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Monofiber
KOMPOSIT INDUSTRIENS BEDSTE BRANDS

CUROX® M-103

Methyl ethyl ketone peroxide
CAS#1338-23-4
Liquid mixture

Description

Colourless, mobile liquid, consisting of peroxides based on methylethylketone, essentially desensitised with phtalate plasticiser. This ketone peroxide is used as an initiator (radical source) in the curing of unsaturated polyester resins. Main application: curing of moulded, casted or winded glasfibre reinforced products at ambient temperature in combination with cobalt accelerators.

Technical data

Appearance	Colourless liquid
Active oxygen	Approx 9.0 % w/w
Free hydrogenperoxide content	Below 0.5 % w/w
Water content	Below 1.3 % w/w
De-sensitising agent	Dimethylphthalate
Density at 20°C	Approx. 1.12 g/cm3
Viscosity at 20°C	Approx. 22 mPa.s
Miscibility	Miscible with alcohols, phthalates
Critical temperature (SADT)	Above 60°C
Cold storage stability	Below -20°C
Recommended storage temperature	0 – 30°C
Maintenance of activity at 30°C as from date of production	6 months

Application

POLYESTER CURING:
Curing agent preferably for Vinylester resins at ambient temperature in combination with cobalt accelerators but also suitable in all unsaturated polyesters if long geltime is required. Standard dosage level: 1-3% as supplied, with 0.5-2% of a 1% cobalt solution. Cobaltoctoate/Dimethylaniline-combinations can have a stronger acceleration effect in Vinylesterresins.

"Pot life" (gel time of resin + peroxide + accelerator) in vinylester resins relatively short, but may be prolonged by adding Inhibitor TC-510.

CURING PERFORMANCE:
Depending on resintype moderate/strong evolution of heat. Quit long geltime and gel to peaktime in unsaturated polyester resins. Temperatures below 20°C prolong curing times considerably, alternatively cobalt / amine accelerators should then be used. Vinylester resins can be cured in moderate time with very less foaming effects but higher exothermal peak in thick layers.

PROCESSING METHODS:
Particularly hand lay-up, spray lay-up, centrifugal casting, filament winding, casting of resins, and surface coatings (putties, fillers, gelcoats and topcoats).

Standard Packaking

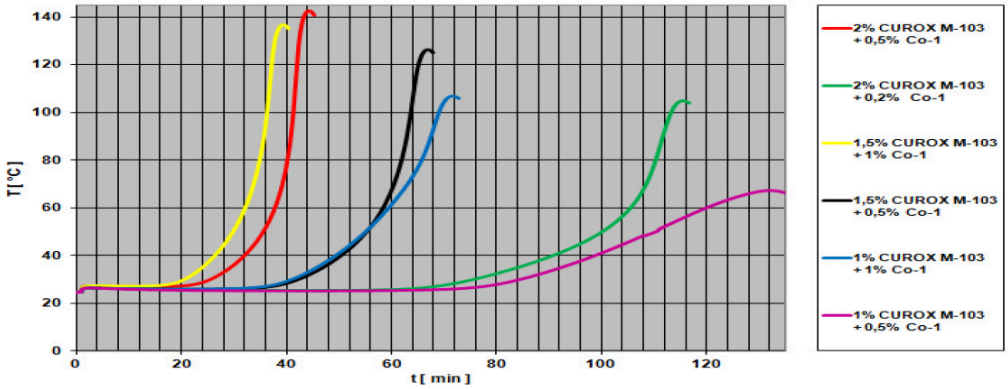
The standard package size of Curox®M-103 are 5 kg and 25 kg polyethylene bottles.

Disclaimer

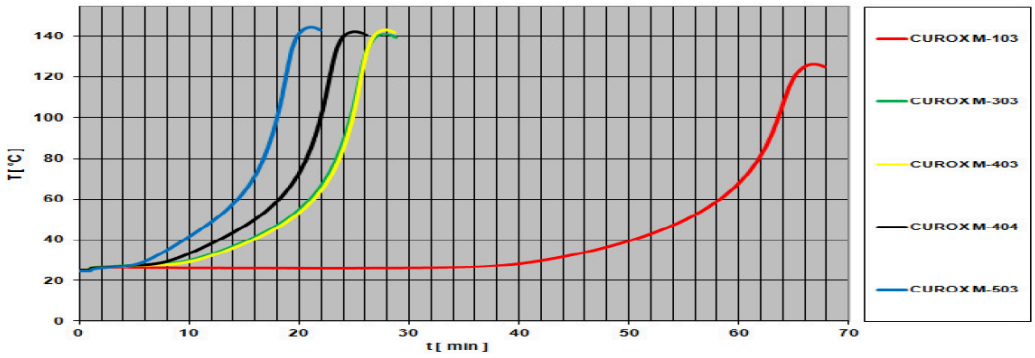
This information and all further technical advice are reflecting our present knowledge and experience based on internal tests with local raw materials with the purpose to inform about our products and applications. The information should not be construed as guaranteeing specific properties of products described or their suitability for a particular application, nor as providing complete instructions for use. The information implies no guarantee for product and shelf life properties, nor any liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. We reserve the right to make any changes according to technological progress or further developments.

Application and usage of our products based on our technical advice is out of our control and sole responsibility of the user. The user is not released from the obligation to conduct careful inspection and testing of incoming goods in order to verify the suitability for the intended application.

