

Inkjet
—
Product
guide
Version 3



We Enable the Transformation of Light for a Better Future.



Inkjet

Product guide



ENERGY CURING RAW MATERIAL AND TECHNICAL SOLUTION PROVIDER

IGM Resins is the leading global provider of UV/EB curing raw material solutions to a wide variety of industries such as graphic arts, industrial coatings, adhesives and 3D printing. The combination of our global presence, unique market driven and customer focused approach, technical and regulatory support and our comprehensive portfolio of products covering photoinitiators, Energy Curing Resins and additives, is the cornerstone of our success. We offer worldwide technical application support, product development and customized solutions.

IGM is 100% dedicated to the energy

curing coatings industry and we are investing to grow with it.

We are expanding our capabilities in R&D, product development and manufacturing to better serve our customers and partner with them in developing next generation photoinitiators and other UV materials.

HOW TO GET MORE FROM US

UV curable inkjet printing is a rapidly growing application. Compared to conventional printing and imaging technologies, its advantages include relatively low hardware cost, full color high resolution image quality that is suitability for low-cost short-run digital and on-demand printing, and the ability to print marking and coding on three-dimensional



objects.

UV curable inkjet inks are formulated as 100% solids or water-based. In both cases, viscosity should be precisely controlled as printing head must permit inks to be forced through very small nozzles. Typical viscosity for UV inkjet is 6 to 12 mPa.s and print head can be heated up to 70°C to allow the use of technical oligomers.

MAIN ADVANTAGES OF UV INKJET PRINTING ARE:

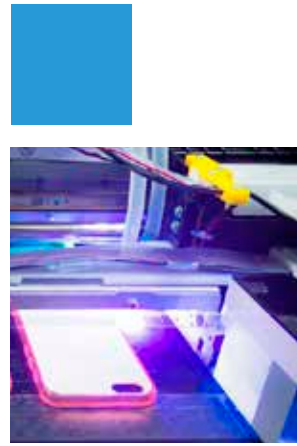
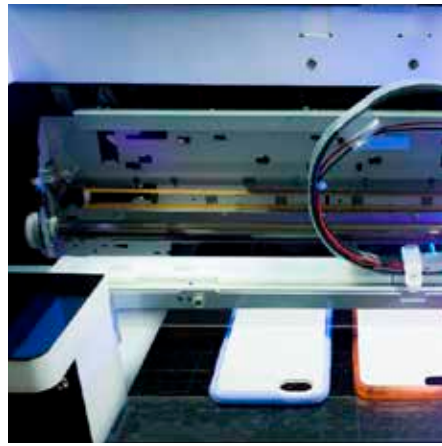
- Instant curing allowing further processing with no risk of drying inks in the print head,
- High layer thickness gives the option to provide texture,
- Available for a wide range of substrates (paper, plastic, glass, metal, etc.),
- Very good chemical and mechanical properties of the

inks,

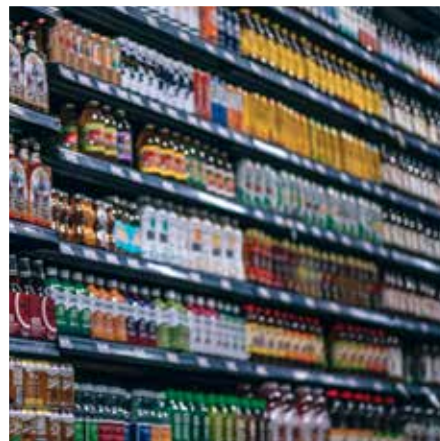
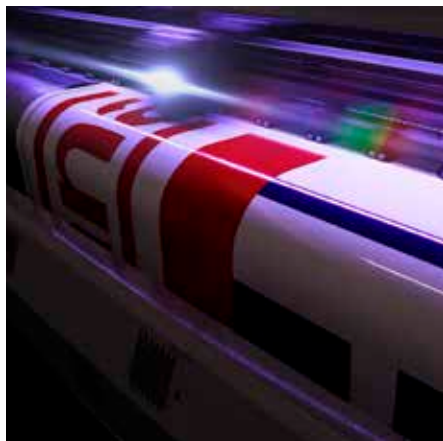
- High quality appearance: gloss or matt finish,
- Solvent free formulation is possible,
- LED curing for reduction of energy consumption, sensitive substrates,
- Excellent color values: UV inks are generally transparent, the final color gamut is very good.

