

UNIVERSITI TEKNOLOGI MARA

**STUDY ON THE STABILITY OF EMULSION
FORMULATION**

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ABSTRACT

The objective of this study was done to investigate how different types of emulsifiers improve the stability of oil-in-water emulsions. The emulsions were formulated in three different olive oil and emulsifier ratio. The stable emulsion was observed on the formulation that contained higher concentration of olive oil but not higher concentration of emulsifying agent as increased in olive oil concentration can increased the viscosity of the formulation. Emulsion stability was determined by accelerated study and intrinsic study. Certain parameters were observed during this study, which includes droplet size, zeta potential, polydispersity index, separation rate and also viscosity. When compared between samples that contained different emulsifiers, it showed that formulation contained P-1670+S-370 as emulsifier produced a most stable oil-in-water emulsion. Increased the olive oil concentration in the formulation that contained P-1670+S-370 emulsifier can increased the viscosity of the formulation thus affects droplets size, polydispersity index (PDI), separation rate and also zeta potential. Droplet size and polydispersity index showed to be decreased due to increase in viscosity on the formulation.