



AI generated picture

ENERGY CURING

PRODUCT GUIDE 2024



RAHN

Your partner for excellence

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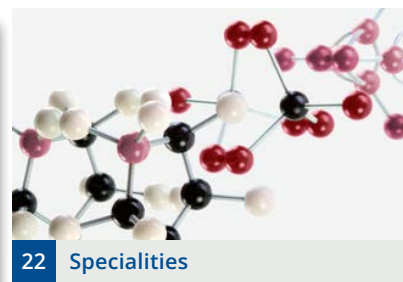
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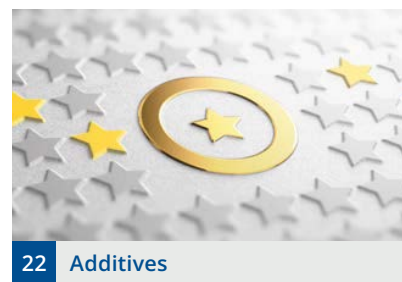
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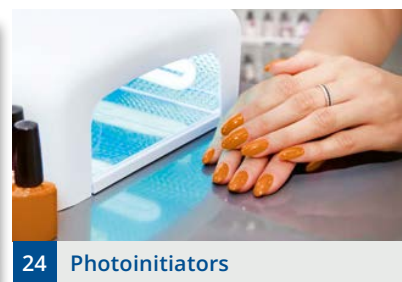
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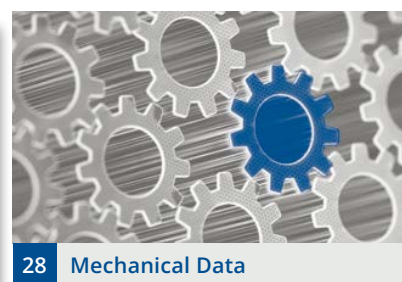
24 Photoinitiators



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This guide includes our most successfully used and commercially fully supported products. If your requirements cannot be met with any of these products, please contact us directly to help you find a solution.

Worldwide support for your energy curing systems

Energy Curing – a diverse range of applications

What is the best way to get ink to adhere to laminated paper? How do objects created with a 3D printer keep their shape, and what kind of adhesive is required for immediate curing? You can overcome these and countless other challenges using ultraviolet and electron beam curing techniques. This Product Guide contains details of our main commercially available raw materials – additives, oligomers, reactive diluents, photoinitiators and other specialty chemicals. These can be used for an extremely wide range of applications – in inks, coatings, adhesives, medical products and rapid prototyping.

Can't find what you're looking for?

Our Product Guide lists the key features of our main products. If you can't find the specific feature you require, please get in touch with our experts. We will be happy to discuss your particular needs and find an effective solution. We run our own laboratories in Switzerland, United States and China. This has enabled RAHN-Energy Curing to develop hundreds of starting formulations during the last thirty years and more. Each of them was inspired by a particular industry challenge.

RAHN: Swiss expertise

all over the world



Regulatory directives and requirements are constantly changing. This makes it increasingly costly and complicated to register new products (e.g. REACH). Our competence center helps you maintain an overview of regulations worldwide. Our specialists will be happy to provide you with one-to-one advice on health & safety issues and registering products internationally.

Your partner, not just any supplier

We have been researching, producing and supplying customized specialty chemicals for more than thirty years. Over time, we have nurtured long-standing partnerships with our customers. This kind of collaboration is the only way to find the optimum answer to the challenges that you face.

A Swiss family-run company – in its third generation

RAHN is an independent Swiss family-run company. It is now in the hands of the third generation. Thanks to our financial independence, we are able to make swift business decisions and entertain long-term commitments.

Profound experience in the sector

Our crucial success factors are the specialist skills and expert knowledge of our staff. They are able to advance day by day in our open and transparent culture. We have an extremely loyal team of employees, so you will continue to deal with the people you know as time passes by.

Be inspired

Our customers create amazing results with our raw materials for digital inkjet printing – no matter whether gloss, matte, or even 3D effects. What's more, they can be used to print on almost any material. Whether, paper, glass, wood, plastic or metal, we have the right products to meet all sorts of needs and technical requirements.

Eye-catching food packaging

Food packaging jostles for customers' attention on supermarket shelves and in the aisles. Our specially developed products with their high molecular weight ensure that the inks contain no undesirable substances that might penetrate the packaging. This keeps the food safe and lets the advantages of radiation-curing ink systems shine out for all to see.

Shape-retaining workpieces created with 3D printing

Our customers not only use our products to create 3D effects, but also generate robust workpieces with their 3D printers. Our raw materials reduce shrinkage and ensure objects match our customers' precise specifications.

Tap into our expertise

Would you like to know more? Our Product Flashes give details on specific products or applications whilst our Lab Reports contain the latest findings in our laboratories – e.g. for 3D printing, LED and digital or inkjet printing. You can find out more at www.rahngroup.com/news.

Use our laboratories

Would you like to work together with us to find out what works and to produce the optimum result for your project? Our laboratories are at your disposal – for training your staff as well, should you wish.



Expertise boosts customer confidence

Specializing in UV and electron beam technology, our Energy Curing experts have an international remit. We want to be more than a supplier for our customers. Our goal is to be a reliable partner to help drive their business forward and generate measurable benefits.



With a sustainable approach

RAHN has been promoting UV/EB curing for over 30 years, which is recognized as a green technology. Compared with conventional curing technologies, significant CO₂ savings can be made, reducing greenhouse gas emissions and decreasing our carbon footprint.

RAHN's new bio-based energy curable oligomers are a testament to the company's commitment to sustainability. Bio-based materials can have an improved environmental profile. In using them, one can contribute to a low carbon economy because as they grow, they take up CO₂.

We have several interesting products in our range for this approach. We also have the expertise to develop customized solutions. Get in touch with RAHN.

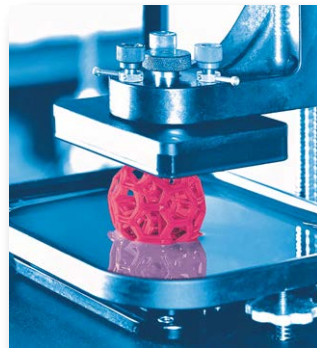
TECHNICAL LITERATURE

Additional RAHN-documents are available. For more details click on our website at www.rahn-group.com/energycuring or contact your local RAHN-Sales Representative for further information.

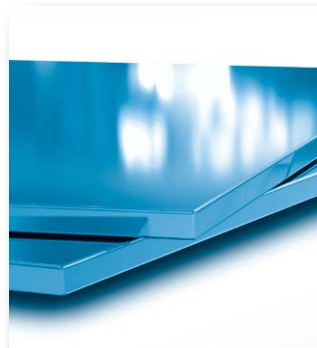
Product Guide

Product Guide is available on our website as PDF in English and Chinese.

