DIGEST

Volume 1, 2024

RESEARCH & INNOVATION
COLLEGE OF ENGINEERING

Plant-based Natural Silicone Oil from Helianthus Annuus

Dr. Harumi Veny
School of Chemical Engineering
harumi2244@uitm.edu.my
Expert UiTM link

Nor Ashiqin binti Zairi
School of Chemical Engineering
nrashiqinzairi@gmail.com

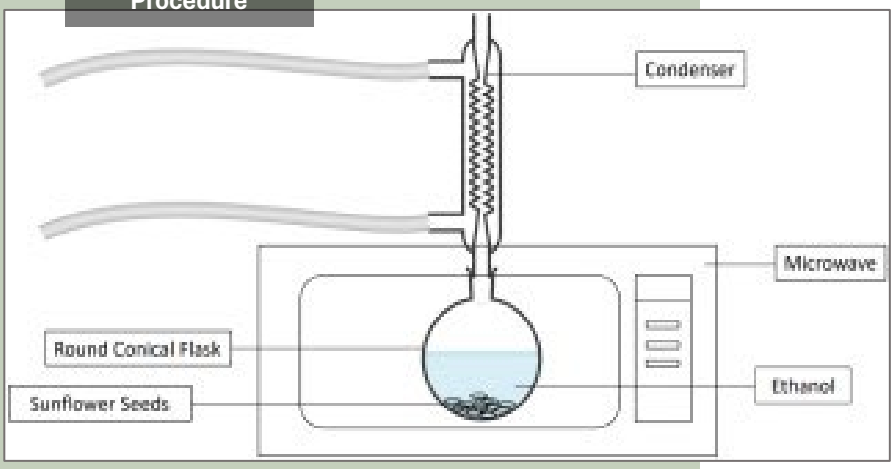
People nowadays prefer to choose and apply natural ingredients instead of synthetic ingredients in a product. There are many benefits in using natural ingredients in a product, such as vitamins and minerals that could be supplied to the skin and hair. Natural silicone oil is a plant-based silicone oil that will be introduced to replace synthetic silicone oil. This research is done to see the ability of a plant to replace silicone oil in cosmetics and to observe variables that may increase the characteristic of the oil to be like polydimethylsiloxane. Natural ingredients for cosmetics would give many benefits to humans, such as no irritation to the skin, may supply vitamins to the skin, and fewer chemicals that may cause redness and breakouts would be used. A study has yet to be done to replace silicone oil by using a natural source, as this study will do. This research would give an advantage and idea to academia and the cosmetic industry to investigate more on how to enhance this research on an industrial scale other than conducting a study on another natural source to replace other chemical and cosmetic ingredients since the raw material of this study is sustainable. The raw material will be easy to obtain. The study shows that varying the percentage of bleaching clay does not show enough changes to one of the important properties, the oil's colour.

However, other properties have been successfully achieved according to the properties of the standard silicone oil. 0.5% of bleaching shows little changes in the colour; meanwhile, 1.0% and 1.5% of bleaching clay clearly show a small change in the result. Hence, further studies must be done to ensure that the property meets the desired quality of standard silicone oil.

Natural silicone oil from Helianthus Annuus

Microwave-assisted extraction set-up

Extraction Procedure



eISSN 2805-573X