

Analytical services for syrups (agave)

status: March 2021

1. chemical-physical parameters

code	description	technology	LOD
70203	ash ^{aU)}	gravimetry	0,01%
11204	aw- value	hygrometry	---
11102	Brix- value	refractometry	---
15102	citric acid ^{a)}	enzymatic	20 mg/kg
10206	colour ^{a)}	hanna	1-150mm
10503	conductivity/pH-value ^{a)}	electrode	---
13603	ethanol ^{a)}	enzymatic	30 mg/kg
11006	fructose + glucose ^{a)}	LC	1%
11604	glycerine	enzymatic	30 mg/kg
10006	HMF ^{a)}	LC	1 mg/kg
10410	moisture/ dry matter ^{a)}	gravimetry	1%
11005	sugar spectrum (4 substances) ^{a)} fructose, glucose, sucrose, maltose	LC	1%
10410	water-insoluble content	gravimetry	1%
	packages	description	
191	Quality- package 1 Agave (NOM parameter) (Art. 10410, 10503, 70203)	Ash, water-insoluble content, conductivity/pH-value	

2. residues

code	description	technology	LOD
39007	aflatoxins B1, G1, B2, G2 ^{a)}	LC-MS/MS	0,5 µg/kg
421	chlorate/ perchlorate ^{a)}	LC-MS/MS	0,01mg/Kg
70201	quaternary ammonium compounds ^{a)} (9 substances) BAC 8, BAC 10, BAC 12, BAC14, BAC 16, BAC 18, DDAC 8, DDAC 10, DDAC 12	LC-MS/MS	0,01mg/Kg
503	Pesticides XXL (>700 substances) ^{aU)}	GC-MS/MS + LC- MS/MS	depending on the analyt

3. authenticity/ adulteration

code	description	technology	LOD
37027	13C isotopic analytics, total sugar content (agave syrup) ^{a)}	EA-IRMS (based on AOAC 998.12)	---
37028	13C isotopic analytics, fructose, glucose, difference f-g (agave syrup) ^{a)}	LC-IRMS	---
37045	13C isotopic analytics (maple syrup)	EA-IRMS (AOAC 984.23)	---
37024	activity of β -Fructofuranosidase ^{a)}	LC	pos./neg.

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37021	activity of β -Amylase ^{a)}	LC	pos./neg.
37020	activity of gamma-Amylase ^{a)}	LC	pos./neg.
37029	activity of amylase	enzymatic	pos./neg.
38202	activity of heatstable Amylases	enzymatic	pos./neg.
37015	oligosaccharides ^{a)} oligosaccharides/ psicose	LC	pos./neg., 0,05% psicose
37033	inulin ^{a)}	LC	1%
38222	mannose ^{a)}	LC	0,05mg/kg
37034	mannitol ^{a)}	LC	0,5%
198	NMR-authenticity, NMR-quality analytes fructose, glucose, sucrose, maltose, mannose, NMR- authenticity	NMR	---
37014	Caramel colouring (E150c/d) ^{a)}	LC-MS/MS	pos./neg.
37010	Rice-syrup-marker (RSM) ^{a)} and sugar beet syrup marker (SMB) ^{a)} Glycosylisomaltol, 3-Methoxytyramin	LC-MS/MS	RSM: 5 mg/kg SMB: 0,005 mg/kg
38402	Difuctoseanhydride	LC-MS/MS	1 mg/kg
	packages	description	
178	Adulteration 1 Agave (Art. 37024, 37021, 37020, 37015, 37014)	activity of β -Fructofuranosidase, β -Amylase, gamma-Amylase, oligosaccharides, E150	
180	Adulteration 2 Agave (Art. 37024, 37021, 37020)	activity of β -Fructofuranosidase, β -Amylase, gamma-Amylase	
181	Adulteration 3 Agave (Art. 37024, 37021, 37020, 37015)	activity of β -Fructofuranosidase, β -Amylase, gamma-Amylase, oligosaccharides, psicose	
194	Adulteration 8 Agave (Art. 37015, 34033)	oligosaccharides, psicose, inulin	
195	Adulteration 9 Agave (Art. 37015, 37033, 37034)	oligosaccharides, psicose, inulin, mannitol	
922	Adulteration "authenticity regarding 13C isotopes" (Art. 37001, 37027)	EA/LC-IRMS: 13C-syrup (total sugars), 13C- fructose, 13C-glucose, 13C-difference fructose-glucose	

4. metals /elements

code	description	technology	LOD
51003	sample preparation ²⁾	acid hydrolysis	---
code	description	technology	LOD
50202	arsenic ^{a)}	ICP-MS	0,01 mg/kg
50304	lead ^{a)}	ICP-MS	0,02 mg/kg
50402	cadmium ^{a)}	ICP-MS	0,02 mg/kg
50602	mercury ^{a)}	ICP-MS	0,005 mg/kg
packages	description		
703	Heavy metals 1 (code: 50302, 50402, 50602, 51003)	lead, cadmium, mercury incl. acid hydrolysis	

Further metals/ elements on request