Lab Reports



3D Printing



Adhesion of Oligomers to Glass and Metal



Electron Beam Curing



Shrinkage of UV Oligomers and Monomers



Taber and Sand Feeder



UV Curing Flexographic Inks



Electron Beam Curing Laminating Adhesives



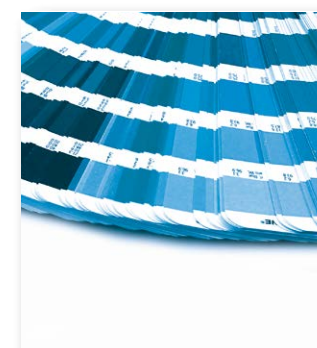
Laminating Adhesives



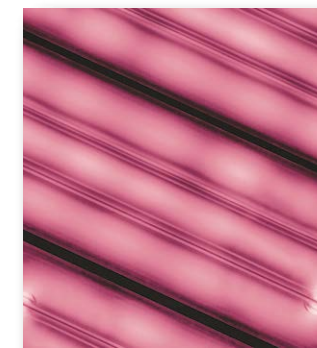
Oligomer Screening



UV Inkjet Inks



UV Offset Inks



Formulation Insights for Excimer Lamps

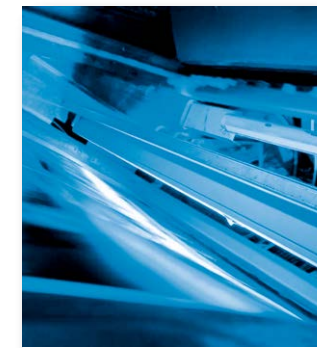
Lab Reports



Photoinitiators for UV LED



PSA -Pressure Sensitive Adhesives



Raw Material Selection for UV-LED

TECHNICAL LITERATURE

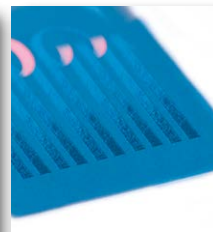
Product Flash



ACMO



Bio-Based Contents of RAHN-Products



GENOMER* 3364, 3497, 3414 & 3457



GENOMER* 4217 & 4425



GENOMER* 7287



GENOPOL Polymeric Photoinitiators



GENORAD* 21



Printed Electronics



Reactive Diluents Product Line



GENOMER* 4277



GENOMER* 4293



GENOMER* 3143



GENOCURE* FMP



GENOMER* 1226



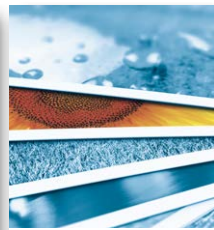
GENOMER* 1122 & TF



GENOMER* 2281



GENOMER* 3486



MIRAMER LR3130



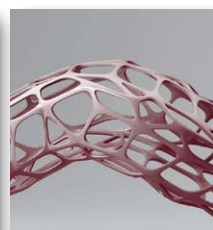
EPOXY METHACRYLATE 97-053



GENOMER* 7244



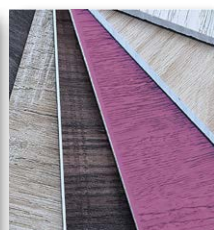
GENOMER* 1117LR



GENOMER* 1254M



GENOMER* 3135



GENOMER* 4337

Identification Code

GENOMER* Product-code

- 1st digit: Product Group
- 2nd digit: Functionality
- 3rd and 4th digit: Product reference

Product Data

- Color A = APHA
- Color G = Gardner
- 2 = Literature Value

HS & Registration Status

- REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals (EU)
- TSCA = Toxic Substance Control Act (USA), active inventory
- IECSC = Inventory of Existing Chemical Substances Produced or Imported in China
- Swiss Ordinance = Swiss Ordinance on Materials and Articles, Swiss Ordinance 817.023.21, Annex 10 (Version 2.2)

Applications / Abbreviation

- Digital Inks = DIG
- Offset Inks = OFF
- Flexo inks = FLE
- Screen Inks = SCR
- Overprint Varnishes = OPV
- Wood Coatings = WOC

Dilutions

- M22 = GENOMER* 1122
- PP = PPTTA
- EHA = 2-Ethylhexyl-Acrylate
- ETM = TMP(EO)3TA
- HD = HDDA
- TM = TMPTA
- TP = TPGDA
- GP = GPTA

Ask for other available dilutions


Properties

- ++++ = excellent
- +++ = good
- ++ = moderate
- + = low
- = provides the mentioned property

- R = Registered (NB non-EU customers please contact RAHN before importing the product into the EU as per REACH regulation)
- N = Not registered / not on inventory
- L = Yes, is listed on inventory
- J = Special status, contact RAHN HSR
- 1 = All intentionally added substances or monomers are listed in Part A and/or in Part B.
- 2 = One or more intentionally added monomers/substances are not listed in Part A or B

Features

-  = Product featured for LED application

-  = The bio content figures, in this case 85%, listed in this brochure are measured using the standard ASTM D6866 analyses. D6866 uses the measured carbon-14 content to calculate the bio-based carbon content of the product and hence shows how much of the product is derived from plant components versus petroleum-derived components. The bio-based product is therefore expressed as a percentage of the overall weight of the product in question (EN16785-1). It should also be noted that the bio-based content of a material is not an indicator of the biodegradability of the material and not all bio-based bioplastics are biodegradable.

Reactive Diluents

Product	Product Data (Typical Values)									HS & Registration				Properties						Applications				Key Features
Description	Functionality	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Surface Tension Dynes/cm	Molecular Weight (g/mol)	Refractive Index	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Gloss	Flexibility	Hardness	Chemical Resistance	Adhesion	Digital Inks	= DIG	Composites	= COM	Key Features	
																			Offset Inks	= OFF	Electronics	= ELE		Flexo inks
Monofunctionals																								
GENOMER* 1117LR	CTFA	1	30 A	0,1	10	20	33,1	200	1,467	R	L	L	1	•	•	•	•	•	DIG, SCR, OPV, WOC, ELE, ADH, PLA, 3DP				TMPTA free, low shrinkage, good adhesion, high flexibility, toughness, good chemical resistance, non-yellowing	
GENOMER* 1120	TMCHA	1	100 A	0,1	3	43	28	196	1,453	N	L	L	1	•	•	•	•	•	DIG, FLE, SCR, OPV, ELE, ADH, PLA, 3DP				Excellent adhesion, low viscosity, high flexibility, good plastic wetting, low surface tension	
GENOMER* 1121M	IBOMA	1	20 A	0,5	8	113	29,4	222	1,477	R	L	L	1		•	•	•	•	COM, ELE, ADH, PLA, 3DP				Very high Tg, good cutting power, high hardness, good adhesion and moisture resistance	
GENOMER* 1121Y	IBOA	1	10 A	0,1	8	80	31,7	208	1,474	R	L	L	1	•	•	•	•	•	DIG, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP				High Tg but also good flexibility, good cutting power, good adhesion and moisture resistance	
GENOMER* 1122	Aliph. Ureth. Acryl.	1	20 A	1,0	30	-3	33,3	215	1,460	R	L	L	1	•	•	•	•	•	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP				High flexibility and low odor, excellent adhesion on plastics	
GENOMER* 1122TF^o	Aliph. Ureth. Acryl.	1	25 A	3,0	35	-	-	215	1,459	R	L	L	1	•	•	•	•	•	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP				High flexibility and low odor, excellent adhesion on plastics, tin free	
GENOMER* 1125	DCPA	1	25 A	0,5	14	110	36	204	1,508	R	L	L	1	•	•	•	•	•	DIG, FLE, SCR, ELE, ADH, PLA, 3DP				Good adhesion on plastics, excellent water resistance, high reactivity	
MIRAMER M122	LA	1	150 A	0,5	15	-30 ²	30	240	1,442	R	L	L	1		•	•	•	•	OFF, FLE, SCR, WOC, ADH				Hydrophobic, flexibility, low volatility and good adhesion	
MIRAMER M130	IDA	1	100 A	0,2	7	-60 ²	24,3	212	1,440	R	L	L	1		•	•	•	•	DIG, ADH, PLA				Hydrophobic, flexibility and adhesion, low Tg and surface tension	
MIRAMER M140	PH(EO)A	1	100 A	0,1	13	5	40,1	192	1,516	R	L	L	1		•	•	•	•	DIG, FLE, SCR, ADH, PLA,				Good cutting power, good adhesion on plastics	
MIRAMER M144	PH(EO)4A	1	20 A	0,3	35	-32	41,9	324	1,500	R	L	L	1		•	•	•	•	DIG, FLE, SCR, ELE, ADH, PLA				Good adhesion, good flexibility, low shrinkage	
MIRAMER M164	NP(EO)4A	1	200 A	0,3	100	-28	34,3	450	1,494	R	L	L	2		•	•	•	•	WOC, ADH, PLA				Low volatility and low odor, good adhesion	
MIRAMER M166	NP(EO)8A	1	150 A	0,5	130	-41	34,9	626	1,489	R	L	L	2	•	•	•	•	•	FLE, SCR, OPV, ELE, ADH, PLA				High flexibility and low odor, low volatility	
MIRAMER M170	EOEOEA	1	150 A	0,3	10	-53	29,7	188	1,437	R	L	L	1		•	•	•	•	DIG, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA				High flexibility and low shrinkage, low Tg, excellent cutting power	
Difunctionals																								
GENOMER* 1226	MPDDA	2	15 A	0,5	7	50	33	226	1,454	R	L	N	1	•	•	•	•	•	DIG, OFF, FLE, SCR, OPV, WOC, ADH, PLA, 3DP				Excellent cutting power, outstanding adhesion on plastics, low viscosity, low odor, weatherability	
GENOMER* 1231	TCDDA	2	122 A	0,03	136	110	38,0	304	1,503	R	L	L	1	•	•	•	•	•	OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP				Good adhesion, excellent flexibility and toughness, heat resistance, low polarity	
GENOMER* 1254M	BPA(EO)4DMA	2	15 A	0,1	600	100	39,4	540	1,5351	R	L	L	1	•	•	•	•	•	DIG, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP, DNC				Ethoxylated Bisphenol A Dimethacrylate, low shrinkage, low volatility, good heat resistance, high refractive index, good chemical resistance, good adhesion on various substrates	
MIRAMER M200	HDDA	2	50 A	0,2	10	43 ²	35,9	226	1,465	R	L	L	1	•	•	•	•	•	DIG, FLE, SCR, OPV, WOC, ADH, PLA				Excellent cutting power, outstanding adhesion on plastics, weatherability	
MIRAMER M210	HPNDA	2	100 A	0,3	30	115	33,2	312	1,453	R	L	L	2	•	•	•	•	•	FLE, SCR, OPV, WOC, ELE, 3DP				Low viscosity, good hardness and adhesion	
MIRAMER M216	NPG(PO)2DA	2	35 A	0,1	15	32	30,6	328	1,446	R	L	L	1	•	•	•	•	•	DIG, OFF, FLE, SCR, OPV, ELE, ADH, PLA				Low viscosity, good flexibility	
MIRAMER M220	TPGDA	2	100 A	0,2	18	62 ²	33,3	300	1,449	R	L	L	1	•	•	•	•	•	FLE, SCR, OPV, WOC, ADH, PLA				Low volatility, good cutting power	
MIRAMER M222	DPGDA	2	100 A	0,3	15	104 ²	33,5	242	1,450	R	L	L	1	•	•	•	•	•	DIG, FLE, SCR, OPV, WOC, ADH, PLA				Low volatility, good cutting power, high Tg	
MIRAMER M240	BPA(EO)4DA	2	3 G	0,2	1200	60 ²	42,1	512	1,537	R	L	L	1	•	•	•	•	•	OFF, FLE, SCR, OPV, WOC, COM, PLA				Good hydrophobic and hydrophilic balance, good heat resistance	
MIRAMER M280	PEG400DA	2	100 A	0,3	70	-22	42,6	508	1,466	R	L	L	1	•	•	•	•	•	FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA				Water soluble, high flexibility, low shrinkage and low odor	
MIRAMER M282	PEG200DA	2	100 A	0,5	25	-	40,1	308	1,464	R	L	L	1	•	•	•	•	•	FLE, SCR, OPV, WOC, ADH, PLA				Soft and flexible	
MIRAMER M284	PEG300DA	2	150 A	0,5	50	-8	41,6	408	1,466	R	L	L	1	•	•	•	•	•	FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA				Water soluble, high flexibility and low shrinkage	
MIRAMER M286	PEG600DA	2	150 A	0,5	85	-36	42,3	708	1,468	R	L	L	1	•	•	•	•	•	FLE, SCR, OPV, WOC, ADH, PLA				Water soluble, high flexibility and low shrinkage	

