

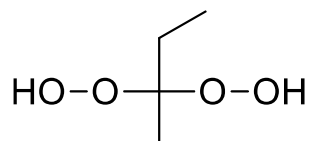
Technical Data Sheet (TDS)

CUROX®M-102
Thermoset (TS)

CUROX®M-102

Methyl ethyl ketone peroxide
CAS#1338-23-4
Colourless liquid mixture

Structural Formula



Description

Colorless liquid consisting of methyl ethyl ketone peroxides, phlegmatized with an aliphatic ester. This ketone peroxide is suitable as a radical initiator for curing unsaturated polyester resins.

Main application: Curing of large moulded parts at ambient temperature in combination with cobalt accelerators.

Technical Data

Appearance	Colourless liquid
Desensitising agent	Aliphatic ester
Active oxygen (AO)	ca. 8.6 % w/w
Density at 20 °C	ca. 1.01 g/cm ³
Viscosity at 20 °C	ca. 13 mPa·s
Miscibility	Immiscible with water; miscible with ester and UP/VE-resins
Critical temperature (SADT)	ca. 60 °C
Cold storage stability	Liquid to below -25 °C
Recommended storage temperature	below 30 °C ●
Storage stability as from date of delivery	6 months

Standard Packaging

22.5 kg in HDPE canisters

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Application

POLYESTER CURING:

Curing agent for mainly vinyl ester resins, but also UP resins (*e.g. ortho-* and *iso-phthalic acid* resins) at ambient temperature in combination with cobalt or cobalt/amine accelerators. The "storage time" (gel time of resin + peroxide) is usually only a few hours and depends on temperature and resin type. The "pot life" (gel time of resin + peroxide + accelerator) is relatively short, but can be extended by adding an inhibitor (*e.g. Inhibitor TC 510*).

This product does not contain any diacetone alcohol, which is particularly undesirable in drinking water applications.

CURING PERFORMANCE:

The moderate heat development results in a stress-relieved curing. Despite this, the residual styrene and TOC content are low. At temperatures below 20 °C, the curing times increase significantly. This product has the lowest H₂O₂ content in our MEKP portfolio. Therefore, it is recommended for vinyl ester resins. In UP resins the curing performance is very slow and it should be use a more active grades (*e.g. CUROX®M-312 or CUROX®M-402*).

PROCESSING METHODS:

The product can be used in many different applications and is suitable for curing molded parts after different working processes, *e.g. hand lamination, spray lay-up, centrifugal casting, filament winding, casting of resins, and surface coatings* (putties, fillers, gelcoats and topcoats).

Decomposition Products

Possible detectable decomposition products: Methyl ethyl ketone, ethane, acetic acid

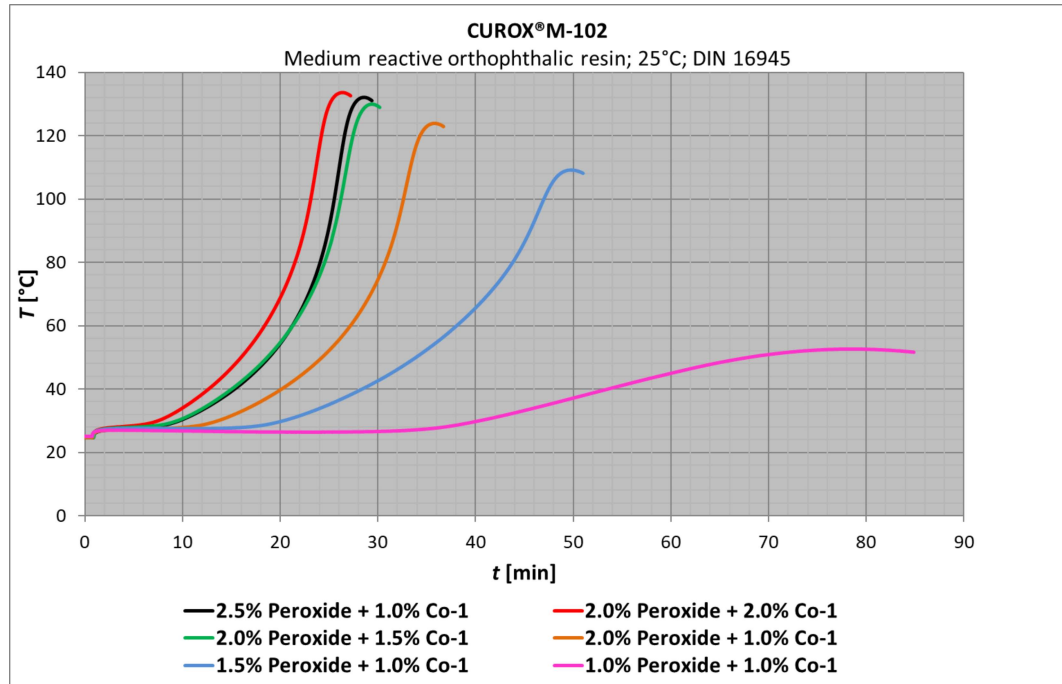
Storage

Avoid any source of heat, light, humidity and protect the product from impurities. Keep within safe temperature limits.

