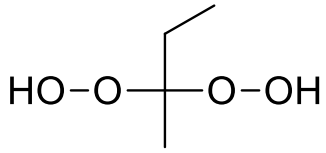
CUROX®M-312R

Methyl ethyl ketone peroxide
CAS#1338-23-4
Red liquid

Structural Formula



Description

Red, mobile liquid, consisting of peroxides based on methyl ethyl ketone, essentially desensitised with aliphatic ester. This ketone peroxide is used as a radical initiator in the curing of unsaturated polyester resins.
Main application: Curing of moulded parts at ambient temperature in combination with cobalt accelerators.
Advantages: Due to the red coloured peroxide, homogenisation in the resin can be controlled and after curing the red colour disappeared.
High efficiency with special pre-accelerated and stabilised resin types.

Technical Data

Appearance	red liquid
Desensitising agent	aliphatic ester
Active oxygen (AO)	ca. 8.6 - 9.2 % w/w
Hydrogen peroxide	ca. 2.6 % w/w
Density at 20 °C	ca. 1.01 g/cm^3
Viscosity at 20 °C	ca. 13 mPa·s
Refractive index at 20 °C	ca. 1.431
Flash point	ca. 57 °C
Critical temperature (SADT)	ca. 60 °C
Cold storage stability	ca. -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

Application

POLYESTER CURING:

Curing agent for all UP resins at ambient temperature in combination with cobalt accelerators. Especially suitable for resins based on *ortho*- and *iso*-phthalic acid respectively.
Standard dosage level: 1 - 3 % with additional use of 0.5 - 2 % of a 1 % cobalt solution.
"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 short, but maybe be prolonged by adding Inhibitor TC 510. Thus, the mould release factor ($f_{MR} = t_{MR}/t_{gel}$) can be improved considerably.

CURING PERFORMANCE:

Moderate evolution of heat. Relatively long mould release time, moderate mould release factors. Temperatures below 20 °C prolong curing times considerably, alternatively cobalt / amine accelerators should then be used.

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.

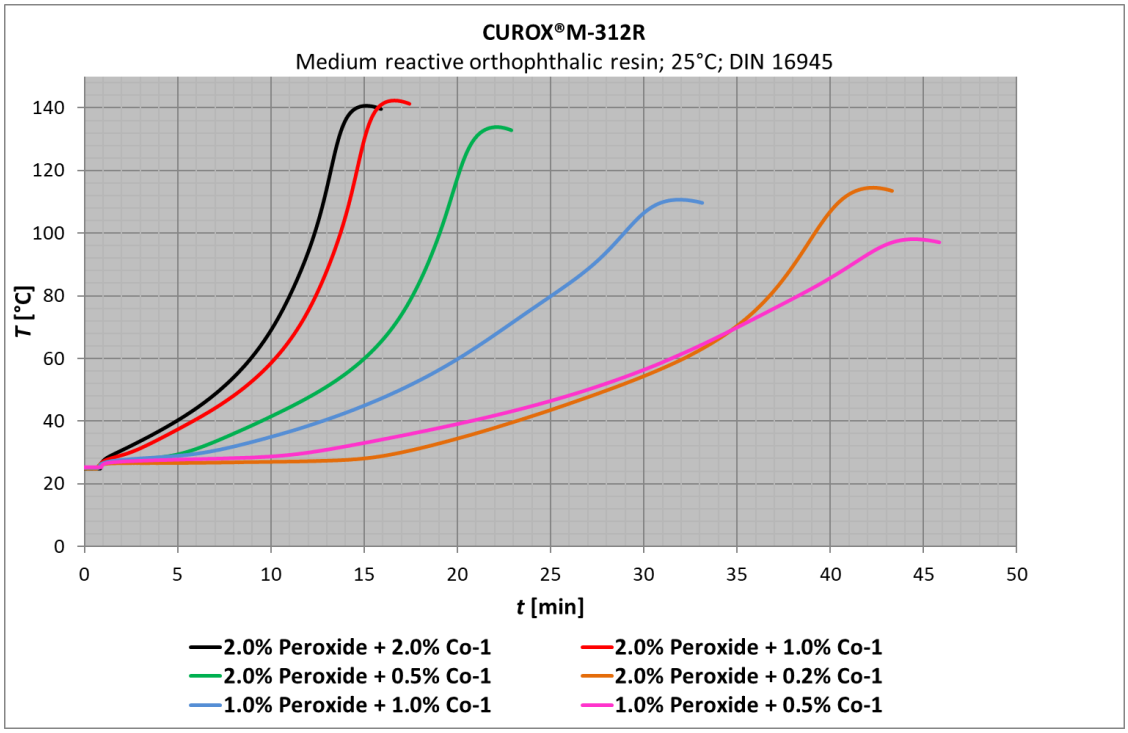
Decomposition Products

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

Storage

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

Measurements



Formulation (parts per weight)							
Resin		100	100	100	100	100	100
CUROX®M-312R	[Vol-%]	2.0	2.0	2.0	2.0	1.0	1.0
Co-1	[Vol-%]	2.0	1.0	0.5	0.2	1.0	0.5
Curing Data							
Gel time 25 - 30 °C t_{gel}	[min]	1.8	2.5	5.4	17.0	6.5	12.1
Gel time 25 - 35 °C t_{gel}	[min]	3.4	4.2	7.6	20.4	9.8	16.8
Curing time t_{max}	[min]	15.1	16.6	22.1	42.3	32	44.3
Peak temperature T_{max}	[°C]	140	142	134	115	111	98

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