Affinity Labs

Uncertainty of measurement for trace analysis methods

Generic definitions

Limit of quantification (LoQ): the lowest level at which a result can be confidently cited in matrix. A result of '< LoQ' indicates the sample has no detectable residue of the analyte at a concentration equal to or greater than the LoQ for the method.

Limit of detection (LoD): the lowest value that can be positively identified as present by the instrumentation. A result of '< LoD' indicates the sample has no detectable residue of the analyte at a concentration equal to or greater than the LoD for the method.

Uncertainty of Measurement (UoM): the uncertainty in the reported result.

NATA accredited methods – methods accredited to ISO/IEC 17025 (2017)

Notes:

1. Analysis uncertainties are ordered by NATA accredited methods, general methods then by method number.
2. In some instances, levels between the LoD and the LoQ are reported as 'trace' to indicate that the compound has been positively identified but the quantitation cannot be confidently cited.

Affinity Labs

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LM33/GM119 - Determination of agrochemical residues in fruits and vegetables by LC-MS/MS and GC-MS/MS.

Grapes and grape juice

Agrochemical residues above the LoQ are reported to the nearest 0.01 mg/kg. A result of '< LoQ' indicates that the sample has no detectable residue at a concentration equal to or greater than the LoQ for the analyte.

Table 1: Contains a list of NATA accredited compounds determined using LM33/GM119 by LC-MS/MS.

Compound	LoQ (mg/kg)	UoM (± mg/kg)		
		(< 0.05 mg/kg)	(0.05 - 0.20 mg/kg)	(> 0.20 mg/kg)
Acetamiprid	0.01	0.01	0.02	10%
Ametoctradin	0.01	0.01	0.02	10%
Amisulbrom	0.01	0.01	0.02	10%
Atrazine	0.01	0.01	0.02	10%
Azinphos-methyl	0.05	-	0.03	15%
Azoxystrobin	0.01	0.01	0.02	10%
Benalaxyl	0.01	0.01	0.02	10%
Boscalid	0.01	0.02	0.03	15%
Buprofezin	0.01	0.01	0.02	10%
Captan (active only)	0.10	-	0.04	20%
*Captan (total active)	0.20	-	0.04	20%
Carbaryl	0.01	0.01	0.02	10%
*Carbendazim (total active)	0.02	0.01	0.02	10%
Carfentrazone ethyl	0.01	0.01	0.03	15%
Chlorantraniliprole	0.01	0.01	0.02	10%
Chlorpyrifos	0.01	0.02	0.03	15%
Chlorpyrifos-methyl	0.05	-	0.03	15%
Clothianidin	0.01	0.01	0.02	10%
Cyflufenamid	0.01	0.01	0.02	10%
Cyproconazole	0.01	0.01	0.02	10%
Cyprodinil	0.01	0.01	0.02	10%
Diazinon	0.01	0.01	0.02	10%
Difenoconazole	0.02	0.01	0.02	10%
Dimethoate	0.01	0.01	0.02	10%
Dimethomorph	0.01	0.01	0.02	10%
Emamectin	0.002	0.01	0.03	15%
Ethion	0.01	0.02	0.03	15%
Etoxazole	0.01	0.02	0.03	15%
Fenamiphos	0.01	0.01	0.02	10%
Fenarimol	0.05	-	0.03	15%
Fenhexamid	0.01	0.02	0.03	15%
Fenitrothion	0.05	-	0.03	15%
Fenpyrazamine	0.01	0.01	0.02	10%
Fenpyroximate	0.01	0.01	0.02	10%
Fenthion	0.01	0.02	0.03	15%
Fenvalerate	0.05	-	0.03	15%
Fluazinam	0.05	-	0.03	15%

