GUIDE OF STANDARD METHODS

FOOD microbiology

Version dated March 2019

Biokar diagnostics

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2 - MICROBIOLOGY OF FOODS BY SECTOR

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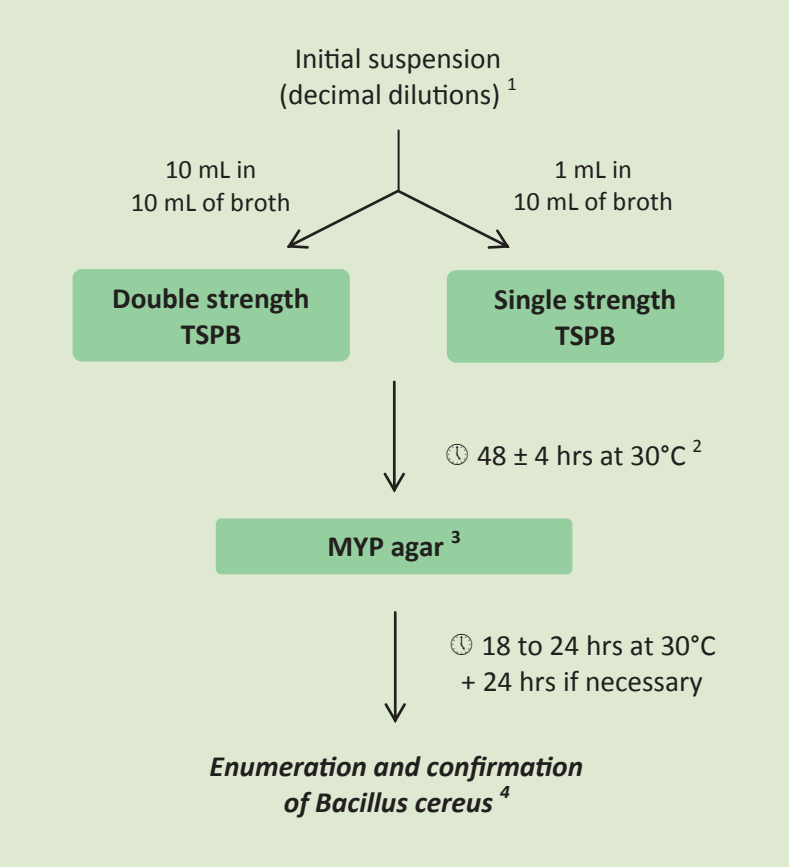
Horizontal method for the determination of low numbers of presumptive *Bacillus cereus*

Most probable number technique and detection method

NF EN ISO 21871: 07-2006
V 08-063

1. Protocol

Enumeration protocol



Detection protocol

Inoculate the initial suspension in a tube of single strength or double strength medium, and follow the protocol described for enumeration.

[1] Inoculate the initial suspension in three tubes of double strength medium and three tubes of single strength medium. The decimal dilutions are also inoculated in three tubes of single strength medium.

[2] After incubation, reinoculate each tube using a plate-loop on selective medium.

[3] Polymyxin pyruvate egg yolk mannitol bromothymol blue agar (PEMBA) may also be used as a selective medium with incubation at 37°C.

[4] Select three colonies from each plate. When using MYP agar, carry out a haemolysis test on sheep blood agar with incubation from 18 to 24 hrs at 30°C for confirmation.
When using PEMBA, carry out a haemolysis test on sheep blood agar with incubation from 18 to 24 hrs at 37°C or microbiological examination for confirmation.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Selective enrichment medium	- *Tryptone soya polymyxin broth (TSPB)* **Trypticase soy broth (TSB)** 50 x 10 mL tubes - BM03008 10 x 100 mL vials - BM00908 10 x 90 mL vials - BM17908 2 x 5 L flexible bags - BM16608 500 g vial - BK046HA 5 kg drum - BK046GC **Polymyxin B selective supplement** 10 vials - BS00708	Total [5] Total
5.4 Solid selective medium	- *Polymyxin pyruvate egg yolk mannitol bromothymol blue agar (PEMBA)* **Base medium** - **Egg yolk emulsion with polymyxin B** 10 x 50 mL vials - BS05508 **Polymyxin B selective supplement** 10 vials - BS00708 **Sterile egg yolk emulsion** 10 x 50 mL vials - BS06608	- Total Total Total
5.5 Solid selective medium	- *Mannitol egg yolk polymyxin (MYP) agar* **B. cereus selective agar (acc. to MOSSEL)** 20 Petri dishes Ø 90 mm - BM03808 120 Petri dishes Ø 90 mm - BM19908 **B. cereus selective agar (base acc. to MOSSEL)** 500 g vial - BK116HA **Egg yolk emulsion with polymyxin B** 10 x 50 mL vials - BS05508 **Polymyxin B selective supplement** 10 vials - BS00708 **Sterile egg yolk emulsion** 10 x 50 L vials - BS06608	Total [5] Total [5] Total Total Total
5.6 Reagents for microscopic identification	- *Malachite green oxalate solution* - - *Sudan black B solution* - - Xylene - - *Safranin solution* -	- - - -
5.7 Confirmation medium	- *Base medium: Sheep blood agar* **Tryptone soy (blood agar base)** 500 g vial - BK028HA - *Sheep blood with fibrin* -	Equivalent -

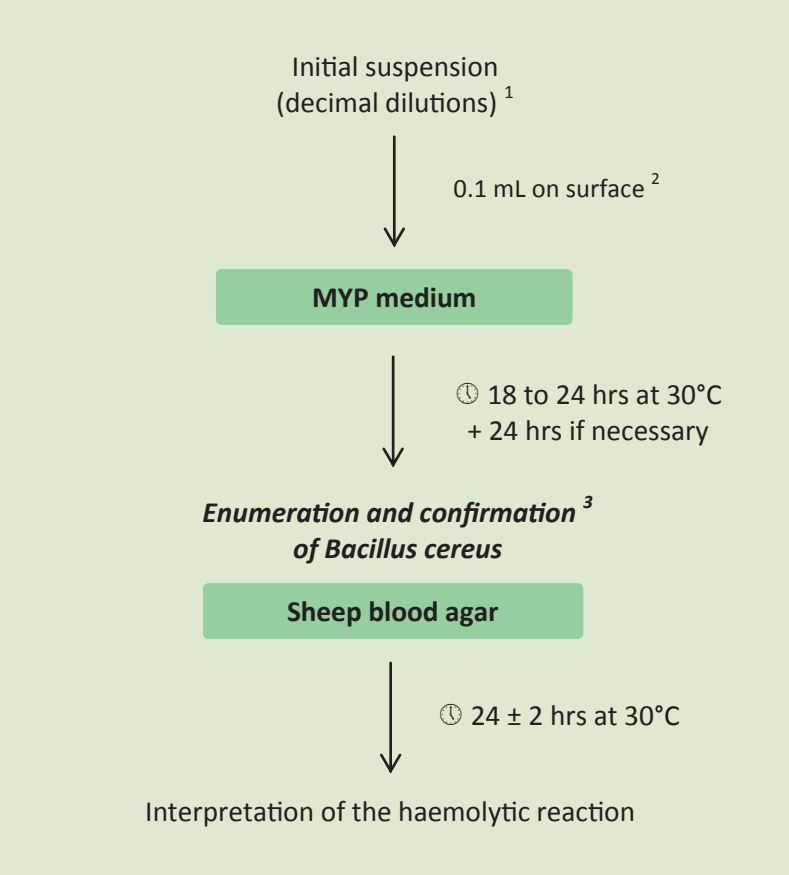
[5] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Horizontal method for the enumeration of presumptive *Bacillus cereus*

Colony-count technique at 30°C

NF EN ISO 7932: 07-2005
V 08-023

1. Protocol



[1] Carry out the operation in duplicate for each dilution.

[2] If, for certain products, it is preferable to estimate low numbers of *B. cereus,* the enumeration limits may be increased by a power of 10, examining 1.0 ml of test sample for liquids, or 1.0 ml of the initial suspension for other products. Apply 1 ml of inoculum using a sterile spreader either to the surface of a large Petri dish (140 mm) of agar medium, or to the surface of three small Petri dishes (90 mm) of agar medium. In both cases, carry out these operations in duplicate, so as to prepare two large dishes or six small dishes.

[3] Randomly select five colonies from each plate.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2 Agar medium	- *Mannitol egg yolk polymyxin (MYP) agar* ***B. cereus* selective agar (acc. to MOSSEL)** 20 Petri dishes Ø 90 mm - BM03808 120 Petri dishes Ø 90 mm - BM19908 ***B. cereus* selective agar (base acc. to MOSSEL)** 500 g vial - BK116HA **Egg yolk emulsion with polymyxin B** 10 x 50 mL vials - BS05508 **Polymyxin B selective supplement** 10 vials - BS00708 **Sterile egg yolk emulsion** 10 x 50 mL vials - BS06608	Total [4] Total [4]
5.3 Confirmation medium	- *Base medium: Sheep blood agar* **Tryptone soy (blood agar base)** 500 g vial - BK028HA - *Sheep blood with fibrin* -	Equivalent -

[4] Tryptone is a “peptone” obtained by pancreatic digestion of casein.

COMPASS® *Bacillus cereus* Agar

Alternative method for the enumeration of presumptive *Bacillus cereus*

BKR 23/06-02/10
Alternative food analysis method
www.afnor-validation.org /en

1. Protocol

Initial suspension
(decimal dilutions)

↓ 1 mL in poured plate
0.1 mL on surface [1]

COMPASS® *Bacillus cereus* Agar

↓ 24 to 27 hrs at 30 ± 1°C

Enumeration of presumptive Bacillus cereus

Without confirmation

[1] Inoculation is also possible by spreading 1 mL on the surface of 3 Petri dishes Ø 90 mm.

2. Media and reagents

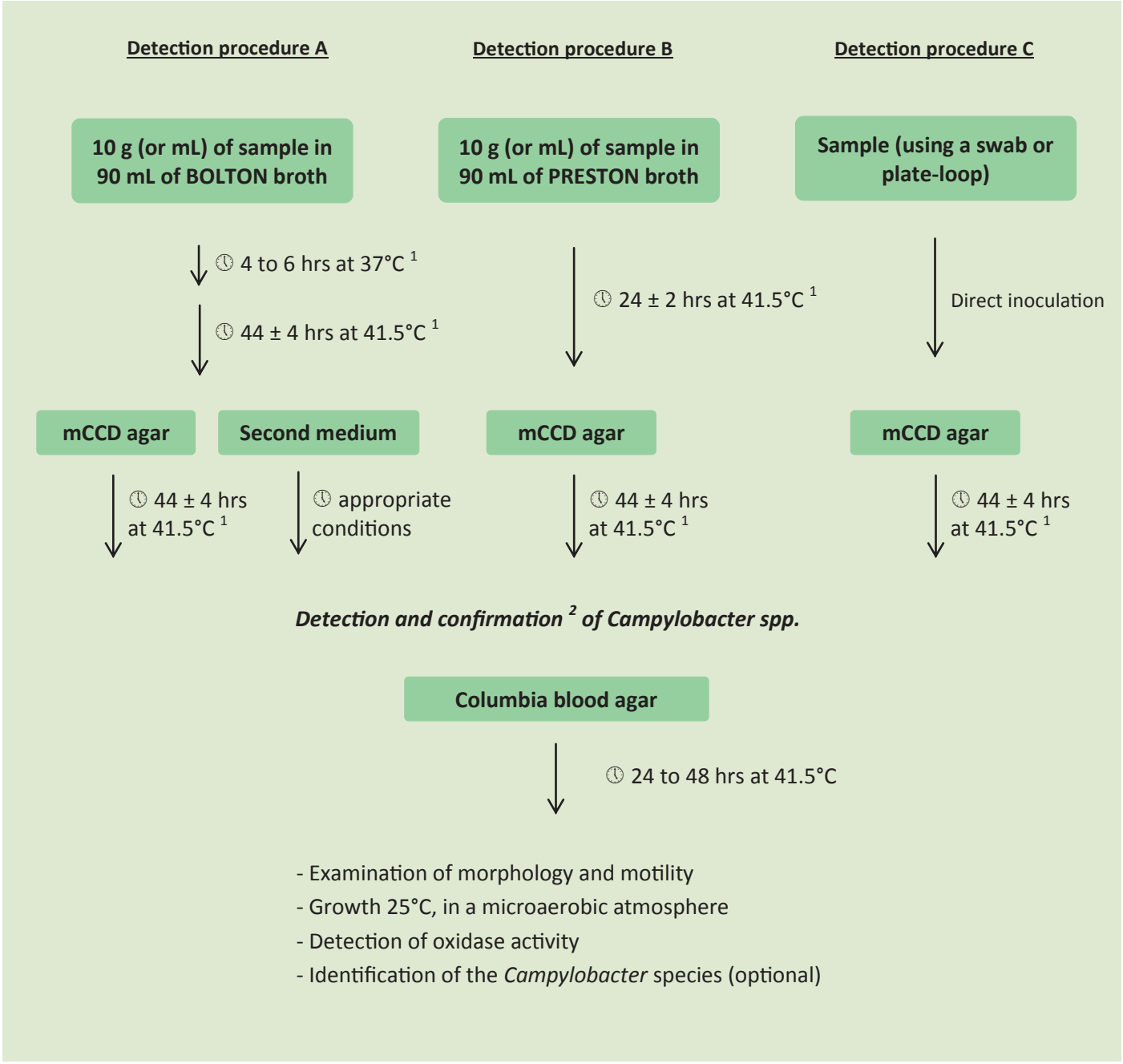
Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.
Selective medium	**COMPASS® *Bacillus cereus* Agar pre-poured** 20 Petri dishes Ø 90 mm - BM12608 **COMPASS® *Bacillus cereus* Agar (base)** 10 x 100 mL vials - BM13008 **Supplement for COMPASS® *Bacillus cereus* Agar** 10 vials q.s. 100 mL - BS06908

Horizontal method for detection and enumeration of *Campylobacter* spp.

Part 1: Detection method

NF EN ISO 10272-1: 07-2017
V 08-026-1

1. Protocol



[1] Incubation should be carried out in a microaerobic atmosphere.

[2] For the confirmation tests, select at least 1 characteristic colony, then another 4 if the first is negative.

