

Sigma-Aldrich®
Lab Materials & Supplies

Specialty Monomers

For Ophthalmic Applications



The life science business of Merck
operates as MilliporeSigma in the
U.S. and Canada.

MERCK

The development and manufacture of contact and intraocular lenses relies on innovative, high-quality polymers and reagents. New materials can help enhance oxygen and water permeability, providing increased comfort and safety to contact lens wearers.

Monomer selection impacts a number of lens attributes such as modulus, permeability, surface smoothness, UV radiation absorption and resistance to tearing and surface defects.

We offer a continuously expanding selection of high-purity monomers and polymers for ophthalmic applications, along with a full range of initiators, crosslinkers, dyes, and solvents.

Our broad selection, high quality, and outstanding service enables contact lens manufacturers to quickly and successfully develop revolutionary new products.

For more information, visit [SigmaAldrich.com/ophthalmicapplications](https://www.sigmaaldrich.com/ophthalmicapplications)

Product Description	Cat. No.
Hydrophilic Monomers*	
Methacrylamide	109606
2-Hydroxyethyl methacrylate	128635
Acrylic acid	147230
Methacrylic acid	155721
Ethylene glycol methyl ether methacrylate	415332
Methacryloyl chloride	64120
Methacrylic anhydride	276685
Maleic anhydride	63200
2-Isopropenyl-2-oxazoline	560626
Isophorone diisocyanate	317624
1-Vinyl-2-pyrrolidinone	V3409
<i>N</i> -[3-(Dimethylamino)propyl]methacrylamide	409472
2-Hydroxyethyl methacrylate	477028
Hydroxybutyl methacrylate, mixture of isomers	464244
(3-Acrylamidopropyl)trimethylammonium chloride solution	448281
2-Allyloxyethanol	476234
<i>N</i> -(3-Aminopropyl)methacrylamide hydrochloride	731099
(3-Acrylamidopropyl)trimethylammonium chloride	448281
2-Hydroxyethyl acrylate	292818
<i>N</i> -(Hydroxymethyl)acrylamide	245801
Hydrophobic Monomers*	
<i>tert</i> -Butyl acrylate	327182
Lauryl methacrylate	291811
Methyl methacrylate	M55909
Ethyl acrylate	E9706
2-Ethylhexyl methacrylate	290807
4,4'-Methylenebis(cyclohexyl isocyanate), mixture of isomers	388386
2-Ethylhexyl methacrylate	290807
Glycidyl methacrylate	151238
2-Ethylhexyl glycidyl ether	251747
Hexamethylene diisocyanate	52650
Trimethylolpropane trimethacrylate	246840
<i>N,N</i> -Dimethylacrylamide	274135
4,4'-Methylenebis(phenyl isocyanate)	256439
ϵ -Caprolactone	704067
Dodecyl vinyl ether	413496
2-Hydroxy-3-phenoxypropyl acrylate	407364
Silicone Macromers*	
Poly [silicone- <i>alt</i> -PEG] dimethacrylate	803936
Polydimethylsiloxane-diacrylamide	798266
Poly(dimethylsiloxane), monoacrylamidopropyl terminated	798118
Silane Monomers*	
3-(Trimethoxysilyl)propyl methacrylate	440159
3-[Tris(trimethylsiloxy)silyl]propyl vinyl carbamate	795402
3-(Trimethoxysilyl)propyl vinyl carbamate	794368
3-[Tris(trimethylsiloxy)silyl]propyl methacrylate	446130