Fludioxonil	0.05	-	0.03	15%
Flumioxazin	0.01	0.01	0.02	10%
Flusilazole	0.01	0.01	0.02	10%
Fluxapyroxad	0.01	0.01	0.02	10%
Hexaconazole	0.01	0.01	0.02	10%
Indoxacarb	0.02	0.02	0.03	15%
Iodocarb	0.01	0.01	0.02	10%
Iprodione	0.05	-	0.02	10%
Malathion	0.05	-	0.03	15%
Mandipropamid	0.01	0.02	0.03	15%
Mefentrifluconazole	0.01	0.01	0.02	10%
Metalaxyl	0.01	0.01	0.02	10%
Methamidophos	0.05	-	0.03	15%
Methidathion	0.01	0.01	0.02	10%
Methiocarb	0.01	0.01	0.02	10%
Methomyl	0.01	0.01	0.02	10%
Methoxyfenozide	0.01	0.01	0.02	10%
Metrafenone	0.01	0.01	0.02	10%
Myclobutanil	0.01	0.01	0.02	10%
Oxadixyl	0.01	0.01	0.02	10%
Parathion-methyl	0.05	-	0.03	15%
Penconazole	0.01	0.01	0.02	10%
Pendimethalin	0.01	0.01	0.02	10%
Procymidone	0.05	-	0.03	15%
Propiconazole	0.01	0.01	0.02	10%
Proquinazid	0.01	0.01	0.02	10%
Prothiofos	0.01	0.02	0.03	15%
Pydiflumetofen	0.01	0.01	0.02	10%
Pyraclostrobin	0.01	0.02	0.03	15%
Pyrimethanil	0.01	0.01	0.02	10%
Pyriofenone	0.01	0.01	0.02	10%
Pyriproxyfen	0.01	0.01	0.03	15%
Quinoxyfen	0.01	0.02	0.03	15%
Simazine	0.01	0.01	0.02	10%
Spinetoram	0.01	0.01	0.02	10%
Spinosad	0.02	0.01	0.02	10%
Spirotetramat	0.01	0.01	0.02	10%
Spiroxamine	0.01	0.01	0.02	10%
Sulfoxaflor	0.01	0.01	0.02	10%
Tebuconazole	0.01	0.01	0.02	10%
Tebufenozide	0.01	0.01	0.02	10%
Tetraconazole	0.01	0.01	0.02	10%
Triadimefon	0.01	0.01	0.02	10%
Triadimenol	0.05	-	0.02	10%
Trichlorfon	0.05	-	0.02	10%
Trifloxystrobin	0.01	0.01	0.02	10%

*Reported as total active.

^ Carbendazim is reported as the sum of carbendazim and 2-aminobenzimidazole.

Table 2: Contains a list of *non-NATA* accredited compounds determined using GM119 by LC-MS/MS.

Compound	LoQ (mg/kg)	UoM (± mg/kg)		
		(< 0.05 mg/kg)	(0.05 - 0.20 mg/kg)	(> 0.20 mg/kg)
Forchlorfenuron	0.01	0.01	0.02	10%
Pyridaben	0.01	0.01	0.03	15%
tau-Fluvalinate	0.01	0.01	0.03	15%
THPI	0.05	-	0.04	20%

Note: THPI (tetrahydrophthalamide) is a breakdown metabolite of captan but is currently not part of any residue definition or regulatory guideline for any export market. Results are provided for informative purposes only.

Table 3: Contains a list of *non-NATA* accredited compounds determined using GM119 for table grapes by LC-MS/MS.

Compound	LoQ (mg/kg)	UoM (± mg/kg)		
		(< 0.05 mg/kg)	(0.05 - 0.20 mg/kg)	(> 0.20 mg/kg)
Fenbutatin-oxide	0.02	0.02	0.03	15%

Table 4: Contains a list of *non-NATA* accredited compounds determined using GM119 by GC-MS/MS.

Compound	LoQ (mg/kg)	UoM (± mg/kg)		
		(< 0.05 mg/kg)	(0.05 - 0.20 mg/kg)	(> 0.20 mg/kg)
Bifenthrin	0.01	0.02	0.03	15%
Chlorothalonil	0.01	0.02	0.03	15%
Cypermethrin	0.05	-	0.02	10%
Dicofol	0.01	0.01	0.02	10%
Vinclozolin	0.01	0.01	0.02	10%

Solid matrices other than grape and grape juice including marc, pomace, leaves and fruit and vegetables (GM119 only)

All compounds listed as determined by LM33/GM119 may be analysed in solid matrices other than grape and grape juice. LoQ's and UoM's listed in Table 1 may not be applicable and are subject to change as determined on a case by case basis. Reporting of all compounds is not guaranteed, please contact customer service for specific compounds required and LoQ and UoM information.

