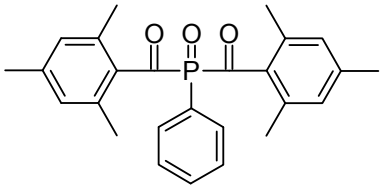
Technical Information

Irgacure® 819

general	photoinitiator
	Irgacure® 819 is a versatile photoinitiator for radical polymerization of unsaturated resins upon UV light exposure. It is especially suitable for white pigmented formulations, the curing of glass-fiber-reinforced polyester/styrene systems and for clear coats for outdoor use in combinations with light stabilizers. Thick-section curing is also possible with this photoinitiator.
chemical nature	
	bis(2,4,6-trimethylbenzoyl)-phenylphosphineoxide
molecular weight	418.5 g/mol

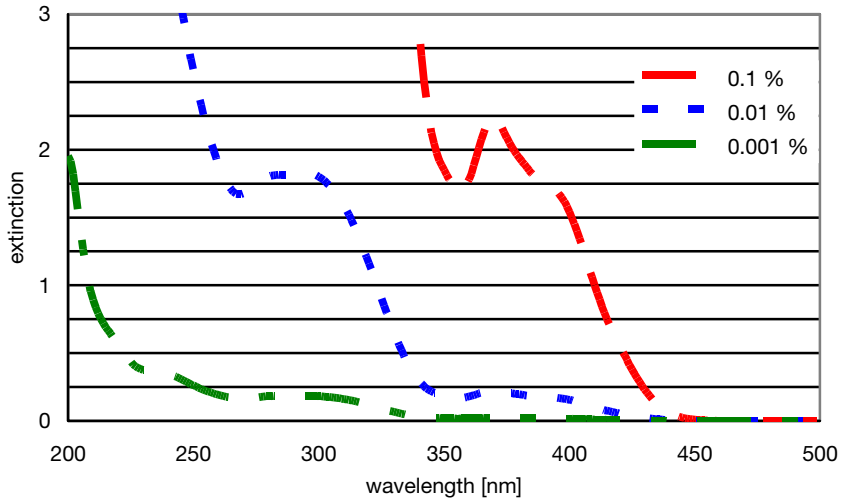
Properties

physical form	yellow powder
storage	Irgacure® 819 is sensitive to visible light and any exposure to sunlight should be avoided. Opened drums should be sealed after use to protect the product from light.

typical properties (no supply specification)

melting point (dependent on method)	127 – 133 °C (260 – 271 °F)
solubility at 20 °C (68 °F)	
butyl acetate	~ 6 % by weight
hexanediol diacrylate (HDDA)	~ 5 % by weight
trimethylolpropane triacrylate (TMPTA)	~ 5 % by weight
tripropyleneglycol diacrylate (TPGDA)	~ 5 % by weight

absorption spectrum



Irgacure® 819 concentration in acetonitrile

Application

Irgacure® 819 may be used 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 prepregs.

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 the 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 suitable to cure polyester/styrene resins used for glass-fiber-reinforced materials.

Due to its photo sensitivity at longer wavelengths, Irgacure® 819 can easily be used in combinations with UV absorbers, e.g., Tinuvin® 400. It is therefore ideally suitable for use in weather-resistant UV-curable coatings.

recommended concentrations

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

clear acrylate and UPES/styrene coatings	0.1 – 0.2 % + 1.0 – 2.0 % Irgacure® 184
white acrylate and UPES/styrene furniture coatings	0.5 – 1.0 % + 1.0 – 2.0 % Irgacure® 651
colored acrylate formulations	0.5 – 1.0 % + 1.0 – 2.0 % Irgacure® 184
white screen printing inks	0.5 – 1.5 % + 1.0 – 2.0 % Irgacure® 184
glass-reinforced UPES/styrene prepregs	0.2 – 0.4 %

as supplied

Safety
When handling this product please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note
The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

BASF SE
Pigments & Resins Europe
67056 Ludwigshafen, Germany
www.basf.com/resins
service-edc@basf.com