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## Product Data Sheet

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Product Name: Mono-and diglycerides

Cat. No.: GC38821

### Chemical Properties

Cas. No.

SMILES [Mono-and diglycerides]

Formula M.Wt

Solubility Ethanol: 10 mg/mL Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

### Background

Mono-and diglycerides is formed by triglycerides being broken down by pancreatic lipase in the gastrointestinal lumen. Mono-and diglycerides is a food additive used as a nonionic emulsifier and mainly present in food fats[1][2].

Squalene and Mono-and diglycerides on the frying stability of olive pomace oil is determined. Refined olive pomace oil is distilled using a falling film type short-path distillation unit at 230°C under a pressure of 0.02 mbar to remove minor components. Distilled olive pomace oil is introduced with approximately 10,000 mg/kg of squalene and 2.5% of Mono-and diglycerides. Fryings are performed 8 times/day at 180 °C for 3 min. All criteria except smoke point and iodine value increased in all fractions during fryings. The lowest total polar compound is obtained in distilled olive pomace oil while polymerized triglycerides is the lowest in the Mono-and diglycerides added fraction[3].

In the body, the triglycerides undergo digestion in the gastrointestinal lumen. Triglycerides are broken down mainly by pancreatic lipase with the formation of Mono-and diglycerides. Mono-and diglycerides are absorbed into the intestinal cells. In their passage through the intestinal mucosa Mono-and diglycerides are largely converted

**Caution: Product has not been fully validated for medical applications. For research use only.**

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back into triglycerides. These pass into the body as a fine emulsion and give rise to the milky appearance of the chyle and the blood plasma. Under certain circumstances, these fat particles can be broken down by another fat-splitting enzyme in the blood-stream. When this occurs, the formation of Mono-and diglycerides can be demonstrated[1].

[1]. Toxicological evaluation of some food additives including anticaking agents, antimicrobials, antioxidants, emulsifiers and thickening agents. WHO FOOD ADDITIVES SERIES NO. 5. [2]. MasatoshiKako, et al. The stability of soybean oil-water emulsions containing mono- and diglycerides. Journal of Colloid and Interface Science. Volume 69, Issue 1, 15 March 1979, Pages 163-169. [3]. Sahin Ozkan K, et al. Utilization of molecular distillation for determining the effects of some minor compounds on the quality and frying stability of olive pomace oil. J Food Sci Technol. 2019 Jul;56(7):3449-3460.

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