

MEASUREMENT UNCERTAINTY (mu)

Estimation of Measurement Uncertainty

As a NATA accredited laboratory performing microbiological testing on samples of seafood, marine, potable and rain water, South Australia Shellfish Quality Assurance Program (SASQAP) is required to establish the Measurement Uncertainty associated with its test results as described in the international standard ISO/IEC 17025.

What is MU?

All measurements have a degree of uncertainty regardless of precision and accuracy. These variations arise, among other things from environmental factors, the operators and environment from the measuring system itself. This quantifies the variability of a given measurement which guarantees a more accurate value.

How is MU Determined?

MU is unique to each technique used, to each matrix tested and has a different value in each laboratory. In the SASQAP laboratory, we have measured the parameters that can reasonably affect a given result. These include media preparation and performance, evaluation of reference culture, calibration of equipment, processing of samples, testing methods and staff skills, all of which determine the accuracy of the result.

Why MU matters

Measurement Uncertainty can be seen as a measure of confidence.

SASQAP's Measurement Uncertainty

Technique	Measurement Uncertainty *
Membrane Filtration	0.015 Log ₁₀
Standard Plate Count	0.060 Log ₁₀
MPN	0.096 Log ₁₀
Staph	0.061 Log ₁₀

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