LM34/GM121 - Determination of agrochemical residues in wine samples by LC-MS/MS and GC-MS/MS

Wine

Agrochemical residues above the LoQ are reported to the nearest 0.01 mg/L. A result of '< LoQ' indicates that the sample has no detectable residue at a concentration equal to or greater than the LoQ for the analyte.

Table 5: below contains a list of *NATA* accredited compounds determined using GM121 for LCMS-01.

Compound	LoQ (mg/L)	UoM (± mg/L)		
		(< 0.05 mg/L)	(0.05 - 0.20 mg/L)	(> 0.20 mg/L)
Acetamiprid	0.01	0.01	0.02	10%
Ametoctradin	0.01	0.01	0.02	10%
Amisulbrom	0.01	0.02	0.03	15%
Atrazine	0.01	0.01	0.02	10%
Azinphos-methyl	0.01	0.01	0.02	10%
Azoxystrobin	0.01	0.01	0.02	10%
Benalaxyl	0.01	0.01	0.02	10%
Boscalid	0.01	0.01	0.02	10%
Buprofezin	0.01	0.01	0.02	10%
Captan (active only)	0.02	0.04	0.04	20%
Carbaryl	0.01	0.01	0.02	10%
^Carbendazim (total active)	0.02	0.01	0.02	10%
Carfentrazone ethyl	0.01	0.01	0.02	10%
Chlorantraniliprole	0.01	0.01	0.02	10%
Chlorpyrifos	0.01	0.02	0.03	15%
Chlorpyrifos-methyl	0.01	0.02	0.03	15%
Clothianidin	0.01	0.01	0.02	10%
Cyflufenamid	0.01	0.01	0.02	10%
Cyproconazole	0.01	0.01	0.02	10%
Cyprodinil	0.01	0.01	0.02	10%
Diazinon	0.01	0.01	0.02	10%
Difenoconazole	0.01	0.01	0.02	10%
Dimethoate	0.01	0.01	0.02	10%
Dimethomorph	0.01	0.01	0.02	10%
Emamectin	0.01	0.02	0.03	15%
Ethion	0.01	0.02	0.03	15%
Etoxazole	0.01	0.02	0.03	15%
Fenamiphos	0.01	0.01	0.02	10%
Fenarimol	0.01	0.01	0.02	10%
Fenhexamid	0.01	0.01	0.02	10%
Fenitrothion	0.01	0.02	0.03	15%
Fenpyrazamine	0.01	0.01	0.02	10%
Fenpyroximate	0.01	0.01	0.02	10%

Fenthion	0.01	0.02	0.03	15%
Fenvalerate	0.01	0.01	0.02	10%
Fluazinam	0.02	0.01	0.02	10%
Fludioxonil	0.02	0.02	0.03	15%
Flumioxazin	0.01	0.01	0.02	10%
Flusilazole	0.01	0.01	0.02	10%
Fluxapyroxad	0.01	0.01	0.02	10%
Hexaconazole	0.01	0.01	0.02	10%
Indoxacarb	0.01	0.02	0.03	15%
Iodocarb	0.01	0.01	0.02	10%
Iprodione	0.01	0.01	0.02	10%
Malathion	0.01	0.02	0.03	15%
Mandipropamid	0.01	0.01	0.02	10%
Mefentrifluconazole	0.01	0.01	0.02	10%
Metalaxyl	0.01	0.01	0.02	10%
Methamidophos	0.01	0.02	0.03	15%
Methidathion	0.01	0.01	0.02	10%
Methiocarb	0.01	0.01	0.02	10%
Methomyl	0.01	0.01	0.02	10%
Methoxyfenozide	0.01	0.02	0.03	15%
Metrafenone	0.01	0.01	0.02	10%
Myclobutanil	0.01	0.01	0.02	10%
Oxadixyl	0.01	0.01	0.02	10%
Parathion-methyl	0.01	0.02	0.03	15%
Penconazole	0.01	0.01	0.02	10%
Pendimethalin	0.01	0.01	0.02	10%
Procymidone	0.01	0.01	0.02	10%
Propiconazole	0.01	0.01	0.02	10%
Proquinazid	0.01	0.01	0.02	10%
Prothiofos	0.01	0.02	0.03	15%
Pydiflumetofen	0.01	0.01	0.02	10%
Pyraclostrobin	0.01	0.02	0.03	15%
Pyrimethanil	0.01	0.02	0.03	15%
Pyriofenone	0.01	0.01	0.02	10%
Pyriproxyfen	0.01	0.01	0.03	15%
Quinoxyfen	0.01	0.02	0.03	15%
Simazine	0.01	0.01	0.02	10%
Spinetoram	0.01	0.01	0.02	10%
Spinosad	0.02	0.01	0.02	10%
Spirotetramat	0.01	0.01	0.02	10%
Spiroxamine	0.01	0.01	0.02	10%
Sulfoxaflor	0.01	0.01	0.02	10%
Tebuconazole	0.01	0.01	0.02	10%

