Hampford Research INC
Handcrafted Solutions For A High-Tech World

Camphorquinone
FP 5060

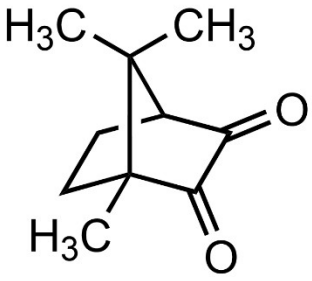
General

Camphorquinone is a free-flowing yellow-orange powder formulated for use as a photoinitiator in dental applications. Camphorquinone is typically paired with amine hydrogen donors as coinitiators.

This high purity material absorbs UV radiation in the region of 200 – 300nm due to the π−π* transition and visible light (400-500nm) due to the n, π* transition of the α-dicarbonyl chromophore.

Camphorquinone is a 1,2-dione that absorbs in the visible spectrum at 468nm. Photolysis of the 1,2-conjugation effectively causes photobleaching, producing excellent whites.

Chemical Structure



Product Information

Product Type:	Photoinitiator; Norrish type II
CAS Number:	10373-78-1
Product Name:	Camphorquinone
Synonyms:	2,3-Bornanedione; 1,7,7-Trimethylbicyclo[2.2.1]heptane-2,3-dione; DL-CAMPHORQUINONE
Applications:	Dental Restoration
Key Features:	High Purity; Photobleaching; Photoinitiator; Blue Light Absorbance; Photosensitizer; Useful in Photoresists

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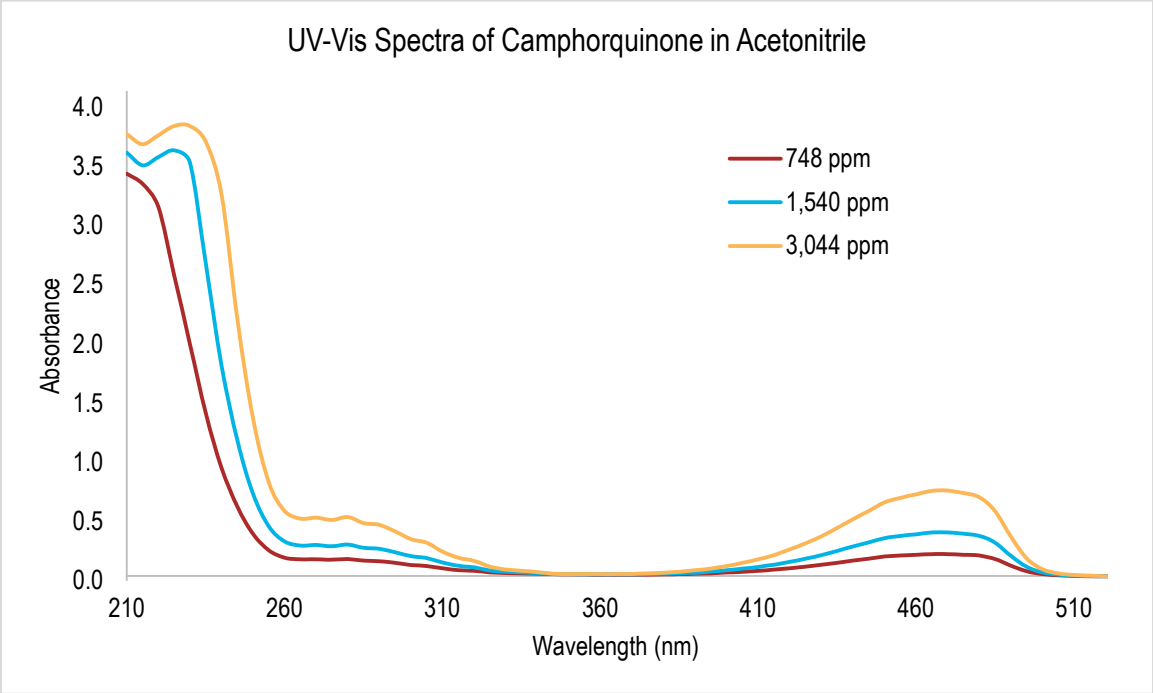
Rev: 4/2/2025

Typical Properties

Appearance:	Yellow-Orange Powder
Purity:	99% Minimum
Melting Point:	198 - 201°C (Capillary)
Molecular Weight:	166.22 g/mole

Absorption Spectrum



Safety and Handling

Keep the container tightly closed. Store in a cool and dark place. Store away from incompatible materials such as oxidizing agents. Handle in a well-ventilated area with suitable protective equipment. Use local exhaust if dust will be generated.

Detailed information is provided in the SDS.

References

Jakubiak, J.; Allonas, X.; Fouassier, J.P.; Sionkowska, A.; Andrzejewska, E.; Linden, L.Å.; Rabek, J.F. (August 2003). "Camphorquinone–amines photoinitating systems for the initiation of free radical polymerization". *Polymer*. **44** (18): 5219–5226.

Green, W. A. *Industrial Photoinitiators;* CRC Press, 2010

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