

PHOTOINITIATOR

DOUBLECURE[®] 184

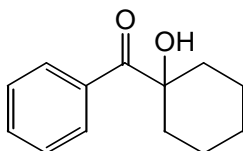
Photoinitiator for UV Radiation Curing Systems

General

Doublecure[®] 184 is the best choice for the application on non-yellowing UV Radiation Curing Systems. It is an alpha cleavage type photoinitiator, which combines the characteristics of high photospeed and exceptional storage life. Its non-yellowing and low-irritating properties, makes it an ideal choice for clear coatings on paper, flooring, metal, plastics and wood.

Properties

Structure:



Chemical Name	:	1-Hydroxy-cyclohexyl-phenyl-ketone
CAS No.	:	947-19-3
EINECS No.	:	213-426-9
Molecular Formula	:	C ₁₃ H ₁₆ O ₂
Molecular Weight	:	204.27

Physical Data

Appearance	:	White to off-white crystalline powder
Odor	:	Very Faint
Melting point	:	46 - 50 °C
Boiling point	:	316°C
Specific gravity	:	1.1 - 1.2 @ 20 °C
ε @ 313 nm	:	434 ml gram ⁻¹ cm ⁻¹

Solubility

(g in 100 ml solvent @ 20 °C)		
Acetone	:	> 100
Toluene	:	> 100
Methyl acrylate	:	> 100
Ethyl acetate	:	> 100
Ethanol	:	> 100
HDDA	:	> 100
N-Vinylpyrrolidone	:	> 100
TMPTA	:	> 50
2-Ethyl acrylate	:	> 50
Water	:	442 mg/L @23°C

Specification

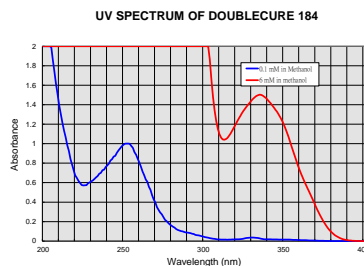
Appearance	:	White to Off-white crystalline powder
Assay	:	98 % min.
Melting point	:	46 - 50 °C
Volatiles	:	0.5 % max.
Transmittance	:	97 % min. @ 425 nm 98 % min. @ 500 nm

Application

Doublecure[®] 184, when irradiating with UV light, undergoes a homolytic and intramolecular type of breakage to generate a pair of free radicals to initiate the polymerization of UV curable systems. It does not require hydrogen donor to initiate its radicals. However its radicals are very sensitive to oxygen in the air.

Doublecure[®] 184 is strongly recommended when non-yellowing properties are crucial. Results obtained from outdoor exposure study show that it gives better long-term non-yellowing performance than other initiators. Furthermore, It exhibits lower sensitivity to air inhibition than Doublecure[®] 173 during curing.

The usage rates of Doublecure[®] 184 vary according to the composition of the system, source of light, line speed, and film thickness but usually lie between 0.5 % to 5 % w/w. Doublecure[®] 184 can be used for printing ink, overprint vanishes and wood lacquers, adhesive and photoresist dry film

UV Spectrum

Storage

Must be stored in closed containers in dark dry conditions.

HS Code

2914 4090

**Health and Safety
Information****Toxicity:**

ORL-RAT LD₅₀ : >2500 mg/kg

Inflammability:

Flash point : Not applicable

Decomposition temp. : No data available

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

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