AN EVALUATION OF OXIDATIVE AND POUR POINT PROPERTIES OF MELON SEED OIL AS BASE OIL FOR OIL-IN-WATER EMULSION METALWORKING FLUID

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ABSTRACT

The fatty acid composition of melon seed oil (MSO) using gas chromatography (GC-FID) method was investigated. It was observed that the major fatty acids of melon seed oil are oleic acid (28.01%) and linoleic acid (43.3%), hence can be classified as unsaturated oil. Thermo-gravimetric analysis (TGA) of MSO under nitrogen and oxygen environment was evaluated to determine its thermal and oxidative stabilities. The results obtained from Differential scanning calorimetry experiment show that the antioxidant agent played insignificant role in the pour point property of the oil samples.

KEYWORDS— *antioxidant, oil, pours point, fluid, evaluation*