2. Media and reagents

Section	Media and reagents	Compliance
B.2/B.3 Enrichment media	- *Bolton broth* - - *Preston broth* -	- -
B.4/B.5 Isolation media	- *Modified charcoal cefoperazone deoxycholate (mCCD) agar* -	-
	The choice of the second medium is left to the discretion of the testing laboratory	
B.6/B.7/B.8/B.9/B.10 Confirmation and identification media and reagents	- *Columbia blood agar* **Columbia (base) agar** 500 g vial - BK019HA - *Sterile sheep or horse blood* - - *Oxidase reagent* - - *Reagent for the detection of catalase activity* - - *Reagent for the detection of hydrolysis of hippurate* - - *Indoxyl acetate discs* -	Partial [3] - - - - -

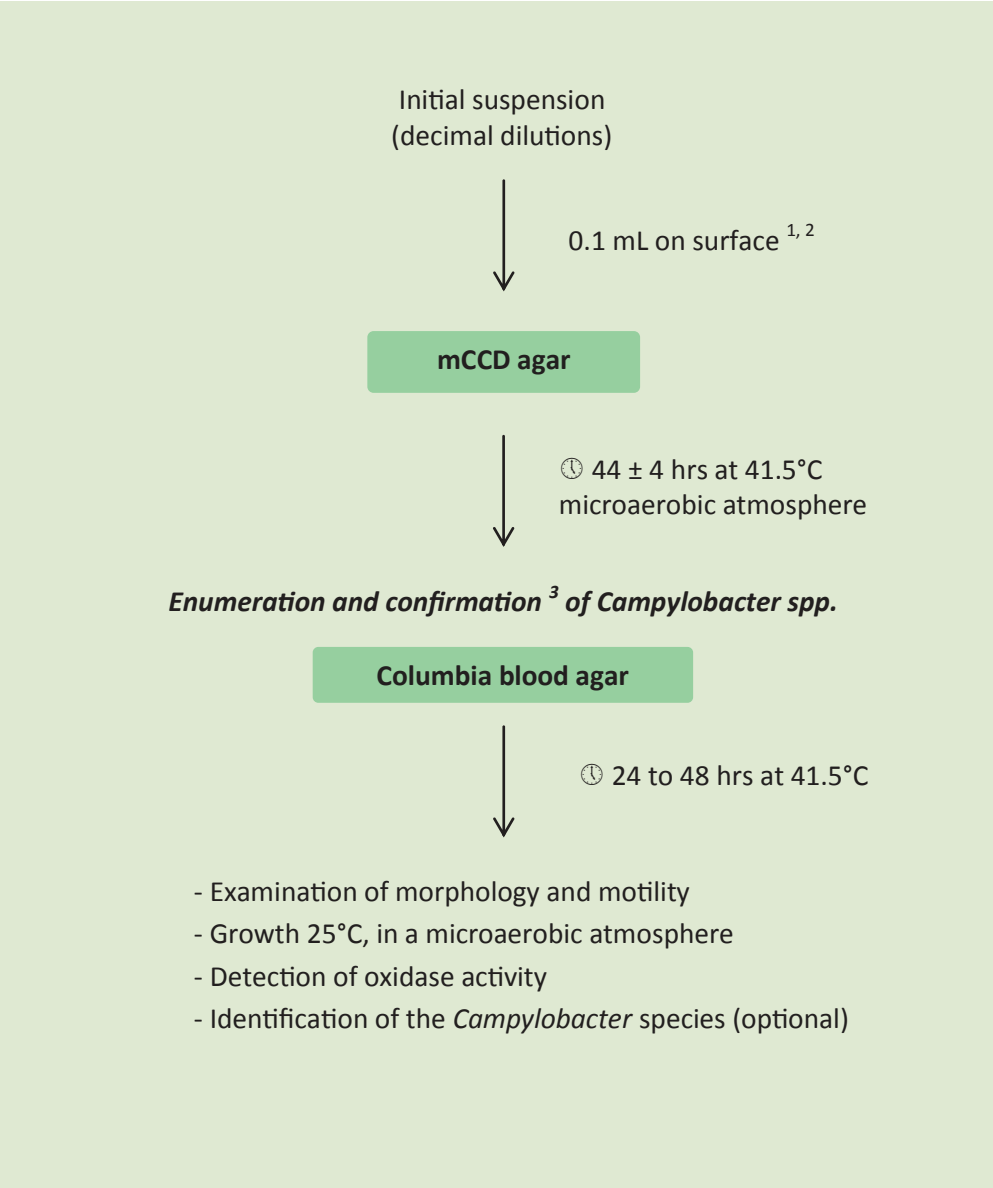
[3] pH 7.3 ± 0.2 instead of 7.4 ± 0.2.

Horizontal method for detection and enumeration of *Campylobacter* spp.

Part 2: Colony-count technique

NF EN ISO 10272-2: 07-2017
V 08-026-2

1. Protocol



[1] Carry out the operation in duplicate for each dilution.

[2] To estimate low numbers of *Campylobacter*, the enumeration limit may be reduced by a factor of 10, examining 1.0 mL of initial suspension. Apply 1.0 mL of initial suspension to 1 plate 140 mm in diameter or 3 plates 90 mm in diameter.

[3] For the confirmation tests, select at least 1 characteristic colony, then another 4 if the first is negative.

2. Media and reagents

Section	Media and reagents	Compliance
B.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
B.3 Isolation medium	- *Modified charcoal cefoperazone deoxycholate (mCCD) agar* -	-
B.4/B.5/B.6/B.7/B.8 Confirmation and identification reagents	- *Columbia blood agar* **Columbia (base) agar** 500 g vial - BK019HA	Partial [4]
	- *Sterile sheep or horse blood* -	-
	- *Oxidase reagent* -	-
	- *Reagent for the detection of catalase activity* -	-
	- *Reagent for the detection of hydrolysis of hippurate* -	-
	- *Indoxyl acetate discs* -	-

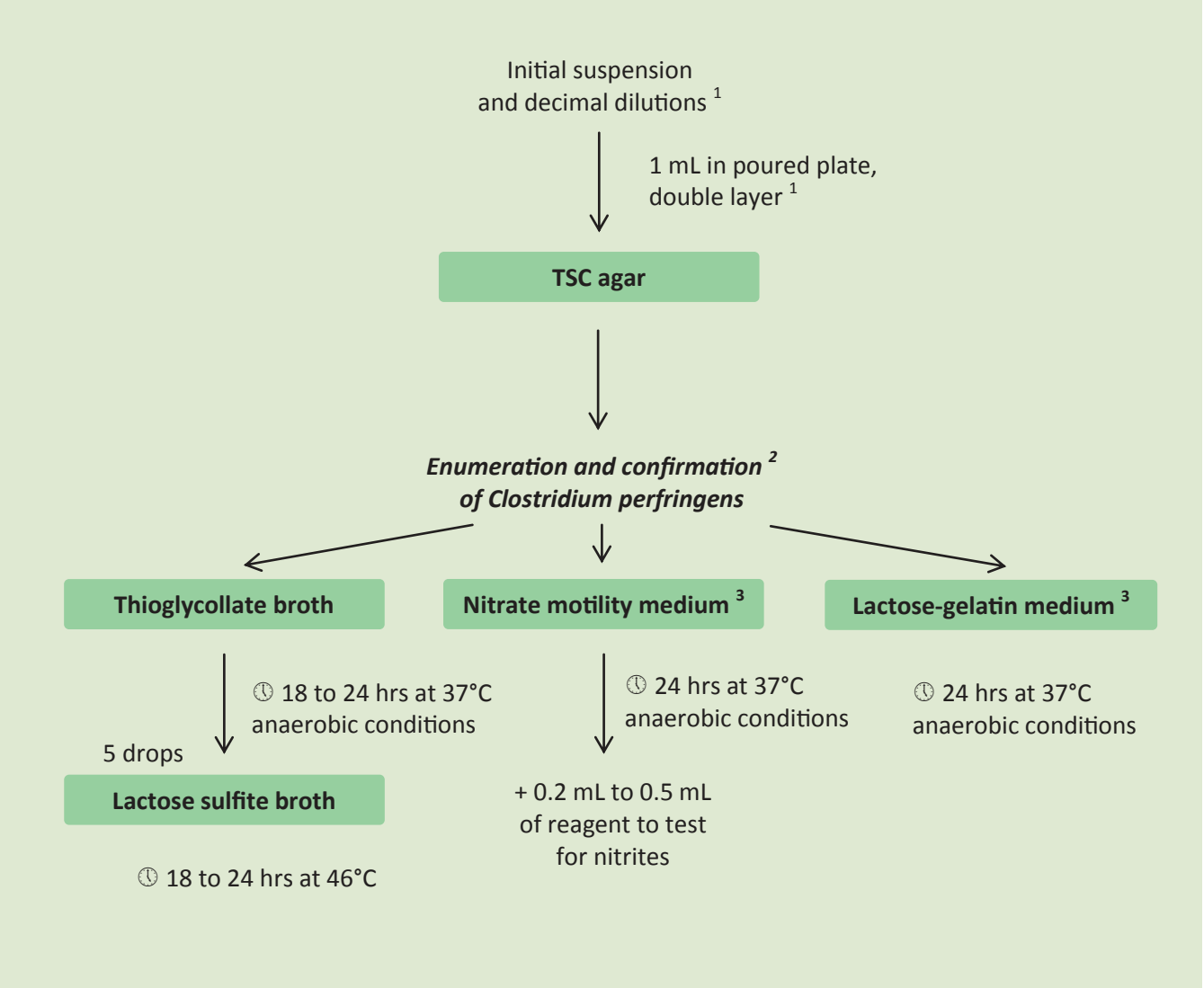
[4] pH 7.3 ± 0.2 instead of 7.4 ± 0.2.

Horizontal method for the enumeration of *Clostridium perfringens*

Colony-count technique

NF EN ISO 7937: 02-2005
V 08-019

1. Protocol



[1] Inoculate each dilution in duplicate.

[2] Select five characteristic colonies from each plate.

[3] Isolated colonies are required for confirmation. If this is not the case, inoculate 5 characteristic colonies in thioglycollate broth then on TSC base medium before reinoculation on nitrate motility medium and lactose-gelatin medium.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2 Culture medium	- *Sulfite-cycloserine agar (SC)* **TSC (base) agar** 50 x 20 mL tubes - BM03908 10 x 200 mL vials - BM07708 500 g vial - BK031HA **D-cycloserine 200 mg selective supplement** 10 vials q.s. 500 mL - BS00608 **D-cycloserine liquid supplement** 10 x 90- L vials - BS09208 1 x 50 mL vial - BS09408	Total [4] Total
5.3/5.4/5.5/5.6/5.7/ 5.8 Confirmation reagents	- *Fluid thioglycollate medium* **Thioglycollate medium with resazurin** 50 x 10 mL tubes - BM08208 500 g vial - BK017HA 5 kg drum - BK017GC - *Lactose sulfite medium* **Lactose-sulfite broth** 500 g vial - BK140HA 7 x 9 mL tubes - BM19208 - *Disodium disulfite solution* - - *Ammonium iron (III) citrate solution* - - *Nitrate motility medium* - - *Nitrite detection reagent* - - *5-Amino-2-naphthalenesulfonic acid (5-2-ANSA) solution* - - *Sulfanilic acid solution* - - *Zinc dust* - - *Lactose-gelatin medium* -	Total [4] Total [4] - - - - - - - -

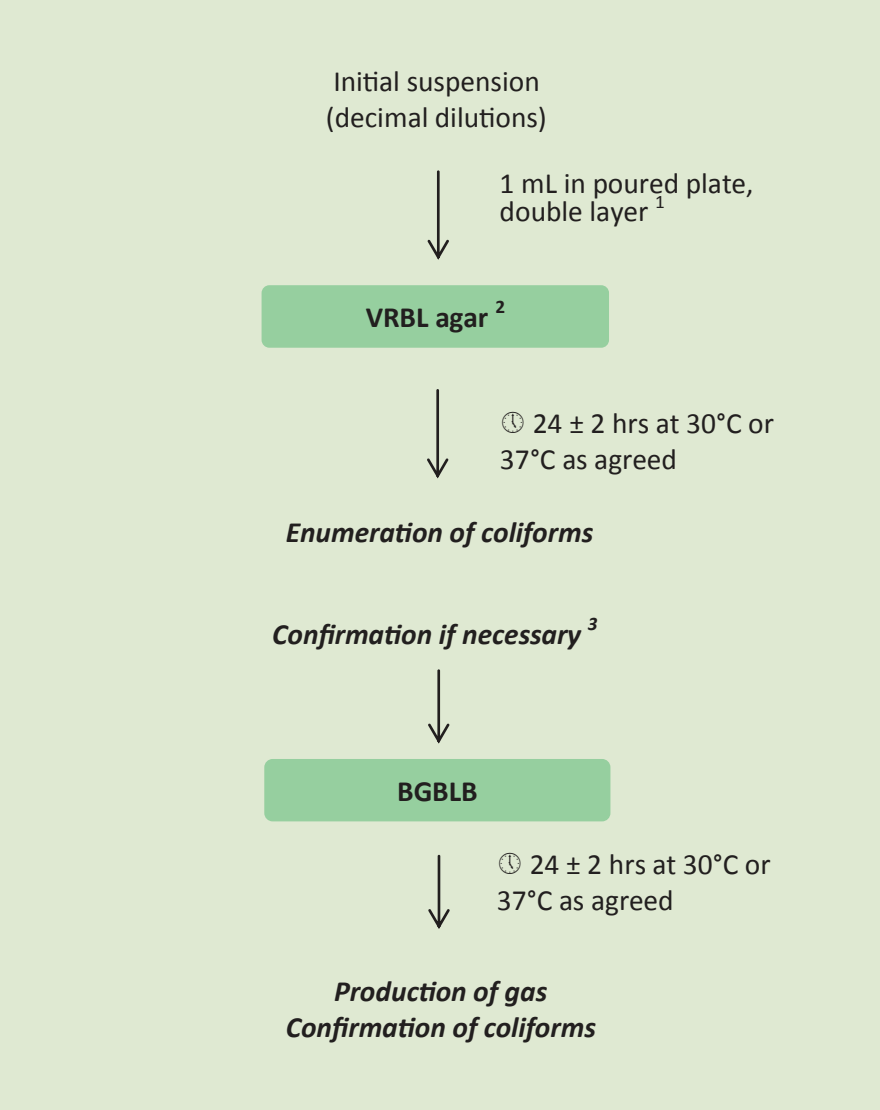
[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Horizontal method for the enumeration of coliforms

Colony-count technique

NF ISO 4832/FIL 73B: 07-2006
V 08-015

1. Protocol



[1] Inoculate each dilution in duplicate. Apply 1 mL of inoculum to an empty Petri dish, pour in 15 mL of medium, mix and allow to solidify. Then pour in a second layer of 4 mL of medium.

