METHOD SUMMARY – QWI-FM0089

Method Title	Thermophilic Flat Sour Spore Formers		
Document number	**QWI-FM0089**	**Date Issued**	13th December 2017

Method External References	APHA Compendium of Methods for the Microbiological Examination of Foods - 4th Ed. Chapter 25. Modification: Plates not examined at 48 hours
Matrix	canned food or raw materials used in canning.
ALS Department	□ Pharmaceutical Chemistry □ Water Microbiology ✓ Food Microbiology □ Pharmaceutical Microbiology □ Food Chemistry
Accreditation Status	□ NATA ✓ NON-NATA □ 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 documents the enumeration of Thermophilic Flat Sour Spore Formers using Dextrose Tryptone Agar heated to 107 °C then cooled and poured into Petri dishes and incubated at 50 to 55 °C for 72 hours. Typical thermophilic flat sour spoilage of low-acid canned foods is caused by the growth of spore-forming, thermophilic aerobes in the genus Bacillus. *Bacillus stearothermophilus* and *Bacillus coagulans* are the typical species responsible for this type of spoilage. These organisms ferment carbohydrates with the production of short-chain fatty acids that "sour" the product. Not enough gas is produced to extend the container. *Bacillus stearothermophilus* does not grow at pH 5 or below, spores of *Bacillus stearothermophilus* have an exceptionally high thermal resistance.
Reporting Unit	Thermophilic flat sour spore-formers cfu / g or mL
LOR/LOQ	<10

Minimum amount of sample required for analysis	10 g	Turnaround time	3 days

Author:	Document Controller	**Date:**	22nd February 2018
Authorised By:	National Quality Manager	**Date:**	22nd February 2018