

PHOTOINITIATOR

DOUBLECURE[®] TPO

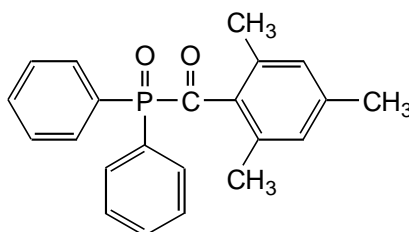
Photo initiator for UV coatings

General

Since DOUBLECURE[®] TPO has a minor λ_{max} located in 379 nm, it can be used for pigmented systems without sacrificing activity. Also due to its unprecedented speed and low yellowing properties, it is the best recommendation for thick film and white pigmented coating.

Properties

Structure:



Chemical Name	:	2,4,6-Trimethylbenzoyldiphenylphosphine oxide
CAS No.	:	75980-60-8
Molecular Formula	:	C ₂₂ H ₂₁ O ₂ P
Molecular Weight	:	348

Physical Data

Appearance	:	Yellow crystalline powder
Specific gravity	:	1.218 g/cm ³ @20°C
Melting point	:	87 - 94 °C
Vapor pressure	:	1.5x10 ⁻⁸ hPa @20°C

Solubility

(g in 100 ml solvent, at 20 °C)		
Acetone	:	ca. 50
Butyl acetate	:	ca. 50
Dichloromethane	:	ca. 60
MEK	:	ca. 40
Styrene	:	ca. 30
TMPTA	:	ca. 30
Water	:	11 mg/L @20°C (pH=6.4)

Specification

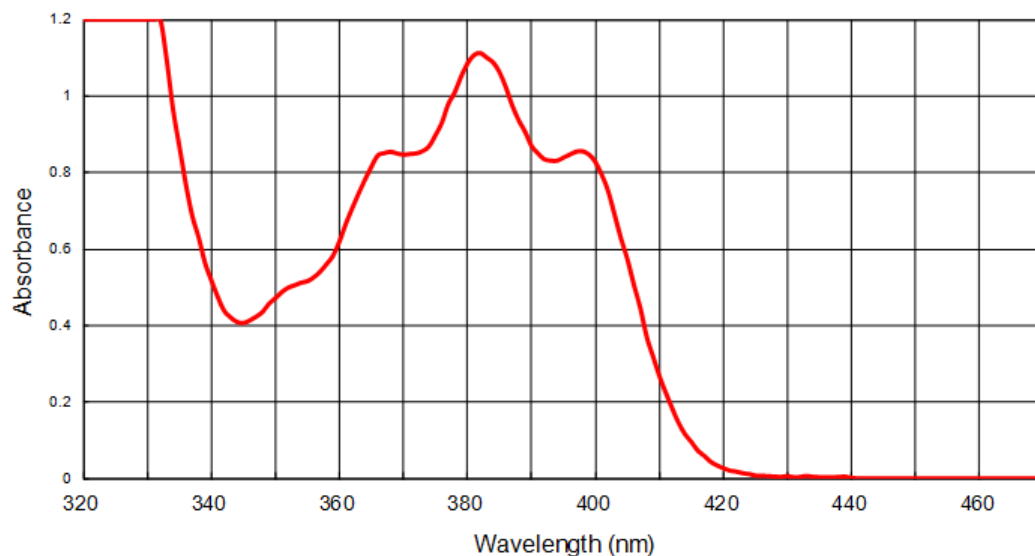
Appearance	:	Yellow crystalline powder
Assay (HPLC)	:	98 % min.
Melting point	:	87 - 94 °C
Acid value (mg KOH/g)	:	4 max.
Ash	:	0.1 % max.
Clarity of solution	:	Clear

Application

Basically, a percentage of 1 – 3 % of DOUBLECURE[®] TPO is effective for lacquer preparation. If the resin is made of polyester, there is no need for co-initiators. However, due to its sensitivity toward oxygen inhibition, additional co-initiators such as DOUBLECURE[®] 184 or 173 is highly recommended for pigmented acrylic finishes. If the yellowing is not concerned, amine synergist such as DOUBLECURE[®] EPD or P-115 is also benefit to the throughcure.

Owing to its absorption of light in the long wave UV region, DOUBLECURE® TPO and lacquers produced from it are daylight-sensitive. Therefore, light with wavelength less than 500 nm must be excluded during storage and processing.
The shelf life of DOUBLECURE® TPO finishes must be carefully checked due to the premature curing.

Spectrum



Storage

Must be stored in closed containers in dry and dark conditions.

Health and Safety Information

Toxicity:

ORL-RAT LD₅₀ : > 5,000 mg/kg

For detailed information please consult the corresponding material safety data sheets.

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