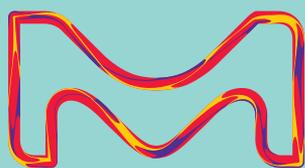
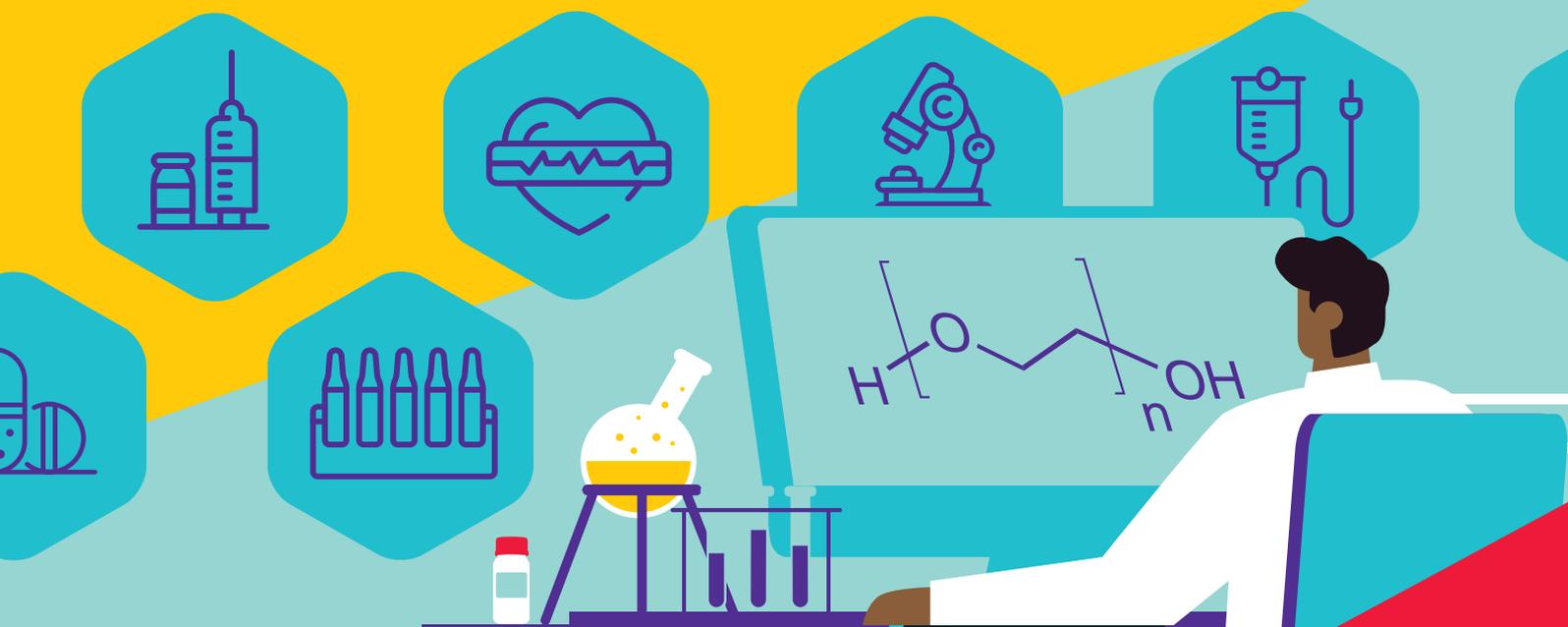
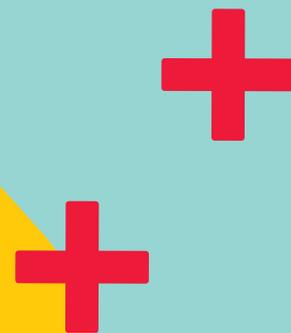




MERCK

Bench to Bulk

Polyethylene Glycol (PEG)
and Polyethylene Oxide (PEO)
for Medical Devices



The Life Science
business of Merck
operates as
MilliporeSigma in
the U.S. and Canada.