^otin free (free of intentionally added tin compounds)

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77

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Reactive Diluents

Product	Product Data (Typical Values)									HS & Registration				Properties						Applications				Key Features						
	Description	Functionality	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Surface Tension Dynes/cm	Molecular Weight (g/mol)	Refractive Index	REACH-Status	Active TSCA Inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Gloss	Flexibility	Hardness	Chemical Resistance	Adhesion	Digital Inks = DIG	Offset Inks = OFF	Composites = COM	Flexo inks = FLE		Electronics = ELE	Screen Inks = SCR	Adhesives = ADH	Overprint Varnishes = OPV	Coatings on Plastics = PLA	Wood Coatings = WOC
Tri- and Poly-Functionals																														
MIRAMER M300	TMPTA	3	50 A	0,2	110	62 ²	36,6	296	1,472	R	L	L	1	•	•	•	•			DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, PL1										Excellent reactivity, good offset properties, chemical resistance, low volatility
MIRAMER M3130	TMP(EO)3TA	3	15 A	0,1	60	40	38,1	428	1,469	R	L	L	1	•	•	•	•			DIG, OFF, FLE, SCR, OPV, WOC, ELE, PLA										Higher reactivity, flexibility and viscosity reduction compared to TMPTA
MIRAMER LR3130	TMP(EO)nTA	3	15 A	0,2	65	30	38,8	428	1,468	R	L	L	1	•	•	•	•			DIG, OFF, FLE, SCR, OPV, WOC, ELE, PLA										Similar properties to M3130 with low TMPTA residual
MIRAMER M3150	TMP(EO)15TA	3	20 A	0,3	190	-31	42	956	1,471	R	L	L	1			•				DIG, OFF, FLE, SCR, OPV, ADH, PLA										Good flexibility, low shrinkage, hydrophilic
MIRAMER M3160	TMP(EO)6TA	3	10 A	0,2	90	22	39,6	560	1,470	R	L	L	1	•	•	•				DIG, OFF, FLE, SCR, OPV, ELE, ADH, PLA										High reactivity, good flexibility, hydrophilic
MIRAMER M3190	TMP(EO)9TA	3	140 A	0,3	130	-3 ²	40,2	692	1,469	R	L	L	1	•		•				DIG, OFF, FLE, SCR, OPV, COM, ADH, PLA										High reactivity, good flexibility, low shrinkage, hydrophilic
MIRAMER M320[▲]	GPTA	3	150 A	1,0	110	33	36	428	1,461	R	L	L	1	•	•	•	•			OFF, FLE, SCR, OPV, WOC, PLA, 3DP										High reactivity, pigment wetting, good hardness and litho properties
MIRAMER M340	PETA	3	200 A	2,0	1800	103 ²	40,6	298	1,480	R	L	L	1	•	•	•	•	•		OFF, FLE, SCR, OPV, WOC, COM, ELE, PLA										High reactivity and hardness with pendant OH groups, chemical resistance and low vapor pressure
MIRAMER M360	TMP(PO)3TA	3	150 A	0,3	110	-15 ²	34	470	1,459	R	L	L	1	•		•	•	•		DIG, OFF, FLE, SCR, OPV, COM, ADH, PLA										High reactivity, good flexibility
MIRAMER M410	DiTMPTA	4	150 A	0,1	600	98 ²	36,8	467	1,476	R	L	L	1	•	•	•	•			OFF, FLE, SCR, OPV, WOC, COM, ELE, PLA										Excellent reactivity and cross-linking
MIRAMER M4004	PPTTA	4	100 A	0,1	150	33	40,9	572	1,471	R	L	L	1	•	•	•	•			OFF, FLE, SCR, OPV, WOC, ELE, PLA										High reactivity, excellent scratch resistance
MIRAMER M600	DPHA	6	150 A	0,2	7000	35	41,1	578	1,489	R	L	L	1	•		•	•			OFF, FLE, SCR, OPV, WOC, ELE, ADH, PLA										Very high reactivity and surface hardness

