SCOPE OF ACCREDITATION

Accredited conformity assessment body

University of Novi Sad
Faculty of Technology Novi Sad
Laboratory for Testing Food Products
Novi Sad, Bulevar cara Lazara Str. 1

Standard:

SRPS ISO/IEC 17025:2017
(ISO/IEC 17025:2017)

Short description of the scope

- *Physical and chemical testing of food (milk and milk products, oilseeds and products based on oil seeds, oils and fats and oil and fat products, fruits, vegetables and fruit and vegetable products, fruit and vegetable juices, vine, must, alcoholic beverages, baker yeast, cocoa products, chocolate, cream products, candy products, fine bakery products, breakfast cereals and snack products, grains and milling products, bakery products, pasta, quick-frozen dough);*
- *Microbiological testing of food and samples from surfaces;*
- *Biological/biochemical testing of food (vine and must);*
- *Sensory testing of food (wine, must, alcoholic beverages);*
- *Sampling of food (vine, must, alcoholic beverages) for the purpose of chemical, physical and sensory testing and swabs coming into contact with food.*

Detailed description of the Scope

Location of testings: laboratory **Chemical and physical testings:** food				
O.N.	**Test object material / product**	**Type of test and/or measured characteristics (testing technique)**	**Measurement range/ limit of detection/ limit of quantification** *(if applicable)*	**Reference document**
1.	**Food** Milk and dairy products	Milk, cream, and evaporated milk - Determination of total solids content (reference method) (gravimetry)	from 8.50 % to 30.00%	SRPS ISO 6731:2013 (IDF 21:2010)
		Cheese and processed cheese - Determination of the total solids content (reference method) (gravimetry)	from 18 % to 70%	SRPS EN ISO 5534:2007
		Ice cream and milk ice - Determination of total solids content (Reference method) (gravimetry)	from 22 % to 50 %	SRPS ISO 3728:2008
		Determination of fat content in milk (Gerber method) (acidobutyrometry)	from 0.1 % to 8 %	DM-201/02
		Determination of fat content in cheese (Van Gulik method) (acidobutyrometry)	from 0.5 % to 40 %	DM-201/03
		Milk - Determination of nitrogen content - Part 1: Kjeldahl method (digestion and volumetry)	from 0.3 % to 14 %	SRPS EN ISO 8968-1:2016
		Determination of pH value (potentiometry)	from 3 to 7	DM-201/04
	Oils and fats and oil and fat products	Determination of moisture and volatile matter content (gravimetry)	from 0.01 % to 5.00 %	SRPS EN ISO 662:2017
		Determination of insoluble impurities content (gravimetry)	from 0.01 % to 10.00 %	SRPS EN ISO 663:2017
		Determination of soluble soap content (alkalinity) (volumetry)	from 1 mg/kg to 3000 mg/kg	SRPS EN ISO 10539:2008

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1.	**Food** Oils and fats and oil and fat products *continuation*	Determination of acid value and acidity (volumetry)	Acid value: from 0.02 mgKOH/g to 15.0 mgKOH/g Acidity: from 0.01 % to 75.0 %	SRPS EN ISO 660:2021
		Determination of peroxide value - Iodometric (visual) endpoint determination (volumetry)	from 0.01 mmol/kg to 15.00 mmol/kg from 0.02 meq/kg to 30.00 meq/kg	SRPS EN ISO 3960:2017
		Determination of conventional mass per volume („litre weight in air") - Relative density (pycnometry)	from 0.850 to 0.950 x°C/water 20°C (x=15÷60°C)	SRPS EN ISO 6883:2017
		Determination of saponification value (volumetry)	from 100 mgKOH/g to 300 mgKOH/g	SRPS EN ISO 3657:2022
		Determination of iodine value (volumetry)	from 0.4 g/100g to 200 g/100g	SRPS EN ISO 3961:2019
		Determination of unsaponifiable matter - Method using hexane extraction (gravimetry)	from 0.5 g/kg to 25.0 g/kg	SRPS EN ISO 18609:2012
		Determination of fatty acid composition (GC-MS)	from min 0.05 % m/m	SRPS EN ISO 12966-2:2017 SRPS EN ISO 12966-1:2015 SRPS EN ISO 12966-4:2016
	Wine	Determination of total alcohol content (calculated)	from 8.0 % vol. to 30 % vol.	DM-302/02
		Determination of actual alcohol content (densitometry/pycnometry)	from 8.0% vol. to 27.85 % vol.	OIV- MA-AS312-01A:R2009
		Determination of total extract content (densitometry/ pycnometry)	from 2 g/L to 530.1 g/L	OIV-MA-AS2-03B: R2012

