



Uncertainty of Measurement (MU) (expressed as 95% confidence interval)

Method #	NATA Analyte & Method	Range	MU (95% CI)
LM02	Total Dry Extract and Sugar Free Extract – calc	All	± 2 g/L
LM02	Total acid as milli equivalents / L – calc	All	± 3 %
LM02	Total acid as sulfuric acid – calc	All	± 3 %
LM02	Volatile acidity as milli equivalents / mL – calc	0-20 meq/L	± 1 meq/L
LM02	Volatile acidity as milli equivalents / mL – calc	> 20 meq/L	± 5%
LM02	Volatile acidity as sulfuric acid – calc	All	± 0.1 g/L
LM04	pH – autotitrator / electrode	All	± 0.05
LM04	Total acid – autotitrator / electrode	0.1 – 5.0 g/L	± 0.1 g/L
LM04	Total acid – autotitrator / electrode	> 5.0 g/L	± 2%
LM09	Free & Total Sulphur Dioxide – aspiration	< 60 mg/L	± 3 mg/L
LM09	Free & Total Sulphur Dioxide – aspiration	> 60 mg/L	± 5%
LM10	Volatile acidity – Steam distillation	0.04 – 0.8 g/L	± 0.04 g/L
LM10	Volatile acidity – Steam distillation	> 0.8 g/L	± 5%
LM13	Alcohol – NIR	0.1 – 21.0% v/v	± 0.1% v/v
LM15	Sorbic acid – UV-VIS	5 - 80.0 mg/L	± 4.0 mg/L
LM15	Sorbic acid – UV-VIS	> 80.0 mg/L	± 10%
LM23	Alcohol – distillation / densitometry	> 0.1% v/v	± 0.1% v/v
LM24	Specific gravity – density meter	All	± 0.0002 g/cm ³
LM28	Acetic acid – WineScan	0.25 – 1.00 g/L	± 0.05 g/L
LM28	Acetic acid – WineScan	1.01 – 1.34 g/L	± 5%
LM28	Alcohol – WineScan	10.0 – 16.5% v/v	± 0.1% v/v
LM28	pH – WineScan	2.95 – 3.80	± 0.05
LM28	Total acid at pH 7.0 – WineScan	4.3 – 7.7 g/L	± 0.1 g/L
LM28	Total acid at pH 8.2 – WineScan	4.8 – 8.2 g/L	± 0.1 g/L
LM28	Specific gravity – WineScan	0.9800 – 1.0000	± 0.0002
LM28	Glucose/Fructose – WineScan	0.3 - 6.0 g/L	± 0.3 g/L
LM28	Glucose/Fructose – WineScan	6.0 – 30.0 g/L	± 5%
LM32	Reducing sugar, Sucrose & Total Sugar – Rebelein	0.5 - 40.0 g/L	± 0.5 g/L
LM32	Reducing sugar, Sucrose & Total Sugar – Rebelein	40.1 - 190 g/L	± 5%
LM35	Iron – ICP/MS (juice)	0.5 - 1 mg/L	± 0.1 mg/L
LM35	Iron – ICP/MS	0.3 - 1 mg/L	± 0.1 mg/L
LM35	Iron – ICP/MS	> 1 mg/L	± 10%
LM35	Copper – ICP/MS	0.1 - 0.5 mg/L	± 0.05 mg/L
LM35	Copper – ICP/MS	> 0.5 mg/L	± 10%
LM35	Potassium – ICP/MS	> 40 mg/L	± 10%
LM35	Sodium – ICP/MS	10 - 100 mg/L	± 5 mg/L
LM35	Sodium – ICP/MS	> 100 mg/L	± 5%
LM35	Calcium – ICP/MS	10 - 50 mg/L	± 5 mg/L
LM35	Calcium – ICP/MS	> 50 mg/L	± 10%
LM35	Manganese – ICP/MS	0.3 - 1 mg/L	± 0.1 mg/L
LM35	Manganese – ICP/MS	> 1 mg/L	± 10%
LM36	Free Sulfur Dioxide – Discrete analyser (Gallery)	3 - 10 mg/L	± 2 mg/L
LM36	Free Sulfur Dioxide – Discrete analyser (Gallery)	11 - 75 mg/L	± 3 mg/L
LM36	Total Sulfur Dioxide – Discrete analyser (Gallery)	3 - 10 mg/L	± 2 mg/L
LM36	Total Sulfur Dioxide – Discrete analyser (Gallery)	11 - 300 mg/L	± 3 mg/L
LM37	Acetic acid – Discrete analyser (Gallery)	0.05 - 1.00 g/L	± 0.05 g/L
LM37	Acetic acid – Discrete analyser (Gallery)	1.01 – 3.00 g/L	± 5%
LM37	Glucose – Discrete analyser (Gallery)	0.1 - 1.0 g/L	± 0.05 g/L
LM37	Glucose – Discrete analyser (Gallery)	1.1 - 160 g/L	± 5%
LM37	Glucose/Fructose – Discrete analyser (Gallery)	0.1 - 1.0 g/L	± 0.05 g/L



