CHARACTERIZATION OF SUNFLOWER OIL FOR ITS OLEIC ACID CONTENT

Submitted to University of Management and Technology Lahore

In partial fulfillment of the requirements

For the award of degree of

MS IN CHEMISTRY

BY

MEHWISH SHAHZADI

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Session **2013-2015** hereby declare that the matter printed in the thesis titled **"Characterization of sunflower oil for its Oleic acid content"** is my own work and has not been printed, published and submitted as research work, thesis or publication in any form in any University, Research institution etc. in Pakistan or Abroad.

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(MEHWISH SHAHZADI

RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled, " Characterization of Sunflower Oil for its Oleic Acid content " has been carried out and completed by, **MEHWISH SHAHZADI ID: 13001140004** . The quantum and the quality of the work contained in this thesis is adequate for the award of Degree of MS/M.Phil.

Supervisor
Dr Ayesha Mohyuddin

External Examiner

Dr Sammia Shahid
Chairperson,
Department of Chemistry,
UMT, Lahore.

Dr Muhammad Azhar Iqbal
Dean
School of Science,
UMT, Lahore.

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MEHWISH SHAHZADI

ABSTRACT

Sunflower is cultivated all over the world not only as an ornament plant but also for the purpose of getting oil. It is the third most cultivated plant in the history because its oil considered best for health.

The present study deals with the analysis of sunflower oil sample which was obtained from local market. The physicochemical properties of the oil were determined which included saponification value, acid value and ester value. Results showed that saponification value of the oil was 191.675, acid value was 0.94 and ester value to be 190.735 for the sample under observation.

GC-MS analysis of sunflower oil was carried out to check its composition. Oleic acid was determined with linoleic acid and isopropyl palmitate. Other compounds detected were p-toluylic acid, pregn-4-en-18-oic acid, 11-(acetyloxy)-6,7-epoxy-9,20-dihydroxy-3-one-, gamma.-lactone, 1,2-benzenedicarboxylic acid, benzoic acid, 2,4,6-trimethyl-, 2,4,6-trimethylphenyl ester and linoleic acid.