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1.	**Food** Wine *continuation*	Determination of total dry extract content (calculated)	from 0 g/L to 500 g/L	OIV-MA-AS2-03B: R2012
		Determination of reducing sugars content (volumetry)	from 0.0 g/L to 400.0 g/L	DM-302/03
		Determination of ash content (gravimetry)	from 0.1 g/L to 5.0 g/L	OIV- MA-AS2-04: R2009
		Determination of sucrose content, quantitative (volumetry)	from 0.0 g/L to 100.0 g/L	DM-302/06
		Determination of methanol content (spectrophotometry)	from 0 mg/L to 500.0 mg/L	OIV-MA-E-AS312-03B: R2009
		Determination of malvidin diglucoside content, quantitative	min 15 mg/L	OIV-MA-E-AS315-03:R2009
		Determination of volatile acidity (volumetry), expressed as acetic acid, corrected for SO_2	from 0.05 meq/L to 22.00 meq/L	OIV-MA-E-AS313-02:R2015
		Determination of phenolic compounds, expressed as gallic acid (spectrophotometry)	from 0.1 g/L to 5.0 g/L	DM-302/05
		Determination of lactic acid content - enzymatic method (spectrophotometry)	from 0 g/L to 5.0 g/L	OIV-MA-E-AS313-07: R2009
	Wine Must	Determination of relative density 20°C/20°C (densitometry/pycnometry)	min. 0.8700	OIV-MA-AS2-01A:R2012
		Determination of pH (potentiometry)	from 1 to 12.0	OIV-MA-AS313-15:R2011
		Total acidy, (potentiometry/volumetry)	from 0.65 g/L to 20.0 g/L	OIV-MA-E-AS313-01:R2015
		Determination of citric acid content in must and wine - enzymatic method (spectrophotometry)	from 45 mg/L to 2000 mg/L	OIV-MA-E-AS313-09: R2009

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O.N.	**Test object material / product**	**Type of test and/or measured characteristics (testing technique)**	**Measurement range/ limit of detection/ limit of quantification** *(if applicable)*	**Reference document**
1.	**Food** Wine Must *continuation*	Determination of malic acid content in must and wine - enzymatic method (spectrophotometry)	from 0 g/l to 10.0 g/L	OIV-MA-E-AS313-11: R2009
		Determination of SO_2 content (volumetry)	Total SO_2: (2.7 - 400.00) mg/L Free SO_2: (0 mg/L - 60.0) mg/L	OIV-MA-E-AS323-04B: R2009
		Determination of sorbic acid content (spectrophotometry)	from 13 mg/L to 500 mg/L	OIV-MA-E-AS313-14A: R2009
		Determination of dry matter in must (refractometry)	max. 95 %	OIV-MA-E-AS2-02:R2012
	Alcoholic beverages	Determination of alcohol content with a pycnometer at 20°C (densitometry)	from 2.5 % vol. to 100.00 % vol.	Rulebook [1] method 1
		Determination of extract content (gravimetry)	from 0.2 g/L to 200.00 g/L	Rulebook [1] method 2
		Determination of esters content (volumetric)	from 50 mg/L a.a. to 10000 mg/L a.a.	Rulebook [1] method 4
		Determination of methyl alcohol content (spectrophotometry)	from 20 mg/L a.a. to 20000 mg/L a.a.	Rulebook [1] method 5
		Determination of higher alcohols content (spectrophotometry)	from 60 mg/L a.a. to 7000 mg/L a.a.	Rulebook [1] method 6
		Determination of aldehydes content (volumetry)	from 24 mg/L a.a. to 1000 mg/L a.a.	Rulebook [1] method 7
		Determination of furfural content (spectrophotometry)	from 2 mg/L a.a. to 100 mg/L a.a.	Rulebook [1] method 8
		Determination of sugar content (gravimetry)	from 10 g/L to 400 g/L	Rulebook [1] method 9
		Determination of benzaldehyde content (spectrophotometry)	from 1 mg/L a.a. to 300 mg/L a.a.	Rulebook [1] method 12