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LM37	Glucose/Fructose – Discrete analyser (Gallery)	1.1 - 200 g/L	± 5%
LM37	Malic acid – Discrete analyser (Gallery)	0.05 - 1.00 g/L	± 0.05 g/L
LM37	Malic acid – Discrete analyser (Gallery)	1.01 - 10.00 g/L	± 5%
LM37	Citric acid – Discrete analyser (Gallery)	0.1 - 1.0 g/L	± 0.05 g/L
LM37	Citric acid – Discrete analyser (Gallery)	1.1 – 2.5 g/L	± 5%

*If you cannot see your method # listed here it means no MU applies.

Method #	non-NATA Analyte & Method*	Range	MU (95% CI)
GM03	Brix	All	± 0.2 °
GM09	Ascorbic acid – HPLC	< 80 mg/L	± 4 mg/L
GM09	Ascorbic acid – HPLC	> 80 mg/L	± 5 %
GM09	Citric acid – HPLC	All	± 10%
GM09	Tartaric acid – HPLC	All	± 10 %
GM09	Glucose – HPLC	All	± 10%
GM09	Malic acid – HPLC	All	± 10%
GM09	Fructose – HPLC	All	± 10%
GM09	Succinic – HPLC	All	± 10%
GM09	Lactic acid – HPLC	All	± 10%
GM09	Glycerol – HPLC	All	± 10%
GM09	Acetic acid – HPLC	All	± 10%
GM09	Malvidin Diglucoside (quantitative HPLC)	All	± 5% mg/L
GM14	Heat stability	< 1.00 NTU	± 0.10 NTU
GM14	Heat stability	> 1.00 NTU	± 10%
GM23	Total Phenolics	All	± 0.03 a.u.
GM23	Total Hydroxycinnamates	All	± 0.17 mg/L CAE
GM23	Flavonoids	All	± 0.03 a.u.
GM23	Relative Brown colour	All	± 5% a.u.
GM36	Turbidity	< 1.00 NTU	± 0.05 NTU
GM36	Turbidity	> 1.00 NTU	± 5%
GM43	Pinking colour	All	± 2
GM43	Pinking susceptibility	All	± 2
GM43	Pinking precursor	All	± 6
GM56	Extraction strength	All	± 10% N
GM107	Tannin (grape)	All	± 10 % mg/g
GM107	Total Phenolics (grape)	All	± 10% a.u.
GM107	Total Anthocyanins (grape)	All	± 10% mg/g
GM107	Tannin (wine)	All	± 0.16 g/L
GM107	Colour Density (wine)	All	± 5 % a.u.
GM107	Hue (wine)	All	± 5%
GM107	Chemical Age 1 (wine)	All	± 5%
GM107	Chemical Age 2 (wine)	All	± 5%
GM107	Pigmented Tannin (wine)	All	± 5% a.u.
GM107	% Pigmented Tannin (wine)	All	± 5%
GM107	Total Phenolics (wine)	All	± 10% a.u.
GM107	Free Anthocyanins	All	± 10% mg/L
GM114	Optical rotation – L+ Tartaric acid	All	± 0.1°
GM114	Optical rotation – Potassium Hydrogen L+ Tartrate	All	± 0.1°
GM114	Optical rotation – L+ Ascorbic acid	All	± 0.2°
GM114	Optical rotation – L+ Malic acid	All	± 0.1°
GM130	Filterability Index	All	± 0.1
GM132	Total milk protein – ELISA	0.25 – 10 ppm	± 0.1 ppm
GM133	Total egg white protein – ELISA	0.25 – 10 ppm	± 0.1 ppm
GM134	Volume determination	All	± 0.6 mL
GM135	Dry matter in grape berries	All	± 2%