▲also available as toluene-free version MIRAMER M320F



Epoxy Acrylates

Product	Product Data (Typical Values)							HS & Registration				Properties					Applications				Key Features								
	Description	Functionality	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Refractive Index	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Flexibility	Hardness	Chemical Resistance	Adhesion	Pigment-Wetting	Digital Inks = DIG	Offset Inks = OFF	Composites = COM		Flexo inks = FLE	Electronics = ELE	Screen Inks = SCR	Adhesives = ADH	Overprint Varnishes = OPV	Coatings on Plastics = PLA	Wood Coatings = WOC	3D Printing = 3DP
GENOMER* 2235	Aliphatic Epoxy Acrylate	2	3 G	7	1100	45	1,480	R	L	L	2	++++	+++	++	++++	+++		DIG, FLE, SCR, OPV, WOC, ADH, PLA, 3DP											High reactivity, very low viscosity, excellent chemical and stain resistance
GENOMER* 2252	Epoxy Acrylate	2	1 G	1	5400 (60°C/140°F)	105	1,560	R	L	L	1	++++	++	++++	++++	+		OFF, FLE, SCR, OPV, WOC, COM, ADH, PLA										Excellent reactivity, high scratch and chemical resistance	
GENOMER* 2253	Modified Epoxy Acrylate	2	1 G	1	30 000	-1	1,523	R	L	L	1	++++	++++	+	++++	++++		FLE, SCR, OPV, WOC, ADH, PLA, 3DP										High reactivity, high flexibility, medium viscosity, good adhesion on plastics	
GENOMER* 2259	Modified Epoxy Acrylate	2	2 G	1	25 000	85	1,533	R	L	L	1	++++	++	++++	++++	++	•	OFF, FLE, SCR, OPV, WOC, ADH, PLA										Good pigment wetting and offset properties, medium viscosity, good reactivity	
GENOMER* 2263	Epoxy Acrylate	2	1 G	4	4000 (60°C/140°F)	99	1,560	R	L	L	1	++++	++	++++	++++	+		OFF, FLE, SCR, OPV, WOC, COM, ADH, PLA, 3DP										Excellent reactivity, high scratch and chemical resistance	
GENOMER* 2280	Modified Epoxy Acrylate	2	2 G	4	5000 (60°C/140°F)	62	1,530	R	L	L	1	++++	++	++++	++++	++		OFF, FLE, SCR, OPV, WOC, COM, ADH, PLA										Excellent balance of properties, high reactivity, hardness, flexibility and toughness	
GENOMER* 2281	Modified Epoxy Acrylate	2	1 G	1	4500 (60°C/140°F)	66	1,530	R	L	L	1	++++	++	++++	++++	+++	•	OFF, FLE, SCR, OPV, WOC, COM, ADH, PLA, 3DP										Excellent balance of properties, high reactivity, hardness, flexibility, toughness, adhesion and pigment wetting and flow	
GENOMER* 2312	Epoxydized Soy Oil Acrylate	3	7 G	7	20 000	-12	1,484	R	L	L	1	++	++++	++	++++	+++	•	OFF, FLE, SCR, OPV, WOC										Excellent flexibility, low shrinkage, excellent pigment wetting	

Available dilutions: GENOMER* 2252 in TP20, TP30, TP40, TM20 and GP25

Polyester/Polyether Acrylates

Product	Product Data (Typical Values)							HS & Registration				Properties					Applications				Key Features								
	Description	Functionality	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Refractive Index	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Flexibility	Hardness	Chemical Resistance	Adhesion	Pigment-Wetting	Digital Inks = DIG	Offset Inks = OFF	Composites = COM		Flexo inks = FLE	Electronics = ELE	Screen Inks = SCR	Adhesives = ADH	Overprint Varnishes = OPV	Coatings on Plastics = PLA	Wood Coatings = WOC	3D Printing = 3DP
GENOMER* 3135	Polyester Acrylate	1	50 A	2	530	16	1,457	R	J	J	1	+	++++	+	+	++		DIG, FLE, SCR, OPV, WOC, ADH, 3DP											Bio-based Polyester Acrylate, low viscosity, high flexibility, high elongation, excellent clarity, good adhesion
GENOMER* 3143	Polyester Acrylate	1	19 A	2	4 500 (60°C/140°F)	28	1,491	R	J	J	1	+	++	++	+	++		FLE, SCR, WOC, ADH, PLA, 3DP											Thermoplastic-like behaviour, high transparency and clarity, low yellowing, partly water solubility after curing
GENOMER* 3364	Polyether Acrylate	3	15 A	0,5	130	26	1,475	R	L	L	1	++	++	+++	++++	++		DIG, FLE, SCR, OPV, WOC, ADH, PLA, 3DP											High reactivity, low viscosity, good solvent resistance
POLYESTER ACRYLATE 03-849	Polyester Acrylate	3	3 G	8	20000	19	1,506	R	L	L	1	+++	++++	++	+++	++		OFF, FLE, SCR, OPV, WOC, ADH, PLA										Good reactivity, good abrasion and chemical resistance, good overall properties	
GENOMER* 3414	Polyether Acrylate	4	50 A	0,5	4500	-14	1,483	R	L	L	1	++++	++++	++	++++	+++		DIG, FLE, SCR, OPV, WOC, ADH, PLA, 3DP										High reactivity, low viscosity, good solvent and scratch resistance, flexibility and adhesion, low Tg	
GENOMER* 3430	Polyether Acrylate	4	1 G	1	600	-6	1,479	R	L	N	1	++++	++++	++	++++	+++	•	DIG, FLE, SCR, OPV, WOC, PLA										High reactivity in LED formulations, good flexibility, low yellowing, good adhesion	
GENOMER* 3457	Polyether Acrylate	4	20 A	0,2	1250	12	1,484	R	L	J	1	++++	++	+++	++++	++		FLE, SCR, OPV, WOC, ADH, PLA, 3DP										High reactivity, high hardness, chemical resistance and adhesion	
GENOMER* 3486	Polyester Acrylate	4	3 G	8	500	20	1,465	R	L	L	1	++	++	+++	++++	+++	•	FLE, SCR, OPV, WOC, ADH, PLA, 3DP										low viscosity, good surface hardness, chemical resistance, adhesion and pigment wetting	
GENOMER* 3497	Polyether Acrylate	4	20 A	0,5	600	2	1,479	R	L	L	1	+++	+++	++	++++	++		DIG, FLE, SCR, OPV, WOC, ADH, PLA, 3DP										High reactivity, low viscosity, good solvent resistance.	
GENOMER* 3498	Polyether Acrylate	4	20 A	0,1	600	-3	1,479	R	L	L	1	+++	++++	++	++++	++		DIG, FLE, SCR, OPV, WOC, ADH, PLA, 3DP										High reactivity, low viscosity, good solvent resistance, <0.1% TMPTA	
GENOMER* 3611	Polyester Acrylate	6	10 G	8	8000	7	1,490	R	L	N	1	+++	+	++++	++++	+++	•	OFF, FLE, SCR										High reactivity, very good pigment wetting and lithographic behavior	