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1.	**Food** Alcoholic beverages *continuation*	Determination of total hydrocyanic acid (HCN) content (spectrophotometry)	from 5 mg/L a.a. to 150 mg/L a.a.	Rulebook [1] method 13
	Baker's yeast	Determination of water content in baker's yeast (gravimetry)	from 2 % to 98 %	SRPS E.M8.022:1987
		Determination of baker's yeast activity	from 0 ml CO_2/h to 1200 mL CO_2/h	SRPS E.M8.024:1987
	Cocoa products, chocolate, cream products, candy products, fine bakery products, breakfast cereals and snack products	Determination of water content by drying under normal pressure (thermogravimetry)	from 0.5 % to 25 %	Rulebook [2] methods 1 and 2
		Determination of total fat content - by Soxhlet (gravimetry)	from 5 % d.m. to 60 % d.m.	Rulebook [2] method 9
		Determination of sugar content by Luff-Schoorl (volumetry and calculated)	from 1 % d.m. to 55 % d.m.	Rulebook [2] method 12
		Determination of the content of cocoa solids in cocoa products (based on the amount of total alkaloids) (extraction and spectrophotometry)	from 2 % d.m. to 80 % d.m.	Rulebook [2] method 17
		Determination of crude protein content by Kjeldahl (digestion and volumetry)	from 4 % d.m. to 22 % d.m.	Rulebook [2] method 7
		Determination of total dietary fiber (enzymatic-gravimetric)	min. 0.5 %	AOAC 985.29:2003
	Milling products	Determination of water content in grains and milling products (routine method) (gravimetry)	from 2 % to 15 %	Rulebook [3] part I, method 8
		Determination of ash content in grains and milling products (gravimetry)	from 0 % d.m. to 10 % d.m.	Rulebook [3] part I, method 10

Location of testings: laboratory **Chemical and physical testings:** food				
O.N.	**Test object material / product**	**Type of test and/or measured characteristics (testing technique)**	**Measurement range/ limit of detection/ limit of quantification** *(if applicable)*	**Reference document**
1.	**Food** Milling products *continuation*	Determination of crude protein content in grains and milling products (macro method) (digestion and volumetry)	4 % d.m. to 18 % d.m.	Rulebook [3] part I, method 12
		Determination of acid value in grains and milling products (volumerty)	to 10.0	Rulebook [3] part I, method 16
	Bakery products	Determination of water content in bakery products (gravimetry)	from 2 % to 60 %	Rulebook [3] part II, method 1
	Food	Determination of water activity - aw value (by measuring electrical resistance)	from 0.003 to 1.000	SRPS ISO 18787:2019
		Calculation of carbohydrate content (calculated)		DM-101/01
		Calculation of the content of saturated, mono- and polyunsaturated and total trans fatty acids (calculated)		DM-101/01
		Calculation of energy value (calculated)		DM-101/01
	Oilseeds and products based on oilseeds, oils and fats, and oil and fat products Fruits, vegetables and other fruit and vegetable-based products, fruit and vegetable juices Fine bakery products, breakfast cereals and snack products Alcoholic beverages Wine, must	Determination of heavy elements content: - arsenic (As) - cadmium (Cd) - copper (Cu) - iron (Fe) - nickel (Ni) - lead (Pb) - zinc (Zn) - tin (Sn) (GF AAS)	As: (0,18 – 1) mg/kg Cd: (0,015 - 1,0) mg/kg Cu: (0,075 - 0,3) mg/kg Fe: (1,35 - 7,5) mg/kg Ni: (0,25 – 2) mg/kg Pb: (0,018 - 0,975) mg/kg Zn: (1,0 – 22) mg/kg Sn: (1,0 – 100) mg/kg	DM-601/01

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O.N.	**Test object material / product**	**Type of test and/or measured characteristics (testing technique)**	**Measurement range/ limit of detection/ limit of quantification** *(if applicable)*	**Reference document**
1.	**Food** *continuation* Oilseeds and products based on oilseeds Oils and fats, and oil and fat products Fine bakery products, breakfast cereals and snack products Wine, must	Determination of organochlorine pesticides: - 4.4'- DDD - 4.4'- DDE - endosulfan I - endosulfan II - endosulfan sulfate - endrin - endrine aldehyde - endrin ketone - alpha-BHC - gamma-BHC (lindane) - delta-BHC - heptachlor endo-epoxide - methoxychlor (GC-μECD)	min 0.01 mg/kg	DM-601/03
	Cereals and cereal products Fine bakery products, breakfast cereals and snack products	Determination of mycotoxins: - aflatoxins AFB1 AFB2 AFG1 AFG2 - deoxynivalenol (DON) - zearalenone (ZON) - ochratoxin A (OTA) - fumonisins FB1 and FB2 (UHPLC-MS/MS)	(AFB1, AFB2, AFG1 и AFG2): min 1 μg/kg OTA: min 1,5 μg/kg DON: min 100 μg/kg (FB1 and FB2): min 25 μg/kg ZON: min 25 μg/kg	DM-601/02
		Determination of acrylamide (UHPLC-MS/MS)	min 25 μg/kg	DM-601/04