Tebufenozide	0.01	0.01	0.02	10%
Tetraconazole	0.01	0.01	0.02	10%
Triadimefon	0.01	0.01	0.02	10%
Triadimenol	0.01	0.01	0.02	10%
Trichlorfon	0.01	0.01	0.02	10%
Trifloxystrobin	0.01	0.01	0.02	10%

^ Carbendazim is reported as the sum of carbendazim and 2-aminobenzimidazole.

Table 6: below contains a list of *non-NATA* accredited compounds determined using GM121 for GCMS-01.

Compound	LoQ (mg/L)	UoM (± mg/L)		
		(< 0.05 mg/L)	(0.05 - 0.20 mg/L)	(> 0.20 mg/L)
Bifenthrin	0.01	0.01	0.02	10%
*Captan (total active)	0.02	0.04	0.04	20%
Chlorothalonil	0.01	0.01	0.02	10%
Cypermethrin	0.05	0.01	0.02	10%
Dicofol	0.01	0.01	0.02	10%
*THPI	0.02	0.04	0.04	20%
Vinclozolin	0.01	0.01	0.02	10%

*Reported as total active.

Note: THPI (tetrahydrophthalamide) is a breakdown metabolite of captan but is currently not part of any residue definition or regulatory guideline for any export market. Results are provided for informative purposes only.

Non-wine liquids (including water) (GM121 only)

All compounds listed as determined by LM34/GM121 may be analysed in non-wine matrices (including water). LoQ's and UoM's listed in Table 5 may not be applicable and are subject to change as determined on a case by case basis. Reporting of all compounds is not guaranteed, please contact customer service for specific compounds required and LoQ and UoM information.

LM25 - Determination of Ochratoxin A in wine by HPLC-FLD

The result is expressed as Ochratoxin A (µg/L for wine). Levels above the reporting limit 0.03 µg/L are reported to the nearest 0.01 µg/L.

Note: For non-wine commodities AWRI method GM63 applies, and limits will be as stated below unless otherwise noted.

Table 7: LoQ and UoM details for ochratoxin A in wine.

Compound	LoQ (µg/L)	UoM (≤ 0.1 ug/L) (±µg/L)	UoM (> 0.1 ug/L) (±µg/L)
Ochratoxin A	0.03	0.02	20%

GM46- Oak flavour analysis in wines and wood products

Wine

Table 8: LoQ and UoM details for oak compounds in wine.

Compound	LoQ (µg/L)	UoM (< 10 µg/L) (± µg/L)	UoM (≥ 10 µg/L) (± %)
Guaiacol	1	1	10%
4-methylguaiacol	1	1	10%
cis-oak lactone	10	-	10%
trans-oak lactone	10	-	10%
Eugenol	10	-	10%
Vanillin	10	-	15%
4-ethylphenol	10	-	10%
4-ethylguaiacol	10	-	10%
Furfural	10	-	10%
5-methylfurfural	10	-	10%

Oak wood products

The following limits have been adopted based on a 10 g/L extraction in a model wine simulant.

Table 9: LoQ and UoM details for oak compounds in oak wood.

Compound	LoQ (µg/g)	UoM (±µg/g)
Guaiacol	0.1	10%
4-methylguaiacol	0.1	10%
cis-oak lactone	1	10%
trans-oak lactone	1	10%
Eugenol	1	10%
Vanillin	1	10%
4-ethylphenol	1	10%
4-ethylguaiacol	1	10%
Furfural	1	10%
5-methylfurfural	1	10%

GM89 - Chloroanisoles in wine and cork by SPME

In some instances, **levels between the LoD and the LoQ are reported as 'trace'** to indicate that the compound has been positively identified but the quantitation cannot be confidently cited.

TCA_Wine

Table 10: LoQ and UoM details for chloroanisoles in wine.