Product Description	Cat. No.
PEGs	
Poly(ethylene glycol), Mn 600	202401
Poly(ethylene glycol), Mn 2,050	295906
Poly(ethylene glycol), Mn 3,350	202444
Poly(ethylene oxide), Mv 100,000	181986
Poly(ethylene glycol) phenyl ether acrylate, Mn 324	407348
Poly(ethylene glycol) methacrylate, Mn 360	409537
Poly(ethylene glycol) methyl ether methacrylate, Mn 300	447935
Poly(ethylene glycol) methyl ether methacrylate, Mn 500	447943
Tri(ethylene glycol) divinyl ether	329800
Tetraethylene glycol dimethyl ether	172405
Poly(ethylene glycol) diacrylate, Mn 575	437441
Ethylene glycol dimethacrylate	335681
Triethylene glycol dimethacrylate	261548
Poly(ethylene glycol) dimethacrylate, Mn 750	437468
Poly(ethylene glycol) methyl ether methacrylate, Mn 500	447943
Crosslinkers	
Trimethylolpropane trimethacrylate	246840
Diglycidyl 1,2-cyclohexanedicarboxylate	412856
Methacrylic anhydride	276685
Glycidyl methacrylate	151238
1,3,5-Triallyl-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	114235
4,4'-Thiodiphenol	216178
Isobornyl methacrylate	392111
2-Isocyanatoethyl methacrylate	477060
Poly [silicone- <i>alt</i> -PEG] dimethacrylate	803936
2-[2-(3-Prop-1-en-2-ylphenyl)propan-2-ylcarbamoyloxy]ethyl methacrylate	795240
Initiators	
2,2-Dimethoxy-2-phenylacetophenone	196118
Lauroyl peroxide	290785
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	415952
2-Ethylhexyl 4-(dimethylamino)benzoate	437395
2,2'-Azobis(2-methylpropionitrile)	441090
<i>tert</i> -Butyl hydroperoxide solution	458139
4-Methylbenzophenone	M29959
Camphorquinone	124893
2,2'-Azobis(2-methylpropionamide) dihydrochloride	440914
Benzoyl peroxide	517909
Benzoin methyl ether	B8703
UV Stabilizers	
2-[3-(2 <i>H</i> -Benzotriazol-2-yl)-4-hydroxyphenyl]ethyl methacrylate	413437
Product Description	
CAS No.	
Dyes	
Reactive Blue 4	13324-20-4
Remazol Brilliant Blue R	2580-78-1
Remazol Black B	17095-24-8
Pigment Green 7	1328-53-6
Iron(III) oxide	1309-37-1
Copper(II) phthalocyanine	147-14-8
Titanium(IV) oxide	13463-67-7

* Custom inhibitor levels may be possible upon request.



Make Sure Your Monomer Supply is Fit for Use in Ophthalmic Production:

Stringent regulations in the manufacturing of contact lenses require a high level of supply chain control, compliance, and quality management of your critical raw materials. To help meet these requirements, we offer Technical Project Management tailored around your specific needs, including:

- Service-level agreements based on customer risk assessment
- Supply chain control and transparency
- Safe and global supply, including dual source and inventory management
- Custom purity specifications
- Unannounced Audit support based on Quality Agreement

From Research to Commercial-Scale Manufacturing – Your Monomer Expert:

If a monomer of interest is not on this product list, or if you have a unique requirement, we invite you to take advantage of our extensive custom manufacturing capabilities. Our state-of-the-art facilities enable us to provide customized support from process development through scale-up and production. We offer a variety of services including multi-step organic synthesis, handling of air-sensitive compounds and high-efficiency flow chemistry. Whatever your specific needs may be, your manufacturing program will be managed by experienced project teams that will ensure timely and cost-effective completion.

Examples of specialty monomers on manufacturing scale:

- 3-[Tris(trimethylsiloxy)silyl]propyl vinyl carbamate
- 3-(Trimethoxysilyl)propyl vinyl carbamate
- *N*-(3-Aminopropyl)methacrylamide hydrochloride
- (3-Acrylamidopropyl)trimethylammonium chloride
- 2-Hydroxyethyl acrylate

Contact our Technical Project Management for support. We are dedicated to customizing our services around your needs. [SigmaAldrich.com/ophthalmic-monomers-contact](https://www.sigmaaldrich.com/ophthalmic-monomers-contact)

