ISO 21703:2019 (E)

Surface active agents — Microbiology — Microbiological test methods for liquid hand dishwashing

Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 Principle

5 Diluents and culture media

5.1 General
5.2 Neutralizing diluent and diluents
5.2.1 General
5.2.2 Neutralizing diluent: Fluid casein digest — soy lecithin — polysorbate 20 medium (SCDLP 20 broth)
5.2.2.1 Composition
5.2.3 Diluent for the bacterial suspension (Tryptone sodium chloride solution)
5.2.3.1 Composition
5.2.3.2 Preparation
5.3 Culture medium for counting
5.3.1 General
5.3.2 Soybean-casein digest agar medium (SCDA) or tryptic soy agar (TSA)
5.3.2.1 Composition
5.3.2.2 Preparation
5.3.3 Other medium for counting
5.3.3.1 Eugon LT 100 agar medium
5.3.3.2 Composition
5.3.3.3 Preparation
5.4 Culture medium for detection
5.4.1 General
5.4.2 Enrichment broth: Eugon LT 100 broth
5.4.2.1 Eugon LT 100 broth
5.4.2.2 General
5.4.2.3 Composition
5.4.2.4 Preparation
5.5 Culture media for isolation and identification
5.5.1 MacConkey agar medium
5.5.1.1 Composition
5.5.1.2 Preparation
5.5.2 Levine eosin-methylene blue agar medium (EMB agar medium)
5.5.2.1 Composition
5.5.2.2 Preparation
5.5.3 Cetrimide agar medium
5.5.3.1 Composition
5.5.3.2 Preparation
5.5.4 Pseudomonas agar medium for detection of pyocyanin (Pseudomonas agar P)
5.5.4.1 Composition
5.5.4.2 Preparation

6 Apparatus and glassware

7 Strains of microorganisms

8 Handling of the product and laboratory samples

9 Procedure

9.1 General recommendation
9.2 Preparation of the initial suspension
9.3 Enumeration methods
9.3.1 Dilutions for enumeration
9.3.2 Plate-count methods
9.3.2.1 Pour-plate method
9.3.2.2 Surface spread method
9.3.2.3 Membrane filtration method
9.3.2.4 Incubation
9.3.2.5 Expression of results
9.3.2.6 Interpretation

10 Method for detection and identification

10.1 Enrichment
10.2 Isolation
10.3 Detection of aerobic mesophilic bacteria
10.4 Detection and Identification of Escherichia coli
10.4.1 General
10.4.2 Gram's stain
10.4.3 Culture on Levine eosin-methylene blue agar medium (EMB agar medium)
10.4.4 Expression of results
10.5 Detection and identification of Pseudomonas aeruginosa
10.5.1 General
10.5.2 Gram's stain
10.5.3 Oxidase test
10.5.4 Culture on Pseudomonas agar medium for detection of pyocyanin
10.5.5 Expression of results

11 Neutralization of the antimicrobial properties of the product

11.1 General
11.2 Preparation of inoculum
11.3 Suitability of counting methods
11.3.1 Principle
11.3.2 Suitability test of the pour-plate method
11.3.3 Suitability of the surface spread method
11.3.4 Suitability of the membrane filtration method
11.4 Suitability of the detection method
11.4.1 Procedure
11.4.2 Interpretation

12 Test report

Annex A (informative) Neutralizers of antimicrobial activity of preservatives and rinsing liquids

Annex B (informative) Other culture media

B.1 Enrichment medium
B.1.1 D/E neutralizing broth (Dey/Engley neutralizing broth)
B.1.1.1 Composition
B.1.1.2 Preparation
B.1.2 Soybean-casein-digest-lecithin-polysorbate 80 medium (SCDLP 80 Broth)
B.1.2.1 Composition
B.1.2.2 Preparation
B.2 Agar medium
B.2.1 Soybean-casein-digest-lecithin-polysorbate 80 agar medium (SCDLP 80 Agar)
B.2.1.1 Composition
B.2.1.2 Preparation

Page count: 19