Compound	LoD (ng/L)	LoQ (ng/L)	UoM (± ng/L) (< 10 ng/L)	UoM (±) (≥ 10 ng/L)
2,4,6-TCA	1	2	1	10%
2,3,4,6-TeCA	1	2	2	20%
2,4,6-TBA	1	2	1	10%
PCA	1	2	2	20%

TCA_Oakwood

Table 11: LoQ and UoM details for chloroanisoles in oakwood.

Compound	LoD (ng/g)	LoQ (ng/g)	UoM (± ng/g) (< 0.5 ng/g)	UoM (±) (≥ 0.5 ng/g)
2,4,6-TCA	0.05	0.1	0.05	10%
2,3,4,6-TeCA	0.05	0.1	0.1	20%
2,4,6-TBA	0.05	0.1	0.05	10%
PCA	0.05	0.1	0.1	20%

Note: For oak samples these figures relate to an approx. 20 g/L extraction in blank wine.

TCA_Cork

Table 12: LoQ and UoM details for chloroanisoles in corks.

Compound	LoD (ng/cork)	LoQ (ng/cork)	UoM (± ng/cork) (< 1 ng/cork)	UoM (±) (≥ 1 ng/cork)
2,4,6-TCA	0.1	0.2	0.1	10%
2,3,4,6-TeCA	0.1	0.2	0.2	20%
2,4,6-TBA	0.1	0.2	0.1	10%
PCA	0.1	0.2	0.2	20%

Note: For cork samples these figures relate to an extraction of 100 mL of blank wine per cork.

TCA_Water

Table 13: LoQ and UoM details for chloroanisoles in water

Compound	LoD (ng/L)	LoQ (ng/L)	UoM (± ng/g) (< 10 ng/L)	UoM (±) (≥ 10 ng/L)
2,4,6-TCA	0.5	1.0	1.0	15%
2,3,4,6-TeCA	0.5	1.0	1.0	20%
2,4,6-TBA	0.5	1.0	1.0	15%
PCA	0.5	1.0	1.0	20%

TCA_Spirit

Table 14: LoQ and UoM details for chloroanisoles in spirits

Compound	LoD (ng/Lk)	LoQ (ng/L)	UoM (± ng/cork) (< 40 ng/L)	UoM (±) (≥ 40 ng/L)
2,4,6-TCA	2	4	4	15%
2,3,4,6-TeCA	2	4	4	20%
2,4,6-TBA	2	4	4	15%
PCA	2	4	4	20%

TCA_Wine Additives

Table 15: LoQ and UoM details for chloroanisoles in wine additives.

Compound	LoD (ng/g)	LoQ (ng/g)	UoM (± ng/g) (< 1 ng/g)	UoM (±) (≥ 1 ng/g)
2,4,6-TCA	0.1	0.2	0.1	10%
2,3,4,6-TeCA	0.1	0.2	0.2	20%
2,4,6-TBA	0.1	0.2	0.1	10%
PCA	0.1	0.2	0.2	20%

Note: For wine additive samples these figures relate to an approx. 100 g/L extraction in blank wine.

GM90- Determination of ethyl carbamate and potential ethyl carbamate in wine

Table 16: LoQ and UoM details for ethyl carbamate in wine.

Compound	LoQ (µg/L)	UoM (< 30 µg/L) (±µg/L)	UoM (≥ 30 µg/L) (±)
Ethyl carbamate	8	3	10%

Results above the LoQ are reported in µg/L to the nearest integer.

Samples other than wine extracted using GM90 (not validated under NATA) and will have differing LoQ and UoM's as determined on a case by case basis.

GM91- 4EP and 4EG in wine and oak by SPME or liquid-liquid extraction

Table 17: LoQ and UoM details for 4EP and 4EG in wine and oak.

Compound	LoQ (µg/L)	UoM (< 100 µg/L) (±µg/L)	UoM (≥ 100 µg/L) (±)
4-ethylphenol	10	10	10%
4-ethylguaiacol	10	10	10%

Results above the LoQ are reported in µg/L to the nearest integer.

"Samples determined with results above the calibration range are reported as above 2000 µg/L (>2000 µg/L)."

GM93- Determination of Resveratrol and Piceid in wines and juice

Table 18: LoQ and UoM details for resveratrol and piceid in wine and juice.

