

Author: [ADVANCED](#)

Volume Page

Keyword: [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

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[\[PDF \(455K\)\]](#) [\[References\]](#)**Cytocompatibility of a Tissue Conditioner Containing Vinyl Ester as a Plasticizer**[Yoshiya HASHIMOTO](#)¹⁾, [Jiro TANAKA](#)²⁾, [Kazuomi SUZUKI](#)²⁾ and [Masaaki NAKAMURA](#)¹⁾

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Abstract:

In the current study, we examined the cytocompatibility of eight vinyl esters as candidate plasticizers for producing phthalate- and ethanol-free tissue conditioners. We measured the estrogenic activity and cytotoxicity of vinyl esters in human fibroblasts and keratinocytes using an E-screen assay and a mitochondrial dye conversion assay, respectively. We also assessed the cytotoxicity of three prototype materials and commercially available tissue conditioners on human fibroblasts grown in collagen gels. Finally, we measured the effects of these materials on the expression of cytokines in three-dimensional cultures by reverse transcriptase-polymerase chain reaction and enzyme-linked immunosorbent assays. None of the tested vinyl esters had estrogenic activity. Vinyl octanoate and vinyl pivalate were the least cytotoxic of the eight tested vinyl esters. In the same vein, a prototype tissue conditioner containing vinyl octanoate had equivalent or weaker cytotoxicity and induction of cytokine expression than conventional materials.

Key words:[Cytocompatibility](#), [Vinyl ester](#), [Tissue conditioner](#)[\[PDF \(455K\)\]](#) [\[References\]](#)

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