

GPC/SEC Analysis of Mono-, Di-, Triacylglyceride and Glycerol

According to *European Pharmacopoeia*¹

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Mono-, di-, triacylglyceride are widely used as emulsifiers in food and pharmaceutical industries. Some paints and adhesives may also contain different glyceride samples.

For pharmaceutical industry quality control, the *European Pharmacopoeia* (*Ph. Eur.* 2000) has the specific procedure used herein to determine the contents of mono-, di-, triacylglyceride and glycerol.

Sample Preparation

Each sample is dissolved in 5 mL THF to a homogeneous solution (concentration below).

Experimental According to *Ph. Eur.* 2000

SEC/GPC analysis was performed on a SECcurity GPC1200 system, under the following analytical conditions:

Sample:	Mixture of mono-, di-, triacylglyceride and glycerol
Column:	PSS SDV, 5 µm, 100 Å, 8 × 600 mm
Solvent:	THF
Flow-rate:	1 mL/min
Calibration standards:	0.5 g/L, 1 g/L, 2 g/L 4g/L glycerol reference solutions
Concentration:	40 g/L
Inject volume:	40 µL
Detector:	RI
Data acquisition:	PSS WinGPC Unity

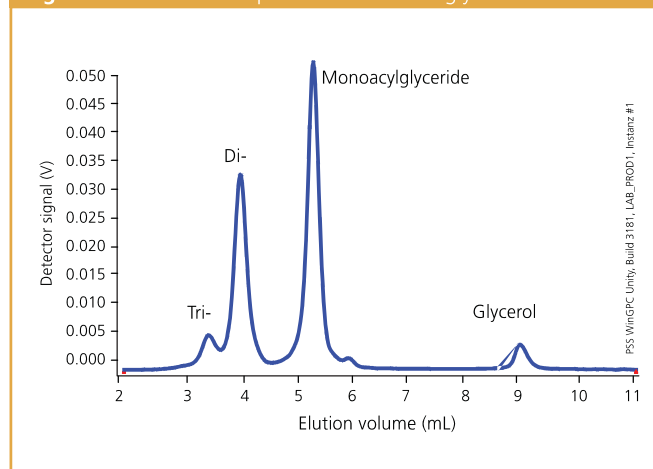
Results and Conclusion

The content of Glycerol is based on a glycerol reference solution calibration curve. Various glycerol concentrations were injected and the correlated areas and peak heights are calculated. The content of mono-, di-, triacylglyceride and glycerol is calculated by a normalization process, relative to the calculated Glycerol content.

Reference

1. *European Pharmacopoeia*, **495**, page 882 ff.

Figure 1: Technical sample of a mixture of glycerides



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