Compound	LoQ (mg/L)	UoM (< 0.2 mg/L) (±mg/L)	UoM (≥ 0.2 mg/L) (±)
Resveratrol	0.04	0.4	20%
Piceid	0.04	0.4	20%

Levels above the LoQ (0.04 mg/L) are reported to the nearest 0.1 mg/L.

GM95- Determination of a group of methoxypyrazines in wine, juice and grapes

Table 19: LoQ and UoM details for methoxypyrazines in wine, juice and grapes.

Compound	LoQ (ng/L(kg))	UoM (< 20 ng/L) (±ng/L(kg))	UoM (≥ 20 ng/L) (±)
IPMP	5	4	20%
SBMP	5	4	20%
IBMP	5	4	20%

Levels above the quantitation limit 5 ng/L are reported to the nearest 1 ng/L.

GM97- Determination of 2,4-D in leaves, grapes and wine

The result is expressed as total 2,4-D in mg/L for wine and is a sum of the free acid and esters, expressed as the free acid.

Residues above 0.01 mg/L or mg/kg are reported to the nearest 0.01 mg/L or mg/kg. A result of '< 0.01' indicates that the sample has no detectable residue of 2,4-D at a concentration equal to or greater than the limit of quantitation for the method.

Table 20: LoQ and UoM details for 2,4-D in leaves, grapes and wine.

Compound	LoQ (mg/L or mg/kg)	UoM < 0.1 (±mg/L or mg/kg)	UoM ≥ 0.1 (±)
2,4-D	0.01	0.01	10%
MCPA	0.01	0.01	10%
Triclopyr	0.01	0.01	10%

GM102 – Determination of a group of halogenated phenols in wine

Table 21: LoQ and UoM details for halogenated phenols in wine.

Compound	LoD (ng/L)	LoQ (ng/L)	UoM (≤ 100 ng/L) (±ng/L)	UoM (> 100 ng/L) (±)
2-chlorophenol	10	20	10	20%
2-bromophenol	10	20	10	20%
2,4-dichlorophenol	10	20	10	20%
2,6-dichlorophenol	10	20	10	20%
3 & 4-bromophenol	10	20	10	20%
2,4-dibromophenol	10	20	10	20%
2,6-dibromophenol	10	20	10	20%
Compound	**LoD (ng/L)**	**LoQ (ng/L)**	**UoM (≤ 10 ng/L) (±ng/L)**	**UoM (> 10 ng/L) (±)**
6-chloro-o-cresol	1.0	2.0	1	10%

Notes:

1. For Tartaric acid samples: Tartaric acids are added to a pH adjusted juice at approximately 10 g/L prior to fermentation. The resulting wine is then analysed as per GM102 and results expressed in ng/L.

2. In some instances, levels between the LoD and the LoQ are reported as 'trace' to indicate that the compound has been positively identified but the quantitation cannot be confidently cited.

GM118- Determination of natamycin in wine

The result is expressed in µg/L of natamycin. Residues above 5 µg/L are reported to the nearest µg/L.

Table 22: LoQ and UoM details for natamycin in wine.

Compound	LoQ (µg/L)	UoM (≤ 20 µg/L) (±µg/L)	UoM (> 20 µg/L) (±)
Natamycin	5	5	20%

GM122- Determination of smoke related compounds in wine, juice and grapes

Wine and juice

Table 23: LoQ and UoM details for smoke related compounds in wine and juice.

Compound	LoQ (µg/L)	UoM (< 10 µg/L) (±µg/L)	UoM (≥ 10 µg/L) (±)
Guaiacol	1	1	10%
4-methylguaiacol	1	1	10%
o-cresol	1	2	20%
p-cresol	1	1	10%
m-cresol	1	2	20%
Syringol	1	1	10%
Methyl Syringol	1	2	20%

Grapes

Table 24: LoQ and UoM details for smoke related compounds in grapes

Compound	LoQ (µg/kg)	UoM (< 10 µg/kg) (±µg/kg)	UoM (≥ 10 µg/kg) (±)
Guaiacol	1	1	10%
4-methylguaiacol	1	1	10%
o-cresol	1	2	20%
p-cresol	1	1	10%
m-cresol	1	2	20%
Syringol	2	1	10%
Methyl Syringol	2	2	20%

GM123- Determination of low molecular weight sulphur compounds in wine

Results above the limit of quantitation are reported to the nearest µg/L for all analytes.