Urethane Acrylates

Product	Product Data (Typical Values)							HS & Registration				Properties					Applications	Key Features		
	Description	Functionality	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Refractive Index	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Flexibility	Hardness	Chemical Resistance	Adhesion			Pigment/Wetting	
GENOMER* 4188/EHA	Aliphatic UA	1	100 A	5	120 000	-14	1,480	R	L	L	1	+	++++	+	+	++++		Digital Inks = DIG Offset Inks = OFF Composites = COM Flexo inks = FLE Electronics = ELE Screen Inks = SCR Adhesives = ADH Overprint Varnishes = OPV Coatings on Plastics = PLA Wood Coatings = WOC 3D Printing = 3DP	ADH, SCR, PLA	High tack, high elongation and excellent adhesion
GENOMER* 4212	Aliphatic UA	2	1 G	2	14 000	-7	1,486	R	L	Ⓝ	1	+	++++	+	+++	+++		FLE, SCR, OPV, WOC, ADH, PLA	Good flexibility, low viscosity, low yellowing, good adhesion	
GENOMER* 4215	Aliphatic UA	2	2 G	1	20 000 (60°C/140°F)	-22	1,497	R	L	L	1	+++	++++	+	+++	++++		DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Good adhesion to PVC and other plastics	
GENOMER* 4217	Aromatic UA	2	1 G	3	100 000	-36	1,490	R	L	L	1	++	++++	+	++	+++		OFF, SCR, OPV, WOC, COM, ELE, ADH, PLA	Excellent flexibility, good adhesion to difficult substrates, good for metallic inks	
GENOMER* 4230	Aliphatic UA	2	40 A	2	35 000	-53	1,460	R	L	L	1	+	++++	+	+	+++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Good flexibility, non yellowing, peroxide cure	
GENOMER* 4259	Aliphatic UA	2	20 A	1	11 000	85	1,489	R	L	N	1	++	+	++++	++++	++		DIG, COM, ELE, PLA, 3DP	Provides exceptional hardness and toughness, low viscosity, low color	
GENOMER* 4267	Aliphatic UA	2	1 G	4	16 000 (60°C/140°F)	-10	1,490	R	L	L	1	++	++++	++	+++	++++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Excellent flexibility and toughness, good adhesion	
GENOMER* 4269/M22	Aliphatic UA	2	1 G	3	55 000	-13	1,479	R	L	L	1	+	++++	+	+	++++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Flexibilizer resin, good toughness, high flexibility, excellent adhesion	
GENOMER* 4293	Aliphatic UA	2	27 A	2	25 000 (60°C/140°F)	67	1,473	R	L	Ⓝ	1	++	++	++++	++++	++		OFF, FLE, SCR, OPV, WOC, ADH, PLA, 3DP	Thermoplastic-like behavior, shows shape-memory effect after curing, outstanding hardness, scratch and abrasion resistance, high transparency and clarity	
GENOMER* 4302	Isocyanurate	3	80 A	1	10 000 (60°C/140°F)	90	1,509	R	L	N	1	+++	++++	++++	++++	+++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	Fast, hard and excellent chemical resistance, non yellowing, high E-modulus	
GENOMER* 4312	Aliphatic UA	3	1 G	1	60 000	32	1,497	R	L	L	1	+++	++++	++	+++	+++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	High reactivity and good flexibility, good adhesion, abrasion and scratch resistance	
GENOMER* 4312TF*	Aliphatic UA	3	1 G	1	60 000	34	1,497	R	L	L	1	+++	++++	++	+++	+++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	High reactivity and good flexibility, good adhesion, abrasion and scratch resistance, tin free	
GENOMER* 4316	Aliphatic UA	3	1 G	1	58 000	7	1,493	R	L	L	1	+++	++++	++	++	+++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	High reactivity and very good flexibility, good adhesion, abrasion and scratch resistance	
GENOMER* 4335	Aliphatic UA hydroxy functional	3	1 G	1	50 000	17	1,491	R	L	Ⓝ	1	+++	++	++++	++++	++		SCR, WOC, PLA	Dual curable OH and acrylate groups with outstanding chemical resistance and hardness	
GENOMER* 4337	Aliphatic UA	3	20 A	2	7 000	87	1,4909	R	L	L	1	++	++++	+++	++++	+++		OPV, WOC, COM, PLA, 3DP	High stain resistance, excellent chemical resistance, exceptional wet-heat resistance, thermoformable, high abrasion resistance, good adhesion, outdoor durability	
GENOMER* 4383/W	Aliphatic UA Dispersion	3	-	1	30	74	-	R	L	N	1	++	++	+++	+++	+++		SCR, WOC, PLA	Water-based dispersion, sandable after physical drying	
GENOMER* 4425	Aliphatic UA	4	1 G	5	4 500	18	1,478	R	L	Ⓝ	1	+++	++	+++	++++	+++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	High reactivity, low viscosity, balance of flexibility and good hardness	
GENOMER* 4515	Aromatic UA	5	3 G	1	1 300	-	1,485	R	L	L	1	++++	+	+++	++++	++		DIG, FLE, SCR, OPV, WOC, PLA	High reactivity in LED formulations, good hardness and toughness	
GENOMER* 4590/PP	Aliphatic UA	5	2 G	1	11 000	42	1,491	R	L	N	1	+++	+	++++	++++	++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	Low viscosity, excellent reactivity and hardness	
GENOMER* 4622	Aromatic UA	6	2 G	3	30 000	55	1,510	R	L	L	1	++++	+	++++	++++	++		DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Very fast with good hardness and chemical resistance	
GENOMER* 4690	Aliphatic UA	6	1 G	1	80 000	55	1,497	N	L	L	1	+++	+	++++	++++	++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Outstanding hardness, scratch and abrasion resistance and low yellowing	
GENOMER* 4691	Aliphatic UA	6	1 G	1	100 000	55	1,497	R	L	L	1	+++	+	++++	++++	++		OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Outstanding hardness, scratch and abrasion resistance and low yellowing	

Available dilutions: GENOMER* 4188/M22, GENOMER* 4215/M22.

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Oligoamines

Product	Product Data (Typical Values)							HS & Registration				Properties					Applications				Key Features							
	Description	Functionality	Color	Amine Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Refractive Index	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Flexibility	Hardness	Chemical Resistance	Adhesion	Pigment Wetting	Digital Inks = DIG	Offset Inks = OFF	Composites = COM		Flexo inks = FLE	Electronics = ELE	Screen Inks = SCR	Adhesives = ADH	Overprint Varnishes = OPV	Coatings on Plastics = PLA	Wood Coatings = WOC
GENOMER* 5142	Acrylated Amine Synergist	<1	2 G	220	20	-	1,450	R	L	L	1	n/a	n/a	n/a	n/a	n/a		DIG, FLE, SCR, OPV, WOC, ADH, PLA										Improves cure speed and surface cure. Low viscosity, high amine value, excellent compatibility
GENOMER* 5161	Acrylated Amine Synergist	<1	2 G	230	80	-	1,470	R	L	N	1	n/a	n/a	n/a	n/a	n/a		DIG, FLE, SCR, OPV, WOC, ADH, PLA										Improves cure speed and surface cure. Low viscosity, high amine value, excellent compatibility
GENOMER* 5271	Amine Acrylate	2	2 G	140	1200	-48	1,482	R	L	L	1	++++	++++	++	+	++++		FLE, SCR, OPV, WOC, ADH, PLA										Excellent surface cure, low odor, excellent adhesion and low viscosity
GENOMER* 5275	Amine Acrylate	2	1 G	150	3700	-48	1,486	R	L	L	1	++++	++++	++	+	++++		DIG, FLE, SCR, OPV, WOC, ADH, PLA										Excellent surface cure, low odor, excellent adhesion
GENOMER* 5695	Acrylated Oligoamine	6	1 G	85	8000	-27	1,489	R	L	J	1	++++	++++	++	++	++++		FLE, SCR, OPV, WOC, ADH, PLA, 3DP										High reactivity in LED formulations, good surface cure, good adhesion, low yellowing



Co-Resins

Product	Product Data (Typical Values)							HS & Registration				Properties					Applications				Key Features								
	Description	Functionality	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Refractive Index	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Flexibility	Hardness	Chemical Resistance	Adhesion	Pigment Wetting	Digital Inks = DIG	Offset Inks = OFF	Composites = COM		Flexo inks = FLE	Electronics = ELE	Screen Inks = SCR	Adhesives = ADH	Overprint Varnishes = OPV	Coatings on Plastics = PLA	Wood Coatings = WOC	3D Printing = 3DP
GENOMER* 6043/M22	Modified Polyester Resin	n/a	1 G	5	30 000	-14	1,495	R	L	L	1	+	++++	+	+	++++		SCR, ADH											Flexibilizer resin for PSA, low yellowing, excellent adhesion
GENOMER* 6050/TM	Modified Polyester Resin	n/a	2 G	4	125 000	19	1,508	R	L	L	1	++	++++	++	+	++++	•	OFF, FLE, SCR, OPV, ADH, PLA										Excellent adhesion on plastics, good offset behavior	
GENOMER* 6058	Sucrose Benzoate	n/a	30 A	0,3	-	68	1,577	R	L	L	1	+	+	+++	+	++		OFF, FLE, SCR, OPV, WOC, ADH, PLA										Maintains gloss compared with inorganic fillers, good adhesion on plastics	
GENOMER* 6083/HD	Inert Resin	n/a	2 G	2	110 000	51	1,485	R	L	L	1	+	++	+++	++	++++	•	SCR, OPV, WOC, ADH, PLA										Excellent adhesion on plastics, pigment wetting, high Tg	