To meet these challenging requirements, IGM Resins offers different solutions. In this leaflet you will find information about our products portfolio.

For more details, contact your local sales representative or send us an email to sales@igmresins.com for Europe and Asia and ussales@igmresins.com for America.



	Chemical Identity	Functionality	Viscosity mPa.s at 25°C	Properties	Product attributes	EU Reach *	USA TSCA *	Canada DSL / NDSL*	China IECSC *	Japan ENCS *	Japan ISHL *
MONOMERS											
PureOmer 4012	IBOA	1	10		Solvency, adhesion, good flexibility. Bio-based Content (ASTM D6866-21): 78 %		•		•	•	•
Photomer 4035	PEA	1	10		Good hardness, good solvency, excellent adhesion, High refractive Index		•	•	•	•	•
Photomer 4039	P4EOA	1	30		Flexible, low odour, adhesion		•	•	•	•	•
Photomer 4141	CTFA	1	15	SA	Adhesion, coating hardness, chemical resistance	•	•	•	•		•
Photomer 4142	THFA	1	8		Adhesion, chemical resistance, good weatherability	•	•	•	•	•	•
Photomer 4184		1	35		Flexibility, High elongation, adhesion	•	•	NDSL	•		•
Photomer 4211	EOEOEA	1	6		Adhesion, solvency, high flexibility	•	•	•	•	•	•
Photomer 4808	ODA	1	6		Hydrophobic, good wetting properties, good flexibility, good adhesion		•	•	•	•	•
Photomer 4810	IDA	1	6	LS	Flexibility, hydrophobic, pigment wetting, substrate wetting, High refractive Index	•	•	•	•	•	•
PureOmer 4812	LA	1	7	LS	Flexibility, hydrophobic, good adhesion, high renewable content. Bio-based Content (ASTM D6866-21): 81 %	•	•	•	•	•	•
Photomer 4017	HDDA	2	8	LS	Adhesion, chemical resistance, high solvency & cutting power, High refractive Index	•	•	•	•	•	•
Photomer 4054	PEG400DA	2	50		Flexibility, water dispersible, low volatility	•	•	•	•	•	•
Photomer 4061	TPGDA	2	13		Versatile, good flexibility and high reactivity	•	•	•	•	•	•



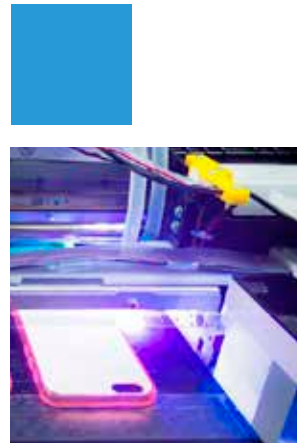
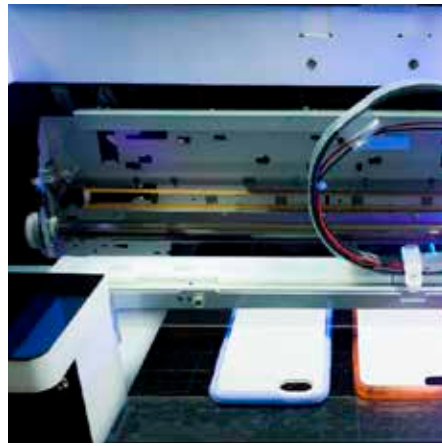
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Photomer 4071	MPDDA	2	8.5	LS	Low odour, adhesion, high solvency & cutting power	•	S		•	•	•
Photomer 4127	NPGPODA	2	15	LS	Pigment wetting, flow & leveling, low surface tension	•	•	•	•		•
Photomer 4226	DPGDA	2	10		Pigment wetting, high reactivity, high solvency & cutting power	•	•	•	•	•	•
Photomer 4361	HD2EODA	2	15	SA	Pigment wetting, flow & leveling, low irritancy		•	NDSL		•	•
Photomer 4362	HD2PODA	2	15	SA	Pigment wetting, flow & leveling, low irritancy		•	NDSL	•	•	•
Photomer 4006	TMPTA	3	100		High reactivity, coating hardness, chemical resistance	•	•	•	•	•	•
PureOmer 4094	GPTA	3	85	SA	Pigment wetting, flexibility, impact resistance. Bio-Based Content (ASTM D6866-21): 14 %	•	•	•	•	•	•
Photomer 4149	TMP3EOTA	3	63	SA	High reactivity, coatng hardness, tensile strength	•	•	•	•	•	•

