

CUROX®CUHP

Cumenehydroperoxide
CAS#80-15-9
Liquid mixture

Description

CUROX®CUHP is a colourless to pale yellow liquid solution of cumene hydroperoxide. It is an economical free-radical initiator for unsaturated polyester resins, vinyl monomers and styrenation of oils and alkyds. CUROX®CUHP may be used singly or in combination with other peroxides in both ambient and elevated temperature processes.

Technical Data

Appearance	Pale Yellow to Colourless liquid
Active oxygen	8.7 %
Cumene hydroperoxide	80-85 %
Flash point (Seta C.C.):	> 72°C
Density at 20°C	1.05 g/cm ³
Soluble in :	Alcohols, ketones, esters, hydrocarbons
Slightly soluble in:	Water
Critical temperature (SADT)	75°C
Recommended storage temperature	Below 30°C
Maintenance of activity at 30°C as from date of delivery	6 months

Application

CUROX®CUHP is especially suitable for the cure initiation of unsaturated polyester resin systems at both ambient and elevated temperatures. The typical exotherm curve exhibited is usually mild and flat leading to a gradual, but thorough, cure. This characteristic can minimise crazing and cracking especially in thick cross-sections. CUROX®CUHP is normally used in pre-promoted resin systems employing cobalt and/or manganese compounds as the primary accelerators.

CAUTION: CUROX®CUHP SHOULD NEVER BE MIXED WITH ACIDS OR DIRECTLY WITH PROMOTERS OR ACCELERATORS. A VIOLENT DECOMPOSITION CAN OCCUR WHICH MAY RESULT IN A FIRE AND/OR EXPLOSION.

Primarily, CUROX®CUHP is used in combination with higher exotherm producing peroxides when the normal operating temperature is under 82°C.

These combinations will result in lower peak exotherms with the exact magnitude determined by the blend ratio. The use of CUROX®CUHP in the blend will lengthen the cure time but should not diminish the ultimate cure. When operating at temperatures over 82°C, CUROX®CUHP can behave similar to high exotherm peroxide. Over 121°C, use of CUROX®CUHP can give exotherms exceeding those normally expected for dibenzoyl peroxide or methyl ethyl ketone peroxide.

Measurements

Resin: Epoxy Vinylester resin* Temperature: 25°C
Initiator %: 1.5 Accelerator %: 0.10 % (12 % Cobalt) + 0.05 % DMA

Initiator	Gel time Min	Time to peak min	Peak Exotherm Temp °C	935 Hardness			934 Hardness 24 hr
				2 hr	3 hr	4 hr	
CUROX® CUHP	56	>236	28	0	0	0	7
CUROX® CP-50	16	61	92	41	50	55	14
CUROX® M-103	18	41	128	10	30	32	5

* Results determined by United Initiators laboratory test methods and are used for comparison, only. Resin suppliers should be contacted for specific recommendations for individual resins.

Packaging

The standard package sizes of CUROX®CUHP is 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.

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