Sigma-Aldrich[®]
Lab & Production Materials

Polyethylene Glycol (PEG) and Polyethylene Oxide (PEO) for Medical Devices

Due to their solubility, biocompatibility, non-toxicity, and low immunogenicity, PEG and PEO materials are used in a wide variety of medical devices and medical device applications (Page 4)

Let us support you with:

- Comprehensive portfolio of over 450 well-defined PEGs available in quantities that support a seamless scale-up from R&D to production
- Wide range of molecular weights, end functionalities, reactivities, and polymer architecture for medical device development and production
- Consistent, reliable and transparent supply chain for risk mitigation, including dual-source and inventory management. For details, visit [SigmaAldrich.com/mclarity](https://www.sigmaaldrich.com/mclarity)
- Custom packaging, additional QC testing and potential customization of PEG chemistry

Available product types:

- Heterobifunctional PEGs
- Homobifunctional PEGs
- Monofunctional PEGs
- PEG Dendrimers and Multi-Arm PEGS
- PEG Copolymers
- PEG Analytical Standards for GPC
- PEG and Oligo Ethylene Glycol
- Poly(ethylene oxide) (PEO) Powders
- High Oligomer Purity PEGs

Functionality

- **Monofunctional:** PEGylation, surface conjugation and nanoparticle coating
- **Homo/heterofunctional:** Conjugation & crosslinking for hydrogels

Polymer Architecture

- **Linear:** PEGylation, bioconjugation and crosslinking
- **Multiarm (4-, 6-, 8-arm):** Crosslinked into hydrogels and scaffolds for drug delivery or tissue engineering
- **Y-shaped:** PEGylation, as the branched structure may improve stability *in vivo*

Reactivity

- **Reactive end groups, such as an N-hydroxysuccinimide ester, thiol, or carboxyl groups:** Covalent conjugation
- **Azide or alkyne reactive groups:** Click chemistry for conjugation or hydrogen formation
- **Acrylate-terminate:** Polymerization and photopolymerization under mild reactive conditions

Molecular Weight

- **$M_w \leq \text{kDa}$:** PEGylation of proteins
- **$M_w \geq \text{kDa}$:** Hydrogel formation of typical mesh size and mechanical properties, conjugation to small molecules, siRNA, and peptides
- **$M_w < \text{kDa}$:** Surface conjugation and crosslinking

HETEROBIFUNCTIONAL PEGS

Cat. No.	Name	Average Mol. Wt./Purity
407348	Poly(ethylene glycol) phenyl ether acrylate	average M _n 324, contains 150-350 ppm MEHQ as inhibitor
409537	Poly(ethylene glycol) methacrylate	average M _n 360, contains 500-800 ppm MEHQ as inhibitor
757837	Poly(ethylene glycol) 2-mercaptoethyl ether acetic acid	average M _n 3,500
757810	Poly(ethylene glycol) 2-mercaptoethyl ether acetic acid	average M _n 1,000
757896	Poly(ethylene glycol) 2-aminoethyl ether acetic acid	average M _n 3,500
757799	Poly(ethylene glycol) (N-hydroxysuccinimide 5-pentanoate) ether 2-(biotinylamino)ethane	average M _n 3,800

Cat. No.	Name	Average Mol. Wt./Purity
757756	Poly(ethylene glycol) 2-aminoethyl ether biotin	average M _n 2,300
409529	Poly(ethylene glycol) methacrylate	average M _n 500, contains 900 ppm monomethyl ether hydroquinone as inhibitor
757845	Poly(ethylene glycol) 2-mercaptoethyl ether acetic acid	PEG average M _n 5,000 (n~110)
757888	Poly(ethylene glycol) 2-aminoethyl ether acetic acid	average M _n 2,100
757829	Poly(ethylene glycol) 2-mercaptoethyl ether acetic acid	average M _n 2,100
757918	Poly(ethylene glycol) 2-aminoethyl ether acetic acid	average M _n 5,000

HOMOBIFUNCTIONAL PEGS

Cat. No.	Name	Average Mol. Wt./Purity
407038	Poly(ethylene glycol) bis(carboxymethyl) ether	average M _n 600
406996	Poly(ethylene glycol) bis(carboxymethyl) ether	average M _n 250
335681	Ethylene glycol dimethacrylate	98%, contains 90-110 ppm monomethyl ether hydroquinone as inhibitor
409510	Poly(ethylene glycol) dimethacrylate	average M _n 550, contains 80-120 ppm MEHQ as inhibitor, 270-330 ppm BHT as inhibitor
475696	Poly(ethylene glycol) diglycidyl ether	average M _n 500
445886	Poly(ethylene glycol) dimethyl ether	average M _n ~500, contains 100 ppm BHT as stabilizer
398802	Tetra(ethylene glycol) diacrylate	technical grade, contains 150-200 ppm MEHQ as inhibitor, 100-150 ppm HQ as inhibitor
305413	Poly(ethylene glycol) distearate	average M _n ~930
701963	Poly(ethylene glycol) diacrylate	average M _n 6,000, contains ≤1500 ppm MEHQ as inhibitor
14526	O,O'-Bis(2-aminopropyl) polypropylene glycol-block-polyethylene glycol-block-polypropylene glycol	500

