FoodQS GmbH

food analytics & quality control

Analytical services for edible oils

status: June 2026

1. Quality

code	description	technology	LOQ
77001	K values (K_{232}, K_{270}, ΔK) a)	Spectrophotometry	K_{232}: 0,1 K_{270}: 0,1 ΔK: 0,01
77008	Free fatty acids a) Acid value, free fatty acids [FFA] (calculated as oleic, lauric and palmitic acid)	Titration	Acid value: 0,2 mg KOH/g, FFA calculated as oleic, lauric and palmitic acid: 0,1 % respectively
77011	Peroxide value a)	Potentiometry	0,1 meqO_2/kg
46090	Total polyphenols in olive oil (according to Folin-Ciocalteu) a)	Spectrophotometry	125 mg/kg
77003	Alkylic esters and wax content in olive oil aU) sum of fatty acid ethyl esters FAEE; sum of waxes (C42 + C44 + C46)	LC-GC-FID	FAEE: 10 mg/kg; sum of waxes: 20 mg/kg
77020	Fatty acid profile (incl. trans fatty acids) includes 56 parameters 2) aU)	GC-FID	0,03 g/100 g fat content
77027	3-MCPD and glycidyl fatty acid esters aU) 3-MCPD and glycidyl fatty acid esters determined as 3-MCPD; 3 MCPD ester (calc. as free 3-MCPD); Glycidyl fatty acid ester (calc. as free Glycidol)	GC-MS	0,1 mg/kg fat content
626	Sensory analysis (panel test) of virgin olive oil (organoleptics) aU) 1)	Evaluation by IOC-recognized panel	---

2. NMR- analytics (authenticity/adulteration)

code	description	explanation
570	Olive oil a) specific check for foreign oils: - soy oil - sunflower oil - rape seed oil	**1. Fatty acid profile** • Palmitic acid (C16:0, %) • Stearic acid (18:0, %) • Oleic acid (C18:1, %) • Linoleic acid (C18:2, %) • Linolenic acid (C18:3, %) **2. Quality parameters, Authenticity** • Phytosterol profile (qualitative) • Signs for oxidation • Indication for a mixture with foreign vegetable oils
571	Pumpkin seed oil a) specific check for foreign oils: - soy oil - sunflower oil - rape seed oil	**1. Quality parameters (Fatty acids)** • Palmitic acid (C16:0, %) • Stearic acid (18:0, %) • Oleic acid (C18:1, %) • Linoleic acid (C18:2, %) • Linolenic acid (C18:3, %) **2. Quality parameters, Authenticity** • Phytosterol profile (qualitative)

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		• Signs for oxidation • Indication for a mixture with foreign vegetable oils
572	Plant oil (sunflower, rape seed, line seed, sesame, coconut, argan, hazelnut etc.) [a)]	**1. Quality parameters (Fatty acids)** • Palmitic acid (C16:0, %) • Stearic acid (18:0, %) • Oleic acid (C18:1, %) • Linoleic acid (C18:2, %) • Linolenic acid (C18:3, %) **2. Quality parameters, Authenticity** • Phytosterol profile (qualitative) • Signs for oxidation • Indication for a mixture with foreign vegetable oils

3. residues and contaminants

code	description	technology	LOQ
512	Pesticides XXL (>700 substances) [aU) 2)]	GC-MS/MS, LC-MS/MS	0,01 mg/kg
46037	Polycyclic aromatic hydrocarbons (PAHs) [aU)] (16 substances, EPA-method) Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene, 5-Methylchrysene, Benzo(ghi)perylene, Benzo(j)fluoranthen, Benzo(k)fluoranthene, Benzo(c)fluorene, Cyclopenta(c,d)pyren, Dibenzo(a,h)anthracene, Dibenzo(a,e)pyrene, Dibenzo(a,h)pyrene, Dibenzo(a,i)pyrene, Dibenzo(a,l)pyrene, Indeno(1,2,3-cd)pyrene	GC-MS	0,1 µg/kg; 0,3 µg/kg Naphthalene
77004	Mineral oil residues (MOSH/POSH/MOAH) [aU)] MOAH Total calculated (C10-C50); MOAH n-C10 to n-C16; MOAH n-C17 to n-C25; MOAH n-C26 to n-C35; MOAH n-C36 to n-C50 MOSH/POSH Total calculated; MOSH/POSH n-C10 to n-C16; MOSH/POSH n-C17 to n-C20; MOSH/POSH n-C21 to n-C25; MOSH/POSH n-C26 to n-C35; MOSH/POSH n-C36 to n-C40; MOSH/POSH n-C41 to n-C50	HPLC-GC-FID	1 mg/kg

4. olive oil packages

code	description	explanation
620	Olive oil Basic	Code 77001 + Code 77008 + Code 77011
621	Olive oil Basic+	Code 77001 + Code 77008 + Code 77011 + sensory panel evaluation (626) [1)]
622	Olive oil Health	Code 77001 + Code 77008 + Code 77011 + Code

		46090
623	Olive oil Health+	Code 77001 + Code 77008 + Code 77011 + Code 46090 + sensory panel evaluation (626) [1)]

5. Additional Services

code	description	explanation
625	Labelling check	Conformity check with regard to current declaration regulations for the marketing of the product

[a)] accredited method [aU)] accredited method by sub-order lab

[1)] a separate, sealed original sample (minimum 500 ml/optimum 750 ml) is required for the sensory analysis.

[2)] a complete list of all substances tested is available on request.

Further analyses on request
All prices in EURO excluding VAT
Conditions of payment: 14 days from date of invoice
Sample amount: minimum of 250 ml per sample
Processing time: - normally 2-3 days for inhouse analyses
- normally up to 10 days for external analyses
Storage: - samples will be stored for 6 months at room temperature