

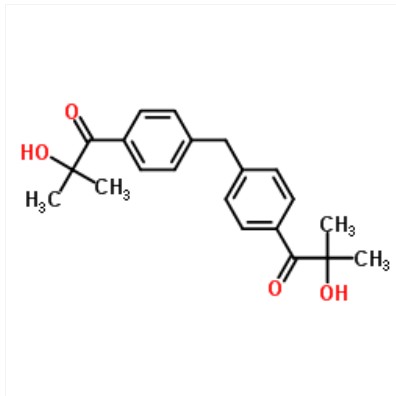
Product Data Sheet

General Information

Omnirad 127 is a highly efficient Type I Photoinitiator that may be used to initiate the photo polymerization of unsaturated pre-polymers like acrylates – in combination with mono- or multifunctional monomers.

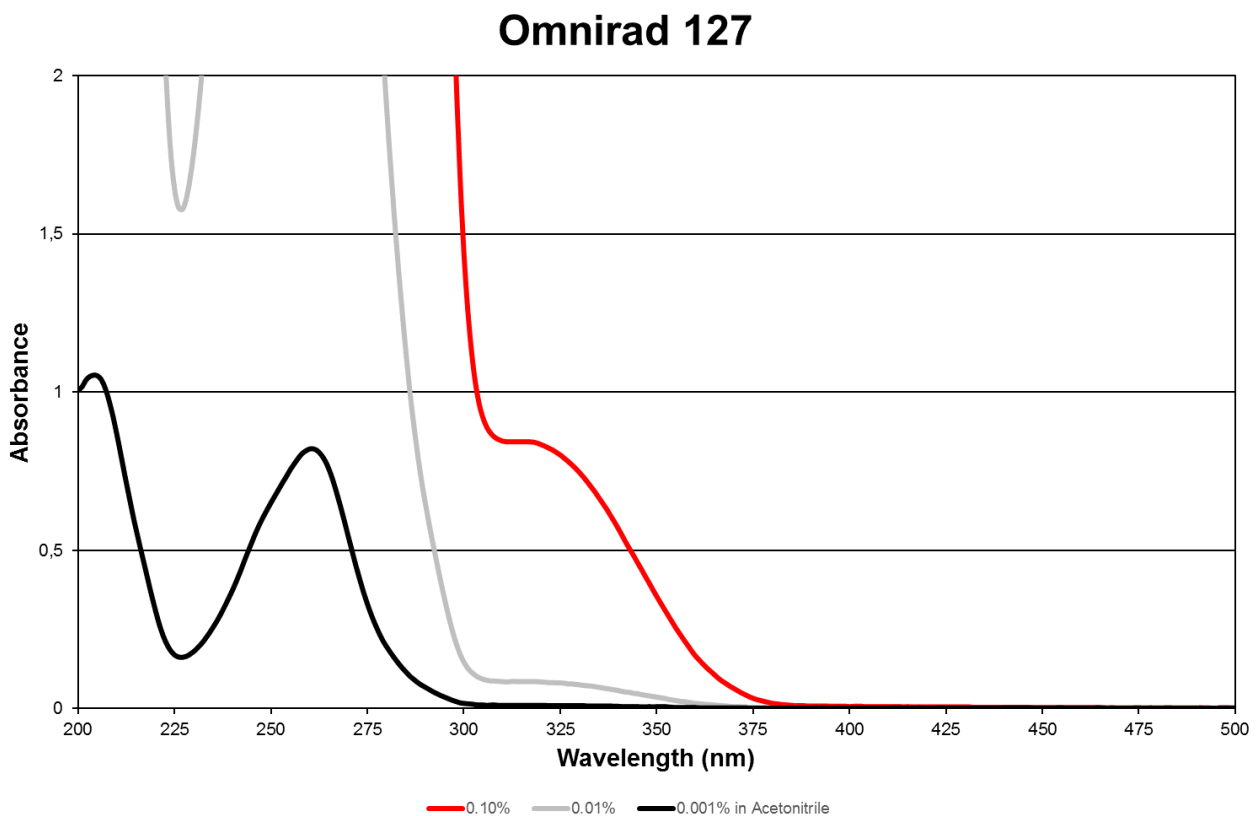
Omnirad 127 is especially suitable for all types of pigmented UV inks (offset, screen, flexo and inkjet) and clear coatings, particularly in thin coatings (such as overprint varnishes) but also in a variety of coating applications.

