

ANDONOX PD-40

DESCRIPTION

Andonox PD-40 is a clear solution of acetyl acetone peroxide (AAP), or 2,4-Pentanedione peroxide in a phlegmatizer. Andonox PD-40 is a very effective polymerisation initiator for the room temperature cure of unsaturated polyester resins and gives exceptionally fast cures without significantly affecting gel times in most resin systems. Andonox PD-40 has the added advantage of being a low fire or explosion hazard.

PRODUCT DATA

Active Oxygen Form Colour Density at 20°C Viscosity at 20°C Flash Point (Seta C.C.) Insoluble in

4,1% ± 0.1 Liquid Water clear to straw 1.07 - 1.10 g/cm³ 35 - 38 mPa.s > 65°C Aromatic, chlorinated and aliphatic hydrocarbons. Water, ethers, ketones, alcohols, glycols

APPLICATION

Andonox PD-40 is a very effective polymerisation initiator for the room temperature cure of unsaturated polyester resins and gives exceptionally fast cures without significantly affecting gel times in most resin systems. Due to the very fast cure of PD-40 the exotherm development is most often higher than common MEKP-cobalt curing system and therefore not recommended to cure thick laminates in one step.

This performance characteristics is especially beneficial in resin transfer moulding (RTM), cast polymers, and other applications requiring fast mould turnaround for production efficiencies.

It is not advisable to use Andonox PD-40 or any other AAP with gel coats because of risk of yellowing on white gel coats and the polar property of AAP can cause osmosis effects.

Andonox PD-40 is best suited for singly promoted resins using cobalt promotion alone. Levels of cobalt (naphthenate or octoate in 6% solutions) should be in the range of 0.1 to 0.5%. In some cases, the addition of 0.1% to 0.3% diethyl- or dimethylaniline speeds the curing further and gives extremely high exothermic temperature. The resin inhibitor type and level also has an important effect on the performance of Andonox PD-40. In general, high inhibitor levels are usually not desirable, and use of some quaternary ammonium salts can cause significant yellowing of the resin. Also, quaternary ammonium compounds can have inhibiting effect on the resin system gel- and cure properties.

PACKAGING

Standard packing sizes are 25 and 5 kg net weight.

Soluble in

0302

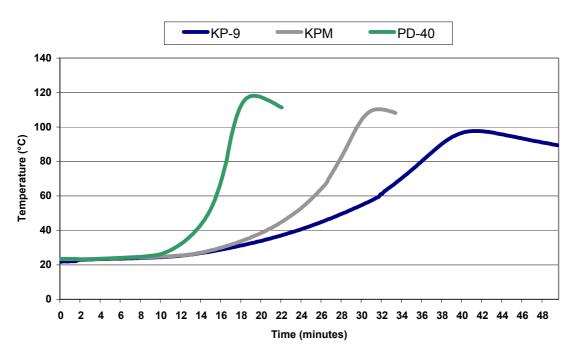


CURE CHARACTERISTICS

Conditions:				
Resin:	Medium Reactive Ortho Polyester	Resin Temp:	23°C	
Initiator Conc:	1,0 %	Room Temp:	22°C	
Acc.Conc:	1,0 % of a 1% Cobalt solution			

Initiator	Gel time min	Gel to Peak min	Peak Exotherm °C
Andonox PD-40	10,9	8,7	118
Andonox KPM	13,6	18,2	110
Andonox KP-9	13,8	27,7	98

Curves showing Peak exotherm temperature of different Andonox initiatros



STORAGE

- Storage at 25°C or below is recommended. Storage below 20°C is recommended for maximum shelf life.
- Store in original containers away from flammables and all sources of heat, sparks, or flames; out of direct sunlight; and away from cobalt naphthenate, other promoters, accelerators, oxidising or reducing agents and strong acids or bases.
- Leaking containers Remove and isolate in safe area. Re-package or dispose (see later section) immediately.
- Never store in refrigerators containing food and/or beverages.



HANDLING

- Inform all personnel of procedures for safe handling and review safetydatasheet with them.
- Remove from storage area only the amount needed for one shift.
- Wear safety glasses or goggles and chemical resistant gloves.
- Keep away from heat, flames, and sparks.
- Avoid breathing vapours.
- Never add peroxides directly to promoters or vice-versa, violent decomposition can occur.
- Prevent contamination such as contact with dust, over-spray, wood, and combustible material.
- Avoid contact with materials other than polyethylene, polypropylene, Teflon, Tygon, or similar materials, glass or glass-lined steel, and 304, 316, SS2343 stainless steel or equivalent.

FIRST AID

- EYES Flush immediately with large amounts of fresh water and continue washing for at least 15 minutes. Medical attention is needed.
- SKIN Wash with soap and water.
- INGESTION Drink large amounts of milk or water and call a physician immediately for gastric lavage. Do not induce vomiting.

SPILLS

- Clean up immediately by absorbing with inert material vermiculite or sand.
- After absorbing, moderately wet immediately with water and place in a clean polyethylene pail or drum. Put on a lid but loosely to avoid confining the waste.
- Dispose of immediately in accordance with local, state, and federal regulations. NOTE: Spilled peroxides, if not immediately cleaned up, can become contaminated and ignite or decompose in a vigorous manner.

FIRE

- PD-40 is difficult to ignite, but will burn.
- Use water from a safe distance preferably with a water-fog nozzle.
- For very small fires, an extinguisher with carbon dioxide, foam, or dry chemical may be effective.
- In case of a fire in or near a storage area, cool stored containers with water spray.

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P.O. Box 26083, SE-100 41 Stockholm, Sweden Telephone Int: +46-8 545 121 60, Telefax Int: +46-8 545 121 70 E-mail: <u>norac@andos.se</u> Website: <u>www.andos.se</u>