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[\[PDF \(857K\)\]](#) [\[References\]](#)**Development of a self-etching primer with higher shelf life and greater dentin bond stability**[Shen MA](#)¹⁾

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Abstract:

To examine the effects from the chemical structure of acidic methacrylate monomers on the primer's shelf life, N-methacryloyl-2-aminoethylphosphonic acid (NMEP)- N-methacryloyl glycine (NMGly), 2-methacryloyloxyethyl dihydrogen phosphate (MEP)-NMGly and 10-methacryloyloxydecyl dihydrogen phosphate (MDP)-NMGly primers were designed. Immediately after preparation, these primers were stored at 40°C for 0, 6 and 14 weeks. At the end of each storage period, ¹³C NMR observations were performed. Shear bond strengths of resin to dentin, conditioned by non-stored or stored primers, were measured. Alteration rates of these primers were strongly dependent on the chemical structure of acidic methacrylate monomers. The NMEP-NMGly primer exhibited noticeably higher hydrolytic stability and greater bond strength stability than MEP-NMGly and MDP-NMGly primers. These results demonstrated that methacryl amide monomers, NMEP and NMGly, are more advantageous than methacryl ester monomers. To develop self-etching primers with longer shelf life, it is essential to utilize acidic and hydrophilic methacryl amide monomers.

Key words:[Self-etching primer](#), [Shelf life](#), [Dentin bond stability](#)[\[PDF \(857K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

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