QUALITY ASSURANCE & CONTROL SYSTEMS

ΣΥΣΤΗΜΑΤΑ ΔΙΑΣΦΑΛΙΣΗΣ ΠΟΙΟΤΗΤΑΣ & ΕΛΕΓΧΟΥ ΕΠΕ
Αντιγόνης 1, 14451 Μεταμόρφωση, Αττική **W:** www.qacslab.com
T: +30 210 2934745 **E:** info@qacslab.com

DECISION RULE – STATE OF CONFORMITY

1. Any decision rule and any state of conformity declared, is done based on the result and the measurement uncertainty.
2. When the measurement result (a) is evaluated according to a specification, standard or requirement and in any case of a specified legislated maximum limit, L_{max}, using **U=2*u** (where **U** is the Expanded Uncertainty determined with a coverage factor **k=2** for confidence interval equal to 95% and **u** is the combined standard uncertainty), then this is:
   - Considered as **non-compliant** for confidence interval 95% when:
     a-U>L_{max}
     a+U<L_{min}

   - Considered as **compliant** for confidence interval 95% when:
     a-**U≤L_{max}**
     a+U≥L_{min}

Where:
A = the measurement result
U= the expanded uncertainty of the measurement (for confidence interval equal to 95%)
L_{max} = maximum limit of a legislation or a specification
L_{min} = minimum limit of a legislation or a specification

3. When the measurement result (a) is evaluated according to a specific value L, then the sample is considered as:
   - **Non-compliant** when the value L is beyond the range a ± U
   - **Compliant** for confidence interval 95% when a – U ≤ L ≤ a + U

For microbiological testing in particular:

1. When the measurement result (a) is evaluated according to a specification, standard or requirement then it is considered as **non-compliant** for confidence interval 95% when
   a. x-U > L_{max}, in case of a specified legislated maximum limit L_{max} (where U is the expanded uncertainty of the measurement result)
   b. x+U<L_{min}, in case of a specified legislated minimum limit L_{min} (where U is the expanded uncertainty of the measurement result)
2. When the measurement result (a) is evaluated according to a specific value L then it is considered as **compliant** for confidence interval 95% when:
   x-U ≤ L ≤ x + U (where U is the expanded uncertainty of the measurement result)

When the value L is beyond the range of a ± U, then the sample is considered as **non-compliant**.