Available dilutions: GENOMER* 6050/GP, GENOMER* 6083/TP, GENOMER* 6083/ETM

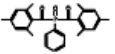

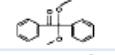

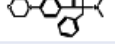

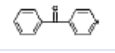
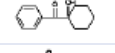
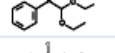
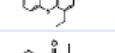

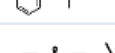
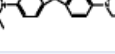

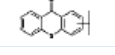

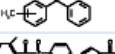
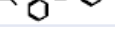

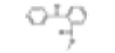
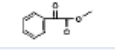
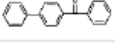
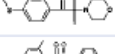

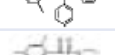


Specialities

Product	Product Data (Typical Values)							HS & Registration				Properties					Applications				Key Features				
	Description	Functionality	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Refractive Index	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Flexibility	Hardness	Chemical Resistance	Adhesion	Pigment/Wetting	Digital Inks = DIG	Offset Inks = OFF	Composites = COM		Electronics = ELE	Adhesives = ADH	Coatings on Plastics = PLA	3D Printing = 3DP
ACMO	Acryloyl Morpholine	1	10 A	-	12	145	1,512	R	L SNUR	L	1	n/a	n/a	n/a	n/a	++++		DIG, FLE, SCR, WOC, ELE, ADH, PLA, 3DP							Very high Tg, water soluble, good thermal stability, good adhesion
GENOMER* 7151	Carboxyfunctional Polyester Acrylate	1	2 G	210	7000	37	1,530	N	L	L	1	++	+	+++	+	++++		SCR, WOC, ELE, ADH							Good adhesion on metal and glass
GENOMER* 7287	Speciality Resin	2	40 A	2	12	-28	1,457	R	L	L	1	++	+++	++	++++	+++		DIG, FLE, SCR, OPV, WOC, PLA							Provides superior matting properties, low viscosity and reasonable reactivity, easy incorporation of matting agent
GENOMER* 7302	Speciality Resin	3	1 G	3	110	31	1,486	R	L	L	2	+++	++	n/a	n/a	++		OPV, WOC, ELE, ADH, PLA, 3DP							Low oxygen inhibition, enhanced surface cure, UV LED, low viscosity, low odor
GENOMER* 7311	Water Soluble Acrylate Resin	3	40 A	0,2	1200	-40	1,477	R	L	L	1	+++	++++	++	+	+++		FLE, SCR, OPV, ADH, PLA, 3DP							Water solubility, good reactivity, excellent flexibility, high gloss and low yellowing
DMAA	Dimethyl Acrylamide	1	80 A	-	1	110	1,472	R	L	L	1	+++	++	n/a	n/a	++		DIG, SCR, ELE, ADH, PLA, 3DP							Low viscosity, very good optical clarity, water soluble and very good moisture vapor transition rate. Very good oxygen penetration and water holding capacity

Additives

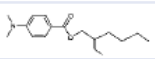
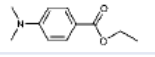
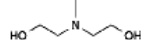
Product	Product Data (Typical Values)				HS & Registration				Properties				Applications				Key Features			
	Description	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Retain Reactivity	Retain Color	Retain Viscosity	Adhesion	Digital Inks = DIG	Offset Inks = OFF	Composites = COM	Electronics = ELE		Adhesives = ADH	Coatings on Plastics = PLA	3D Printing = 3DP
GENORAD* 16	In-can Stabilizer	3 G	15	1200	R	L	L	1	•		•		DIG, OFF, FLE, SCR, WOC, ELE							Highest performance stabilizer for grinding and storage, works anaerobically, no effect on reactivity
GENORAD* 18	In-can Stabilizer	4 G	7	2000	R	L	L	1	•		•		OFF, FLE, SCR, WOC, ELE							High performance stabilizer for grinding and storage, works anaerobically, no effect on reactivity
GENORAD* 20	In-can Stabilizer	1 G	2	1000	R	L	L	1	•	•	•		DIG, OPV, WOC, COM, ELE, ADH, PLA, 3DP							Excellent stabilizer in clear coatings
GENORAD* 21	In-can Stabilizer	10 G	-	2000	R	L	L	1	•		•		DIG, OFF, FLE, SCR, ELE							In-can stabilizer for UV-curable metallic inks
GENORAD* 22	In-can Stabilizer	2 G	30	20	R	L	L	1	•		•		DIG, OFF, FLE, SCR, WOC, ELE							Premium stabilizer for grinding and storage, works anaerobically, no effect on reactivity, especially suitable for UV inkjet inks
GENORAD* 23	In-can Stabilizer	6 G	2	140	R	L	L	1	•		•		DIG, OFF, FLE, SCR, WOC, ELE, ADH							Excellent all-purpose in-can stabilizer, acts as a polymerization inhibitor and improves shelf-life of UV curable formulations.
GENORAD* 24	In-can Stabilizer	dark	0,2	3500	R	L	L	1	•		•		DIG, OFF, FLE, SCR, WOC, ELE, 3DP							High molecular weight in-can stabilizer. Excellent efficiency in UV LED and other free radical systems.
GENORAD* 26	In-can Stabilizer	4 G	13	120	R	L	L	1	•		•		DIG, OFF, FLE, SCR, WOC, ELE							Premium stabilizer for grinding and storage, works anaerobically, no effect on reactivity, BPA free
GENORAD* 40	Adhesion Promoter	100 A	295	2000	R	L	L	1				•	FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA							Adhesion promoter on metal, glass and plastics
GENORAD* 41	Adhesion Promoter	100 A	290	1500	N	L	L	1				•	FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA							Adhesion promoter on metal, glass and plastics

