Fapas® –QC Test materials T1388ABCtsdsBundleQC

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Instructions:

1) Analytes for immediate analysis

Some determinations require to be performed as quickly as possible after opening the sample. These are, in order of decreasing priority: ethanal (acetaldehyde), sulphur dioxide (free), sulphur dioxide (total) (intermediate priority). These analyses must be performed on samples **WIHOUT THE ADDITION OF SPIKING STANDARDS.**

2) Instructions for spiking

Some of the analytes are at very low concentrations. In order to make these more easily measurable, we have supplied spiking standards containing these analytes which need to be added to each of the wine samples. There are two vials per sample type. Spiking solution 1 contains sucrose and Spiking solution 2 contains sodium, chloride, sorbic acid, ochratoxin A and lithium.

Procedure for preparing the spiked samples:

I. Take a clean 500 ml volumetric flask. After having carried out the analyses referred to in point 2), pour into the flask wine sample A until it is approximately half full.

II. Open the vial of spiking standard 1 and empty ALL of the standard solution into the volumetric flask.

III. Rinse the vial 3-4 times with some of the wine sample and empty it into the flask until the solution is quantitatively recovered.

IV. Repeat steps II & III with Spiking standard 2.

V. Make up to the 500 ml mark accurately with the wine sample.

VI. Stopper the flask and mix by inverting the flask several times.

VII. Carryout your analysis (except for the analytes referred to in point 2) on the spiked wine. Report results for these parameters only on the spiked sample.

VIII. Repeat steps 1 to 7 for wine sample B and wine sample C.

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FAPAS QC MATERIAL DATA SHEET	T1388_AQC
Matrix	White Wine
Weight / Volume of Contents	2 x 750ml

Analyte	Assigned Value, X_a	Range for |z| ≤2	Units	No. of data points producing X_a
Volumic Mass at 20°C	0.99120	0.98832 - 0.99408	g/cm3	29
Alcoholic Strength	12.26	12.06 - 12.46	% volume	38
Methanol	38.0	24.2 - 51.7	mg/l	10
Ethanal (acetaldehyde)	41.3	27.1 - 55.5	mg/l	12
pH	3.14	3.01 - 3.26	pH units	39
Total Acidity (expressed as tartaric acid)	5.48	5.00 - 5.96	g/l	39
Volatile Acidity (net, expressed as acetic acid)	0.214	0.073 - 0.355	g/l	35
Turbidity	0.950	0.505 - 1.395	nfu	11
Colour Intensity	0.0789	0.0436 - 0.1142	AA.UU.	9
Colour Shade	4.60	2.30 - 6.90	(ratio)	5
Total Sugars	4.22	3.45 - 4.99	g/l	17
Total Reducing Substances	2.00	1.56 - 2.44	g/l	12
Sucrose	3.33	2.70 - 3.96	g/l	4
Citric Acid	0.261	0.157 - 0.364	g/l	18
Malic Acid	1.19	0.74 - 1.64	g/l	31
Sorbic Acid	48.8	40.1 - 57.4	mg/l	10
Tartaric Acid	2.32	2.09 - 2.55	g/l	20
Glycerol	5.53	4.56 - 6.50	g/l	15
Total Dry Extract	20.5	19.1 - 22.0	g/l	32
Sugar-free Extract	19.6	16.9 - 22.3	g/l	16
Sulphur Dioxide (free)	24.4	19.6 - 29.2	mg/l	37
Sulphur Dioxide (total)	117	99 - 135	mg/l	40
Calcium	79.8	66.5 - 93.0	mg/l	14
Copper	0.138	0.078 - 0.197	mg/l	26
Iron	1.13	0.77 - 1.48	mg/l	20
Lead	0.0135	0.0076 - 0.0194	mg/l	16
Lithium	27.9	15.6 - 40.2	µg/l	9

Magnesium	66.8	55.5 - 78.2	mg/l	8
Potassium	0.813	0.718 - 0.907	g/l	20
Sodium	187	160 - 214	mg/l	11
Zinc	0.424	0.270 - 0.578	mg/l	20

This data sheet is applicable until	14 Feb 2020
Recommended Storage on receipt	Ambient

Notes

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- The assigned value has been derived from the consensus of laboratories taking part in this proficiency test, using a variety of methods. This is not a certified reference value.
- The Range for $|z| \leq 2$ is the concentration range within the limits of ±2 z-scores. The assigned value and its range have been established from the proficiency test data and are suitable for use by laboratories as a fit-for-purpose quality control measure.
- Stability of the QC material has been established as sufficient for the scope of the proficiency test from previous experience, expert advice and published literature. FAPAS advises that the QC material is analysed within the recommended date. FAPAS QC materials are intended to be used as single-analysis samples.
- Full details on the proficiency test procedure used to characterise this QC material are available in the Protocol, Part 1 - Common Principles, freely available to download from the FAPAS website.
- You MUST refer to the spiking instructions BEFORE you use this QC material. You may use any method of analysis you wish.

