A New Microemulsion Formulation for an Oil-Soluble Drug

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The aim of this study was to design and develop a microemulsion drug delivery system for an oil-soluble drug, TGF-. Microemulsions are transparent, thermodynamically stable and [isotropic](http://www.0wikipedia.org/index.php?q=aHR0cHM6Ly9lbi53aWtpcGVkaWEub3JnL3dpa2kvSXNvdHJvcGlj) fluid mixtures of oil, water and surfactant, frequently in combination with a [co-surfactant](http://www.0wikipedia.org/index.php?q=aHR0cHM6Ly9lbi53aWtpcGVkaWEub3JnL3cvaW5kZXgucGhwP3RpdGxlPUNvc3VyZmFjdGFudCZhY3Rpb249ZWRpdCZyZWRsaW5rPTE). In contrast to [emulsions](http://www.0wikipedia.org/index.php?q=aHR0cHM6Ly9lbi53aWtpcGVkaWEub3JnL3dpa2kvRW11bHNpb24), microemulsions form upon simple mixing of the components and generally do not require high [shear](http://www.0wikipedia.org/index.php?q=aHR0cHM6Ly9lbi53aWtpcGVkaWEub3JnL3dpa2kvU2hlYXJfKGZsdWlkKQ) conditions used for emulsion formation. In this study, microemulsion systems were prepared using different surfactant, co-surfactant and oil ingredients. Among the ingredients tested were Tween® 20 and Tween® 80 as surfactants, PEG 400, glycerole, 2-propranol and isopropyl alcohol as co-surfactants and soybean and linseed oils. Microemulsions were prepared using pseudo-ternary phase diagrams. Optimum formulation was selected and characterized by droplet size, electrical conductivity, zeta potential and pH measurements.