Photoinitiators

Product	Product Data (Typical Values)						HS & Registration				Applications	Key Features	
	Description	Purity (%)	Melting Point °C (Viscosity [mPa.s at 25 °C])	Melting Point °F (Viscosity [mPa.s at 77 °F])	Absorption (nm)	Structure	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status			
GENOCURE* BAPO	Phenylbis(2,4,6-trimethylbenzoyl) phosphine oxide	≥ 98	127-132	260-269	292/370		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Shows excellent through cure in pigmented systems, low odor	
GENOCURE* BDK	Benzildimethylketal	> 99.5	66	151	252		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	General purpose where non yellowing not essential	
GENOCURE* BDMM	2-Benzyl-2-dimethylamino-1-(4-morpholinophenyl)-butanone-1	> 98.0	110-123	230-244	230/325		R	L	L	1	DIG, OFF, FLE, SCR, OPV, COM, ELE, ADH, PLA	Excellent through cure in dark color pigmented systems. Combinations with other photoinitiators	
GENOCURE* BMS	4-Benzoyl- 4'-methyl-diphenylsulfid	> 98.0	75-85	167-185	246/315	-	R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, ELE, ADH, PLA, 3DP	High reactivity, good solubility, LED curing 365nm, for pigmented systems in combination with amine synergists and thioxanthenes	
GENOCURE* BP	Benzophenone	> 99.0	47-49	117-120	254		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	General purpose, low cost	
GENOCURE* CPK	1-Hydroxycyclohexylphenylketone	> 99.0	48	118	247		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Low yellowing	
GENOCURE* DEAP	2,2 Diethoxyacetophenone	> 95.0	(~7)	(~7)	210/250		N	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Non yellowing, insoluble in water	
GENOCURE* DETX	2,4 Diethylthioxanthone	> 98.0	72	162	261/384		R	L/ SNUR	L	1	DIG, OFF, FLE, SCR, WOC, 3DP	Pigmented systems in combination with amines and e.g. GENOCURE* BDMM	
GENOCURE* DMHA	Dimethylhydroxyacetophenone	> 98.0	4	39	247/277		R	L	L	1	DIG, OPV, FLE, SCR, WOC, ELE, ADH, PLA	Low yellowing, liquid	
GENOCURE* EMK	4,4-Bis (diethylamino) benzophenone	> 99.0	92-96	197-204	205/375		N	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, PLA, 3DP	Excellent efficacy in pigmented systems, has Type II photoinitiator and alkyl amine functionality. Usable in UV/LED systems	
GENOCURE* ITX	Isopropylthioxanthone	> 98.0	74-76	165-169	259/383		R	L	L	1	DIG, OFF, FLE, SCR, WOC, COM, ELE, 3DP	Pigmented systems in combination with amines and e.g. GENOCURE* BDMM	
GENOCURE* LBC	1-Hydroxycyclohexylphenylketone and Benzophenone	> 98.0	-	-	250/330		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	Liquid with good balance of surface and through cure for clear coatings	
GENOCURE* LBP	4-Methylbenzophenone and Benzophenone	> 99.0	(~90)	(~90)	257		N	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	General purpose, liquid	
GENOCURE* LTD	2,4,6 Trimethylbenzoyldiphenylphosphine oxide Dimethylhydroxyacetophenone	> 98.0	-	-	240/272/ 367		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Liquid photoinitiator for non yellowing clear and white pigmented systems	
GENOCURE* LTM	Liquid Photoinitiatorblend	> 97.0	(~20)	(~20)	253/368	-	R	L	L	1	DIG, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	White and thick coatings, liquid with good balance of surface and through cure, non yellowing	
GENOCURE* MBB	Methyl-o-benzoyl-benzoate	> 99.0	50-52	122-126	246		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	Good surface cure	
GENOCURE* MBF	Methylbenzoylformate	> 97.0	(~5)	(~5)	257		R	L	L	1	DIG, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA	Clear coatings, excellent surface curing photoinitiator especially in amine-free systems, low odor	
GENOCURE* PBZ	4-Phenylbenzophenone	> 99.0	99-103	210-217	295		N	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, ELE, ADH	High reactivity, low odor	
GENOCURE* PMP	2-Methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	> 99.0	74-76	165-169	307		R	L	L	1	DIG, OFF, FLE, SCR, OPV, COM, ELE, ADH	Pigmented systems in combination with other photoinitiators	
GENOCURE* TPO	2,4,6-Trimethylbenzoyldiphenylphosphine oxide	> 99.0	92-94	198-201	380		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	White and thick coatings, non yellowing	
GENOCURE* TPO-L	Ethyl(2,4,6-trimethylbenzoyl) phenylphosphinate	≥ 93.0	-	-	370/275		R	L	L	1	DIG, OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA, 3DP	Liquid, white and thick coatings, non yellowing	



Synergists

Product	Product Data (Typical Values)					HS & Registration				Applications	Key Features	
Description	Purity (%)	Melting Point °C (Viscosity [mPa.s at 25 °C])	Melting Point °F (Viscosity [mPa.s at 77 °F])	Absorption (nm)	Structure	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Digital Inks = DIG Offset Inks = OFF Flexo inks = FLE Screen Inks = SCR Overprint Varnishes = OPV Wood Coatings = WOC	Composites = COM Electronics = ELE Adhesives = ADH Coatings on Plastics = PLA 3D Printing = 3DP	
GENOCURE* ABD	Aminobenzoate Derivative	> 99	(~13 000)	(~13 000)	228/310	-	R	L	1	DIG, OFF, FLE, SCR, OPV, COM, ELE, ADH		Water insoluble synergist suited for litho systems, liquid
GENOCURE* EHA	2-Ethylhexyl-4-dimethylaminobenzoate	> 99.0	(~80)	(~80)	228/311		N	L	1	OFF, FLE, SCR, COM, ELE, ADH		Water insoluble synergist suited for litho systems, liquid
GENOCURE* EPD	Ethyl-4-dimethylaminobenzoate	> 99.0	63	142	228/310		R	L	1	OFF, FLE, SCR, COM, ELE, ADH		Water insoluble synergist suited for litho systems
GENOCURE* MDEA*	N-Methyl-diethanolamine	> 99.0	(~100)	(~100)	220		N	L	1	FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA		Low cost amine synergist

GENOCURE MDEA – subject to chemical weapons convention

Polymeric Photoinitiators

Product	Product Data (Typical Values)				HS & Registration				Applications	Key Features	
Description	Viscosity (mPa.s at 25 °C)	Molecular Weight (g/mol)	Absorption (nm)		REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Digital Inks = DIG Offset Inks = OFF Flexo inks = FLE Screen Inks = SCR Overprint Varnishes = OPV Wood Coatings = WOC	Composites = COM Electronics = ELE Adhesives = ADH Coatings on Plastics = PLA 3D Printing = 3DP	
GENOPOL* AB-2	Polymeric Aminobenzoate Derivative	15 000	900	228, 310	R	L	1	1	OFF, FLE, SCR, OPV, COM, ELE, ADH		Low migration and odor, excellent compatibility in UV formulations
GENOPOL* BP-2	Polymeric Benzophenone Derivative	120 000	980	245, 325	R	L	1	1	OFF, FLE, SCR, OPV, WOC, COM, ELE, ADH, PLA		Low migration and odor, excellent compatibility in UV formulations
GENOPOL* TX-2	Polymeric Thioxanthone Derivative	160 000	820	225, 310, 375	R	1	1	1	DIG, OFF, FLE, SCR, COM, ELE		Low migration and odor, excellent compatibility in UV formulations



Dental & Cosmetic Products

We are promoting these products for use in energy curable medical application formulations. It is the responsibility of the formulator to check the suitability of these products for the intended medical application, including but not limited to, all relevant restrictions and approvals of the local governing bodies for the intended medical application. RAHN in no way warrants that these products have any approvals for use in any of the possible medical applications that might be considered.

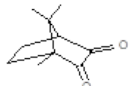
Methacrylates

Product	Product Data (Typical Values)							HS & Registration				Properties					Applications	Key Features	
Description	Functionality	Color	Acid Value (mg KOH/g)	Viscosity (mPa.s at 25 °C)	Tg (°C)	Refractive Index	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Reactivity	Flexibility	Hardness	Chemical Resistance	Adhesion	Pigment Wetting	Dental & Cosmetics = DNC Adhesives = ADH 3D Printing = 3DP		
Epoxy Methacrylates																			
EPOXY METHACRYLATE 97-053	Epoxy Methacrylate	2	1 G	-	4 500 (60°C/140°F)	114	1,551	R	L	L	1	+	+	++++	++++	+++		DNC, 3DP	Very low shrinkage, provides excellent hardness as well as abrasion and scratch resistance
Urethane Methacrylates																			
GENOMER* 4205	Aliphatic Urethane Methacrylate	2	25 A	-	9 000	99	1,483	R	L	L	1	+	+	++++	++++	++		DNC, ADH, 3DP	High E-modulus and good tensile strength, other characteristics are its light stability, abrasion and chemical resistance
GENOMER* 4247[◊]	Aliphatic Urethane Methacrylate	2	25 A	-	10 000	134	1,484	R	L	L	2	+	+	++++	++++	++		DNC, ADH, 3DP	Exceptional hardness and mechanical properties, high scratch and abrasion resistance, highest transparency and clarity, high gloss, low yellowing, tin free
GENOMER* 4256	Aliphatic Urethane Methacrylate	2	1 G	-	15 000*	-17	1,487	R	L	L	1	+	++++	+	+	+++		DNC, ADH, 3DP	Excellent elasticity and elongation, improves light stability and chemical resistance
GENOMER* 4277	Aliphatic Urethane Methacrylate	2	1 G	-	19 000 (60°C/140°F)	8	1,491	R	L	L	1	+	++++	+++	+++	++++		DNC, ADH, 3DP	High flexibility and toughness, high transparency and low yellowing, good adhesion, low cure exotherm
GENOMER* 4297	Aliphatic Urethane Methacrylate	2	20 A	-	8 700	130	1,485	R	L	L	2	+	+	++++	++++	++		DNC, ADH, 3DP	Good stain and chemical resistance as well as high tensile strength and E-modulus, good abrasion resistance and very low yellowing
Specialities																			
GENOMER* 7244	Modified Methacrylate	2	1G	5	15000	130	1,535	R	L	L	1	+	+	++++	++++	+++		DNC, 3DP	High E-modulus and good tensile strength giving excellent rigidity to 3D parts. Good adhesion, abrasion and scratch resistance