Product Name	Product Grades Available	CAS No.
Complementary General Reagents		
Acetone	FCC	67-64-1
Aluminum Oxide		1344-28-1
Acetic Acid	Meets analytical specification of USP, FCC; food grade; PharmaGrade, USP, JP, Ph Eur, manufactured under appropriate GMP controls for pharma or biopharmaceutical production	64-19-7
Boric Acid		10043-35-3
Calcium Chloride Dihydrate	Meets USP testing specifications; meets analytical specification of USP, FCC	10035-04-8
Calcium Chloride		10043-52-4
Dextran		9004-54-0
Drierite		7778-18-9
Ethanol	Meets USP testing specifications	64-17-5
Ethylenediaminetetraacetic Acid Disodium Salt Dihydrate	Meets analytical specification of USP, FCC	6381-92-6
Ethylenediaminetetraacetic Acid		60-00-4
Glycerol	Meets USP testing specifications; meets analytical specification of USP, FCC; food grade	56-81-5
Hexane/N-Hexane		110-54-3
Hydrochloric Acid		7647-01-0
Hydrogen Peroxide	Meets USP testing specifications	7722-84-1
Hydroxypropyl Methylcellulose	Meets USP testing specifications	9004-65-3
Iodine	Meets analytical specification of USP	7553-56-2
Isopropyl Alcohol	Meets analytical specification of USP; food grade; meets USP testing specifications	67-63-0
Magnesium Chloride Hexahydrate	Meets USP testing specifications; meets analytical specification of FCC	7791-18-6
Magnesium Sulfate		7487-88-9
Methanol		67-56-1
Mineral Oil	Meets USP testing specifications	8042-47-5
Mineral Spirits		68551-17-7
Nitric Acid		7697-37-2
Phosphoric Acid	Meets analytical specification of FCC	7664-38-2
Phosphorous Acid		13598-36-2
Potassium Carbonate	Meets USP testing specifications	584-08-7
Potassium Chloride	Meets analytical specification of USP, FCC	7447-40-7
Potassium Iodide	Meets analytical specification of USP	7681-11-0
Propylene Glycol	Meets USP testing specifications; food grade	57-55-6
Reagent Alcohol		64-17-5

Product Name	Product Grades Available	CAS No.
Complementary General Reagents (continued)		
Silica Gel		112926-00-8
Sodium Bicarbonate	Meets analytical specification of USP, FCC	144-55-8
Sodium Carbonate	Meets analytical specification of FCC	497-19-8
Sodium Chloride	Meets analytical specification of USP; PharmaGrade/ USP/ Manufactured under appropriate GMP controls for pharma or biopharmaceutical production	7647-14-5
Sodium Citrate Tribasic Dihydrate	Food grade; meets USP testing specifications	6132-04-3
Sodium Dodecyl Sulfate		151-21-3
Sodium Hydroxide		1310-73-2
Sodium Hypochlorite Solution		7681-52-9
Sodium Perborate Tetrahydrate		10486-00-7
Sodium Phosphate Dibasic	PharmaGrade, USP, manufactured under appropriate GMP controls for pharma or biopharmaceutical production	7558-79-4
Sodium Phosphate Monobasic Monohydrate	PharmaGrade, USP, manufactured under appropriate GMP controls for pharma or biopharmaceutical production	10049-21-5
Sodium Tetraborate (Borax)		1330-43-4
Sodium Tetraborate Decahydrate (Borax Decahydrate)		1303-96-4
Sorbitol	Food grade	50-70-4
Specially Denatured Alcohol		64-17-5
Sulfuric Acid		7664-93-9
Tetrahydrofuran		109-99-9
Trifluoroacetic Acid		76-05-1
Triton™ X-100		9002-93-1
TWEEN® 20		9005-64-5
TWEEN® 80		9005-65-6
Water		7732-18-5
Zinc Chloride	Meets analytical specification of USP	7646-85-7
Solvents for contact lens rinsing		
Specially denatured alcohol 200 proof, SDA 3A, contains Methanol		792985
Specially denatured Alcohol 200 proof, SDA 3C, contains Isopropanol		793000
Isopropanol, 70% in Water (Sigma-Aldrich®)		563935

**To place an order or receive
technical assistance**

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SigmaAldrich.com/order

Technical Service:
SigmaAldrich.com/techservice

Safety-related Information:
SigmaAldrich.com/safetycenter

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