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GM136	Ascorbic acid – Purity titration	All	± 0.4%
GM136	Citric acid – Purity titration	All	± 0.1%
GM136	DAP – Purity titration	All	± 0.5%
GM136	Erythorbic acid – Purity titration	All	± 0.4%
GM136	Malic acid – Purity titration	All	± 0.4%
GM136	Potassium bicarbonate – Purity titration	All	± 0.4%
GM136	Potassium carbonate – Purity titration	All	± 0.3%
GM136	Potassium hydrogen tartrate (KHT) – Purity titration	All	± 0.2%
GM136	Potassium sorbate – Purity titration	All	± 0.5%
GM136	Tartaric acid – Purity titration	All	± 0.2%
GM144	Saturation temperature	1.0 – 50.0°C	± 1.0°C
GM144	Conductivity	All	± 0.25 µS/cm
GM149	Hop bitterness in Beer – UV-VIS	> 4 IBU	± 4 IBU
GM151	Carbon dioxide (by CboxQC)	0.05 - 12.0 g/L	± 0.05 g/L
GM151	Dissolved oxygen (by CboxQC)	0.35 - 4.0 ppm	± 0.35 ppm
GM157	Colour in Beer – UV-VIS	1 – 10 SRM	± 1 SRM
GM157	Colour in Beer – UV-VIS	11 – 40 SRM	± 10% SRM
GM157	Colour in Beer – UV-VIS	2 – 10 EBC	± 1 EBC
GM157	Colour in Beer – UV-VIS	11 – 78.8 EBC	± 10% EBC
GM158	Chloride in water (Hach test kit)	5 - 400 mg/L	± 10%
GM159	Nitrate in water (Hach test kit)	8.8 – 176 mg/L NO ₃	± 8.8 mg/L NO ₃
GM160	Sulfate in water (Hach test kit)	50 – 200 mg/L	± 5 mg/L
GM161	Total alkalinity, carbonate and bicarbonate in water	All	± 6%
GM162	Total dissolved solids in water (TDS meter)	1 – 1000 mg/L	± 3 mg/L
GM163	°Plato and °Brix in Beer	> 0.20 °Brix / °Plato	± 0.1 °Brix / °Plato
GM167	Gluconic Acid in juice - Discrete analyser	50 to 5000 mg/L	± 5 %
GM170	Ammonia – Discrete analyser	10 - 100 mg/L	± 10 mg/L
GM170	Ammonia – Discrete analyser	101 - 300 mg/L	± 10%
GM170	Primary Amino Acid Nitrogen – Discrete analyser	10 - 100 mg/L	± 10 mg/L
GM170	Primary Amino Acid Nitrogen – Discrete analyser	101 - 300 mg/L	± 10%
GM171	Alcoholic strength in Vinegar by distillation-NIR	> 0.1% v/v	± 0.1% v/v
GM173	Total acidity as Lactic acid in Beer (g/L)	All	± 3% g/L
GM173	Total acidity as % Lactic acid in Beer	All	± 3%