[2] Take a control plate with 15 mL of medium for the sterility control.

[3] Confirm the atypical colonies (e.g. those smaller in size) and the colonies derived from milk products containing sugars other than lactose. Reinoculate 5 atypical colonies.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Solid selective medium	- *Crystal violet neutral red bile lactose (VRBL) agar* **VRBL agar** 10 x 100 mL vials - BM03408 10 x 200 mL vials - BM03508 500 g vial - BK152HA 5 kg drum - BK152GC	Total
5.4 Confirmation medium	- *Brilliant green bile lactose broth* **Brilliant green bile lactose broth BGBLB** 50 x 10 mL tubes with Durham tubes - BM01108 500 g vial - BK002HA	Total [4]

[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

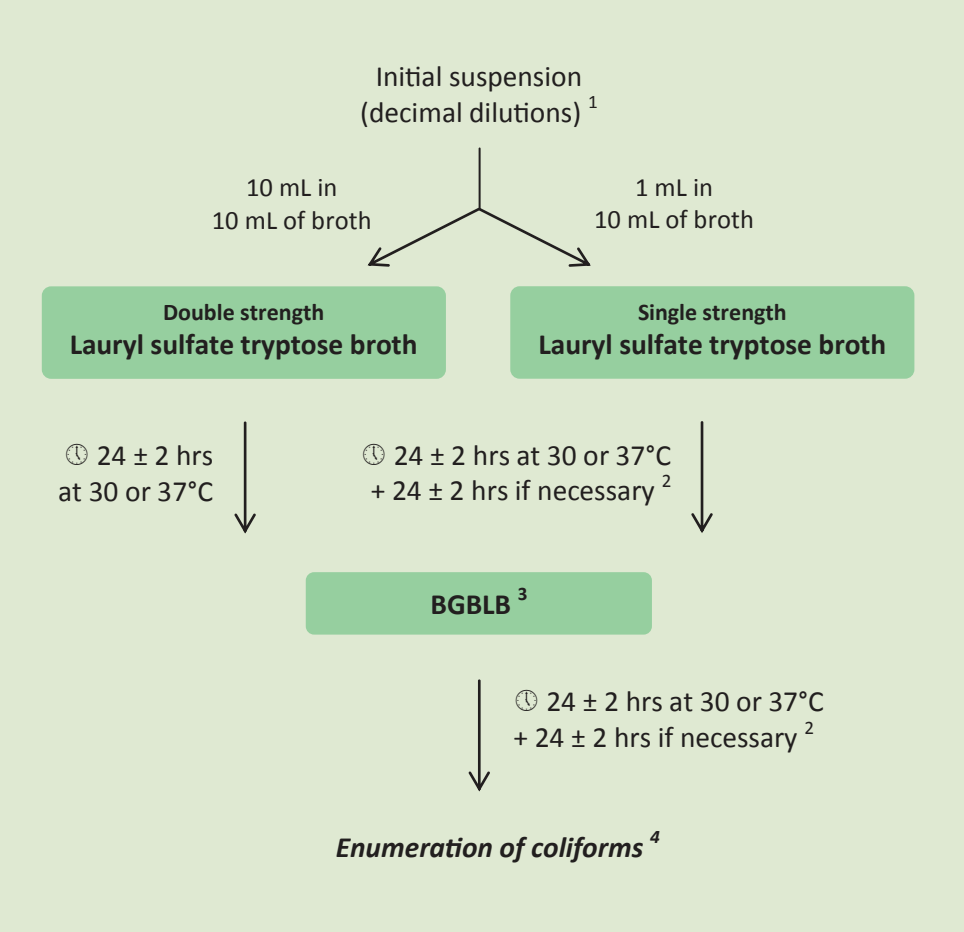
Horizontal method for the enumeration of coliforms

Most probable number technique

NF ISO 4831/FIL 73B: 10-2006
V 08-016

1. PROTOCOL

Enumeration protocol



Detection protocol

Inoculate the initial suspension in a tube of single strength or double strength medium, and follow the protocol described for enumeration.

[1] Inoculate the initial suspension in three tubes of double strength medium and three tubes of single strength medium. The decimal dilutions are inoculated in three tubes of single strength medium.

[2] If no gas is produced, prolong incubation.

[3] For each tube, inoculate a tube of confirmation medium (BGBLB) using a plate-loop.

[4] For each dilution, count the number of tubes which produce gas. Calculate the most probable number according to ISO 7218.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Selective enrichment medium	- *Lauryl sulfate tryptose broth* **Laurylsulfate Tryptose broth** 50 x 10 mL tubes with Durham tubes (Single strength) - BM09708 50 x 10 mL tubes with Durham tubes (Double strength) - BM09808 500 g vial - BK010HA	Partial [5]
5.4 Confirmation medium	- *Brilliant green bile lactose broth* **Brilliant green bile lactose broth BGBLB** 50 x 10 mL tubes with Durham tubes - BM01108 500 g vial - BK002HA	Total [6]

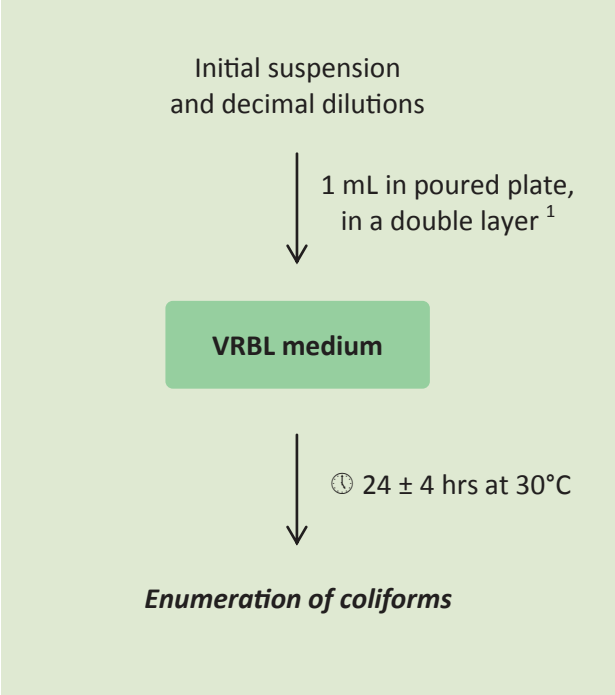
[5] Presence of tryptone instead of the enzymatic digest of milk and recommended animal proteins.

[6] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Enumeration of presumptive coliforms by the colony-count technique at 30°C

NF V 08-050: 04-2009
V 08-050

1. Protocol



2. Media and reagents

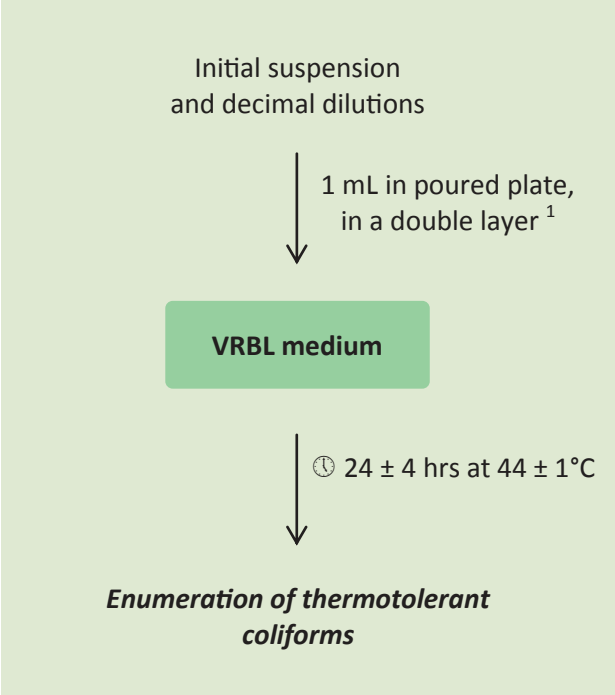
Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Selective medium	- *Crystal violet neutral red bile lactose (VRBL) agar* **VRBL agar** 10 x 100 mL vials - BM03408 10 x 200 mL vials - BM03508 500 g vial - BK152HA 5 kg drum - BK152GC	Total

[1] Inoculate each dilution in duplicate.

Enumeration of thermotolerant coliforms by the colony-count technique at 44°C

NF V 08-060: 04-2009
V 08-060

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Selective medium	- *Crystal violet neutral red bile lactose (VRBL) agar* **VRBL agar** 10 x 100 mL vials - BM03408 10 x 200 mL vials - BM03508 500 g vial - BK152HA 5 kg drum - BK152GC	Total

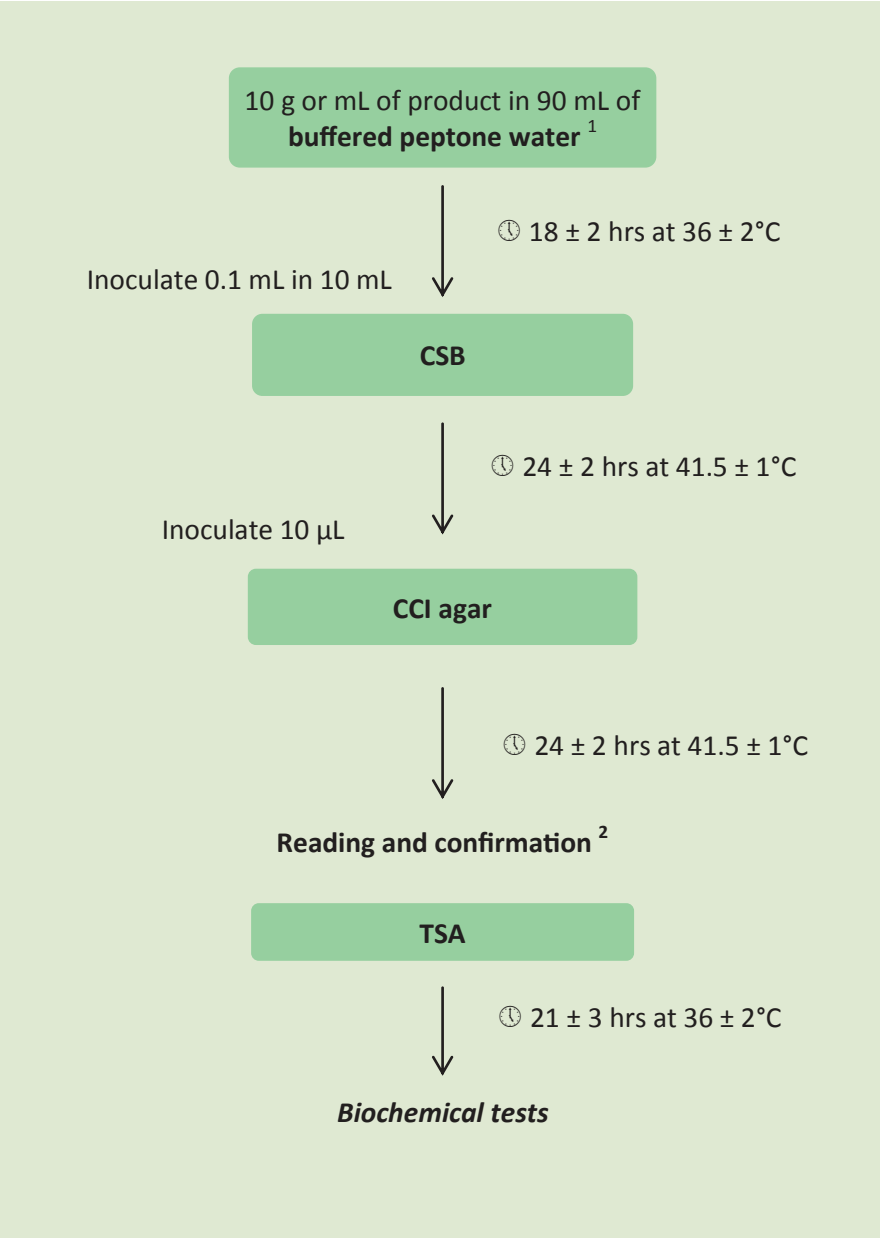
[1] Inoculate each dilution in duplicate.

Microbiology of food

Detection of Cronobacter spp.

NF EN ISO 22964: 06-2017
V 08-746

1. Protocol



[1] For samples over than 10 g, the buffered peptone water should be prewarmed at between 34 and 38°C.

[2] Reinoculate 5 colonies identified as characteristic. Then test a colony; if the result is negative, test the other four colonies selected.

2. Media and reagents

Section	Media and reagents	Compliance
B.1 Pre-enrichment medium	- *Buffered Peptone Water (BPW)* **Buffered Peptone Water 20.0 g/L** [3] 500 g vial - BK131HA 5 kg drum - BK131GC **Buffered Peptone Water 25.5 g/L** [4] 50 x 9 mL tubes - BM05608 10 x 90 mL vials - BM05708 10 x 225 mL vials - BM01008 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208 500 g vial - BK018HA 5 kg drum - BK018GC	Total
B.2 Liquid enrichment medium	- *Cronobacter selective broth (CSB)* **Cronobacter screening broth (CSB)** 50 x 10 mL tubes - BM15508	Total
B.3 Agar medium	- *Chromogenic Cronobacter isolation (CCI) agar* **Chromogenic Cronobacter isolation (CCI) agar** 20 Petri dishes Ø 90 mm - BM15408	Total
B.4 Subculture medium	- *Tryptone soya agar (TSA)* **Trypto-casein soy agar (TSA)** 20 Petri dishes Ø 90 mm - BM05008 10 x 100 mL vials - BM01708 10 x 200 mL vials - BM04908 500 g vial - BK047HA	Total
B.5 Confirmation media and reagents	- *Oxidase reagent* - - *α-glucosidase enzymatic assay solution* - - *L-lysine decarboxylation medium* - - *L-ornithine decarboxylation medium* - - *Media for fermentation of carbohydrates* - - *MR//VP base media* - - *Methyl red (MR) reactive compound* - - *Voges-Proskauer (VP) reactive compound* -	-

[3] Formula including 9.0 g/L of disodium phosphate dodecahydrate (Molecular mass = 358.14).