Cat. No.	Name	Average Mol. Wt./Purity
458074	Poly(ethylene glycol) dibenzoate	average M _n ~410
753084	Poly(ethylene glycol) diamine	average M _n 2,000
452572	Poly(ethylene glycol) bis (3-aminopropyl) terminated	M _n ~1,500
261548	Triethylene glycol dimethacrylate	contains 80-120 ppm MEHQ as inhibitor, 95%
729094	Poly(ethylene glycol) diacrylate	average M _n 10,000, contains MEHQ as inhibitor
329800	Tri(ethylene glycol) divinyl ether	98%
805505	Poly(ethylene glycol) diglycidyl ether	M _n 1,000
437433	Di(ethylene glycol) diacrylate	technical grade, 75%
14529	O,O'-Bis(2-aminopropyl) polypropylene glycol-block-polyethylene glycol-block-polypropylene glycol	1,900
437468	Poly(ethylene glycol) dimethacrylate	average M _n 750, contains 900-1100 ppm MEHQ as inhibitor
172405	Tetraethylene glycol dimethyl ether	≥ 99%

MONOFUNCTIONAL PEGS

Cat. No.	Name	Average Mol. Wt./Purity
457876	Poly(ethylene glycol) methyl ether methacrylate solution	average M _n 2,000, 50 wt. % in H ₂ O
202509	Poly(ethylene glycol) methyl ether	average M _n ~2,000
202495	Poly(ethylene glycol) methyl ether	average M _n 750
90450	Triethylene glycol monomethyl ether	purum, ≥97.0% (GC)
81323	Poly(ethylene glycol) methyl ether	average M _n 5,000
729159	Poly(ethylene glycol) methyl ether thiol	average M _n 6,000
732613	Poly(ethylene glycol) methyl ether	average M _n 20,000

Cat. No.	Name	Average Mol. Wt./Purity
729140	Poly(ethylene glycol) methyl ether thiol	average M _n 2,000
202487	Poly(ethylene glycol) methyl ether	average M _n 550
317292	Triethylene glycol monomethyl ether	95%
732621	Poly(ethylene glycol) methyl ether	average M _n 10,000
447943	Poly(ethylene glycol) methyl ether methacrylate	average M _n 500, contains 200 ppm BHT as inhibitor, 100 ppm MEHQ as inhibitor
729108	Poly(ethylene glycol) methyl ether thiol	average M _n 800
447935	Poly(ethylene glycol) methyl ether methacrylate	average M _n 300, contains 100 ppm MEHQ as inhibitor, 300 ppm BHT as inhibitor

MULTIARM PEGS

Cat. No.	Name	Average Mol. Wt./Purity
760919	Poly(ethylene glycol), 8 acetylene dendron, generation 2	average M _n 6,900

Cat. No.	Name	Average Mol. Wt./Purity
441864	Glycerol ethoxylate	average M _n ~1,000

PEG & OLIGO(ETHYLENE GLYCOL)

Cat. No.	Name	Average Mol. Wt./Purity
81260	Poly(ethylene glycol)	average M _n 6,000
182028	Poly(ethylene oxide)	average M _v 600,000, powder
P2139	Poly(ethylene glycol)	average mol M _w 8,000, powder
110175	Tetraethylene glycol	99%
181986	Poly(ethylene oxide)	average M _v 100,000, powder
P4338	Poly(ethylene glycol)	BioXtra, average M _w 3,350, powder
189456	Poly(ethylene oxide)	average M _v ~900,000, powder
202401	Poly(ethylene glycol)	average M _n 600, waxy solid (moist)
372781	Poly(ethylene oxide)	average M _v ~1,000,000, powder