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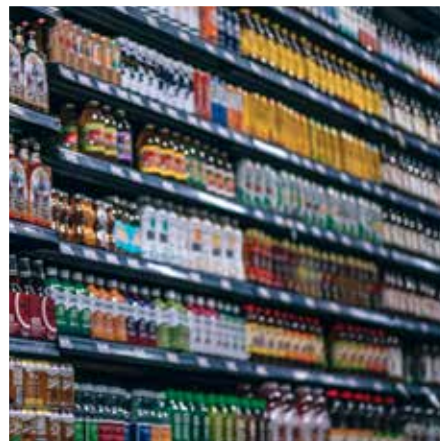
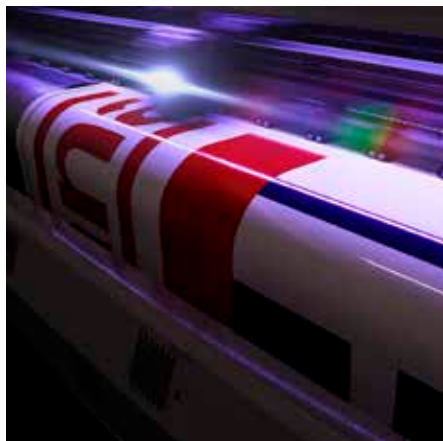
SA: Sensitive Application

LS: low Shrinkage

S: SNUR for this product

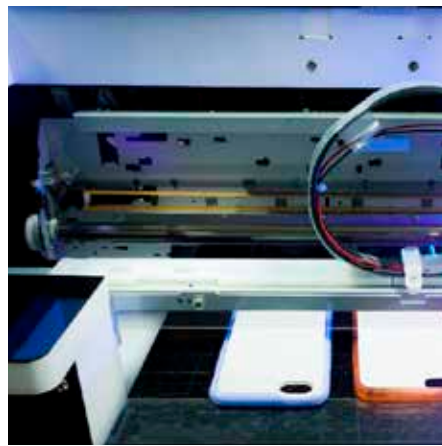


Chemical Identity	Functionality	Viscosity mPa.s at 25°C	Properties	Product attributes	EU Reach *	USA TSCA *	Canada DSL / NDSL*	China IECSC *	Japan ENCS *	Japan ISHL *
PROPERTIES ENHANCER										
Photomer 8061	TPGMEA	1	7	LS	Low surface tension, superior substrate wetting, flow and levelling agent, good solvency	•	NDSL	•		
Photomer 4158	TMP15EOTA	3	170	SA	Flexibility, impact resistance, abrasion resistance, water dispersible	•	•	•	•	•
Photomer 5429	Polyester acrylate	4	400	SA	Tensile strength, cure speed, adhesion	•	•	•	•	•
Photomer 5500	Hyper branched PEA	12-15	500	SA	High Functionality, Low viscosity, Fast Cure	•				
Photomer 4306	DiTMPTA	4	550		High reactivity	•	•	•	•	•
Photomer 4028	BP4EODA	2	1000	LS	Gloss, low skin irritaton, High refractive Index	•	•	•	•	•
Photomer 5050	Multi Functional Acrylate	6	2500	SA	Fast cure, high functionality, good mechanical resistance					
Photomer 4666	DPHA	6	5500	SA	High reactivity, hardness and scratch resistant	•	•	•	•	•
PureOmer 5450	Fatty acid modified PE	6	6000		Fast curing, pigment wetting. Bio-based Content (ASTM D6866-21): 40 %	•	•	•		
Photomer 6891	Aliphatic PUA	2	8000		Adhesion, non-yellowing, 3D Printing Inkjet	•	•	•		
Photomer 6210	Aliphatic PUA	2	12000	SA	Scratch resistance, flexibility, impact resistance, adhesion, non yellowing, High refractive Index	•	•	•	•	•
Photomer 6019	Aliphatic PUA	3	3250 (60°C)		Hardness, adhesion, non yellowing, haptic effect	•	•	•	•	•



