

Smoke taint analysis for customers outside Australia



What analysis is available?

Research at the AWRI and other research organisations has demonstrated that phenolic compounds such as guaiacol, 4-methylguaiacol, cresol and syringol contribute to off-flavours and aromas in wine made from grapes that have been exposed to smoke. These volatile phenols can also bind to sugars within grape berries to form phenolic glycosides, which also contribute to smoke characters.

Due to biosecurity restrictions, AWRI Commercial Services is only able to accept wine samples (not grapes or juice) from customers outside Australia for smoke taint analysis. Concentrations of smoke-related volatile phenols and associated non-volatile glycosides that may affect wine quality are analysed. Understanding the levels of these marker compounds in finished wine or micro-ferments may assist with assessing the risk of smoke taint.

Which marker compounds are analysed?

Research at the AWRI has shown guaiacol and 4-methylguaiacol as important compounds in contributing to 'smoky' off aromas and flavours in grapes and wines; however, further research has shown that other volatile phenols can also play a role in the impact of smoke. Analysis of non-volatile glycosides provides additional detailed information on the potential development of smoke characters. It is recommended that analysis of both volatile and non-volatile compounds is



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conducted. The full list of compounds analysed is shown in Table 1. Volatile and non-volatile analyses are offered as separate analytical panels.

Table 1. Compounds included in smoke taint analysis panels

Volatile phenols	Non-volatile phenolic glycosides
Guaiacol	Guaiacol rutinoside
4-Methylguaiacol	Methylguaiacol rutinoside
Syringol	Syringol gentiobioside
4-Methylsyringol	Methylsyringol gentiobioside
o-Cresol	Cresol rutinoside
m-Cresol	Phenol rutinoside
p-Cresol	

How do I send wine samples for analysis?

Samples of finished wine or dry micro-ferments (100 mL) in plastic containers can be sent directly to the AWRI by international courier. Please ensure that all freight, duties and taxes are prepaid to facilitate faster delivery. It is recommended that micro-ferments be clarified and receive a 100 mg/L addition of sulfur dioxide before despatch. A [protocol for conducting small-scale ferments](#) is available on the AWRI website.

Deliver to: AWRI Commercial Services
The Australian Wine Research Institute
Level 1 Receiving, Wine Innovation Central Building
Hartley Grove Cnr Paratoo Road
Urrbrae (Adelaide) SA 5064

How do I pay for my analysis?

If you are an existing client of AWRI Commercial Services, you will be contacted on receipt of samples and provided with a quote that can be paid by credit card, or bank transfer. New clients should refer to the [AWRI Commercial Services new account page](#) for information on how to set up a prepayment account.



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How long will it take to get my results?

AWRI Commercial Services has a 10 working day turnaround time for the **analysis from receipt of samples in the laboratory**. Customers will be contacted by email when samples are received. If you have not received your results after the nominated turnaround time, please contact Customer Services on + 61 8 8313 6600.

How will I receive my results?

Results are sent via email. Please ensure that AWRI Commercial Services has your correct email address.

Further reading

Latest information on smoke taint on the AWRI website:

http://www.awri.com.au/industry_support/winemaking_resources/smoke-taint/

AWRI Commercial Services smoke taint analysis:

www.awri.com.au/commercial_services/analytical_services/analyses/smoke_taint/

Contact

For further information, please contact:

AWRI Commercial Services

Phone +61 8 8313 6600 **Email** commercialservices@awri.com.au

Website www.awri.com.au/commercial_services/analytical_services/analyses/smoke_taint/

Address AWRI Commercial Services, Level 1 Receiving Wine Innovation Central Building, Corner of Hartley Grove & Paratoo Rd, Urrbrae (Adelaide), SA 5064