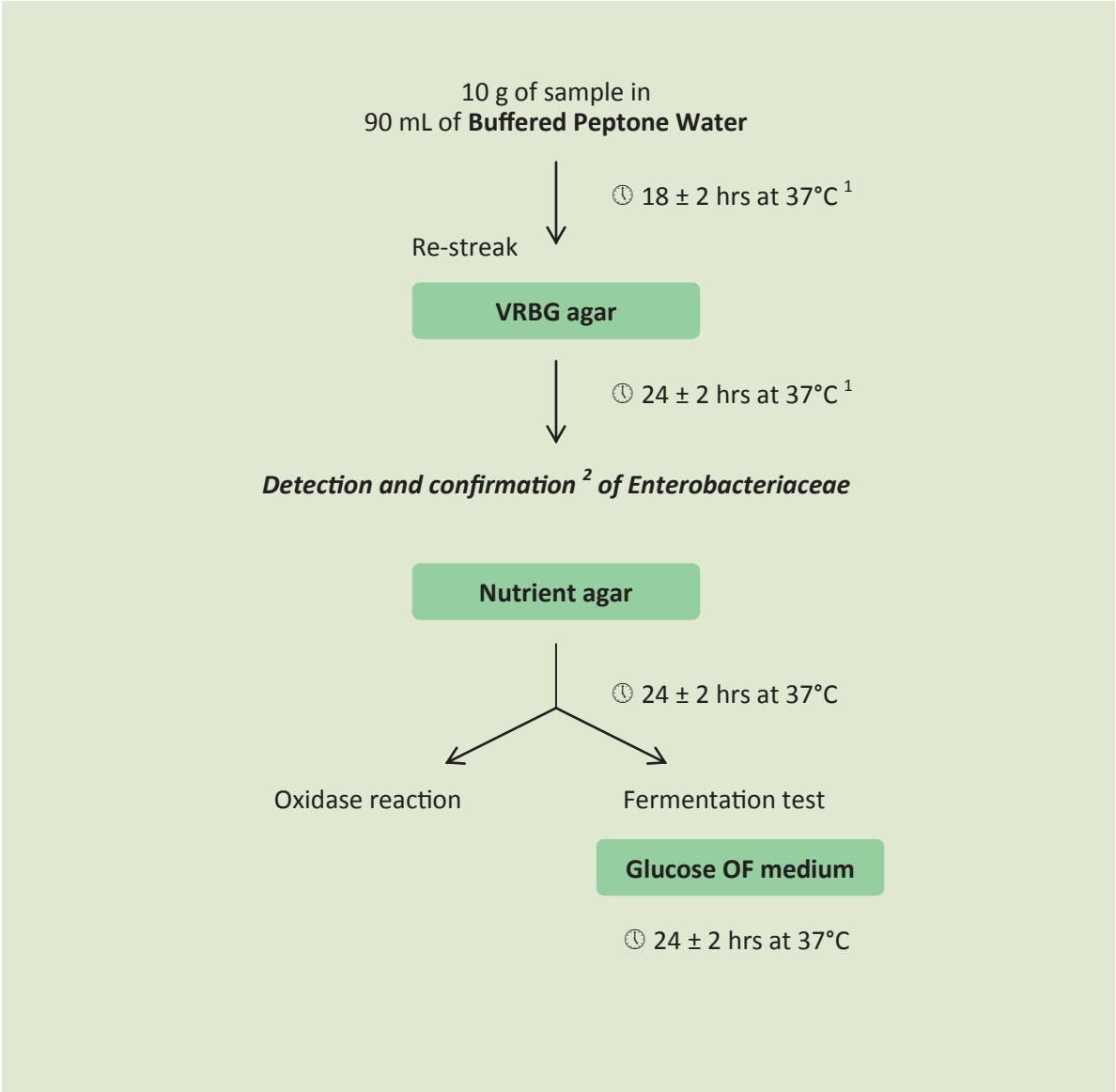
[4] Formula including 3.56 g/L of anhydrous disodium phosphate (Molecular mass = 141.96).

Horizontal method for the detection and enumeration of *Enterobacteriaceae*

Part 1: Detection of *Enterobacteriaceae*

NF EN ISO 21528-1: 06-2017
V 08-039-1

1. Protocol



[1] An incubation temperature of 37°C is generally used when *Enterobacteriaceae* are tested for as a hygiene indicator. Otherwise, a temperature of 30°C may be chosen in the context of a technological process, including psychrotrophic *Enterobacteriaceae*.

[2] Reinoculate one characteristic colony per plate.

2. Media and reagents

Section	Media and reagents	Compliance
B.1 Enrichment medium	- *Buffered Peptone Water* **Buffered Peptone Water (20.0 g/L)** [3] 500 g vial - BK131HA 5 kg drum - BK131GC **Buffered Peptone Water (25.5 g/L)** [4] 50 x 9 mL tubes - BM05608 10 x 225 mL vials - BM01008 10 x 90 mL vials - BM05708 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208 500 g vial - BK018HA 5 kg drum - BK018GC	Total
B.2 Solid selective medium	- *Violet red bile glucose (VRBG) agar* **VRBG agar** 10 x 200 mL vials - BM07508 500 g vial - BK011HA 5 kg drum - BK011GC	Total
B.3/B.4/B.5 Confirmation media and reagents	- *Nutrient agar* **2.5% nutrient agar** 50 x 18 mL tubes - BM12508 - *Glucose OF medium* **Glucose OF medium** 50 x 10 mL tubes - BM19708 - *N,N,N',N'-Tetramethyl-p-phenylenediamine dihydrochloride* -	Equivalent Total -

[3] Formula including 9.0 g/L of disodium phosphate dodecahydrate (molecular mass 358.14).

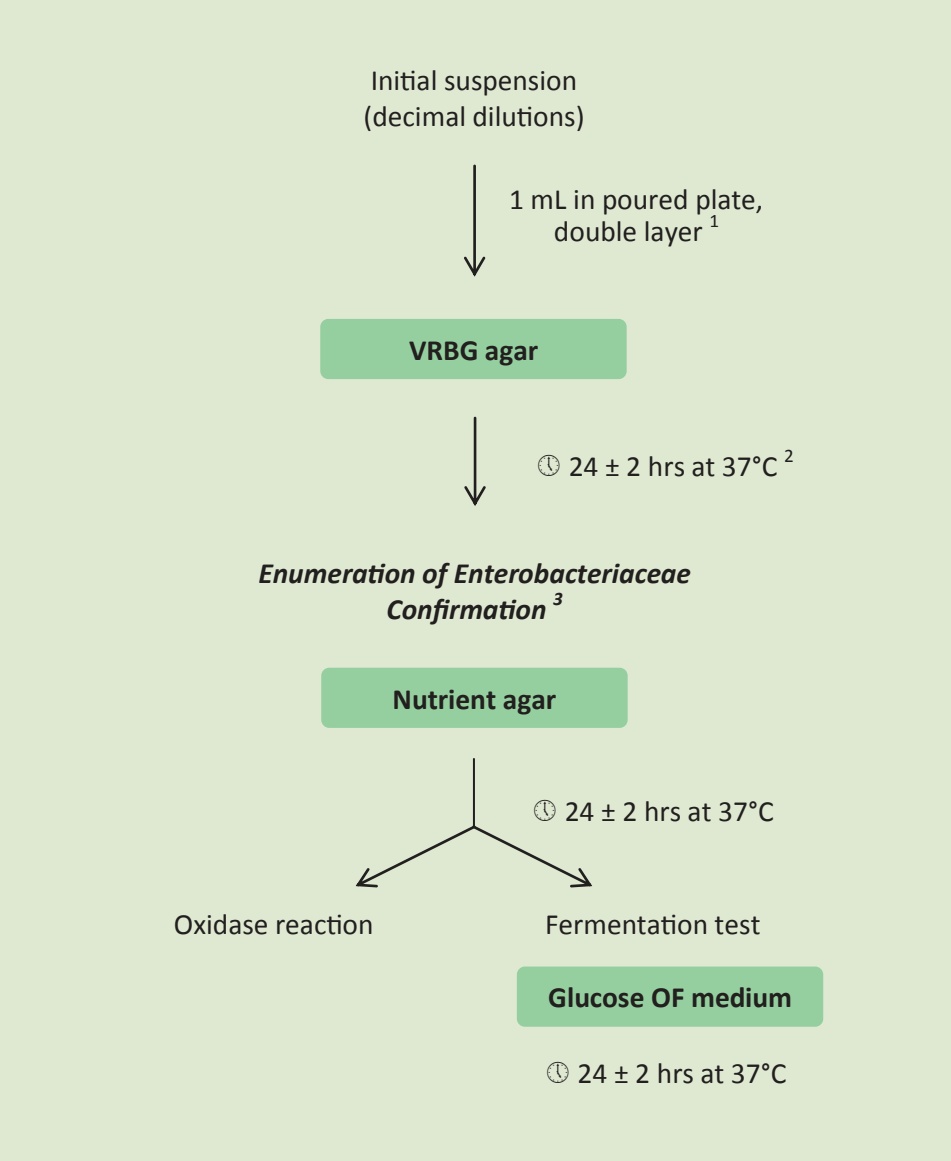
[4] Formula including 3.56 g/L of anhydrous disodium phosphate (molecular mass 141.96).

Horizontal method for the detection and enumeration of *Enterobacteriaceae*

Part 2: Colony-count technique

NF EN ISO 21528-2: 07-2017
V 08-039-2

1. Protocol



[1] Add 15 mL of medium, mix and allow to solidify. Then add a superficial layer of 5 to 10 mL of medium.
Inoculate each dilution in duplicate.

[2] An incubation temperature of 37°C is generally used when *Enterobacteriaceae* are tested for as a hygiene indicator. Otherwise, a temperature of 30°C may be chosen in the context of a technological process, including psychrotrophic *Enterobacteriaceae*.

[3] Reinoculate a well isolated colony in each plate.

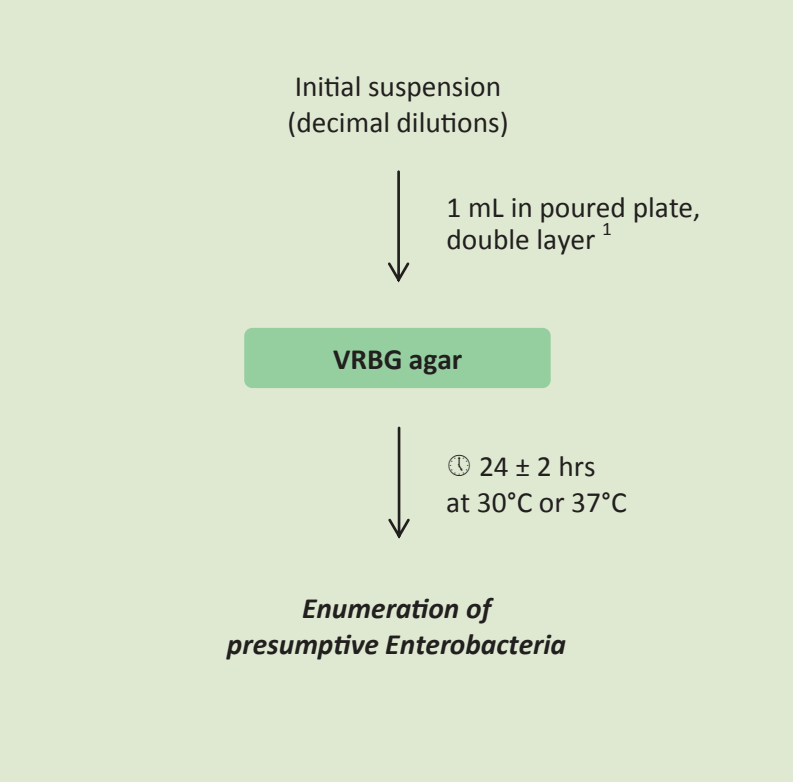
2. Media and reagents

Section	Media and reagents	Compliance
A.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
A.2 Solid selective medium	- *Violet red bile glucose (VRBG) agar* **VRBG agar** 10 x 200 mL vials - BM07508 500 g vial - BK011HA 5 kg drum - BK011GC	Total
A.3/A.4/A.5 Confirmation media and reagents	- *Nutrient agar* **2.5% nutrient agar** 50 x 18 mL tubes - BM12508 - *Glucose OF medium* **Glucose OF medium** 50 x 10 mL tubes - BM19708 - *N,N,N',N'-Tetramethyl-p-phenylenediamine dihydrochloride* -	Equivalent Total -

Enumeration of presumptive Enterobacteria by the colony-count technique at 30°C or 37°C

NF V 08-054: 04-2009
V 08-054

1. Protocol



[1] The second layer of VRBG agar is used in order to prevent the colonies from spreading and to create semi-anaerobic conditions.

Inoculate each dilution in duplicate.