Table 25: LoQ and UoM details for low molecular sulphur compounds in wine.

Compound	LoQ (µg/L)	UoM (< 50 µg/L) (±µg/L)	UoM (≥ 50 µg/L) (±)
Hydrogen sulphide (H_2S)	3	5	10%
Methanethiol (methyl mercaptan)	1	5	10%
Ethanethiol (ethyl mercaptan)	1	5	10%
Dimethylsulfide (DMS)	2	5	10%
Carbon disulfide (CS_2)	0.5	5	10%
Diethylsulfide	0.5	5	10%
Methylthioacetate	5	5	10%
Dimethyldisulfide (DMDS)	0.5	5	10%
Ethylthioacetate	5	5	10%
Diethyldisulfide	0.5	5	10%

A result of '< LoQ' indicates the compound has not been determined at a level at or above the nominated LoQ

GM124- Determination of diacetyl in wine and juice

Table 26: LoQ and UoM details for diacetyl in wine and juice.

Compound	LoQ (mg/L)	UoM (< 10 mg/L) (± mg/L)	UoM (≥ 10 mg/L) (± mg/L)
Diacetyl	0.5	1.0	10%

The result is expressed in mg/L of diacetyl.

A result of < 0.5 indicates that diacetyl was not detected at a concentration at or above the LoQ for the method.

GM125- Determination of indole in white wine

Table 27: LoQ and UoM details for indole in wine.

Compound	LoQ (µg/L)	UoM (< 10 µg/L) (±µg/L)	UoM (≥ 10 µg/L) (±)
Indole	5	1	10%

The result is expressed in µg/L of indole. Residues above 5 µg/L are reported to the nearest µg/L.

Note: determination of indole applies to white (dry, sweet and sparkling) wines only

GM126- Extraction of rhodamine in wine

Table 28: LoQ and UoM details for rhodamine in wine.

Compound	LoQ (µg/L)	UoM (< 1 µg/L) (±µg/L)	UoM (≥ 1 µg/L) (±)
Rhodamine	0.1	0.3	30%

The result is expressed in µg/L of rhodamine.

A result of < 0.1 indicates that the brine marker (rhodamine) was not detected at a concentration at or above the LoQ for the method.

GM127- Determination of wine aroma compounds in wine and juice

Table 29: LoQ and UoM details for monoterpenes and norisoprenoids in wine and juice.

Compound	LoQ (µg/L)	UoM (≤ 40 µg/L) (± µg/L)	UoM (> 40 µg/L) (±)
Rose oxide	10	8	20%
Linalool	10	8	20%
Nerol	10	8	20%
Geraniol	10	8	20%
α-terpineol	10	8	20%
Trimethyl dihydronaphthalene (TDN)	10	8	20%
β-damascenone	10	8	20%
β-ionone	10	8	20%

Table 30: LoQ and UoM details for naphthalene in wine and juice.

Compound	LoQ (µg/L)	UoM (≤ 20 µg/L) (±µg/L)	UoM (> 20 µg/L) (±)
Naphthalene	5	4	20%

Table 31: LoQ and UoM details for ethyl esters in wine and juice.

Compound	LoQ (µg/L)	UoM (≤ 200 µg/L) (±µg/L)	UoM (> 200 µg/L) (±)
Ethyl hexanoate	50	40	20%
Ethyl octanoate	50	40	20%
Ethyl decanoate	50	40	20%

Results above the LoQ are reported to the nearest µg/L.

GM138- Determination of seven chlorophenols in wine using automated HS-SPME and GC-MS

Table 32: LoQ and UoM details for chlorophenols in wine

Compound	LoQ (µg/L)	UoM (±) (< 15 µg/L)	UoM (±) (≥ 15 µg/L)
2-chlorophenol	1	3	20%
4-chlorophenol	1	3	20%
2,4-chlorophenol	1	3	20%
2,6-chlorophenol	1	3	20%
2,4,6-trichlorophenol	1	2	10%
Tetrachlorophenol	1	3	20%
Pentachlorophenol	1	3	20%

Results above the limit of quantitation are reported to the nearest µg/L.

GM141- Determination of smoke related glycoside precursors in grapes, wine and juice

Wine and Grape Juice

Table 33: LoQ and UoM details for smoke related glycoside precursors in wine and grape juice.