Chemical Data



Chemical Name: 2-Hydroxy-1-[4-[4-(2-hydroxy-2-methylpropionyl) benzyl)phenyl]-2-methylpropan-1-one
Molecular weight: 340.4 g/mol
CAS No.: 474510-57-1

Absorption Spectrum



Specification

| | | |
|-------------------------------|---|-------------------------|
| Appearance | Visual | Off white powder |
| Color | Gardner | ≤ 6 |
| Purity | HPLC analysis | ≥ 93.0 % |
| Volatiles | GC analysis | ≤ 0.2 % |
| Transmittance @ 425 nm | Spectrophotometer, 5g/100ml Acetonitrile | ≥ 50.0 % |
| Transmittance @ 500 nm | Spectrophotometer, 5g/100ml Acetonitrile | ≥ 75.0 % |
| Clarity of solution | Visual, 5g/100ml Acetonitrile | Clear |
| Moisture content | Karl Fischer | 2.0 - 6.0 % |

Additional Typical Properties

| | |
|--|---------------------------|
| Melting point (dependent on method) | 82 – 90 °C (180 – 194 °F) |
| Solubility at 20 °C (68 °F) | |
| hexanediol diacrylate (HDDA) | ~ 15 % by weight |
| trimethylolpropane triacrylate (TMPTA) | ~ 15 % by weight |
| tripropylene glycol diacrylate (TPGDA) | ~ 15 % by weight |

Application

Omnirad 127 may be used alone or in combination with suitable co-initiators (e.g., Omnirad 379, Omnirad TPO for UV-curable inks and in coating formulations for applications on paper, wood, metal and plastic materials). Its red-shifted absorption spectrum makes it especially suitable for UV-curable inks and in general semi-opaque systems.

In these applications it delivers properties such as very high curing speed and low odor. In UV-curable inks it gives (in combination with other photoinitiators) outstanding surface-curing properties.

Low sensitivity to oxygen inhibition associated with reduced emission are of particular interest for overprint varnishes and for top coats for wood parquets.

In UV-curable cationic inks and coatings, the use of Omnirad 127 as a co-initiator together with, e.g., Omniscat 250 has been demonstrated to result in an exceptional high-performance formulation.

Formulated product properties will depend on the actual reactive monomers, oligomers and additives utilized.

Features & Benefits

Omnirad 127 is completely aligned with market requirements in terms of productivity and emission. This photoinitiator is remarkable by its :

- excellent reactivity, i.e., superiority over conventional α -hydroxy-ketones
- low sensitivity to oxygen inhibition,
- low emission and odor after curing.

Recommended Addition levels

The amount of Omnirad 127 as supplied required for optimum performance should be determined in trials covering a concentration range :

clear coats 1.0 – 6.0 %

inks (free-radical systems) 2.0 – 5.0 %, combined with other photoinitiators (e.g., Omnirad 379 or Omnirad 819)

inks (cationic systems) 0.5 – 2.0 % combined with other photoinitiators (e.g., Omnirad 250)

Storage & Handling

Storage must be in a cool, shaded, well ventilated and dry area away from direct sources of heat and sunlight.

Avoid contact with alkaline additives and water. Subject to appropriate storage under the usual storage and temperature conditions, our products are durable for at least 36 months.

Omnirad 127 should be handled in accordance with good industrial practice. Further information is provided in the material safety data sheet which is available on request.

Regulatory Status

All information can be found on MSDS (Material safety data sheet) and RIS (Regulatory Information Sheet) available upon request.

Packaging

Omnirad 127 is available in 10 kg cartons.

Disclaimer:

The information presented in this data sheet is given in good faith and is based on the material available to us at the time of writing. The information is not to be taken as a warranty or representation for which we assume legal responsibility, nor as permission or recommendation to practice any patented invention without a license. It is offered solely for consideration, investigation and verification.

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