2. Media and reagents

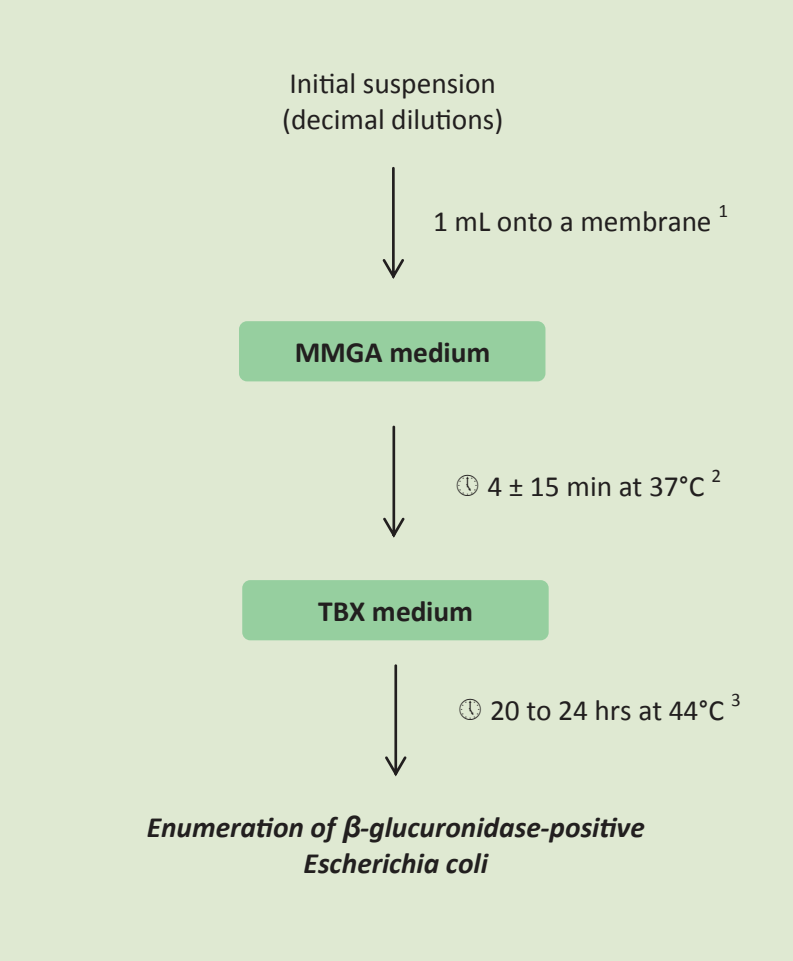
Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Solid selective medium	- *Violet red bile glucose (VRBG) agar* **VRBG agar** 10 x 200 mL vials - BM07508 500 g vial - BK011HA 5 kg drum - BK011GC	Total

Horizontal method for the enumeration of β-glucuronidase-positive *Escherichia coli*

Part 1: Colony-count technique at 44°C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide

NF ISO 16649-1: 09-2018
V 08-031-1

1. Protocol



[1] First place a membrane on the surface of the medium. Then apply 1 mL of sample in the centre and spread on the surface of the membrane using a spreader. Inoculate each dilution in duplicate.

[2] Leave the Petri dish at room temperature for 15 minutes before incubating at 37 °C.

[3] Do not exceed a temperature of 45 °C.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2.1 Culture medium	- *Minerals-modified glutamate agar (MMGA) medium* -	-
5.2.2 Selective medium	- *Tryptone-bile-glucuronide agar (TBX) medium* **TBX agar** 10 x 100 mL vials - BM06908 10 x 200 mL vials - BM17108 500 g vial - BK146HA 100 g vial - BK146HM	Total [4]

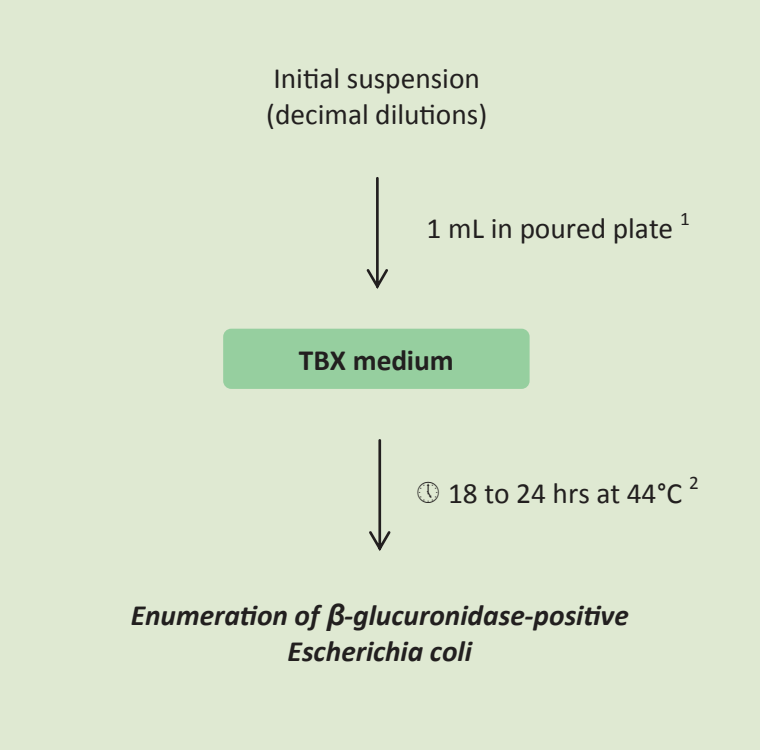
[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Horizontal method for the enumeration of β-glucuronidase-positive *Escherichia coli*

Part 2: Colony-count technique at 44°C using 5-bromo-4-chloro-3-indolyl β-D-glucuronide

NF ISO 16649-2: 07-2001
V 08-031-2

1. Protocol



[1] Inoculate each dilution in duplicate.

[2] If stressed microorganisms are thought to be present, first incubate at 37°C, then for 18 to 24 hours at 44°C. The incubation temperature should not exceed 45°C.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2 Selective medium	- *Tryptone-bile-glucuronide agar (TBX) medium* **TBX agar** 10 x 100 mL vials - BM06908 10 x 200 mL vials - BM17108 500 g vial - BK146HA 100 g vial - BK146HM	Total [3]

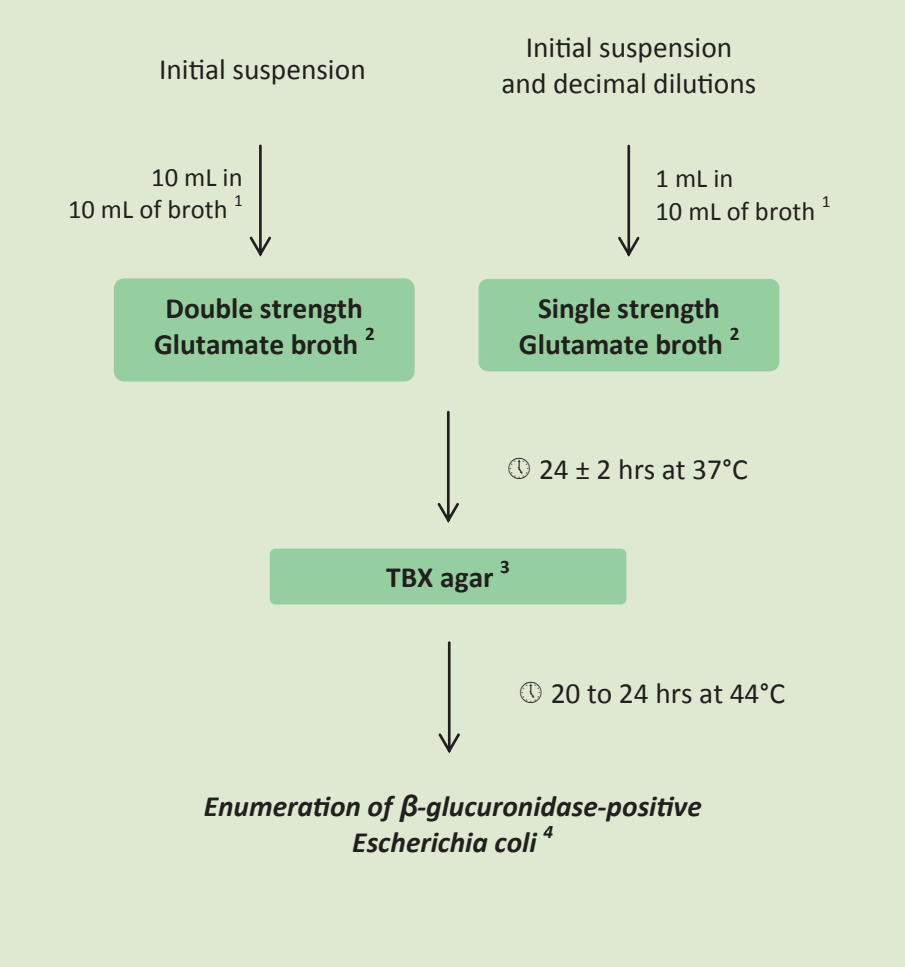
[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Horizontal method for the enumeration of β-glucuronidase-positive *Escherichia coli*

Part 3: Detection and most probable number technique using 5-bromo-4-chloro-3-indolyl β-D-glucuronide

NF EN ISO 16649-3: 07-2015
V 08-031-3

1. Protocol



[1] Inoculate 3 or 5 tubes of single or double strength medium for each inoculation.

[2] For detection, inoculate the single or double strength glutamate broth with an appropriate volume and follow the protocol described for enumeration.

[3] After incubation, reinoculate the tubes displaying acidification on TBX medium in order to yield isolated colonies.

[4] Calculate the most probable number based on the positive tubes for each dilution.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2.1 Enrichment medium	- *Minerals-modified glutamate agar medium* **Glutamate broth** 500 g vial - BK186HA	Total
5.2.2 Selective medium	- *Tryptone-bile-glucuronide agar (TBX) medium* **TBX agar** 10 x 100 mL vials - BM06908 10 x 200 mL vials - BM17108 500 g vial - BK146HA 100 g vial - BK146HM	Total [4]

[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Horizontal method for the detection and enumeration of presumptive *Escherichia coli*

Most probable number technique

NF ISO 7251: 07-2005
V 08-020

1. Protocol

[1] In the context of enumeration, inoculate three tubes of single strength medium and three tubes of double strength medium for each dilution.

[2] If no gas is produced after 24 ± 2 hours, prolong incubation up to 48 ± 2 hours.

[3] Determine the most probable number based on the positive tubes for each dilution and the MPN table in Appendix A.

2. Media and reagents

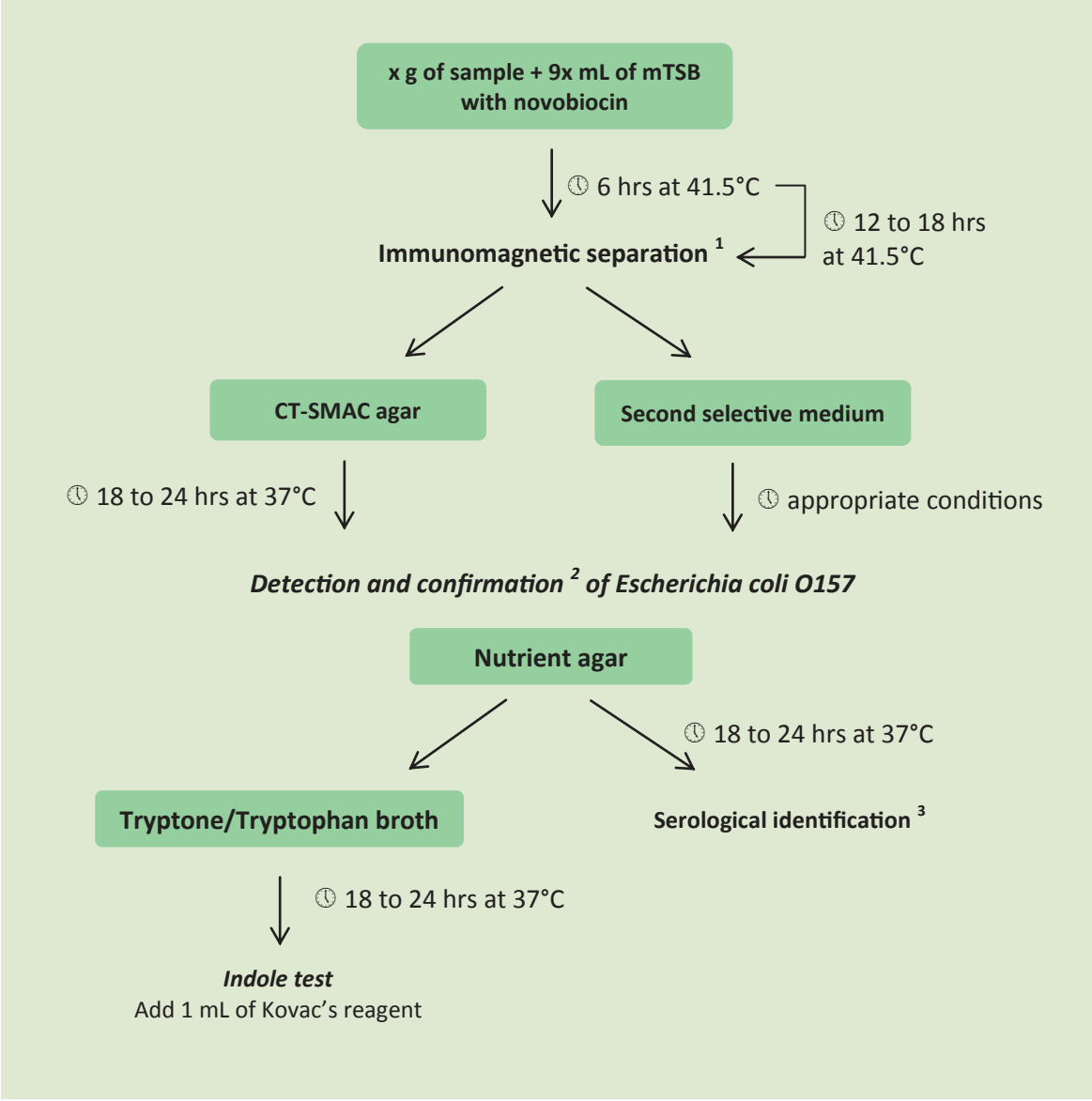
Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2 Selective enrichment medium	- *Lauryl sulfate broth* **Laurylsulfate tryptose broth** 50 x 10 mL tubes with Durham tubes (Single strength) - BM09708 50 x 10 mL tubes with Durham tubes (Double strength) - BM09808 500 g vial - BK010HA	Total [4]
5.3 Selective medium	- *EC broth* **EC broth** 500 g vial - BK162HA	Total [4]
5.4 Examination for indole production	- *Peptone water, indole free* **Peptone water** 500 g vial - BK084HA	Total [4]
5.5 Examination for indole production	- *Kovac's reagent for detection of indole* -	-

[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Horizontal method for the detection of E*scherichia coli* O157

