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## Incorporation of carbopol to palm olein based analgesic cream: Effect on formulation characteristics

(Article)

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### Abstract

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The purpose of the investigation was to incorporate carbopol gel with palm olein based emulsion and to investigate the effect of such incorporation on formulation characteristics. A palm olein based emulsion was formulated followed by addition of carbopol 940 to it. The critical parameters of incorporating carbopol in bench scale level were checked. The developed palm olein-carbopol based analgesic cream was analyzed for pH, zeta potential, viscosity, rheological property and forced centrifugation. Incorporation of 0.3% of carbopol gel (1% w/w) helps to maintain the viscosity and stability. pH and zeta potential of palm olein-carbopol combined cream was within range of 6.90 to 7.20 and -23.1 to -74.9, respectively. Combination of palm olein based emulsion and carbopol would be a suitable option for topical cream formulation. The pH of carbopol gel and method of mixing with the palm olein based emulsion had crucial effects on phase separation of the product. © 2017, Colegio de Farmaceuticos de la Provincia de Buenos Aires. All rights reserved.

### Author keywords

[Carbopol](#) [HLB value](#) [Palm olein](#) [Pseudoplastic](#) [Viscosity](#) [Zeta potential](#)

### Indexed keywords

EMTREE drug terms:

[analgesic agent](#) [carbomer](#) [carbopol 940](#) [eugenol](#) [menthol](#) [methyl paraben](#) [palm olein](#) [propyl paraben](#) [propylene glycol](#) [salicylic acid methyl ester](#) [skin cream](#) [sorbitan laurate](#) [surfactant](#) [unclassified drug](#)

EMTREE medical terms:

[Article](#) [blood rheology](#) [centrifugation](#) [drug formulation](#) [drug stability](#) [emulsion](#) [pH](#) [phase separation](#) [viscosity](#) [zeta potential](#)

### Chemicals and CAS Registry Numbers:

carbomer, 9007-20-9, 9062-04-8; carbopol 940, 76050-42-5; eugenol, 97-53-0; menthol, 1490-04-6, 89-78-1, 15356-70-4, 2216-51-5, 98167-53-4; methyl paraben, 99-76-3; propyl paraben, 94-13-3; propylene glycol, 57-55-6; salicylic acid methyl ester, 119-36-8; sorbitan laurate, 1338-39-2

### Manufacturers:

Drug manufacturer:

Plant Succeed Engineering, Malaysia

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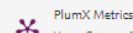
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