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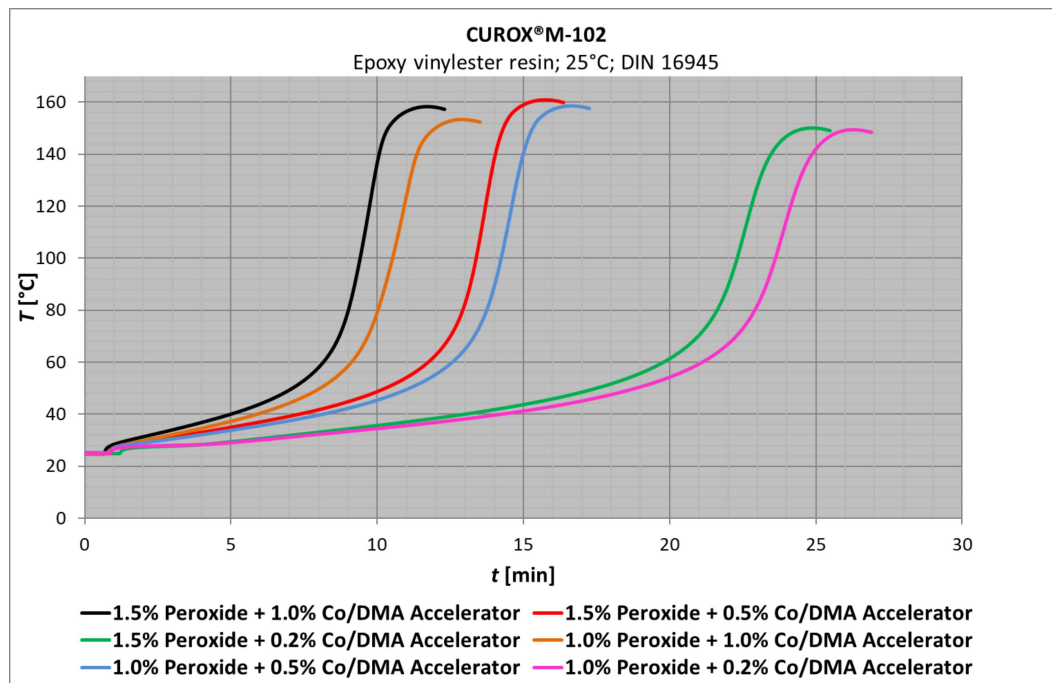
Measurements



Formulation (parts per weight)							
Resin		100	100	100	100	100	100
CUROX®M-102	[Vol-%]	2.5	2.0	2.0	2.0	1.5	1.0
Co-1	[Vol-%]	1.0	2.0	1.5	1.0	1.0	1.0
Curing Data							
Gel time 25 - 30 °C t_{gel}	[min]	9.7	7.5	9.4	13.6	20.3	40.4
Gel time 25 - 35 °C t_{gel}	[min]	12.9	10.5	12.6	17.3	24.9	47.2
Curing time t_{max}	[min]	28.6	26.4	29.4	35.8	49.7	78.6
Peak temperature T_{max}	[°C]	132	133	130	124	109	52

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Formulation (parts per weight)							
Resin		100	100	100	100	100	100
CUROX®M-102	[Vol-%]	1.5	1.5	1.5	1.0	1.0	1.0
Co/DMA Accelerator	[Vol-%]	1.0	0.5	0.2	1.0	0.5	0.2
Curing Data							
Gel time 25 - 30 °C t_{gel}	[min]	1.5	2.3	5.5	2.1	2.7	5.9
Gel time 25 - 35 °C t_{gel}	[min]	3.4	5.0	9.5	4.2	5.6	10.4
Curing time t_{max}	[min]	11.7	15.7	24.8	12.9	16.6	26.3
Peak temperature T_{max}	[°C]	158	160	150	153	159	149

Disclaimer:

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