NF EN ISO 16654: 07-2001
Modified by Amendment A1 (06-2017)
V 08-032

1. Protocol



[1] Immunomagnetic separation should take place after 6 hours of incubation, and after additional incubation of 12 to 18 hrs.
[2] Sample 5 characteristic colonies from each plate and isolate each colony on a nutrient agar plate.
[3] Carry out serological identification on the colonies positive for the indole test only.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	- *Modified tryptone soya broth with novobiocin (mTSB+N)* **Modified tryptone soy broth (mTSB base)** 500 g vial - BK150HA **Selective novobiocin supplement** 10 x 10 mg vials - BS03308 8 x 40 mg vials - BS05608	Total [4]
5.2 First selective isolation medium	- *Sorbitol MacConkey agar with cefixime and tellurite (CT-SMAC)* **Sorbitol MacCONKEY agar (CT-SMAC base)** 500 g vial - BK147HA **Cefixime-tellurite supplement for CT-SMAC agar** 10 vials q.s. 500 mL - BS03708	Total [4]
5.3 Second selective isolation medium	*The choice of the second medium is left to the discretion of the testing laboratory*	
5.4 Subculture medium	- *Nutrient agar* **2% nutrient agar** 50 x 18 mL tubes - BM11808 500 g vial - BK185HA	Total [4]
5.5 Confirmation	- *Tryptone/tryptophan broth* **Tryptophan broth** 50 x 3 mL tubes - BM07608 500 g vial - BK163HA	Total
5.6 Confirmation	- *Kovac's reagent for detection of indole* -	-
5.7/5.8 Immunomagnetic separation (IMS)	- *Anti-E. coli O157 immunomagnetic beads* - - *Modified phosphate buffer 0.01 mol/L pH 7.2* -	- -
5.9/5.10 Serological identification	- *Saline solution* - - *Anti-E. coli O157 serum* -	- -

[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Amendment A1

Horizontal method for the detection of Escherichia coli O157

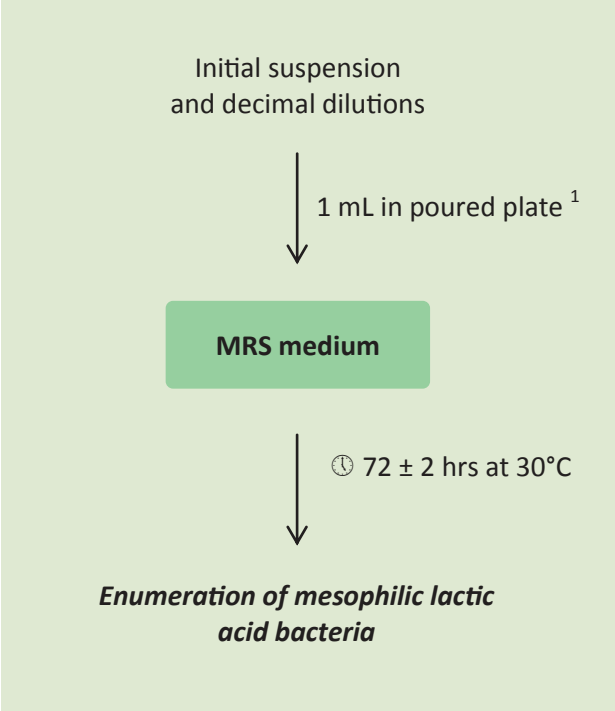
AMENDMENT 1: Appendix B: interlaboratory study results

Horizontal method for the enumeration of mesophilic lactic acid bacteria

Colony-count technique at 30°C

NF ISO 15214: 09-1998
V 08-030

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Selective medium	- *MRS (de Man, Rogosa and Sharpe) medium, pH 5.7* **MRS agar** 10 x 200 mL vials - BM08908 500 g vial - BK089HA	Total [2]

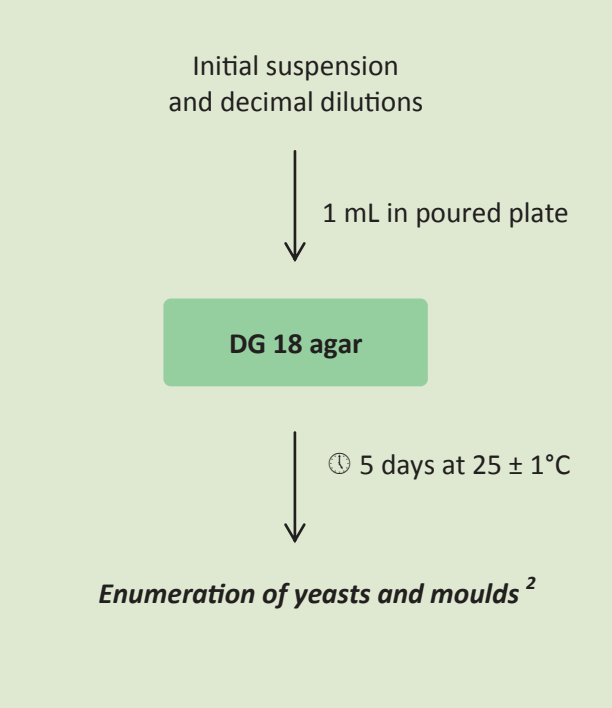
[1] Inoculate each dilution in duplicate.

[2] De Man J.C, Rogosa M., Sharpe M.E. 1960. A medium for the cultivation of lactobacilli. J. App. Bacteriol., 23, (1): 130-135.

Horizontal method for the enumeration of yeasts and moulds growing on low a_w medium [1]

NF V 08-036: 05-2003
V 08-036

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.[3]	
5.3 Culture medium	- *Dichloran 18% glycerol (DG) agar* **Dichloran-Glycerol (DG 18) agar** 10 x 100 mL vials - BM10908 500 g vial - BK170HA	Total [4, 5]

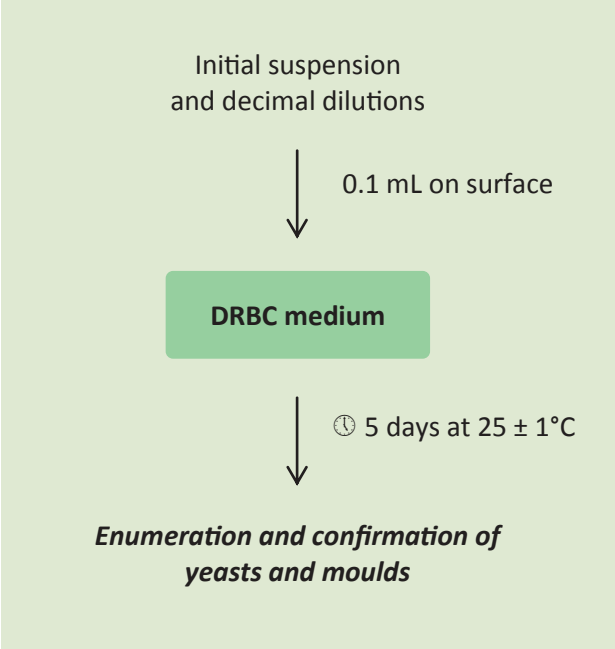
[1] Product with water activity less than or equal to 0.95.
[2] If rapid plate invasion is observed, carry out the reading before 5 days.
[3] Addition of Tween® 80 to the chosen dilution medium, at a concentration of 0.033 g/L, may facilitate the mould count.
[4] 220.0 g/L of glycerol per litre of agar base medium needs to be added to the dehydrated form.
[5] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Horizontal method for the enumeration of yeasts and moulds

Part 1: Colony count technique in products with water activity greater than 0.95

NF ISO 21527-1: 11-2008
V 08-040-1

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluents	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103. [1, 2]	
	- 0.1% peptone water (mass concentration) **0.1% peptone water** 2 x 5 L flexible bags - BM16408	Total [3]
5.2 Culture medium	*- Dichloran-rose bengal chloramphenicol agar* [4, 5, 6] **Dichloran-rose bengal chloramphenicol (DRBC) agar** [7] 10 x 200 mL vials - BM14208 500 g vial - BK198HA	Total

[1] Addition of Tween® 80 to the chosen liquid dilution medium, at a concentration of 0.033 g/L, may facilitate the mould count.

[2] Except when specifically preparing the sample for the test, use of 0.1% peptone water (mass concentration) as the diluent is recommended.

[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

[4] When bacterial proliferation may present a problem, use of chloramphenicol (50 mg/L) and chlortetracycline (50 mg/L) is recommended.

[5] In order for the full mould morphology to be observed, 1 mL of a trace element solution ($ZnSO_4$. 7 H_2O, $CuSO_4$. 5H_2O q.s. 100 mL H_2O) may be added for 1 L of medium.

[6] In order to avoid the proliferation of certain microorganisms (Mucoraceae), addition of Tergitol (1 mL/L) to the culture medium is recommended.

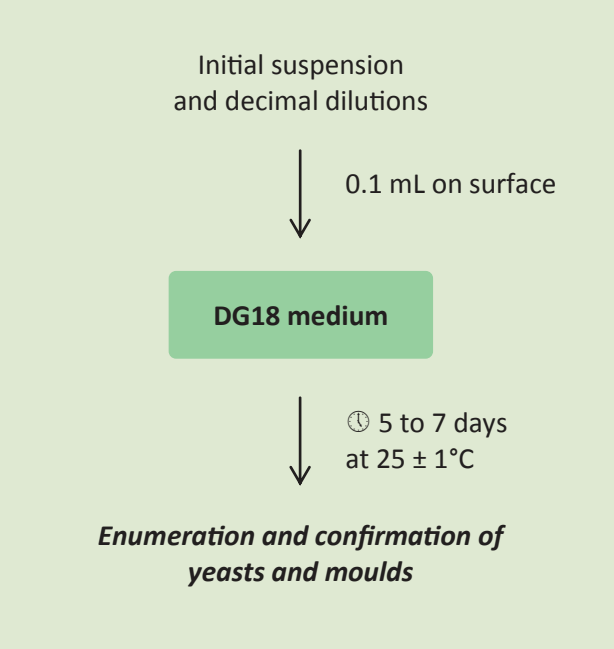
[7] Complete formula including 50 mg/L of chloramphenicol, 50 mg/L of chlortetracycline hydrochloride, 1 mg/L of $ZnSO_4$, 7H_2O, 0.5 mg/L of $CuSO_4$, 5H_2O, 1 mL/L of Tergitol.

Horizontal method for the enumeration of yeasts and moulds

Part 1: Colony count technique in products with water activity less than or equal to 0.95

NF ISO 21527-2: 11-2008
V 08-040-2

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluents	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103. [1, 2, 3]	
	- 0.1% peptone water (mass concentration) **0.1% peptone water** 2 x 5 L flexible bags - BM16408	Total [4]
5.2 Culture medium	*- Dichloran 18% glycerol (DG) agar* [6, 7] **Dichloran-Glycerol (DG 18) agar** 10 x 100 mL vials - BM10908 500 g vial - BK170HA	Total [4, 5]

[1] Addition of Tween® 80 to the chosen liquid dilution medium, at a concentration of 0.033 g/L, may facilitate the mould count.

[2] The use of a diluent containing a sufficient quantity of solute (20 to 30% of glycerol or D-glucose) is recommended in order to reduce osmotic shock on xerophilic moulds and osmophilic yeasts when serial dilutions are prepared.

[3] Except when specifically preparing the sample for the test, use of 0.1% peptone water (mass concentration) as the diluent is recommended.

[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

[5] 220.0 g of glycerol per litre of glucose base medium needs to be added to the commercial dehydrated form.

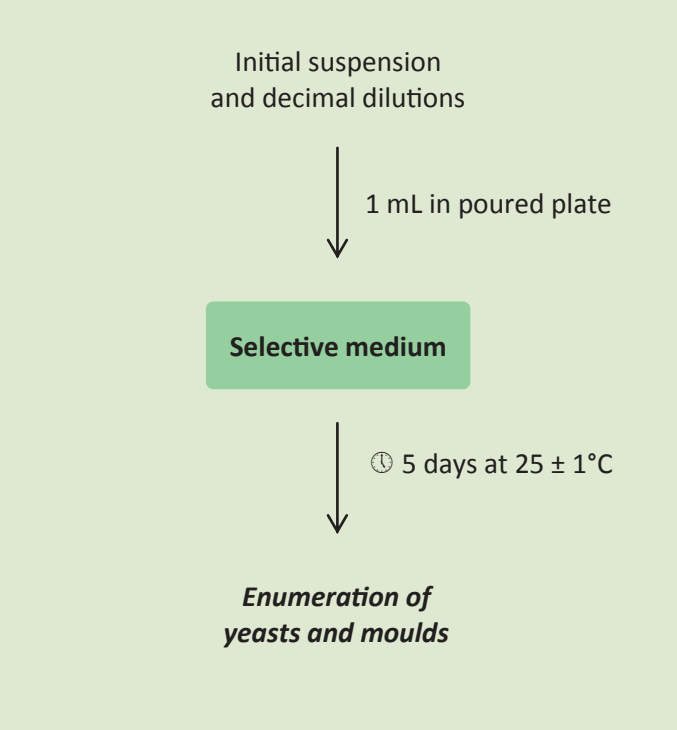
[6] When bacterial proliferation may present a problem, use of chloramphenicol (50 mg/L) and chlortetracycline (50 mg/L) is recommended.

[7] Complete formula including 50 mg/L of chloramphenicol, 50 mg/L of chlortetracycline hydrochloride, 1 mg/L of $ZnSO_4$, $7H_2O$, 0.5 mg/L of $CuSO_4$, $5H_2O$, 1 mL/L of Tergitol.

Routine method for the enumeration of yeasts and moulds by colony-count technique at 25°C

NF V 08-059: 11-2002
V 08-059

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Culture media	- *Glucose chloramphenicol agar* **Chloramphenicol glucose agar** 10 x 100 mL vials - BM02108 10 x 200 mL vials - BM07908 500 g vial - BK007HA	Total
	- *Oxytetracycline glucose agar* **Oxytetracycline glucose agar (OGA base)** 10 x 110 mL vials - BM02208 500 g vial - BK053HA **Oxytetracycline supplement** [1] 10 x 50 mg vials - BS00808 **Gentamicin supplement** [2] 10 x 25 mg vials - BS00908	Total

[1] Chloramphenicol may be replaced by oxytetracycline.

