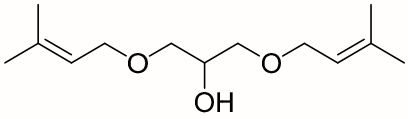
FUJIFILM
Value from Innovation

Wako

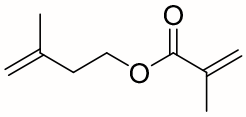
UV Curing Accelerator

DPNG, IPEMA

UV curing technology uses less solvent and cures faster than heat-based radical polymerization, so it is highly productive, energy-saving, and eco-friendly. A universal problem in UV curing technology is reaction inhibition due to oxygen in the air, and this effect is particularly pronounced for thin films with a large surface area per volume. DPNG (Diprenyl Glycerin Ether) and IPEMA (Isoprenyl Methacrylate) are additives that reduce oxygen inhibition and accelerate curing through different mechanisms in UV curing under air. Please use it for research and development of polymer synthesis.



DPNG
(Diprenyl Glycerin Ether)

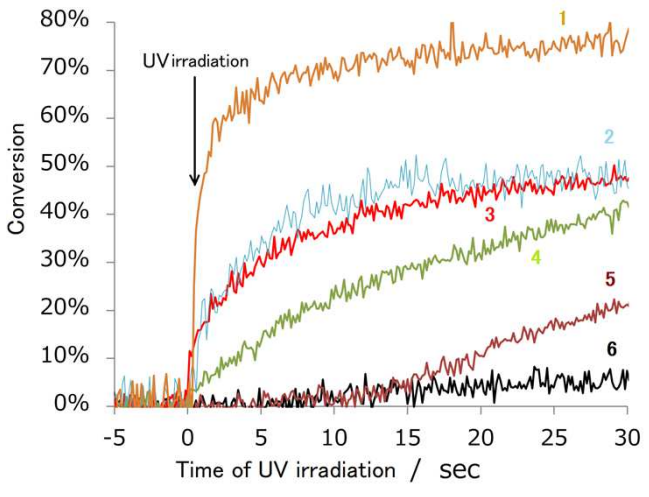


IPEMA
(Isoprenyl Methacrylate)

Feature

- Useful as a UV curing accelerator
- DPNG: possible to absorb and decompose oxygen by itself
- IPEMA: crosslinking agent with two olefins with different reactivity

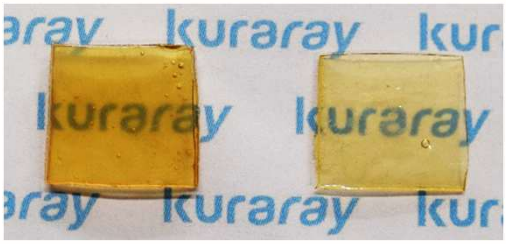
<UV curing in the presence of DPNG and IPEMA>



Ex.	DPNG	IPEMA	Initiator	Conversion (after 30 sec.)
1	(O_2 blocked)		1 wt%	74.5%
2	1 wt%	—	1 wt%	46.2%*
3	—	1 wt%	1 wt%	44.5%
4	—	—	5 wt%	41.5%
5	—	—	3 wt%	20.2%
6	—	—	1 wt%	4.3%

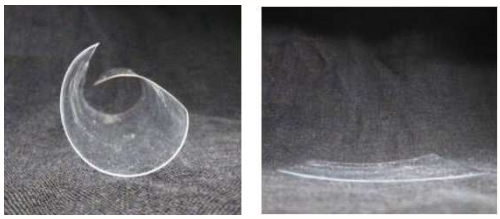
Monomer: Pentaerythritol triacrylate.
Initiator: 1-hydroxycyclohexyl phenyl ketone.
UV irradiation intensity: 73 mW/cm^2.
UV source: high pressure mercury lamp.
* Calculated from the average value of 30±0.3 seconds.

<Antioxidant function of DPNG in polyurethane resin>



(left) blank, (light) addition of DPNG

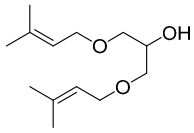
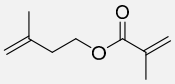
<Curling suppression of resin by addition of IPEMA>



(left) blank, (light) addition of IPEMA

*These products are developed by Kuraray Co., Ltd.
The photo was provided by the company.

Product List

Code No.	Product Name	Structure	CAS RN® / Storage conditions	Package Size
021-19741	1,3-Bis[(3-methyl-2-buten-1-yl)oxy]-2-propanol 【DPNG】		2337348-25-9	100mL
023-19745			room temperature	500mL
132-19301	3-Methyl-3-buten-1-yl Methacrylate 【IPEMA】		156291-88-2	100mL
134-19305			room temperature	500mL

FUJIFILM Wako Laboratory Chemicals site
https://labchem-wako.fujifilm.com

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