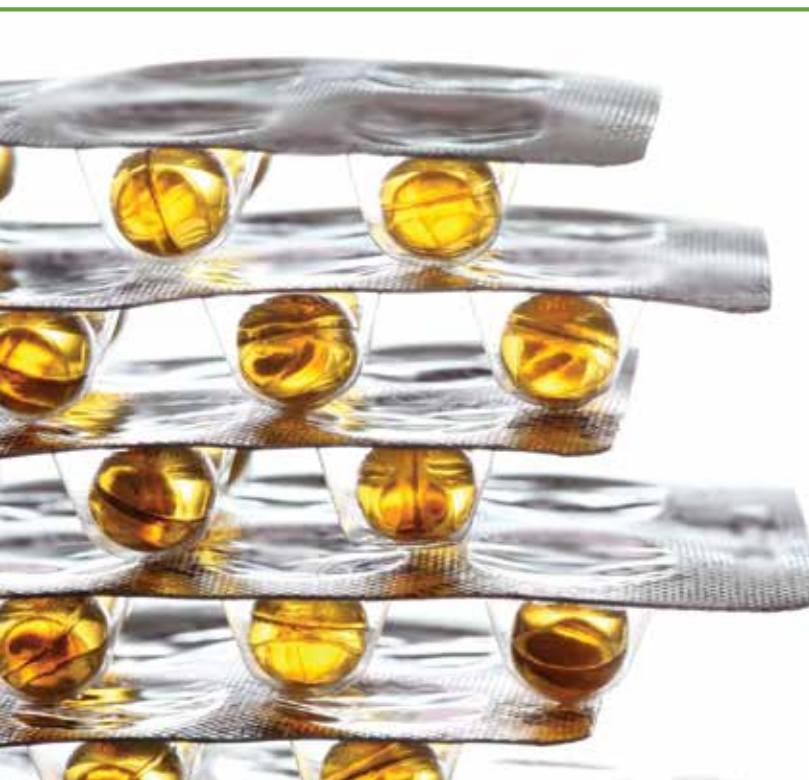
Lubricants & Acid Scavengers

Aluminum Stearates	Manufacturing Process	Moisture % (Max)	Free Fatty Acid % (Max)	Water Soluble Salts % (Max)
22 Powder	Precipitation	1	5.5	1
22 Veg Powder	Precipitation	1	7	1
EA FG Powder*	Precipitation	1	7	1

*Food grade

Calcium Stearates	Manufacturing Process	Moisture % (Max)	Free Fatty Acid % (Max)	Water Soluble Salts % (Max)
FG Powder	Fusion	3.5	1	N/A
FN Powder	Fusion	3.5	1	N/A
FN Veg Powder	Fusion	4	1	N/A
HPLG Powder	Fusion	3	1	N/A
Reg Powder	Fusion	3.5	2	N/A
FP FG Powder	Precipitation	4	3	0.3
FP Powder	Precipitation	2.5	1	0.2

Sodium Stearates	Manufacturing Process	Moisture % (Max)	Free Fatty Acid % (Max)	Water Soluble Salts % (Max)
Na St T-1	Fusion	3	1.5	N/A



Lubricants & Acid Scavengers (cont.)

Zinc Stearates	Manufacturing Process	Moisture % (Max)	Free Fatty Acid % (Max)	Water Soluble Salts % (Max)
Lubrazinc® W Powder	Fusion	1	1	N/A
ED HS Powder* and Pastille	Fusion	1	1	N/A
42 Powder	Precipitation	1	2	0.5
NB 60 Powder	Precipitation	1	2	0.5

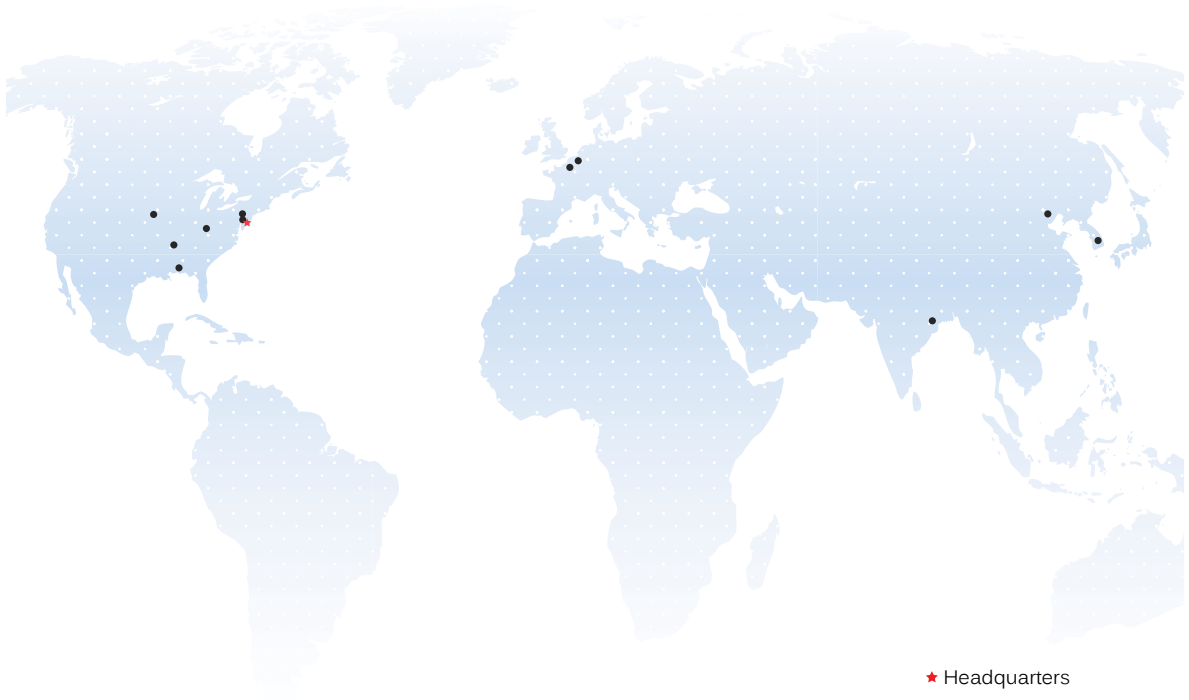
*Vegetable grade available.

Lithium Stearates	Manufacturing Process	Moisture % (Max)	Alkalinity (Max)	Lithium Content %
306 Powder	Fusion	2	0.02	2.4 - 2.6

Magnesium Stearates	Manufacturing Process	Moisture % (Max)	Free Fatty Acid % (Max)	Water Soluble Salts % (Max)
DM ND Powder	Fusion	5	1	N/A

pmc  biogenix™





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- Manufacturing Locations

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