

## Benacure<sup>®</sup> 500 Photoinitiator Mixture

**Introduction:** Benacure<sup>®</sup> 500 is a liquid mixture of two photoinitiators. It is an efficient photoinitiator used to initiate the photopolymerization of unsaturated prepolymers in combination with monomers for use in clear coatings. This synergistic mixture allows for broader effective wavelength absorption, by free radical generation independently as well as hydrogen abstraction when exposed to UV light.

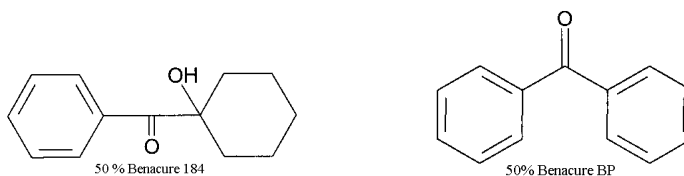
**Material Description:** Liquid Photoinitiator mixture

**Chemical Name:** 1-Hydroxy-cyclohexyl-phenyl-ketone (Benacure<sup>®</sup> 184)  
Benzophenone (Benacure<sup>®</sup> BP)

**Empirical Formula:** C<sub>13</sub>H<sub>16</sub>O<sub>2</sub> (Benacure<sup>®</sup> 184)  
C<sub>13</sub>H<sub>10</sub>O (Benacure<sup>®</sup> BP)

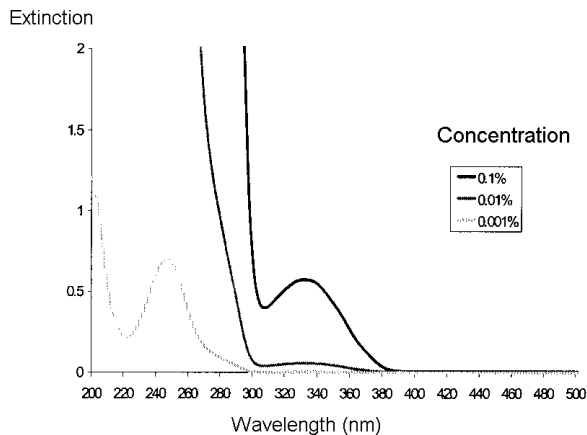
**CAS #:** 947-19-3 (Benacure<sup>®</sup> 184)  
119-61-9 (Benacure<sup>®</sup> BP)

### Chemical Structure:



<b>Physical Properties:</b>	Appearance:	Light yellow liquid
	Molecular Weight:	Benacure <sup>®</sup> 184: 204; Benacure <sup>®</sup> BP: 182
	% Benacure 184:	50 ± 5
	% Benacure BP:	50 ± 5
	Boiling point:	> 300°C
	Flash point:	> 160°C
	Specific Gravity:	1.11 (20°C)
	Solubility:	Soluble in most organic solvents Insoluble in water

### Absorption Spectrum:



**Applications:** Benacure<sup>®</sup> 500 is most effective when used in acrylated UV curable systems. Specific applications include printing inks, overprint varnishes, clear coatings for paper, plastic, metal and topcoats for coating of wood and wood substitutes. Other applications where Benacure<sup>®</sup> 500 is recommended are adhesives, automotive OEM coatings, automotive refinish coatings, coil coatings, and commercial vehicle coatings.

**Advantages:**

- Low viscosity aids in lower total formulation viscosity
- Compatible with amine cointiators
- Especially suited for water based UV formulations
- Liquid form is easily dispersible
- Strong compatibility with acrylate chemistries

**Loading**

**Instructions:**

The loading data and results are based on laboratory work (and field-testing) under controlled conditions and do not necessarily indicate the result that the buyer or user will attain. For this reason we strongly recommend testing of your own system under the actual conditions of processing and end-use prior to full scale testing. The recommended loading concentrations range between 2.0% and 6.0% depending on processing conditions.

**Packaging:**

Benacure<sup>®</sup> 500 is available in a 20 kg (44.1lb) plastic drum, net weight.

**Storage:**

This product may be stored up to one year in a sealed container. Avoid exposing the product to direct or indirect sunlight. **Storage under 18°C may lead to partial solidification.** Do not use the product until re-liquified; to re-liquify the product, heat the contents to 25-35°C. Re-liquifying the product does not affect the performance or effectiveness of the product.

**Toxicity & Safety:**

This material is not intended for use in products for which prolonged contact with mucous membranes or abraded skin, or implantation within the human body is specially intended, unless the finished product has been tested in accordance with the Food and Drug Administration and/or other applicable safety testing requirements. Because of wide range of such potential uses, Mayzo, Inc. is not able to recommend this material as safe and effective for such uses and assumes no liability for any such uses. Read and understand the Material Safety Data Sheet before using or handling this product.

**FDA Approval:**

Contact your Mayzo representative for FDA approval information.

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