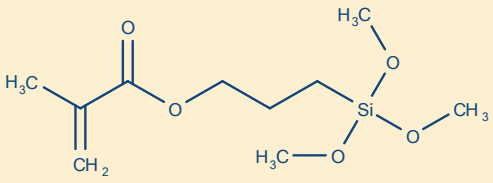
Key Organics
Chemistry | Innovation | Quality
The Home of BIONET

40th anniversary



AS-13436
CAS Number 2530-85-0

3-Methacryloxypropyltrimethoxysilane (MEMO / A-174)

The standard coupling agent for radical-cure systems, from dental fillings to fibre-reinforced plastics

Overview

MEMO combines a methacrylate functional group — capable of free-radical or UV-initiated copolymerisation — with a trimethoxysilyl anchor that bonds to inorganic substrates. This makes it uniquely suited to any system where an organic polymer matrix is crosslinked by radical chemistry and must adhere durably to a mineral filler or inorganic substrate. In dental composites it is the standard coupling agent, bonding glass or silica filler to the bis-GMA/TEGDMA resin. In industrial UV-curable coatings it bridges the gap between the reactive acrylate matrix and glass or mineral substrates.

Key Benefits:

- ✓ Affordable
- ✓ Usually Ex-Stock
- ✓ Purity >97%
- ✓ Bulk Pricing

Key applications

- Dental composite restoratives — coupling agent between glass/silica filler and methacrylate resin matrix; standard compound in all major brands
- UV-curable adhesives and coatings — copolymerises into the acrylic backbone while anchoring to glass or metal
- Fibre-glass reinforced polyester composites — improves wet flexural strength and electrical properties
- Wire and cable — treats EPDM systems to improve dielectric properties
- Surface primer for glass, stone, and ceramics prior to acrylic or polyester coating application
- Modification of oxide nanoparticles (TiO_2, SiO_2, Al_2O_3) for incorporation into polymer nanocomposites

Available to purchase today!

Selected literature

[1] Lin Y. et al. (2022). Role of 3-Methacryloxypropyltrimethoxysilane in Dentin Bonding. ACS Omega 7(18), 15892–15900. https://doi.org/10.1021/acsomega.2c01000

[2] Szczesio-Wlodarczyk A. et al. (2020). Ageing of Dental Composites Based on Methacrylate Resins — A Critical Review. Polymers 12(4), 882. https://doi.org/10.3390/polym12040882

[3] Matinlinna J.P. et al. (2018). Silane adhesion mechanism in dental applications and surface treatments: A review. Dental Materials 34(1), 13–28. https://doi.org/10.1016/j.dental.2017.09.002

More from the Collection

Key Organics
Chemistry Services

- Collaborative R&D
- FTE Services
- Custom Synthesis
- Process R&D/Scale-up
- Metabolite Synthesis
- Stable Label Custom Synthesis
- Analytical Chemistry
- Compound Management Services

BIONET
Chemistry Products

- Biochemicals
- Intermediates/Building Blocks
- Fragment Libraries
- Screening Compounds
- Stable Labels
- Natural Products
- Electronic Materials
- Amino Acids
- Organosilicon

For more information, please contact us at:

Key Organics Ltd.,
Highfield Road Industrial Estate,
Camelford,
Cornwall PL32 9RA,
United Kingdom

T: +44 (0)1840 212137
E: enquiries@keyorganics.net

www.keyorganics.net

Key Organics
Chemistry | Innovation | Quality

bsi ISO 9001 Quality Management Systems CERTIFIED
FS 803271