



**VARIAN**

Application Note SI-01315

## Analysis of Palm Oil using a VF-5ht UltiMetal™ Column

Helena Jacobse  
Varian, Inc.

### Introduction

Crude palm oil is mainly composed of a mixture of mono-, di- and triglycerides of C14, C16 and C18 fatty acids. Palm oil contains relatively high amounts of saturated fatty acids such as palmitic acid. It is extensively used as an important raw material in the manufacture of soaps, washing powder and other hygiene and personal care products. In recent years, palm oil has gained importance in the production of biodiesel, however, its significance is still limited in comparison to rapeseed as a major source.

This analysis of palm oil is performed using a VF-5ht UltiMetal column, developed using proprietary UltiMetal technology that results in a virtually unbreakable metal column with excellent inertness properties similar to fused

silica tubing. The UltiMetal tube was coated with the VF-5 low bleed arylene stabilized liquid phase providing a column with high temperature stability and durability, perfectly suited to a variety of high temperature applications. This high temperature capability enables a fast bake-out of highly retained sample material.

### Conditions

Technique:	GC
Column:	VF-5ht UltiMetal, 30 m x 0.25 mm, df = 0.1 µm
Sample:	Crude Palm Oil, 0.1 % (Pentane)
Carrier Gas:	Hydrogen, 65 kPa (9 psi)
Injector:	Split, 325 °C, split ratio 1:100
Injection Volume:	2.0 µl
Temperature:	50 ° to 400 °C with 5 °C/min
Detection:	FID, 340 °C

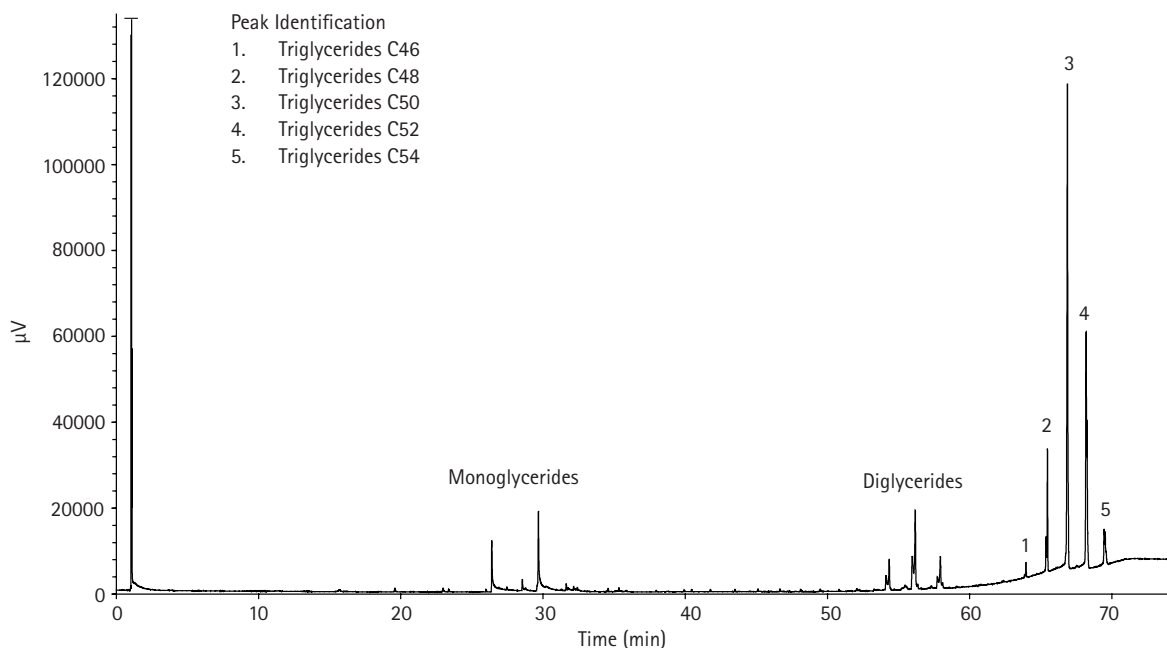


Figure 1. Analysis of crude palm oil using a VF-5ht UltiMetal column.

These data represent typical results.  
For further information, contact your local Varian Sales Office.

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Varian, Inc.  
www.varianinc.com  
North America: 800.926.3000 – 925.939.2400  
Europe: *The Netherlands*: 31.118.67.1000  
Asia Pacific: *Australia*: 613.9560.7133  
Latin America: *Brazil*: 55.11.3238.0400



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