

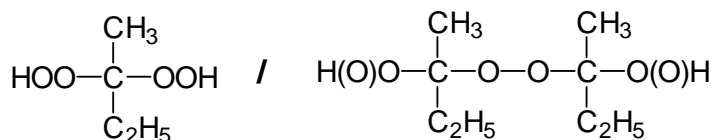
Technical Data Sheet

Polyester Curing

Ketone peroxides (Ambient temperature)

CUROX[®] M-100

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



Description:

Colourless, mobile liquid, consisting of peroxides based on methyl ethyl ketone, essentially desensitised with phthalate plasticiser. This ketone peroxide is used as an initiator (radical source) in the curing of unsaturated polyester resins and vinyl ester resins. Main application: curing of large moulded parts at ambient temperature in combination with cobalt accelerators.

Technical Data:

Appearance colourless liquid
Active oxygen ca. 8.4-9.9% w/w
De-sensitising agent phthalic acid ester
Density at 20°C ca. 1.1 g/cm³
Viscosity at 20°C ca. 30 mPa•s
Miscibility immiscible with water, soluble in phthalates
Critical temperature (SADT) ca. 60°C
Cold storage stability liquid to below -25°C
Recommended storage temperature below 30°C
Maintenance of activity at 25°C min. 6 months

Application:

POLYESTER CURING: Curing agent for UP resins at ambient temperature in combination with cobalt accelerators. Suitable for all UP resin types and for vinyl ester resins. Standard dosage level: 1-3% as supplied, with 0.5-2% of a 1% cobalt solution (or alternatively cobalt amine accelerator). "Shelf life" (gel time of resin + peroxide) usually only a few hours, depending on temperature and resin type. "Pot life" (gel time of resin + peroxide + accelerator) relatively long, especially, when ortho- or iso-phthalic resins are to be cured.

CURING PERFORMANCE: Moderate evolution of heat, therefore low internal stress. Recommended for vinyl ester (VE) resins. Relatively short mould release times, i.e. good mould release factors ($f_{MR} = t_{MR}/t_{gel}$). Temperatures below 20°C and/or some special resin types retard curing considerably. Action: with UP resins use more active grade (CUROX M-200, 300, 400); with VE resins, add amine accelerator.

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

SPRAY EQUIPMENT: Use spray equipment in accordance with manufacturer's instructions. Ensure all safety devices are operational. Do not clear gun by spraying MEKP into the air.

Activity:

"Cobalt Curing" of 2 mm GRP laminates at 23°C						
Formulation (parts by weight)						
Highly reactive o-phthalic acid resin Type	100	100	100	100	100	100
CUROX [®] M-100	2	2	2	2	1	1
Accelerator C-101	2	1	0.5	0.2	1	0.5
Cure times (minutes)						
Gel time (t_{gel}) at 23°C	18	25	45	70	65	120
Mould release time (t_{MR}) at 23°C	70	150	210	340	300	340
Mould release factor ($f_{MR} = t_{MR}/t_{gel}$)	3.9	6.0	4.7	4.9	4.6	2.8

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