Location of testings: laboratory **Microbiological testing:** food, samples from surfaces				
O.N.	**Test object material / product**	**Type of test and/or measured characteristics (testing technique)**	**Measurement range/ limit of detection/ limit of quantification** *(if applicable)*	**Reference document**
1.	**Food, Samples from surfaces**	Microbiology of the food chain - Horizontal method for the enumeration of microorganisms - Part 1: Colony-count at 30°C by the pour plate technique		SRPS EN ISO 4833-1:2014
		Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of *Salmonella* - Part 1: Detection of *Salmonella* spp.		SRPS EN ISO 6579-1:2017, excluding Annex D
		Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and *Listeria* spp. - Part 1: Detection method		SRPS EN ISO 11290-1:2017
		Microbiology of the food chain - Horizontal method for the detection and enumeration of *Enterobacteriaceae* - Part 2: Colony-count technique		SRPS EN ISO 21528-2:2017
2.	**Food**	Microbiology of the food chain - Horizontal method for the enumeration of yeasts and moulds - Part 1: Colony-count technique in products with water activity greater than 0.95		SRPS ISO 21527-1:2011
		Microbiology of the food chain - Horizontal method for the enumeration of yeasts and moulds - Part 1: Colony-count technique in products with water activity less than or equal to 0.95		SRPS ISO 21527-2:2011

Location of testings: laboratory **Microbiological testing:** food, samples from surfaces				
O.N.	**Test object material / product**	**Type of test and/or measured characteristics (testing technique)**	**Measurement range/ limit of detection/ limit of quantification** *(if applicable)*	**Reference document**
2.	**Food** *continuation*	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and *Listeria* spp. - Part 2: Enumeration method		SRPS EN ISO 11290-2:2017
		Microbiology of the food chain - Horizontal method for the enumeration of β-glucuronidase positive *Escherichia coli* - Part 2: Colony-count technique at 44°C using 5-bromo-4-chloro-3-indolyl β-D-glucuronide		SRPS ISO 16649-2:2008
		Microbiology of the food chain - Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) - Part 1: Method using Baird-Parker agar medium		SRPS EN ISO 6888-1:2021
		Microbiology of the food chain - Horizontal method for the enumeration of presumptive *Bacillus cereus* - Colony-count technique at 30°C		SRPS EN ISO 7932:2009
		Microbiology of the food chain - Horizontal method for detection and enumeration of *Clostridium spp.* – Part 1: Detection of the number of sulfitereducing *Clostridium spp.* Colony-count technique		SRPS EN ISO 15213-1:2023

Location of testings: laboratory **Biological/biochemical testing:** food (wine and must)				
O.N.	**Test object material / product**	**Type of test and/or measured characteristics (testing technique)**	**Measurement range/ limit of detection/ limit of quantification** *(if applicable)*	**Reference document**
1.	**Food** Wine and must	Determination of ochratoxin A content - immunoenzymatic method (ELISA)	0.30 ppb to 30.0 ppb	DM-302/09

Location of testings: laboratory **Sensory testing:** food (wine and must)				
O.N.	**Test object material / product**	**Type of test and/or measured characteristics (testing technique)**	**Measurement range/ limit of detection/ limit of quantification** *(if applicable)*	**Reference document**
1.	**Food** Wine, must, alcoholic beverages	Sensory evaluation		DM-302/01

Sampling			
O.N.	**Sampling object material / product**	**Type of sampling**	**Reference document**
1.	**Food** Wine, must, alcoholic beverages	Sampling for chemical (analytical) and physical testing and sensory assessment	DM-302/04
2.	**Food contact surfaces**	Microbiology of the food chain - Horizontal methods for surface sampling using contact plates and swabs	SRPS EN ISO 18593:2018

Legend:

Reference document	**Reference / test method name**
Rulebook [1)]	Rulebook on methods of sampling and performing chemical and physical analyses of alcoholic beverages (Official Gazette of SFRY No. 70/1987).
Rulebook [2)]	Rulebook on the sampling methods and methods of chemical and physical analysis of cocoa beans, cocoa products, chocolate-based products, candy products, cream products, biscuits and biscuit-related products (Official Gazette SFRY No. 41/1987).
Rulebook [3)]	Rulebook on the methods of chemical and physical analyses of quality control of grains, milling and bakery products, pasta and quick-frozen dough products (Official Gazette SFRY No. 74/1988).
DM-201/02	Carić, M., Milanović, S., Vucelja, D.: Standard methods of analysis of milk and dairy products, Prometej, Novi Sad, 2000, pp. 26-28.

