Certificate of Analysis

Waste Water Coliform MicrobE™

Lot No. P260-083/P260-083A
Expiration Date:[1] 05/2018

Catalog No. 083/083A
Issue Date: January 24, 2017
Revision Date: Original

Certification

Parameter	Certified Value[2]	Uncertainity[3]	QC Performance Acceptance Limits™[4]	PT Performance Acceptance Limits™[5]
Sample - A (Membrane Filtration)	**CFU/100mL**		**CFU/100mL**	**CFU/100mL**
Total Coliforms	453	-32%, +47%	206 - 996	176 - 1170
Fecal Coliforms	302	-28%, +40%	90 - 1020	86 - 1050
E.coli	370	-30%, +43%	129 - 1060	30 - 4570
Sample - A (**SM-9223**)	**MPN/100mL**		**MPN/100mL**	**MPN/100mL**
Total Coliforms	565	-17%, +21%	199 - 1610	264 - 1210
Fecal Coliforms	469	-16%, +20%	121 - 1810	195 - 1130
E.coli	568	-17%, +21%	283 - 1140	293 - 1100
Sample - A (**SM-9221**)	**MPN/100mL**		**MPN/100mL**	**MPN/100mL**
Total Coliforms	551	-17%, +21%	154 - 1960	37.6 - 8070
Fecal Coliforms	523	-17%, +20%	137 - 1990	33.6 - 8130
E.coli	740	-19%, +23%	142 - 3860	62.1 - 8810
Sample - B	**CFU/100mL**			
Total Coliforms	<1			
Fecal Coliforms	<1			
E.coli	<1			

Analytical Verification

Parameter	Certified Value	Proficiency Testing Study[6] Mean Recovery	%	n	Organism Identification[7]
Sample - A (Membrane Filtration)	**CFU/100mL**	**CFU/100mL**			
Total Coliforms	453	453	100	9	Escherichia coli, ATCC51813
Fecal Coliforms	302	302	100	47	Escherichia coli, ATCC51813
E.coli	370	370	100	14	Escherichia coli, ATCC51813
Sample - A (**SM-9223**)	**MPN/100mL**	**MPN/100mL**			
Total Coliforms	565	565	100	17	Escherichia coli, ATCC51813
Fecal Coliforms	469	469	100	9	Escherichia coli, ATCC51813
E.coli	568	568	100	35	Escherichia coli, ATCC51813
Sample - A (**SM-9221**)	**MPN/100mL**	**MPN/100mL**			
Total Coliforms	551	551	100	21	Escherichia coli, ATCC51813
Fecal Coliforms	523	523	100	24	Escherichia coli, ATCC51813
E.coli	740	740	100	7	Escherichia coli, ATCC51813

CFU = Colony Forming Units.

MPN = Most Probable Number.

SM-9223 = Multiple Well methods w/Enzyme Substrate Media.

SM-9221 = Multiple Tube Fermentation methods.

This product is sold under two different Catalog and Lot numbers. The Catalog and Lot Number that ends in an A is for SM-9221 (Multiple Tube Fermentation methods).

ACCREDITED

REFERENCE MATERIAL PRODUCER
CERT # 1539.03

1. The certified values are monitored and purchasers will be notified of any signifigant changes resulting in recertification or withdrawl of this certified reference material during the period of validity of this certificate.

2. The Certified Values for this sample are the mean reported concentrations for these analytes from ERA's proficiency testing study.

3. The stated uncertainty is the total propagated uncertainty at the 95% confidence interval. This is represented as a percentage above and below the certified value. This uncertainty is based on analytical verification of this product by ERA using common analytical methods for the quantitative evaluation of microbiological samples, multiplied by a coverage factor which is equal to the Student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account optional dilutions and/or preparations the laboratory may perfrom while using this product.

4. The QC Performance Acceptance Limits (QC PALs™) are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

5. The PT Performance Acceptance Limits (PT PALs™) are calculated using the regression equations and fixed acceptance criteria specified in the USEPA National Standards Criteria Document and/or the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

6. The Analytical Verification data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values.

7. In order to assure identity and traceability, reference cultures used for these quality control samples come from a recognized national collection. These organisms meet all requirements specified in the NELAC proficiency testing requirements.

If you have any questions or need technical assistance, please call 1-800-372-0122 or email info@eraqc.com

Certifying Officer: Brian Miller