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FAPAS QC MATERIAL DATA SHEET	T1388_BQC
Matrix	Red Wine
Weight / Volume of Contents	2 x 750ml

Analyte	Assigned Value, X_a	Range for |z| ≤2	Units	No. of data points producing X_a
Volumic Mass at 20°C	0.99536	0.99312 - 0.99760	g/cm3	30
Alcoholic Strength	13.00	12.80 - 13.20	% volume	39
Methanol	171	144 - 199	mg/l	12
4-Ethyl-Phenol	205	122 - 288	µg/l	5
Polyphenol Index (UV) at 280 nm in 1 cm cell	53.0	50.0 - 56.0	AA.UU.	8
pH	3.50	3.36 - 3.64	pH units	40
Total Acidity (expressed as tartaric acid)	5.22	4.76 - 5.68	g/l	40
Volatile Acidity (net, expressed as acetic acid)	0.462	0.157 - 0.767	g/l	36
Chloride (expressed as NaCl)	0.442	0.385 - 0.499	g/l	9
Ash	3.05	2.76 - 3.35	g/l	18
Turbidity	2.21	1.10 - 3.31	nfu	12
Colour Intensity	6.54	5.75 - 7.33	AA.UU.	20
Colour Shade	0.929	0.899 - 0.959	(ratio)	16
Total Sugars	6.58	5.46 - 7.71	g/l	17
Total Reducing Substances	6.98	6.39 - 7.56	g/l	12
Glucose + Fructose (sum)	5.23	4.31 - 6.15	g/l	34
Glucose	3.15	2.55 - 3.75	g/l	9
Lactic Acid	1.05	0.67 - 1.43	g/l	30
Malic Acid	0.200	0.141 - 0.259	g/l	25
Sorbic Acid	49.6	40.8 - 58.4	mg/l	12
Glycerol	8.10	6.76 - 9.44	g/l	15
Total Dry Extract	33.5	31.2 - 35.7	g/l	33
Sugar-free Extract	27.9	24.6 - 31.3	g/l	16
Sulphur Dioxide (free)	24.4	19.6 - 29.3	mg/l	38
Ochratoxin A	0.530	0.297 - 0.763	µg/l	7
Calcium	80.4	67.1 - 93.6	mg/l	14
Copper	0.135	0.077 - 0.194	mg/l	28
Iron	3.05	2.22 - 3.87	mg/l	22

Lead	0.0180	0.0101 - 0.0259	mg/l	16
Lithium	34.7	19.5 - 50.0	µg/l	10
Magnesium	107	90 - 123	mg/l	9
Sodium	179	153 - 205	mg/l	13
Zinc	0.726	0.482 - 0.970	mg/l	21

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FAPAS QC MATERIAL DATA SHEET	T1388_CQC
Matrix	Wine
Weight / Volume of Contents	2 x 750ml

Analyte	Assigned Value, X_a	Range for |z| ≤2	Units	No. of data points producing X_a
Volumic Mass at 20°C	0.99389	0.99177 - 0.99602	g/cm3	29
Alcoholic Strength	12.95	12.75 - 13.15	% volume	38
Methanol	160	127 - 194	mg/l	13
4-Ethyl-Phenol	232	140 - 324	µg/l	4
Polyphenol Index (UV) at 280 nm in 1 cm cell	60.1	50.9 - 69.2	AA.UU.	8
pH	3.50	3.36 - 3.64	pH units	39
Total Acidity (expressed as tartaric acid)	5.20	4.74 - 5.66	g/l	38
Volatile Acidity (net, expressed as acetic acid)	0.434	0.147 - 0.720	g/l	35
Ash	3.15	2.85 - 3.45	g/l	17
Colour Intensity	7.38	6.67 - 8.09	AA.UU.	19
Colour Shade	0.895	0.858 - 0.932	(ratio)	16
Total Reducing Substances	2.40	1.81 - 2.99	g/l	11
Gluconic Acid	0.240	0.125 - 0.355	g/l	9
Lactic Acid	0.904	0.800 - 1.008	g/l	29
Malic Acid	0.166	0.083 - 0.249	g/l	26
Sorbic Acid	50.4	41.5 - 59.3	mg/l	11
Tartaric Acid	2.31	2.08 - 2.54	g/l	20
Glycerol	8.04	6.71 - 9.37	g/l	15
Total Dry Extract	30.0	28.0 - 32.1	g/l	33
Sugar-free Extract	29.4	26.2 - 32.5	g/l	16
Sulphur Dioxide (free)	28.0	22.6 - 33.4	mg/l	38
Sulphur Dioxide (total)	128	108 - 148	mg/l	41
Ochratoxin A	0.500	0.280 - 0.720	µg/l	7
Calcium	84.5	70.6 - 98.3	mg/l	14
Copper	0.165	0.096 - 0.234	mg/l	28
Iron	3.45	2.54 - 4.37	mg/l	22
Lead	0.0152	0.0085 - 0.0218	mg/l	16

Lithium	43.7	24.5 - 63.0	µg/l	9
Magnesium	120	101 - 138	mg/l	8
Sodium	185	158 - 212	mg/l	11
Zinc	0.815	0.546 - 1.084	mg/l	21

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