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AMINE ACRYLATES										
Photomer 4250	Amine modified polyether acrylate	4	350	SA	Cure speed, high reactivity, oxygen inhibitor	•	•	•		
Photomer 4771	Acrylated amine synergist	2	700		Cure speed, non-yellowing, low viscosity	•	•	•		•
Photomer 4967	Acrylated amine synergist	1	23	SA	Cure speed, high reactivity, chemical resistance, oxygen inhibitor	•	•	•		•
Photomer 5006	Amine modified polyether acrylate	1	73		Cure speed, high reactivity, chemical resistance, oxygen inhibitor	•				
PureOmer 5850	Acrylated amine synergist	-	90		Low viscosity, high reactivity. Bio-based Content (ASTM D6866-21): 18 %	•				
Photomer 5930	Acrylated amine synergist	-	500		Pigment wetting, high reactivity, chemical resistance, oxygen inhibitor	•	•	•		
Chemical Identity		Viscosity mPa.s at 25°C	Properties	Product attributes	EU Reach *	USA TSCA *	Canada DSL / NDSL*	China IECSC *	Japan ENCS *	Japan ISHL *
SPECIALTIES										
Omnimer ACMO	Acryloylmorpholine	14	LS	Low viscosity, excellent heat resistance, low odour	•	S	NDSL	•	•	•
Omnimer NVP	1-vinyl-2-pyrrolidone	2	LS	Hydrophobic characteristics, adhesion		•	•	•	•	•
Omnimer VCL	Vinyl monomer	3	LS	Hydrophobic characteristics, adhesion		•	•	•	•	•

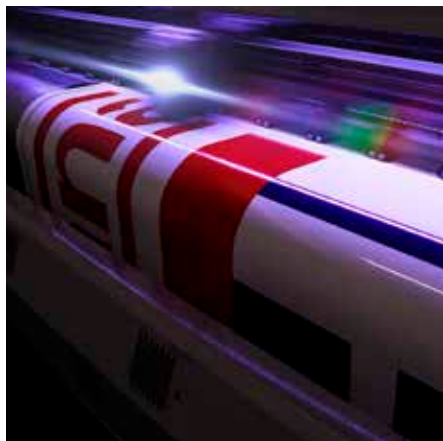
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Chemistry	Cas Number	Melting point °C	Sensitive application	LED	Pigmented system	Clear system	Waterbased system	Nestle Compliant	Swiss list Annex 10	EU Reach *	USA TSCA *	Canada DSL / NDSL*	China IECSC *	Japan ENCS *	Japan ISHL *
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PHOTOINITIATORS

Esacure ONE	Type I	163702-01-0	98-110	•	•			Y	A	•	•	NDSL	•	•	•
Esacure KIP 150	Type I	163702-01-0	Viscous Liquid (2)			•		N	-	•	•	NDSL	•	•	•
Esacure KIP 160	Type I	718668-15-0	> 96	•	•	•		Y	A	•	S	•		•	•
Omnirad 127	Type I	474510-57-1	45-50			•		Y	A	•	S	•	•	•	•
Omnirad 184	Type I	947-19-3	44-50			•	•	N	B	•	•	•	•	•	•
Omnirad 379	Type I	119344-86-4	88-93	•	•	•		Y	A	•	S	•	•	•	•
Omnirad 819	Type I	162881-26-7	127-133	•	•	•		Y	A	•	•	•	•	•	•
Omnirad 991	Type II	75005-95-7	Liquid (2)		•	•				•	•				
Omnirad TPO	Type I	75980-60-8	91-94		•	•	•	N	A	•	•	•	•	•	•
Omnirad TPO-L	Type I	84434-11-7	Liquid (2)	•	•	•	•	Y	B	•	•	•	•		•
Esacure 1001 M	Type II	272460-97-6	> 100	•	•	•		Y	A	•	•	NDSL			•
Esacure 3644	Type II	Proprietary	68-71	•	•	•	•	N	(3)	•			•		•
Omnirad 4 PBZ	Type II	2128-93-0	99-103		•	•	•	N	B	•	•	NDSL	•		•
Omnirad DETX	Type II	82799-44-8	71-74		•	•		N	B	•	S	•	•	•	•