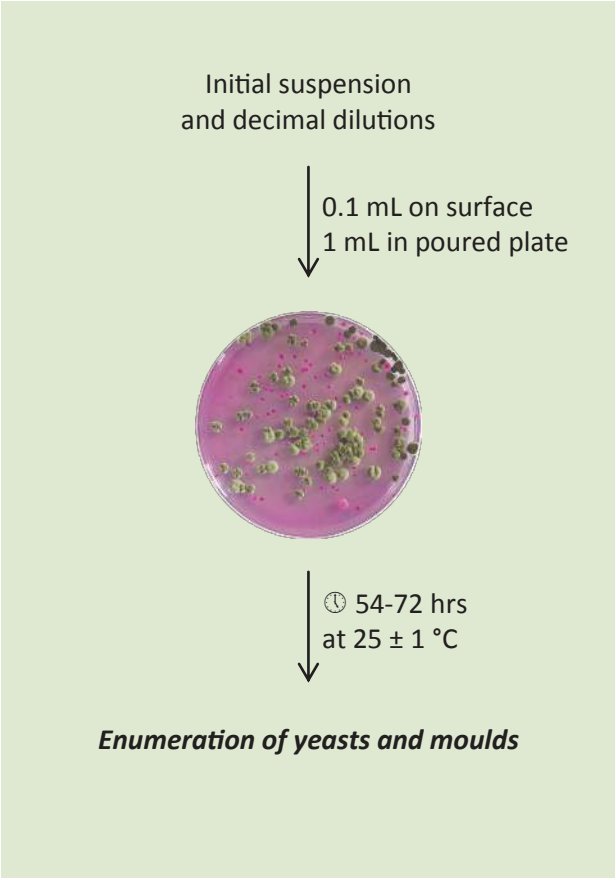
[2] Optional additive, justified by the suspected presence of sizeable contamination by Gram-negative bacteria.

SYMPHONY agar

Method for the enumeration of yeasts and moulds

BKR 23/11-12/18
Alternative food analysis method
www.afnor-validation.org

1. Protocol



2. Media and reagents

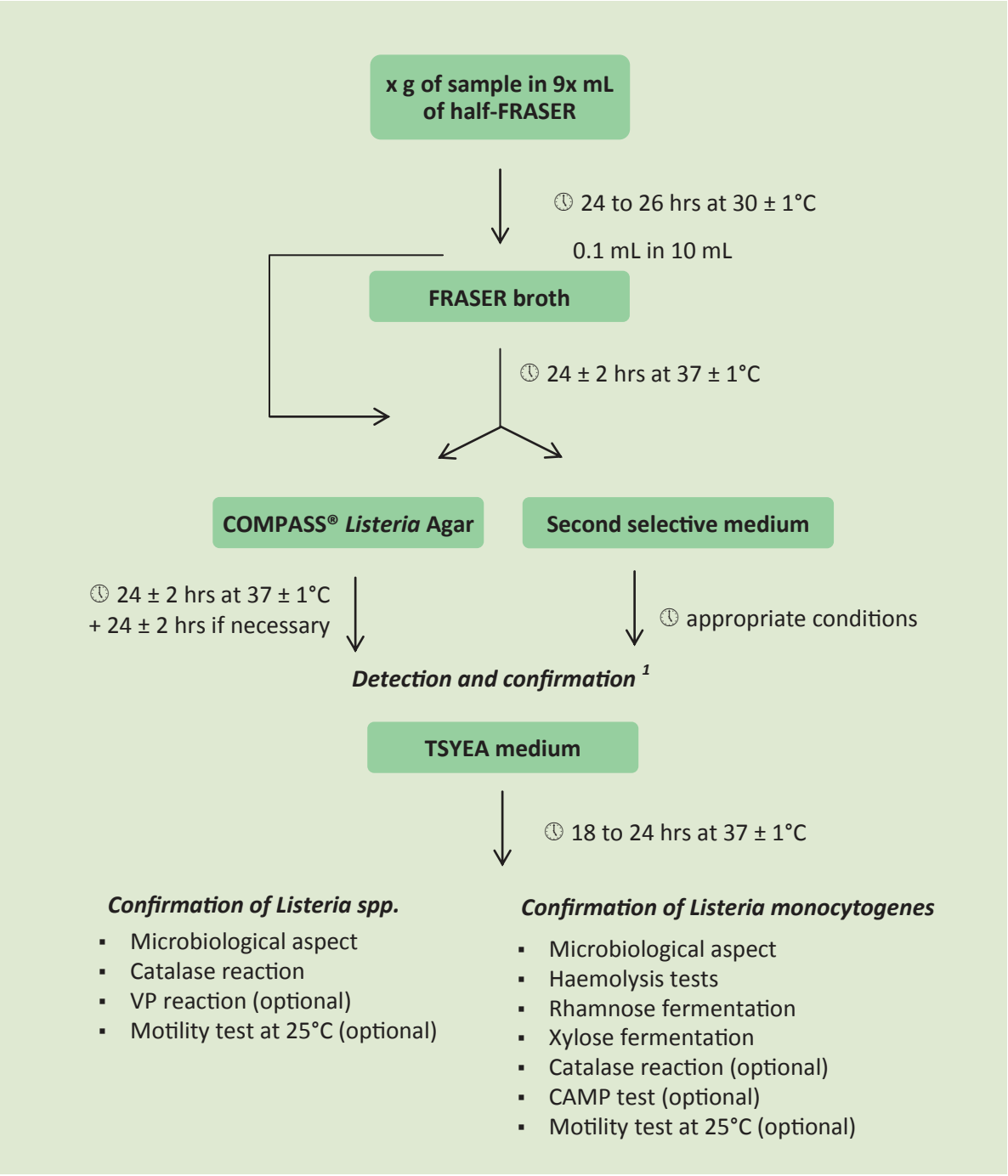
Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.
Culture medium	**SYMPHONY agar - ready-to-melt** 10 x 200 mL vials - BM19108

Horizontal method for the detection and enumeration of *Listeria monocytogenes*

Part 1: Detection method

NF EN ISO 11290-1: 07-2017
V 08-028-1

1. Protocol



[1] Using each plate, reinoculate a characteristic colony of *Listeria* spp. and Listeria monocytogenes on TSYEA medium. After incubation, carry out the required confirmation tests.

2. Media and reagents

Section	Media and reagents	Compliance
B.1 Selective primary enrichment medium	- *Half-FRASER broth* **Half-FRASER broth (ready-to-use)** [2] 10 x 225 mL vials - BM01608 3 x 3 L flexible bags - BM13308 2 x 5 L flexible bags - BM13408 **Half-FRASER broth (base)** [2] 500 g vial - BK173HA 5 kg drum - BK173GC **Sterile 5% ammonium ferric citrate supplement (for BK173)** 10 x 90 mL vials - BS05908 7 x 10 mL tubes - BS06208 **FRASER broth (base II)** [2] 500 g vial - BK133HA 5 kg drum - BK133GC **Selective supplement for FRASER broth (for BK133)** 10 vials q.s. 500 mL - BS03008 8 vials q.s. 2.25 L - BS03208	Total [3]
B.2 Selective secondary enrichment medium	- *FRASER broth* **FRASER broth (ready-to-use)** [2] 50 x 10 mL tubes - BM01308 **FRASER broth (base II)** [2] 500 g vial - BK133HA 5 kg drum - BK133GC **Selective supplement for FRASER broth (for BK133)** 10 vials q.s. 500 mL - BS03008 8 vials q.s. 2.25 L - BS03208 **FRASER broth (base)** [2] 500 g vial - BK115HA **Selective supplement for FRASER broth** 10 vials q.s. 500 mL - BS03108	Total [3]
B.3 Selective plating-out medium	- *Agar Listeria according to Ottaviani and Agosti* **COMPASS® Listeria Agar** 20 Petri dishes Ø 90mm - BM12308 120 Petri dishes Ø 90mm - BM12408 Kit of 6 x 200 mL vials base + supplements - BT00808	Total
B.4 Second selective plating-out medium	- *The choice is left to the discretion of the testing laboratory:* **OXFORD agar (base)** [4] 500 g vial - BK110HA **Selective supplement for OXFORD agar (CCCFA)** 10 vials q.s. 500 mL - BS00308 **PALCAM agar (pre-poured)** [4] 20 Petri dishes Ø 90mm - BM02008 **PALCAM agar (base)** 500 g vial - BK145HA **Selective supplement for PALCAM agar** 10 vials q.s. 500 mL - BS00408 8 vials q.s. 2.5 L - BS04908	Total Total

Section	Media and reagents	Compliance
B.6/B.7/B.8/B.9/ B.10/B.11/B.12/B.13 Confirmation media and reagents	- *Hydrogen peroxide solution*	
	-	-
	- *Motility agar*	
	-	-
	- *Blood agar base medium* **Tryptone soya agar (blood agar base)** 500 g vial - BK028HA	Equivalent
	- *Defibrinated sheep, calf or bovine blood*	
	-	-
	- *PBS*	
	-	-
	- *Red blood corpuscle suspension*	
	-	-
	- *CAMP culture medium*	
	-	-
	- *Carbohydrate utilization broth (L-Rhamnose and D-Xylose)*	
	-	-
	- *Reagents for Voges-Proskauer (VP) reaction*	
	-	-
	- *Tryptone soya yeast extract agar (TSYEA)* **TSYEA medium** 500 g vial - BK224HA	Total

2 Formula including 9.60 g/L of anhydrous disodium phosphate (molecular mass: 141.96) instead of 12 g/L of disodium hydrogen phosphate dihydrate (molecular mass 177.99) as described.

3 "Tryptone" is a peptone obtained by pancreatic digestion of casein.

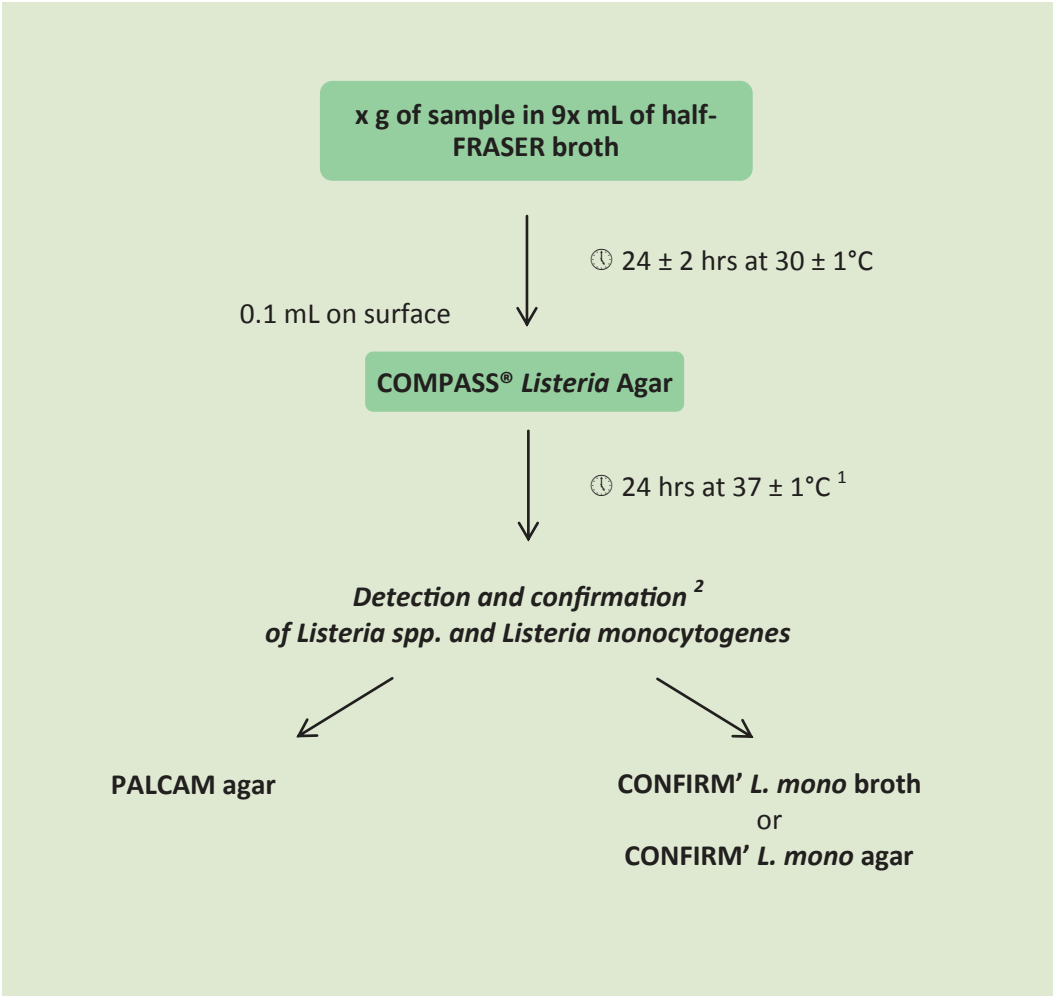
4 Medium able to be used as a second plating-out medium.

COMPASS® *Listeria* Agar

Alternative method for the detection of *Listeria* spp. And *Listeria monocytogenes*

BKR 23/02-11/02
Alternative food analysis method
www.afnor-validation.org

1. Protocol



[1] Incubation may be prolonged up to 48 hours for laboratory organisation purposes.

[2] Reinoculate a characteristic colony of *Listeria* spp. and *Listeria monocytogenes*.

