

**TYPICAL PROPERTIES OF MARCUS "REFINED" POLYETHYLENE HOMOPOLYMER WAXES (PE WAX) ::**

CAS no. 9002-88-4

DSL/NDSL RECORD NUMBER: 8959

MARCUS HOMO POLYMER GRADES	DSC PEAK MELTING POINT, °C (ASTM D 3418)	METTLER DROP POINT, °C (ASTM D 3954)	PENETRATION dmm @ 100gms 5 sec at 23°C (ASTM D 1321)	VISCOSITY CPS @149°C (300°F) (ASTM D 3236)	DENSITY gm/cc (ASTM C 693)	MOLECULAR WEIGHT (Mn) GPC
M 105	95~100	100~ 105	0.5~1.5	15 ± 5	0.92~0.95	1200±10%
M 200	101~107	110~ 118	0.5~1.5	16 ~ 25	0.93~0.94	1500±10%
M 300	101~107	110~ 118	0.5~1.5	26 ~40	0.93~0.94	1500±10%
M 500	101~107	110~ 118	0.5~1.5	41 ~ 55	0.93~0.94	1500±10%
M 600	101~107	110~ 118	0.5~1.5	ABOVE 55	0.93~0.94	1500±10%
PR 700	100 ± 5	105 ± 5	3.0~8.0	Max. Upto 100	0.91~0.94	1500±10%
MC 617 (Powdery form)	100 ± 5	105 ± 5	3.0~8.0	Max. Upto 100	0.91~0.94	1500±10%
M 095	85 ± 5	90 ± 5	4.0~8.0	Max. Upto 50	0.91~0.94	1200±10%
<b>MICRONIZED POLYETHYLENE WAX</b>						
M 5005 Size: 5.0 µm	101~107	110~ 118	0.5~1.5	26 ~40	0.93~0.94	1500±10%
M 5010 Size: 10.0 µm	101~107	110~ 118	0.5~1.5	26 ~40	0.93~0.94	1500±10%

Marcus 'refined' homopolymer polyethylene waxes are hard, high melting waxes with low viscosity. Low molecular weights and narrow distribution combined with their high crystallinity give Marcus Waxes their unique properties. Products with higher density translates to higher crystallinity.

**Applications/Uses in:**

Inks, Paint, Engineering Plastic (Composites), Masterbatches, PVC extrusion, Lubrication, Hot Melt Adhesive, Pigment dispersion/Colouring agent, Coating, Surface Modifying, Release agent, Viscosity adjustment, Scratch resistance, Additives and stabilizers, Polishes, Rubber processing, WPC, Packaging, Blending with other waxes etc.


**Packaging and Product Form**

Standard packaging: 25kg/50lb (22.7kg) PP woven/plastic lined Kraft bags with 25bags /45 bags to the pallet (625kg/1000kg). Super sacks & Gaylord boxes are also available upon request. Marcus homopolymer waxes are available as prill form (0.3-0.5mm) typical and powdery form (0.1-0.3 mm) typical.

**Safety**

Marcus Polyethylene homopolymer are regarded as non-hazardous when exposure is controlled using accepted industrial hygiene practices. Please consult the Material Safety Data Sheet for specific information on the safe handling of Marcus Polyethylene waxes.



"See Disclaimer for important information"



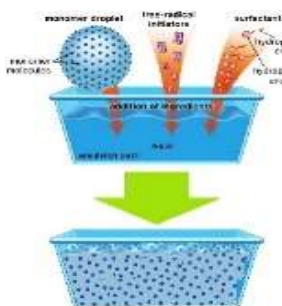
**TYPICAL PROPERTIES OF MARCUS OXIDISED PE WAX, OXIDISED HDPE & OXIDISED LDPE ::**

CAS No.: 68441-17-8

DSL/NDSL RECORD NUMBER: 17493

MARCUS OXIDISED GRADES	DSC PEAK MELTING POINT, °C (ASTM D 3418)	METTLER DROP POINT, °C (ASTM D 3954)	VISCOSITY CPS (ASTM D 3236) @200 Deg. C	DENSITY (ASTM C 693) gm/cc	PENETRATION dmm (ASTM D1321) @ 5 Secs at 23°C	ACID NO. (ASTM D 1386) mg KOH/g
<b>OXIDIZED POLYETHYLENE WAX</b>						
M 3300	95 ± 5	100 ± 5	20 ± 5	0.96 - 0.97	4 - 8	7 ± 2
M 3400P	95 ± 5	100 ± 5	20 ± 5	0.96 - 0.97	4 - 8	12 ± 2
M 3400T	95 ± 5	100 ± 5	20 ± 5	0.96 - 0.97	4 - 8	16 ± 2
M 3500	95 ± 5	100 ± 5	20 ± 5	0.96 - 0.97	4 - 8	24 ± 2
MC 629	90 ± 5	100 ± 1	25 ± 5	0.93 - 0.94	4 - 8	15 ± 1
MC 629A (Powdery form)	90 ± 5	100 ± 1	25 ± 5	0.93 - 0.94	4 - 8	15 ± 1
<b>OXIDIZED HDPE</b>						
MC-307	135 ± 5	140 ± 5	95,000 ± 5%	0.981	< 0.5	7 ± 2
MC-316	135 ± 5	140 ± 5	35,000 ± 5%	0.982	< 0.5	16 ± 2
MC-325	135 ± 5	140 ± 5	20,000 ± 5%	0.983	< 0.5	25 ± 2
MC-330	135 ± 5	140 ± 5	13,500 ± 5%	0.984	< 0.5	30 ± 2
<b>OXIDIZED LDPE</b>						
M - 10	95 ± 5	235 ± 5	6,000 - 7,000	0.984	< 1.0	16 ± 2