	Chemistry	Cas Number	Melting point °C	Sensitive application	LED	Pigmented system	Clear system	Waterbased system	Nestle Compliant	Swiss list Annex 10	EU Reach *	USA TSCA *	Canada DSL / NDSL*	China IECSC *	Japan ENCS *	Japan ISHL *
Omnirad ITX	Type II	5495-84-1	70-76		•	•			N	A	•	•	•	•		•
Omnipol TP	Polymeric Type I	Proprietary	Liquid (2)	•	•		•		Y	Yes (4)	•	•	•			•
Omnipol TX	Polymeric	813452-37-8	Liquid (2)	•	•	•			Y	A	•	•	NDSL			•
Omnipol 910	Polymeric Type I	886463-10-1	Liquid (2)	•	•	•			Y	B	•	•				•
Esacure A 198	Amine synergist	925246-00-0	90-96	•		•	•		Y	A	•	S	NDSL			•
Omnipol ASA	Amine synergist	71512-90-8	Liquid (2)	•	•	•	•		Y	B	•	•	NDSL			•
Omnirad EHA	Amine synergist	21245-02-3	Liquid (2)			•	•		N	A	•	•	•	•	•	•

An addition level of 5 - 10% by weight of total formulation is recommended for Inkjet applications

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(2): At room temperature

(3): Swiss Ordinance approval initiated

(4): Omnipol® TP is approved for use in packaging inks for indirect food-contact applications according to the Swiss Ordinance SR 817.023.21. (version 2.1, 01-December-2020, republished 15-October-2022). Its main polymeric component (CAS no. 1834525-17-5), is not listed, however all monomers and starting raw materials are listed on the Annex 10 of the Swiss Ordinance SR 817.023.21

S: SNUR for this product

Swiss list Annex 10 (15th Oct 2022) / NESTLE Compliant (April 2022)

Our technical team is here to offer you support and advice to help you meet your goals. For our full product range, please refer to the UV/EB Radcure Product Guide.

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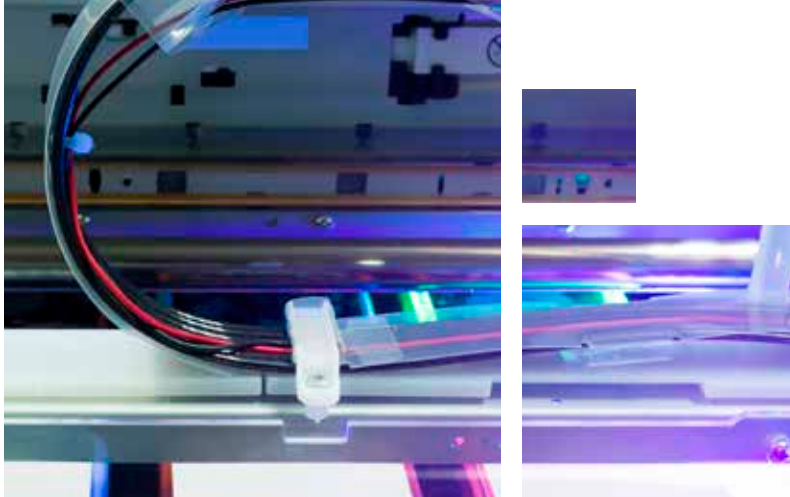
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For IGM's global network of officially appointed agents, please visit our website www.igmresins.com



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