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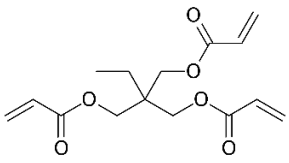
Super Absorbent Crosslinking Agents

Chains of polyacrylate and/or polyacrylamide (or in the past, polyacrylonitrile) are converted into water-swellable hydrogels through the addition of small, multi-functional monomers. These crosslinking agents from "ladder steps" between the long polymer chains and render the material insoluble in water.

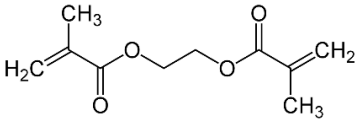
The amount of cross-linking agent used in a hydrogel is typically < ½ % by weight.

Because these monomers are highly reactive, they are consumed at 100% in the cross-linking step. Because they are then fully integrated into the crosslinked polymer, it is nearly impossible to establish the identity of the cross-linker with traditional analytical chemistry.

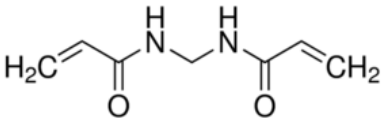
Trimethylolpropane triacrylate (TMPTA)



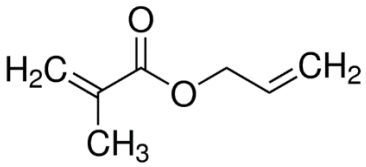
Ethylene Glycol Dimethacrylate (EGDMA)



Methylene bis-acrylamide



Allyl methacrylate



Tetraallyl ethoxy ethane