Compound	LoQ (µg/L)	UoM (< 30 µg/L)	UoM (≥ 30 µg/L)
Syringol gentiobioside	1	3	10%
Cresol rutinoside	1	3	10%
Guaiacol rutinoside	1	3	10%
Methylguaiacol rutinoside	1	3	10%
Methylsyringol gentiobioside	1	3	10%
Phenol rutinoside	1	3	10%

Grape

Table 34: LoQ and UoM details for smoke related glycoside precursors in grape.

Compound	LoQ (µg/kg)	UoM (< 30 µg/kg)	UoM (≥ 30 µg/kg)
Syringol gentiobioside	1	3	10%
Cresol rutinoside	1	3	10%
Guaiacol rutinoside	1	3	10%
Methylguaiacol rutinoside	1	3	10%
Methylsyringol gentiobioside	1	3	10%
Phenol rutinoside	1	3	10%

GM154- Determination of 1,8-cineole in wine

Table 35: LoQ and UoM details for 1,8-cineole in wine.

Compound	LoQ (µg/L)	UoM (≤ 20 µg/L) (±µg/L)	UoM (> 20 µg/L) (±)
1,8-cineole	2.0	2	10%

GM164- Determination of methanol in red, white, fortified and sparkling wines, beers, ciders and vinegar by gas chromatography flame ionisation detector

Table 36: LoQ and UoM details for methanol in wine, beer and cider.

Matrix	LoQ (mg/L)	UoM (mg/L) < 70 mg/L	UoM (% of result) ≥ 70 mg/L
Wine, beer, cider	10	10	15

Table 37: LoQ and UoM details for methanol in spirits.

Matrix	LoQ (mg/L)	UoM (mg/L) < 200 mg/L	UoM (% of result) ≥ 200 mg/L
Spirits	10	10	5

Table 38: LoQ and UoM details for methanol in vinegar.

Matrix	LoQ (mg/L)	UoM (mg/L) < 100 mg/L	UoM (% of result) ≥ 100 mg/L
Vinegar	10	10	10

GM189- Determination of low ethanol by gas chromatography flame ionisation detector

Table 39: LoQ and UoM details for low ethanol.

Compound	LoQ (% v/v)	UoM @ < 0.25% v/v (% v/v)	UoM @ ≥ 0.25% v/v (% of result)
Ethanol	0.02	0.02	10

Note - The method is only validated within the range of 0.02 - 2 %v/v, and any samples suspected of being above this range cannot be analysed using this method.

GM191- Determination of phosphorous acid residues in wine, grape and juice by LC-MS/MS

Grape and grape juice

Table 40: LoQ's and UoM details for phosphorous acid residues in grape and grape juice.

Compound	LoQ (mg/kg)	UoM @ < 0.15 mg/kg	UoM @ ≥ 0.15 mg/kg
Phosphorous Acid	0.10	0.03	20%

Residues above the LoQ are reported to the nearest 0.01 mg/kg.

Wine

Table 41: LoQ's and UoM details for phosphorous acid residues in wine.

Compound	LoQ (mg/L)	UoM @ < 0.15 mg/L	UoM @ ≥ 0.15 mg/L
Phosphorous Acid	0.10	0.03	20%

Residues above the LoQ are reported to the nearest 0.01 mg/L.

Other analyses

Dithiocarbamates

Total dithiocarbamates analysis is sub-contracted to a third party laboratory.

The limit of quantitation (LoQ) and uncertainty of measurement information for this method is available by request.

A result of '< LoQ' indicates that the analyte has not been detected at a concentration equal to or greater than the LoQ.

Total dithiocarbamates includes the summed total of mancozeb, metiram and ziram (and all other pesticides of this chemical class) determined by CS_2 analysis from an acid hydrolysis of the sample.

Phosphorus acid in solids

This analysis is sub-contracted to a third party laboratory.

The limit of quantitation (LoQ) and uncertainty of measurement information for this method is available by request.

A result of '< LoQ' indicates that the analyte has not been detected at a concentration equal to or greater than the LoQ.

Glyphosate

This analysis is sub-contracted to a third party laboratory.

The limit of quantitation (LoQ) and uncertainty of measurement information for this method is available by request.

A result of '< LoQ' indicates that the analyte has not been detected at a concentration equal to or greater than the LoQ.