# DRAFT TANZANIA STANDARD

Water quality - Detection and enumeration of *Pseudomonas aeruginosa* - Part 2: Most probable number method



TANZANIA BUREAU OF STANDARDS

## 0. National Foreword

The Tanzania Bureau of Standards is the statutory national standards body for Tanzania, formally established by the Act.No.3 of 1975, which was amended and repealed by Act.No.2 of 2009.

The Microbiology Technical Committee, under the supervision of the Agriculture and Food Standards Divisional Committee (AFDC), has prepared this Tanzania Standard.

This Tanzania standard is the identical adoption to ISO 16266-2:2018, Water quality - Detection and enumeration of *Pseudomonas aeruginosa* - Part 2: Most probable number method, published by International Organization for Standardization (ISO).

## Terminology and conventions

The text of the International Standard is hereby being recommended for approval without deviation for publication as Tanzania standard.

Some terminologies and certain conventions are not identical with those used in Tanzania standards; attention is drawn to the following: -

1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use “full point” on the baseline as the decimal marker.

2) Where the words “International Standard(s)” appear, referring to this standard they should read “Tanzania Standard(s)”.



## 1. Scope

This document specifies a method for the enumeration of *Pseudomonas aeruginosa* in water. The method is based on the growth of target organisms in a liquid medium and calculation of the most probable number (MPN) of organisms by reference to MPN tables.

This document is applicable to a range of types of water. For example, hospital waters, drinking water and non-carbonated-bottled waters intended for human consumption, groundwater, swimming pool and spa pool waters including those containing high background counts of heterotrophic bacteria.

This document does not apply to carbonated bottled waters, flavoured bottle waters, cooling tower waters or marine waters, for which the method has not been validated. These waters are, therefore, outside the scope of this document. Laboratories can employ the method presented in this document for these matrices by undertaking appropriate validation of performance of this method prior to use.

The test is based on a bacterial enzyme detection technology that signals the presence of *P. aeruginosa* through the hydrolysis of a 7-amino-4-methylcoumarin aminopeptidase substrate present in a special reagent. *P. aeruginosa* cells rapidly grow and reproduce using the rich supply of amino acids, vitamins and other nutrients present in the reagent. Actively growing strains of *P. aeruginosa* have an enzyme that cleaves the 7-amido-coumarin aminopeptidase substrate releasing a product which fluoresces under ultraviolet (UV) light. The test described in this document provides a confirmed result within 24 h with no requirement for further confirmation of positive wells.