Reference document	Reference / test method name
DM-201/03	Carić, M., Milanović, S., Vucelja, D.: Standard methods of analysis of milk and dairy products, Prometej, Novi Sad, 2000, pp. 26-28.
DM-201/04	Carić, M., Milanović, S., Vucelja, D.: Standard methods of analysis of milk and dairy products, Prometej, Novi Sad, 2000, pp. 26-28.
DM-302/01	SRPS ISO 6658:2002 *withdrawn*; SRPS ISO 8589:1998 *withdrawn*; Rulebook on the assessment of the quality of wines and spirits, Novi Sad Fair AD, Novi Sad, 2008; Jackson, R.S., Wine Tasting: A professional handbook, Elsevier Academic Press, 2002., pp. 455-487; Fernandes Eskudero F.A., Увод у сензорно оцењивање вина, Capacity Building for the Rulebook of the Serbian Wine Sector (Project Reference: 05SER01/06/005), An EU-funded Project managed by the Delegation of the European Commision to the Republic of Serbia, Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia.
DM-302/02	Daničić, M.: Practicum in wine technology, Association of students of the Faculty of Agriculture, Belgrade, 1973, p. 108-120.
DM-302/03	Daničić, M.: Practicum in wine technology, Association of students of the Faculty of Agriculture, Belgrade, 1973, p. 113-122.
DM-302/04	Instructions on how to take samples for analyzes and super-analyses of foodstuffs and items of general use, Official Gazette of the SFRY No. 60/78.
DM-302/05	Recueil des méthodes internationales d´analyse des vins et des moûts, Folin-Ciocalteu Index, Organisation Internationale de la Vigne et du Vin - OIV, Paris, France, Juin 1990., pp. 269-270.
DM-302/06	Jazić, Lj., Ružić, N.: Wine Technology - Practicum, Faculty of Technology, Novi Sad, Serbia, 1982, pp. 126-127.
DM-302/09	Documented method based on the enzyme kit manufacturer's instructions.
DM-101/01	A documented method representing calculations based on: Rulebook on the Declaration, Labeling and Advertising of Food (Official Gazette RS No. 19/2017 and 16/2018); Guidelines on Nutrition Labelling, CAC/GL 2-1985, Rev. 1993 and 2011, Amd. 2017; Food Energy - Methods of Analysis and Conversion Factors, FAO Food and Nutrition Paper 77, FAO, Rome, 2003.
DM-601/01	AOAC Official Method of Analysis 999.10 (9.1.08) Lead, Cadmium, Zinc, Copper and Iron in Foods - Atomic Absorption Spectrophotometry after Microwave Digestion, 2000, 2002; Analytical methods for graphite tube atomizers, VARIAN, Australia Pty Ltd Mulgrave, Victoria, Australia, 1988; Operator Manual, MA133, MA127, ETHOS One, MILESTONE helping chemists (SK-10/CD).
DM-601/02	Herebian, D., Zühlke, S., Lamshöft, M., Spiteller, M., Multi-mycotoxin analysis in complex biological matrices using LC-ESI/MS:Experimental study using triple

Reference document	Reference / test method name
	stage quadrupole and LTQ-Orbitrap, Journal of Separation Science, 2009, 32: 939-948; Škrbić, B., Malachova, A., Živančev, J., Veprikova, Z., Hajšlová, J., Principal mycotoxins in wheat flour from the Serbian market: Levels and assessment of the exposure by wheat-based products, Food Control, 2012, 25:389-396.
DM-601/03	AOAC Official Method of Analysis 970.52 (10.1.01) Organochlorine and Organophosphorus Pesticide Residues, 1996; Xu, R., Wu, J., Liu, Y., Zhao, R., Chen, B., Yang, M., Chen, J., Analysis of pesticide residues using the Quick Easy Cheap Effective Rugged and Safe (QuEChERS) pesticide multiresidue method in traditional Chinese medicine by gas chromatography with electron capture detection, Chemosphere 84, 2011, 908-912.
DM-601/04	Wu, C., Wang, L., Guo, X., Li, H., Yu, S., Simultaneous detection of 4(5)-methylimidazole and acrylamide in biscuit products by isotope-dilution UPLC-MS/MS, Food Control 105, 2019, 64-70.

This Scope of accreditation is valid only with Accreditation Certificate No **01-059**

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DIRECTOR

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Note: This Scope of accreditation in English is issued on 29.03.2025. on CAB`s request.