

Analytical services for edible oils

status: March 2021

1. NMR- analytics

code	description	explanation
570	Olive oil NEW - specific check possible adulteration with - soy oil - sunflower oil - rape seed oil detectable	1. Qualityparameters (Fatty acids) Palmitic acid (C16:0), Stearic acid (18:0), oleic acid (C18:1), linoleic acid (C18:2), linolenic acid (C18:3), free fatty acids 2. Qualityparameters, Authenticity Peroxide value, iodine value, K ₂₃₂ , oleuropein/ligstroside, oleocanthal, Phytosterols, signs for oxidation, indication for a mixture with foreign plant oils 3. Confirmation of the geographical origin Spain, Italy, Greece
571	Pumpkin seed oil	1. Qualityparameters (Fatty acids) Palmitic acid (C16:0), Stearic acid (18:0), oleic acid (C18:1), linoleic acid (C18:2), linolenic acid (C18:3), free fatty acids, sum (calculated: oleic acid (C18:1) + linoleic acid (C18:2)) 2. Qualityparameters, Authenticity Phytosterols, signs for oxidation, indication for a mixture with foreign plant oils
572	Plant oil (sunflower, rape seed, line seed, sesam, hazelnut...)	1. Qualityparameters (Fatty acids) Palmitic acid (C16:0), Stearic acid (18:0), oleic acid (C18:1), linoleic acid (C18:2), linolenic acid (C18:3), free fatty acids 2. Qualityparameters, Authenticity Phytosterols, signs for oxidation, indication for a mixture with foreign plant oils
570-572	Batch check – First sample full service according code 570/ 571/ 572	Parameters according code 570/ 571/ 572 (depending on the oil)
576-578	Batch check – Second sample full service comparability code 576/ 577/ 578 (depending on the oil)	Parameters according 570/ 571/ 572 (depending on the oil), information about comparability to first sample
573-575	Batch check – Second sample comparability code 573/ 574/ 575 (depending on the oil)	just information about comparability to first sample

2. residues

code	description	technology	LOQ
500	Pesticides XXL(>700 substances) ^{aU)}	GC-MS/MS, LC-MS/MS	0,01mg/kg
41800	Polychlorinated biphenyls (PCBs) ^{a)} (6 substances) PCB 28,52,101,138,153,180	GC-MS/MS	1,0 µg/kg
46030	Polycyclic aromatic hydrocarbons (PAHs) ^{aU)} (16 substances, EPA-method) ^{a)} Acenaphthalene, Acenaphthylene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Chrysene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene	GC-MS	0,1µg/kg; 0,3µg/kg Naphthalene

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3. metals /elements

code	description	technology	LOQ
50000	sample preparation ¹⁾	acid hydrolysis	---
code	description	technology	LOQ
50200	arsenic ^{a)}	ICP-MS	0,01 mg/kg
50400	cadmium ^{a)}	ICP-MS	0,02 mg/kg
50300	lead ^{a)}	ICP-MS	0,02 mg/kg
50600	mercury ^{a)}	ICP-MS	0,005 mg/kg
	packages	description	
701	Heavy metals 1 ^{a)} (code: 50300, 50400, 50600, 50000)	lead, cadmium, mercury incl. acid hydrolysis	

Further metals/ elements on request

4. microbiology

code	description	technology	LOQ
70160	sample preparation ²⁾	---	---
code	description	technology	LOQ
70164	aerobic sporeforming	ASU L 00.00-88 (§ 64 LFGB)	---
70169	coliforme germs	ASU L 01.00-3 (§64 LFGB)	10 cfu/g
70168	E-Coli	ISO 16649-2	10 cfu/g g
70162	enterobacteria ^{aU)}	ASU L 00.00-133/2 (§64 LFGB)	10 cfu/g
70199	listeria monocytogenes ^{aU)}	ISO 11290-1	pos./neg./25g
70161	total aerobic mesophyll bacteria count	ASU L 00.00-88/2 (§64 LFGB)	10 cfu/g
70166	mold	ASU L 01.00-37 (§64 LFGB)	10 cfu/g
70163	salmonella ^{aU)}	ASU L 00.00-98 (§64 LFGB)	pos./neg./25g
70198	staphylococcus (coagulase positive) ^{aU)}	ASU L 00.00-55 (§64 LFGB)	100 KBE/g
70165	sulfite-reducing clostridia ^{aU)}	ASU L 06.00-39 (§64 LFGB)	10 cfu/g
70167	yeasts	ASU L 01.00-37 (§64 LFGB)	10 cfu/g

^{a)} accredited method

^{aU)} accredited method by sub-order lab

note: for generating mix- samples there would be a standard price of €10/mixed sample charged (code 45998).

¹⁾ for metal analysis, it is important to make the sample preparation first. Afterwards it is possible to analyze up to 10 different metals per sample.

²⁾ for microbiologic analysis, it is important to make the sample preparation first. Afterwards it is possible to analyze further different microbiologic analysis per sample.

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Further analyses on request

All prices in EURO excluding VAT

Conditions of payment: 14 days from date of invoice

Sample amount: minimum 100g per sample

Processing time: - normally 2-3 days for NMR, metals
 - normally up to 5 days for residues, microbiology

Storage: - samples will be stored until 6 months at room temperature