

Slovenian Institute of Hop Research and Brewing
 attn. Dr. Iztok Jože Košir
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 3310 Žalec
 SLOWENIEN

Person in charge Ms. A. Tabbert - 899
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Report date 04.11.2022

Analytical report

AR-22-SF-085744-01


Sample Code

724-2022-00077380

Reference	hops
	Povprečni vzorec 2022/average sample 2022
Sample sender	Dr. Iztok Jože Košir
Prescriber	Dr. Iztok Jože Košir
Reception date time	25.10.2022
Transport by	FedEx
Client sample code	Mix 2328/22 I+2328/22 II+2328/22 III
Start analysis	26.10.2022
End analysis	04.11.2022

Analysis	Testcode	Method
Determination of acidic herbicides in hops (Modification: sample weight, extraction after acidification, no clean up)	SFLCH	§ 64 LFGB L 00.00-113 : 2015-03, mod.
Pesticide screening in hops by GC-MS/MS	SFHAP / PSFHF	Internal Method
Pesticide screening in hops by LC-MS/MS (Modification: sample weight; no clean up)	SFH00 / PSFHF	§ 64 LFGB L 00.00-113 : 2015-03, mod.
Lead (Pb)	J8306	DIN EN 15763:2010 (2010-04), mod.
(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and Tobacco and tobacco products)	J8308	DIN EN 15763:2010 (2010-04), mod.
Cadmium (Cd)	J8312	DIN EN 15763:2010 (2010-04), mod.
(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and Tobacco and tobacco products)		
Arsenic (As)		

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Start analysis	26.10.2022
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Analysis	Testcode	Method
(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and Tobacco and tobacco products) Mercury (Hg)	JCHG2	DIN EN 15763:2010 (2010-04), mod.
(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed, tobacco and tobacco products) Aflatoxins B1, B2, G1, G2 (food)	JJ006	DIN EN 14123 (2008-03), mod.
(Modification: Expansion of application to foodstuffs in general and feed, adaptation of the extracting solvent and measurement conditions) Copper (Cu)	JJW2B	DIN EN ISO 17294-2 (2017-01), mod.
(Modification: incl. ICP-MS/MS, extension of the application scope to feed, tobacco and tobacco products) Dithiocarbamates in food	SF00C	§ 64 LFGB L 00.00-49/2 : 1999-11, mod.
(Modification: Enrichment SPME and measurement GC-MS; Calibration with Thiram) paraquat/diquat in hops Acequinocyl in Hops	SFFF1 SFHAC	Internal Method Internal Method

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Test results

Parameter	Result	MRL EU	LOQ	Unit
J8306: ICP-MS // CON-PV 01274 (2022-06)				
Subcontracted to a Eurofins laboratory accredited for this test.				
Lead (Pb)	0.34 ± 0.08		0.05	mg/kg
J8308: ICP-MS // CON-PV 01274 (2022-06)				
Subcontracted to a Eurofins laboratory accredited for this test.				
Cadmium (Cd)	0.02 ± 0.01		0.01	mg/kg
J8312: ICP-MS // CON-PV 01274 (2022-06)				
Subcontracted to a Eurofins laboratory accredited for this test.				
Arsenic (As)	<LOQ		0.1	mg/kg
JCHG2: ICP-MS // CON-PV 01274 (2022-06)				
Subcontracted to a Eurofins laboratory accredited for this test.				
Mercury [Hg]	<LOQ		0.005	mg/kg
JJ006: IAC-LC-FLD // CON-PV 00873 (2022-05)				
Subcontracted to a Eurofins laboratory accredited for this test.				
Sum of all positive Aflatoxins	<LOQ			µg/kg
Aflatoxin B1	<LOQ		0.1	µg/kg
Aflatoxin B2	<LOQ		0.1	µg/kg
Aflatoxin G1	<LOQ		0.1	µg/kg
Aflatoxin G2	<LOQ		0.1	µg/kg
JJW2B: ICP-MS // CON-PV 01274 (2022-06)				
Subcontracted to a Eurofins laboratory accredited for this test.				
Copper (Cu)	58 ± 12	1000	0.1	mg/kg
SF00C: SPME-GC-MS // LA-GCMS-014-01 (#)				
Dithiocarbamates (as CS ₂)	<LOQ		0.05	mg/kg
SFFF1: LC-MS/MS // LA-LCMS-046-09 (#)				
Diquat	<LOQ		0.04	mg/kg
Paraquat	<LOQ		0.1	mg/kg
SFHAC: LC-MS/MS // LA-LCMS-128-02 (#)				
Acequinocyl	0.18 ± 0.090	15	0.1	mg/kg
SFHAP: GC-MS/MS // LA-GCMS-032-02 (#)				

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Parameter	Result	MRL EU	LOQ	Unit
Cyhalothrin, lambda-(incl. Cyhalothrin, gamma-)	0.12 ± 0.060	10	0.1	mg/kg
Folpet	4 ± 2.0		0.05	mg/kg
Folpet (sum of Folpet and PI, expressed as Folpet)	4.6 ± 2.3	400		mg/kg
Phthalimide (PI)	0.30 ± 0.15		0.1	mg/kg
Other screened pesticides	<LOQ			
SFHD0: LC-MS/MS // LA-LCMS-044-03 (#)				
Azoxystrobin	3.0 ± 1.5	30	0.05	mg/kg
Mandipropamid	12 ± 6.0	90	0.02	mg/kg
Metrafenone	2.2 ± 1.1	80	0.05	mg/kg
Myclobutanil (sum of constituent isomers)	0.33 ± 0.17	6	0.1	mg/kg
Spirotetramat	0.032 ± 0.016		0.02	mg/kg
Spirotetramat and Spirotetramat-enol (sum)	0.032 ± 0.016	15		mg/kg
Other screened pesticides	<LOQ			
SFLCH: LC-MS/MS // LA-LCMS-122-02 (#)				
Screened pesticides	<LOQ			

LOQ = limit of quantification

MRL = Maximum Residue Level

Result +/- expanded measurement uncertainty (level of confidence 95%, coverage factor 2)

<LOQ = below limit of quantification

Due to matrix effects the LOQs of test code SF00C are raised.

(#) = Eurofins SOFIA Berlin (Rudower Chaussee) is accredited for this test.

Legal Assessment

MRL: EU-MRL acc. to Regulation (EC) No 396/2005 for Hops (CN 0700000)

The results of the above mentioned analyses are in accordance with the requirements of Regulation (EC) No 396/2005 in its currently valid version.

The sample material was delivered to our laboratory. The results listed in this analytical report refer exclusively to the sample we examined.

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Signature



Analytical Service Manager (Antka Tabbert)

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