Cat. No.	Name	Average Mol. Wt./Purity
295906	Poly(ethylene glycol)	average M _n 2,050, chips
81310	Poly(ethylene glycol)	M _w 35,000
81240	Poly(ethylene glycol)	average M _n 4,000, platelets
202371	Poly(ethylene glycol)	average M _n 300
181994	Poly(ethylene oxide)	average M _v 200,000 (nominal), powder
202398	Poly(ethylene glycol)	average M _n 400
81300	Poly(ethylene glycol)	average M _n 20,000
202444	Poly(ethylene glycol)	average M _n 3,350, powder
81210	Poly(ethylene glycol)	average M _w 1,500
P3265	Poly(ethylene glycol)	average M _w 400
202436	Poly(ethylene glycol)	average M _n 1,305-1,595, waxy solid

Key Industrial Applications for PEGs

Medical Devices, Dental Implants, Biosensors, Diagnostics Applications

Cat. No.	Name	Average Mol. Wt./Purity
189456	Poly(ethylene oxide)	average M _v ~900,000, powder
81310	Poly(ethylene glycol)	M _w 35,000
181986	Poly(ethylene oxide)	average M _v 100,000, powder
81210	Poly(ethylene glycol)	average M _w 1,500
P2139	Poly(ethylene glycol)	average mol M _w 8,000, powder
261548	Triethylene glycol dimethacrylate	contains 80-120 ppm MEHQ as inhibitor, 95%

Cat. No.	Name	Average Mol. Wt./Purity
202401	Poly(ethylene glycol)	average M _n 600, waxy solid (moist)
372781	Poly(ethylene oxide)	average M _v ~1,000,000, powder
445886	Poly(ethylene glycol) dimethyl ether	average M _n ~500, contains 100 ppm BHT as stabilizer
202371	Poly(ethylene glycol)	average M _n 300
P4338	Poly(ethylene glycol)	BioXtra, average mol M _w 3,350, powder

Ophthalmic Contact Lens Applications

Cat. No.	Name	Average Mol. Wt./Purity
407348	Poly(ethylene glycol) phenyl ether acrylate	average M _n 324, contains 150-350 ppm MEHQ as inhibitor
335681	Ethylene glycol dimethacrylate	98%, contains 90-110 ppm monomethyl ether hydroquinone as inhibitor

Cat. No.	Name	Average Mol. Wt./Purity
398802	Tetra(ethylene glycol) diacrylate	technical grade, contains 150-200 ppm MEHQ as inhibitor, 100-150 ppm HQ as inhibitor
437433	Di(ethylene glycol) diacrylate	technical grade, 75%

Filtration Membrane Applications

Cat. No.	Name	Average Mol. Wt./Purity
409537	Poly(ethylene glycol) methacrylate	average M _n 360, contains 500-800 ppm MEHQ as inhibitor

Cat. No.	Name	Average Mol. Wt./Purity
81260	Poly(ethylene glycol)	average M _n 6,000
475696	Poly(ethylene glycol) diglycidyl ether	average M _n 500

Optical Coating Applications

Cat. No.	Name	Average Mol. Wt./Purity
202371	Poly(ethylene glycol)	average M _n 300

Cat. No.	Name	Average Mol. Wt./Purity
90450	Triethylene glycol monomethyl ether	purum, ≥97.0% (GC)
202398	Poly(ethylene glycol)	average M _n 400

Hydrogel Applications

Cat. No.	Name	Average Mol. Wt./Purity
729086	Poly(ethylene glycol) diacrylate	average M _n 1,000, contains MEHQ as inhibitor
701963	Poly(ethylene glycol) diacrylate	average M _n 6,000, contains ≤1500 ppm MEHQ as inhibitor
701963	Poly(ethylene glycol) diacrylate	average M _n 6,000, contains ≤1500 ppm MEHQ as inhibitor
729094	Poly(ethylene glycol) diacrylate	average M _n 10,000, contains MEHQ as inhibitor

Cat. No.	Name	Average Mol. Wt./Purity
767549	Poly(ethylene glycol) diacrylate	average M _n 20,000, contains ≤1000 ppm MEHQ as inhibitor
409510	Poly(ethylene glycol) dimethacrylate	average M _n 550, contains 80-120 ppm MEHQ as inhibitor, 270-330 ppm BHT as inhibitor
202495	Poly(ethylene glycol) methyl ether	average M _n 750

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