Marcus oxidized polyethylene wax and oxidized HDPE/LDPE are a range of low & high density, low & high melt point specialty polymer - Oxidized Polyethylene. These are manufactured by using virgin PE Wax and virgin HDPE/LDPE feedstock; their oxidation process is conducted under special controlled conditions to maintain superior qualities and aesthetic properties.



**Applications/Uses:** The main feature is that the oxidation of polyethylene allows formulators to incorporate the beneficial properties of high viscous, high carbon number & high melt point hydrophobic hydrocarbon OPE into aqueous systems. As an process add these oxidized polyethylene enhanced the wide range of applications in chemical industries such as emulsion, polish, textile, coating, as a metal release agent & fusion control for PVC processing etc.



**Packaging:** Standard packaging: 25kg PP woven sacks bags, Palletized with 25 bags & wrapped for shipment. FIBC Jumbo Bags of 625 kg & 500 kg are also available.

**Safety:** Marcus Oxidized Polyethylene are regarded as non-hazardous when exposure is controlled using industrial hygiene practices. Please see the Safety Data Sheet for specific information on the safe handling of Marcus oxidized PE wax/ HDPE/LDPE.



*"See Disclaimer for important information"*





# MARCUS OILS & CHEMICALS PVT. LTD.

(The Company with ISO 9001:2015 & ISO 14001:2015 certifications)



## APPLICATION SUMMARY

APPLICATION	MARCUS GRADE	FORM	ATTRIBUTES
Asphalt	M 200, M 300, M 500, PR 700	Prill, Powder	Softening point & hardness modifier, Flow agent.
Cable filling	M 200, M 300, M 500, PR 700	Prill, Powder	Gelling agent & improved Heat resistance
Candle	M 095, M 200, PR 700	Prill, Powder	Enhance appearance, opacity & Burning time of candles
Color Concentrate & Master Batches	M 200, M 300, M 500, PR 700	Prill, Powder	Improvement of pigment wettability and dispersion.
Corrugated Board	M 200, M 300, M 500, PR 700	Prill, Powder	Enhancement of surface scuff & blocking resistance.
Emulsion	M 3400, M 3500, MC 629, MC 316, MC 330, M 10,	Prill, Powder	Uniformity of content, Palatability, Deliverability, Re-dispersibility
Expanded PS Foam	M 200, M 300, M 500	Prill, Powder	Lubricant & blowing agent Dispersant.
Fruit coating	M 3400, M 3500	Prill	Excellent barrier properties & provision of high gloss.
Hot melt Adhesive	M 200, M 300, M 500, M 600	Prill, Powder	Viscosity control & improved heat resistance.
Hot melt Road marking	M 200, M 300, PR 700	Prill, Powder	Viscosity reduction, Processing Benefits, Heat resistance.
Metal protection	M 200, M 300, M 500, M 3400	Prill, Powder	Surface improvements such as hardness.
Mold release	M 200, M 300, M 500, M 3400, M 3500	Prill	Excellent release properties by variety of application means.
Paint	M 200, M 300, M 500, MC 617, M 5010, M 5005	Prill or micronized	Flattening, abrasion & scratch Resistance, anti-blocking.
Paper coating	M 200, M 300, M 095, PR 700 MC 617	Prill, Powdery	Adjustment of slip & hardness properties.
Polish	M 200, M 300, M-10, M 3400, M 3500, MC 629, MC 316	Prill, Powder	Gelling agent. Good scuff slip & black mark resistances.
Printing ink	M 200, M 300, M 500, M 5010, M 5005	Prill or micronized	Excellent rub resistance.
PVC Compounding	M 300, M 500, M 600, PR 700, M3400, MC316, MC330, M 10	Prill, Powder	Efficient external/internal lubricants at low concentrations
Rubber Processing	M 200, M 300, M 500,	Prill, Powder	Superb processing aid & lubricant.
Textile treatment	M 3400, M 3500, MC 629, MC 629A, MC 316, MC 330	Prill, Powder	Lubricant & softening action, reduced needle cutting
PV Encapsulate	M 10	Powder	Electrical Isolation, Thermal stability
Solvent/Chlorinated Paraffin wax	PE OIL - MPEO-879	Clear Liquid	Provides more active sites for grafting, Reactivity enhancer.

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