*diluted in 20% Toluene for measuring purposes only

[◊]tin free (free of intentionally added tin compounds)

Initiators

Product	Product Data (Typical Values)							HS & Registration				Applications	Key Features
Description	Purity (%)	Melting Point °C (Viscosity [mPa.s at 25 °C])	Melting Point °F (Viscosity [mPa.s at 77 °F])	Molecular Weight (g/mol)	Absorption (nm)	Structure	REACH-Status	Active TSCA inventory	IECSC-Status	Swiss Ordinance-Status	Dental & Cosmetics = DNC Electronics = ELE Adhesives = ADH 3D Printing = 3DP		
GENOCURE* CQ	Camphorquinone	> 99,0	201-203	393-397	166	470		L	L	1	ELE, ADH, DNC, 3DP	Provides good through cure in long wavelength (visible) UV light, soluble in alcohol, ketones, acrylates and methacrylates	

MECHANICAL DATA

Product	Product Data (Typical Values)							
	Description	Elongation at Break %	E-Modulus		Tensile Strength		Shore Hardness	T _g (°C)
			MPa	psi	MPa	psi		
Epoxy Acrylates								
GENOMER* 2235	Aliphatic Epoxy Acrylate	3	2 420	350 400	40	5 800	D83	45
GENOMER* 2252	Epoxy Acrylate	1	4 730	686 000	44	6 300	D86	105
GENOMER* 2253	Modified Epoxy Acrylate	17	50	7 100	7	1 100	D66	-1
GENOMER* 2259	Modified Epoxy Acrylate	2	3 000	435 800	45	6 600	D84	85
GENOMER* 2263	Epoxy Acrylate	1	5 210	756 200	44	6 300	D88	99
GENOMER* 2280	Modified Epoxy Acrylate	3	4 320	626 700	73	10 600	D85	62
GENOMER* 2281	Modified Epoxy Acrylate	3	4 370	633 100	76	11 000	D85	66
GENOMER* 2312	Epoxidized Soy Oil Acrylate	7	50	6 900	4	500	D52	-12
EOXY METHACRYLATES 97-053	Epoxy Methacrylate	2	4 830	701 100	65	9 400	D89	114
Polyester/Polyether Acrylates								
GENOMER* 3135	Polyester Acrylate	250	30	5 000	2	300	D55	16
GENOMER* 3143	Polyether Acrylate	<1	1 130	163 600	6	900	D79	28
GENOMER* 3364	Polyether Acrylate	3	1 150	166 400	23	3 300	D81	26
GENOMER* 3414	Polyether Acrylate	7	70	9 400	5	700	D61	-14
GENOMER* 3430	Polyether Acrylate	4	60	8 100	3	500	D57	-6
GENOMER* 3457	Polyether Acrylate	2	1 230	178 100	20	2 900	D81	12
GENOMER* 3486	Polyester Acrylate	3	1 130	163 500	23	3 300	D80	20
GENOMER* 3497	Polyether Acrylate	5	420	61 000	14	2 100	D76	2
GENOMER* 3498	Polyether Acrylate	5	150	21 300	7	1 100	D67	-3
GENOMER* 3611	Polyester Acrylate	2	1 270	184 300	22	3 200	D84	7
POLYESTER ACRYLATE 03-849	Polyester Acrylate	11	510	74 400	22	3 200	D79	19
Urethane (Meth)Acrylate								
GENOMER* 4188/EHA	Aliphatic Urethane Acrylate	360	<10	<100	<1	<100	OO83	-14
GENOMER* 4205	Aliphatic Urethane Methacrylate	3	3 620	525 700	68	9 900	D86	99
GENOMER* 4212	Aliphatic Urethane Acrylate	24	10	1 900	3	400	A84	-7
GENOMER* 4215	Aliphatic Urethane Acrylate	23	120	17 700	11	1 600	D59	-22
GENOMER* 4217	Aromatic Urethane Acrylate	21	20	2 200	3	400	A88	-36
GENOMER* 4230	Aliphatic Urethane Acrylate	30	<10	400	<1	100	A57	-53
GENOMER* 4247	Aliphatic Urethane Methacrylate	2	3 420	496 000	60	8 700	D89	134
GENOMER* 4256	Aliphatic Urethane Methacrylate	90	<10	<100	<1	<100	OO85	-17

Test Methods

Elongation, Tensile Strength and E-Modulus: ASTM D638 – 14; DIN EN ISO 527-1
Shore Hardness: ASTM D2240; DIN ISO 7619

Product	Product Data (Typical Values)							
	Description	Elongation at Break %	E-Modulus		Tensile Strength		Shore Hardness	T _g (°C)
			MPa	psi	MPa	psi		
GENOMER* 4259	Aliphatic Urethane Acrylate	3	3 340	484 400	68	9 900	D87	85
GENOMER* 4267	Aliphatic Urethane Acrylate	32	110	15 500	11	1600	D57	-10
GENOMER* 4269/M22	Aliphatic Urethane Acrylate	87	<10	<100	<1	<100	OO78	-13
GENOMER* 4277	Aliphatic Urethane Acrylate	34	350	51 300	21	3 000	D74	8
GENOMER* 4293	Aliphatic Urethane Acrylate	3	3 870	561 300	78	11 300	D86	67
GENOMER* 4297	Aliphatic Urethane Acrylate	2	3 670	532 300	59	8 600	D89	130
GENOMER* 4302	Isocyanurate	3	2 780	403 200	68	9 800	D86	90
GENOMER* 4312	Aliphatic Urethane Acrylate	15	720	104 700	22	3 200	D76	32
GENOMER* 4312TF	Aliphatic Urethane Acrylate	13	970	140 700	24	3 500	D77	34
GENOMER* 4316	Aliphatic Urethane Acrylate	15	30	4 300	4	600	D41	7
GENOMER* 4335	Aliphatic Urethane Acrylate Hydroxy Functional	4	770	111 500	22	3 100	D81	17
GENOMER* 4337	Aliphatic Urethane Acrylate	4	2 600	377 800	68	9 900	D84	87
GENOMER* 4425	Aliphatic Urethane Acrylate	3	1 670	242 200	34	5 000	D85	18
GENOMER* 4515	Aromatic Urethane Acrylate	1	710	102 700	10	1 500	D75	n/a
GENOMER* 4590/PP	Aliphatic Urethane Acrylate	<1	1 610	233 500	16	2 400	D91	42
GENOMER* 4622	Aromatic Urethane Acrylate	<1	1 440	208 900	13	1 900	D91	55
GENOMER* 4690	Aliphatic Urethane Acrylate	<1	1 230	177 800	11	1 700	D91	55
GENOMER* 4691	Aliphatic Urethane Acrylate	<1	1 300	188 000	12	1 800	D91	55
Oligoamines & Specialties								
GENOMER* 5271	Amine Acrylate	6	10	1 900	<1	100	A83	-48
GENOMER* 5275	Amine Acrylate	7	10	1 400	<1	100	A78	-48
GENOMER* 5695	Acrylated Oligoamine	5	40	6 500	2	300	D41	-27
GENOMER* 7151	Carboxyfunctional Polyester Acrylate	<1	3 990	578 700	25	3 700	D85	37
GENOMER* 7244	Modified Epoxy Acrylate	<1	4 490	651 200	40	5 800	D88	130
GENOMER* 7302	Speciality Resin	10	720	104 300	18	2 700	D77	31
GENOMER* 7311	Acrylate Resin	5	20	3500	1	200	A87	-40

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