



## Luperox® MC

A Unique Organic Peroxide for  
Curing SMC and BMC Formulations



# ARKEMA

Luperox® MC\* organic peroxide from Arkema Inc. is offered specifically to fabricators of sheet molding compounds (SMC) and bulk molding compounds (BMC) in North America. It is designed to cure the several hundred million pounds of SMC and BMC formulations used annually to make automotive body panels and structural parts, door skins, electrical boxes, satellite dishes, bath fixtures (shower stalls, bath tubs, etc.), personal water craft, and appliance housings.

When used to cure SMC and BMC formulations, it solves problems such as non-fill, dull surface, edge chips, knit lines, pregel, and undercure. In addition, it improves production cycle times.

Luperox® MC organic peroxide is a room-temperature-stable, liquid, organic peroxide having a unique formulation resulting from the manufacturing process. Some of its properties are listed here:

Appearance: .....Colorless-to-pale-yellow,  
clear liquid  
Specific Gravity:.....0.9308 @20°C  
Melting/Freezing Point: .....Below - 78°C  
10-Hour Half-Life Temperature: .....98°C (solvent)  
Recommended  
Storage Temperature: .....Below 30°C  
Maximum Allowed  
Storage Temperature: .....38°C  
Flash Point: .....64°C  
SADT:.....65°C (35 lb container)  
Stability: .....1.8% Assay Loss  
(After 4 weeks at 40°C)  
Active Oxygen Content: .....5.56% minimum

Luperox® MC organic peroxide is very efficient, providing shorter gel-to-cure-times compared to other room-temperature- stable peroxyesters currently used in SMC and BMC applications. The following table shows a comparison of Luperox® MC organic peroxide with other well-known initiators on an equal weight basis in the same resin formulation. Cure characteristics were measured dielectrically using a Micromet instrument to gather cure data at 300°F.



Curing Data	<b>LUPEROX® MC</b>	t-Butyl Peroxybenzoate, Luperox® P, 99%	00-(t-Butyl) 0-(2-Ethylhexyl) Monoperoxycarbonate Luperox® TBEC, 96%	00-(t-Butyl) 0-Isopropyl Monoperoxycarbonate Luperox® TBIC, M7S*	t-Amyl Peroxybenzoate Technically Pure Luperox® TAP, 95%	t-Butyl Peroxyacetate Luperox® 7M75*
Gel Time (sec)	14.4±0.8	16.0±0.6	17.3±0.8	12.8±0.6	12.9±1.3	14.2±0.3
80% Cure Time (sec)	20.2±0.0	31.8±0.5	27.5±0.4	24.0±0.6	25.8±0.5	29.4±1.8
Cure Time (sec)	25.9±0.2	40.8±0.3	35.1±0.5	31.0±0.5	33.3±0.4	37.7±1.6
Gel-to Cure Time (sec)	<b>11.5±0.8</b>	24.8±0.7	17.8±0.9	18.2±0.8	20.4±1.4	23.5±1.6
Max Cure Temp (°F)	302.4±0.1	301.8±0.4	301.4±0.4	302.6±0.2	300.1±0.7	301.0±0.9
Gel Time/ Cure Time	0.56±0.03	0.39±0.01	0.49±0.02	0.41±0.02	0.39±0.04	0.38±0.02

\*75% in odorless mineral spirits  
Initiators were compared on an equal weight basis, 2.35 phr, in a typical commercial SMC formulation.



ARKEMA Inc. is committed to the American Chemistry Council's  
Responsible Care and Product Stewardship Initiatives.

R E S P O N S I B L E C A R E ®

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\*Luperox® MC is covered in US 6,617,388B2



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