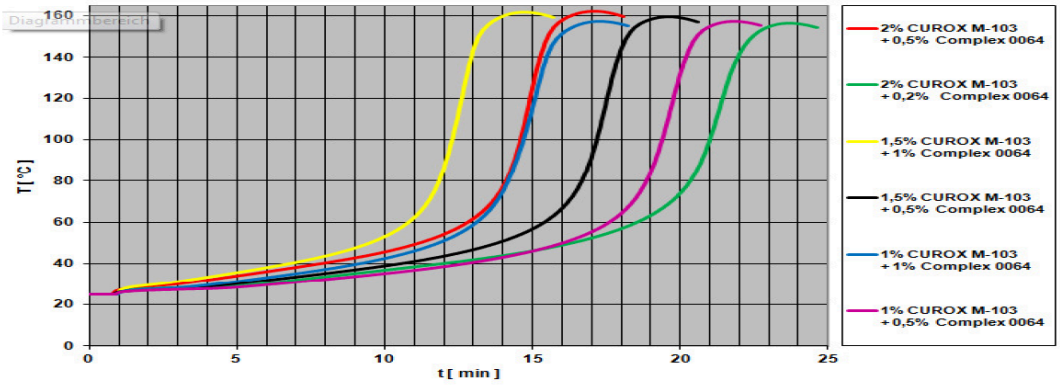
Reactivity:



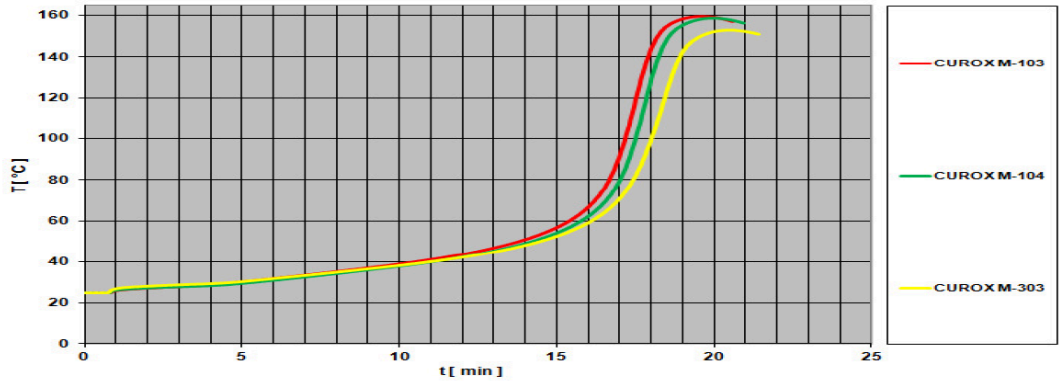
Measurements in compliance with DIN 16945 at 25 °C with OPA resin (20g in a test tube)							
Medium reactive resin type (OPA)		100	100	100	100	100	100
CUROX® M-103	[Vol-%]	2.0	2.0	1.5	1.5	1.0	1.0
BÜFA® Accelerator Co 1	[Vol-%]	0.5	0.2	1.0	0.5	1.0	0.5
Curing data							
Gel time 25 -30 °C t_{gel}	[min]	25.5	75.5	20.5	42.0	40.5	84.5
Gel time 25 -35 °C t_{gel}	[min]	29.0	84.0	24.0	47.0	45.5	92.0
Curing time t_{max}	[min]	45.0	115.5	39.5	66.5	71.5	132.0
Peaktemperature T_{max}	[°C]	141	105	137	127	106	67



Measurements in compliance with DIN 16945 at 25 °C with OPA resin (20g in a test tube)						
Medium reactive resin type (OPA)		100	100	100	100	100
CUROX® M-103	[Vol-%]	1.5				
CUROX® M-303	[Vol-%]		1.5			
CUROX® M-403	[Vol-%]			1.5		
CUROX® M-404	[Vol-%]				1.5	
CUROX® M-503	[Vol-%]					1.5
BÜFA® Accelerator Co 1	[Vol-%]	0.5	0.5	0.5	0.5	0.5
Curing data						
Gel time 25 - 30 °C t_{gel}	[min]	42.0	10.0	10.5	8.5	6.0
Gel time 25 - 35 °C t_{gel}	[min]	47.0	13.0	13.5	11.0	8.0
Curing time t_{max}	[min]	66.5	28.0	28.0	25.0	21.0
Peaktemperature T_{max}	[°C]	127	141	143	143	145



Measurements in compliance with DIN 16945 at 25 °C with VE resin (20g in a test tube)							
Medium reactive resin type (VE)		100	100	100	100	100	100
CUROX® M-103	[Vol-%]	2.0	2.0	1.5	1.5	1.0	1.0
BÜFA® Accelerator Complex 0064	[Vol-%]	0.5	0.2	1.0	0.5	1.0	0.5
Curing data							
Gel time 25 -30 °C t_{gel}	[min]	3.0	5.5	2.5	5.0	4.5	6.5
Gel time 25 -35 °C t_{gel}	[min]	5.5	9.0	5.0	8.0	7.0	10.0
Curing time t_{max}	[min]	17.0	23.5	15.0	19.5	17.5	22.0
Peaktemperature T_{max}	[°C]	163	157	161	160	157	157



Measurements in compliance with DIN 16945 at 25 °C with VE resin (20g in a test tube)				
Medium reactive resin type (VE)		100	100	100
CUROX® M-103	[Vol-%]	1.5		
CUROX® M-104	[Vol-%]		1.5	
CUROX® M-303	[Vol-%]			1.5
BÜFA® Accelerator Complex 0064	[Vol-%]	0.5	0.5	0.5
Curing data				
Gel time 25 - 30 °C t_{gel}	[min]	5.0	5.5	5.0
Gel time 25 - 35 °C t_{gel}	[min]	8.0	8.5	8.0
Curing time t_{max}	[min]	19.5	20.0	21.0
Peaktemperature T_{max}	[°C]	160	158	153

Further information on suitable curing agents for unsaturated polyester resins is given in our application brochures on this subject