



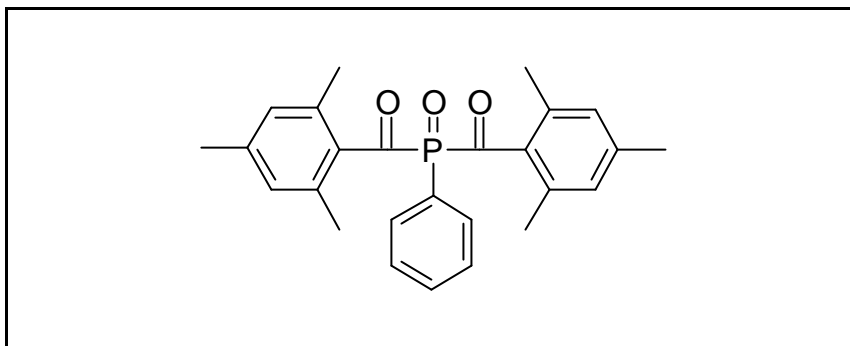
Ciba[®] IRGACURE[®] 819

Photoinitiator

General

IRGACURE 819 is a versatile photoinitiator for radical polymerisation of unsaturated resins upon UV light exposure. It is especially suited for white pigmented formulations, the curing of glass fiber reinforced polyester/styrene systems and for clearcoats for outdoor use in combinations with light stabilizers. Thick section curing is also possible with this photoinitiator.

Chemical Structure

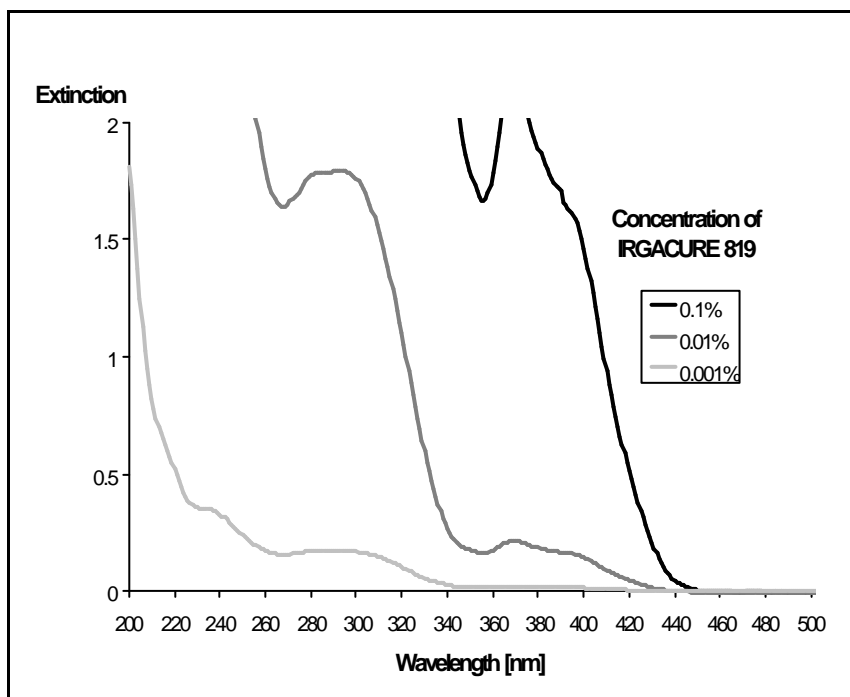


Bis(2,4,6-trimethylbenzoyl)-phenylphosphineoxide

Molecular weight: 418.5

Absorption Spectrum

(% in Acetonitrile)





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Physical Properties

Appearance: yellow powder

Melting Point: 127-133 °C

Solubility at 20°C (g/100 g solution) :

acetone	14
butylacetate	6
methanol	3
toluene	22
hexanedioldiacrylate (HDDA)	9
oligomeric acrylate	3

Applications

IRGACURE 819 may be used, after adequate testing, in UV curable formulations for clear and for pigmented coatings on wood, metal, plastic, paper and optical fibers as well as for printing inks and preregs.

IRGACURE 819 exhibits at low concentrations an outstanding curing performance in highly opaque white and colored furniture coatings or screen inks containing rutile titanium dioxide or colored pigments and affords minimum yellowing after exposure to sufficient amounts of UV radiation. Additionally the outstanding absorption properties of IRGACURE 819 allow curing of thick sections.

IRGACURE 819 can be used in combination with other photoinitiators such as IRGACURE 184 or IRGACURE 651. With the latter it is especially suited to cure polyester/styrene resins as used for glass reinforced materials.

Due to its photosensitivity at longer wavelengths, IRGACURE 819 can easily be used in combinations with UV absorbers, e.g. TINUVIN 400. It is therefore ideally suited for use in weather-resistant UV curable coatings.

The amount of IRGACURE 819 required for optimum performance should be determined in trials covering a concentration range.

Ciba Specialty Chemicals

Coating Effects Segment

Ciba



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Recommended concentrations:

Clear acrylate & UPES/styrene coatings:	0.1 - 0.2 % IRGACURE 819 + 1 - 2% IRGACURE 184
White acrylate & UPES/styrene furniture coatings:	0.5 - 1.0 % IRGACURE 819 + 1 - 2% IRGACURE 184
Colored acrylate formulations:	0.5 - 1.0 % IRGACURE 819 + 1 - 2% IRGACURE 651
White screen printing inks:	0.5 - 1.5 % IRGACURE 819 + 1 - 2% IRGACURE 184
Glass reinforced UPES/styrene prepregs :	0.2 - 0.4 % IRGACURE 819

Safety and Handling

IRGACURE 819 should be handled in accordance with good industrial practice. Detailed information is provided in the Safety Data Sheet.

IRGACURE 819 is sensitive to visible light and any exposure to sunlight should be avoided. Opened drums should be closed after use to protect the product against light.

Important Notice

The use of IRGACURE 819 in combination with α -hydroxyketones, like e.g. DAROCUR 1173 or IRGACURE 184 is covered by numerous patents or patent applications of Ciba Specialty Chemicals. Please check the specific situation in each country of concern.

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