METHOD SUMMARY – QWI- FM0018

Method Title	Enterobacteriaceae - Petrifilm		
Document number	**QWI – FM0018**	**Date of Issued**	22nd June 2017

Method External References	3M Petrifilm™ Product Insert – Enterobacteriaceae Count Based on ISO 7402 1993 (Microbiology - General guidance for the enumeration of Enterobacteriaceae without resuscitation -- MPN technique and colony-count technique) Based on AS 5013.11.1-2004 (Food Microbiology - Microbiology of food and animal feeding stuffs – Preparation of test samples, initial suspension and decimal dilutions of microbiological examination – General rules for the preparation of the initial suspension and decimal dilution) AFNOR Validated Method 3M 01/06-09/97 AOAC Validated Method AOAC 2003.01-2006. Enumeration of Enterobacteriaceae in Selected Foods - Petrifilm Enterobacteriaceae Count Plate Method
Matrix	As listed on NATA Scope.
ALS Department	□ Pharmaceutical Chemistry □ Water Microbiology ✓ Food Microbiology □ Pharmaceutical Microbiology □ Food Chemistry
Accreditation Status	✓ NATA (RYD) ✓ NON-NATA (Other sites) □ N/A
Analysis technique	□ HPLC □ GC □ Wet Chemistry □ Physical □ Gravimetric □ Qualitative □ Pour Plate □ Spread Plate □ MPN □ Filtration ✓ Petrifilm □ EHS □ ELISA □ VIDAS UP □ VIDAS □ TEMPO
Method Principle	This method describes the procedure for the enumeration of *Enterobacteriaceae* by using a diagnostic rapid method designed for all foods and environmental samples (swabs). Petrifilm™ plates have not been tested with all possible food products, food processes testing protocols or with all possible strains of bacteria. This method is not suitable for Meat and Bone Meal samples, testing water, pharmaceutical or cosmetics. To check food samples for quality of production and contamination by potential pathogens. Specifically, *Enterobacteriaceae* are used to indicate the potential for enteric type organisms such as Salmonella to be present. It is an indicator of hygiene (post processing contamination) and a check for efficacy of processing (ie adequacy of cooking/heat treatment). This method can be used where a count of greater than 10 cfu/mL/g is expected in the sample. Validation of test is required before the use of this system. This method uses bacterial culture plates of dry medium and cold H_2O soluble gel. Diluted or undiluted test suspensions are added to the plate at a rate of 1.0 mL per plate. Pressure, when applied to the plastic spreader

	placed on overlay film, spreads test portions over 20 cm^2 growth area. The gelling agent is allowed to solidify and plates are incubated at 37 °C ± 1 °C for 24 ± 2 hours and then counted. An indicator in the Petrifilm™ *Enterobacteriaceae* count plate colours all colonies red. The top film traps gas produced by some bacteria. Acid-producing bacteria are seen as red colonies surrounded by yellow zones. Bacteria producing gas and/or acid are considered to be presumptive *Enterobacteriaceae*.
Reporting Unit	Determination of Enterobacteriaceae cfu/g or cfu/mL
LOR/LOQ	<10 cfu/g or <10 cfu/mL

Minimum amount of sample required for analysis	20 g or 20 mL	Turnaround time	24 hours

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