

Sri G.V.G. Visalakshi College for Women (Autonomous), Udumalpet

Department of Chemistry

Report

Industrial Visit : Kaleesuwari Refinery Private Limited, Thalaisyuthu, Palani

Date : 20.12.2021

Time: 10.00 am to 1.00 pm

No. of Beneficiaries : 65 students + 4 Faculty

A group of 65 students (II & III B.Sc. Chemistry) and 4 faculty members visited the Kaleesuwari Refinery Private Limited, Thalaisyuthu, Palani

Refining Process of crude Sunflower oil

Refining of crude sunflower oil is done to remove unwanted minor components that make oils unappealing to consumers, while trying to cause the least possible damage to the neutral oil as well as minimum refining loss. The components that are to be removed are all those glyceridic and nonglyceridic compounds that are detrimental to the flavour, colour, stability or safety of the refined oils. They are primarily phosphoacylglycerols, free fatty acids, pigments, volatiles and contaminants.

On the other hand, not all the minor compounds in fats and oils are undesirable. For example, phytosterols are considered of nutritional interest, and tocopherols with vitamin E activity, protecting the oil against oxidation. For the maximum oil quality all the steps of the refining process should be carried out with the minimum losses of desirable compounds.

The major steps involved and the main components removed are shown below.

Basic steps of the refining process

Alkali or chemical refining	Main groups of compounds removed
Degumming	Phospholipids
Neutralization	Free fatty acids
Bleaching	Pigments/metals/soaps
Winterization	Waxes/saturated triacylglycerols
Deodorization	Volatiles/free fatty acids

Finally the refined sunflower oil is fortified with some compounds like Vitamin A and sent for packaging. The packaging unit was a fully automated one with packaging machines of different volumes 100 ml, 200 ml, 500 ml, 1000 ml, and 5 litres. It is then kept in boxes, sealed and sent for supply to different states through lorries. Even the loading process is almost mechanized. The refined sunflower oil is sold in the brand name Gold winner, coconut oil in the name Eldia, Rice bran oil in the name of Oryza and lamp oil in the name of Dheepam oil.

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Private Limited, Thalairyuthu, Palani
- 624702

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Agenda

- * To know the edible oil refining process
- * To get exposed to the industrial ambience and various sections functioning in the industry.

Members present

- * Dr. S. Umadevi, Dr. M. Indrani, Dr. J. Bhuvaneshwari
Dr. E. Vaishnavi, Assistant Professors,
Department of Chemistry

Minutes

- * The section incharges of the different processes involved in the chemical refining of the edible oil (crude) extracted from the sunflower seeds explained us the steps involved in the refining process
- * They stated us the precautionary measures to be followed during the Refining process.
- * They showed us the packing division & despatch sources.
- * They gave awareness about consumption of Good Quality oil to avoid health problems.

S. Umadevi

M. Indrani

J. Bhuvaneshwari

E. Vaishnavi

Rajawari W
Principal

For KALEESUWARI REFINERY PRIVATE LIMITED.

M. Indrani

Sr. Vice President.



Latitude: 10.528604
Longitude: 77.42376
Elevation: 344.08±16 m
Accuracy: 17.7 m
Time: 20-12-2021 11:28
Note: Industrial VISIT-Refinery

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Latitude: 10.528264
Longitude: 77.422498
Elevation: 333.92±10 m
Accuracy: 12.2 m
Time: 20-12-2021 12:36
Note: Industrial VISIT-Refinery

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Latitude: 10.528927
Longitude: 77.424196
Elevation: 325.89±18 m
Accuracy: 38.5 m
Time: 20-12-2021 10:30
Note: Industrial VISIT-Refina

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