2. Media and reagents

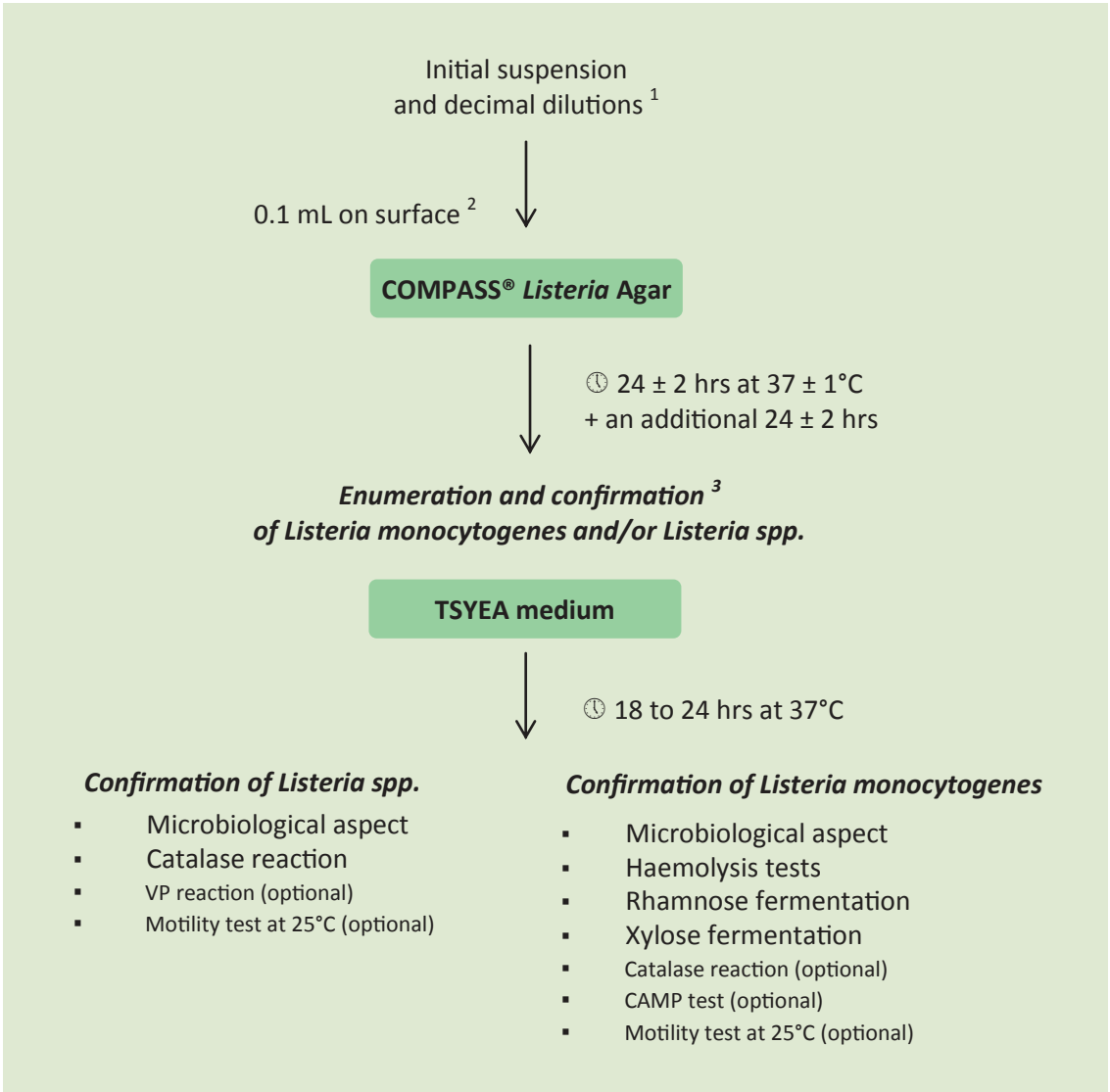
Enrichment medium	**Half-FRASER broth (ready-to-use)** 10 x 225 mL vials - BM01608 3 x 3 L flexible bags - BM13308 2 x 5 L flexible bags - BM13408 **Half-FRASER broth (Base)** 500 g vial - BK173HA 5 kg drum - BK173GC **Sterile 5% ammonium ferric citrate supplement (for BK173)** 10 x 90 mL vials - BS05908 7 x 10 mL tubes - BS06208 **FRASER broth (Base II)** 500 g vial - BK133HA 5 kg drum - BK133GC **Selective supplement for FRASER broth (for BK133)** 10 vials q.s. 500 mL - BS03008 8 vials q.s. 2.25 L - BS03208
Selective plating-out medium	**COMPASS® *Listeria* Agar** 20 Petri dishes Ø 90mm - BM12308 120 Petri dishes Ø 90mm - BM12408 Kit of 6 x 200 mL vials base + supplements - BT00808
Listeria monocytogenes confirmation media	**CONFIRM' *L. mono* broth** 18 vials - BM16208 **CONFIRM' *L. mono* Agar** 10 Petri dishes Ø 90mm - BM13908
L. spp. confirmation medium	**Pre-poured PALCAM agar** 20 Petri dishes Ø 90mm - BM02008 **PALCAM agar (base)** 500 g vial - BK145HA **PALCAM supplement** 10 vials q.s. 500 mL - BS00408 10 vials q.s. 2.5 L - BS04908

Horizontal method for the detection and enumeration of *Listeria monocytogenes*

Part 2: Method for enumeration

NF EN ISO 11290-2: 07-2017
V 08-028-2

1. Protocol



[1] The initial suspension may be prepared in buffered peptone water or in half-Fraser broth with or without selective agents.

[2] Inoculate 0.1 mL of inoculum on 2 plates of medium.

For certain products, it is preferable to estimate low numbers of *L. monocytogenes* and/or *Listeria* spp.; the limits of detection may be increased by a factor of 10. Apply a volume of 1 ml of inoculum to the surface of a large Petri dish (140 mm) or to the surface of three small dishes (90 mm).

[3] Using each dish, reinoculate five characteristic colonies on TSYEA medium. After incubation, carry out the required confirmation tests.

2. Media and reagents

Section	Media and reagents	Compliance
9.1 Diluent	Refer to standard NF EN ISO 11290-1, pages 53 to 55.	
B.1 Plating-out medium	*- Tryptone soya yeast extract agar (TSYEA)* **TSYEA medium** 500 g vial - BK224HA	Total
B.2 Selective plating-out medium	*- Agar Listeria according to Ottaviani and Agosti* **COMPASS® *Listeria* Agar** 20 Petri dishes Ø 90mm - BM12308 120 Petri dishes Ø 90mm - BM12408 Kit of 6 x 200 mL vials base + supplements - BT00808	Total
B.3/B.4/B.5/B.6/B.7/ B.8/B.9/B.10/B.11 Confirmation media and reagents	*- Hydrogen peroxide solution* - *- Motility agar* - *- Blood agar base medium* **Tryptone soya agar (blood agar base)** 500 g vial - BK028HA *- Defibrinated sheep, calf or bovine blood* - *- PBS* - *- CAMP culture medium* - *- Carbohydrate utilization broth (L-Rhamnose and D-Xylose)* - *- Reagents for Voges-Proskauer (VP) reaction* -	- - Equivalent - - - - - -

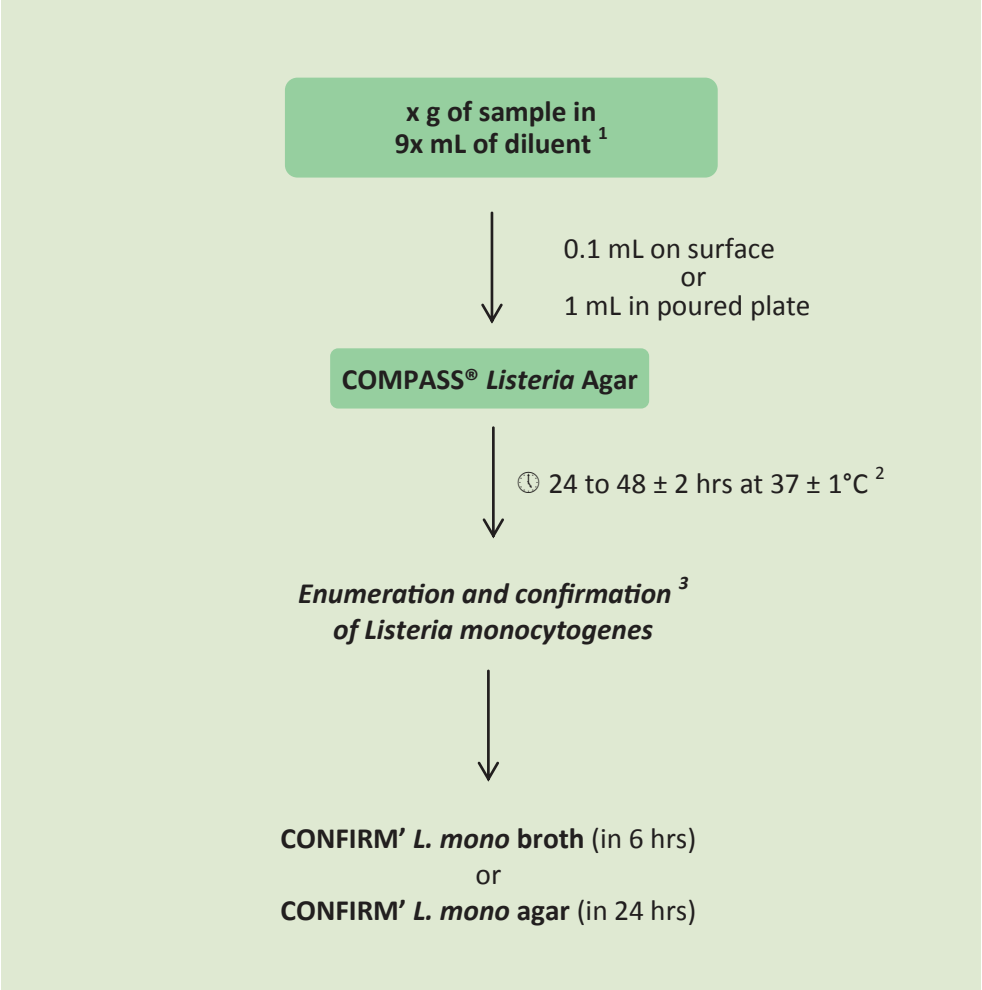
[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

COMPASS® *Listeria* Agar

Alternative method for the enumeration of *Listeria monocytogenes*

BKR 23/05-12/07
Alternative food analysis method
www.afnor-validation.org

1. Protocol



[1] The half-FRASER broth with or without selective agents or BPW may be used as a diluent.

[2] Carry out final enumeration after 48 ± 2 hours of incubation.

[3] Reinoculate a characteristic colony of *Listeria monocytogenes*.

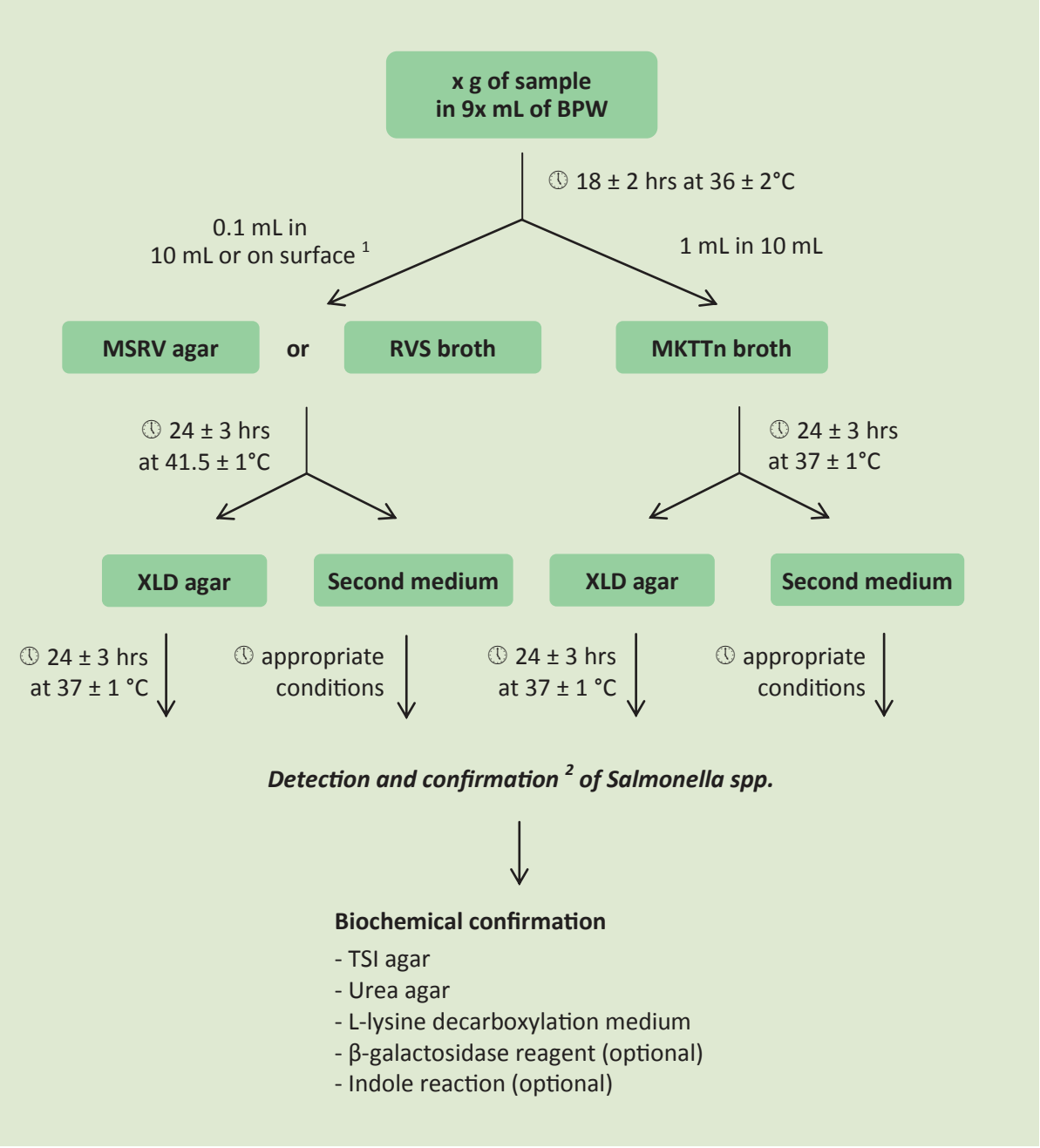
2. Media and reagents

Diluents	- **Buffered Peptone Water (20 g/L)** 500 g vial - BK131HA 5 kg drum - BK131GC **Buffered Peptone Water (25.5 g/L)** 10 x 225 mL vials - BM01008 50 x 9 mL tubes - BM05608 10 x 90 mL vials - BM05708 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208 500 g vial - BK018HA **5 kg drum - BK018GC Half-FRASER broth (ready-to-use)** 10 x 225 mL vials - BM01608 3 x 3 L flexible bags - BM13308 2 x 5 L flexible bags - BM13408 **Half-FRASER broth (Base)** 500 g vial - BK173HA 5 kg drum - BK173GC **Sterile 5% ammonium ferric citrate supplement (for BK173)** 10 x 90 mL vials - BS05908 7 x 10 mL tubes - BS06208 **FRASER broth (Base II)** 500 g vial - BK133HA 5 kg drum - BK133GC **Selective supplement for FRASER broth (for BK133)** 10 vials q.s. 500 mL - BS030088 vials q.s. 2.25 L - BS03208
Selective plating-out medium	**COMPASS® *Listeria* Agar** 20 Petri dishes Ø 90mm - BM12308 120 Petri dishes Ø 90mm - BM12408 Kit of 6 x 200 mL vials base + supplements - BT00808
L. monocytogenes confirmation medium	**CONFIRM' *L. mono* broth** 18 vials - BM16208 **CONFIRM' *L. mono* Agar** 10 Petri dishes Ø 90mm - BM13908

Horizontal method for the detection of *Salmonella* spp.

NF EN ISO 6579-1: 04-2017
V 08-013-1

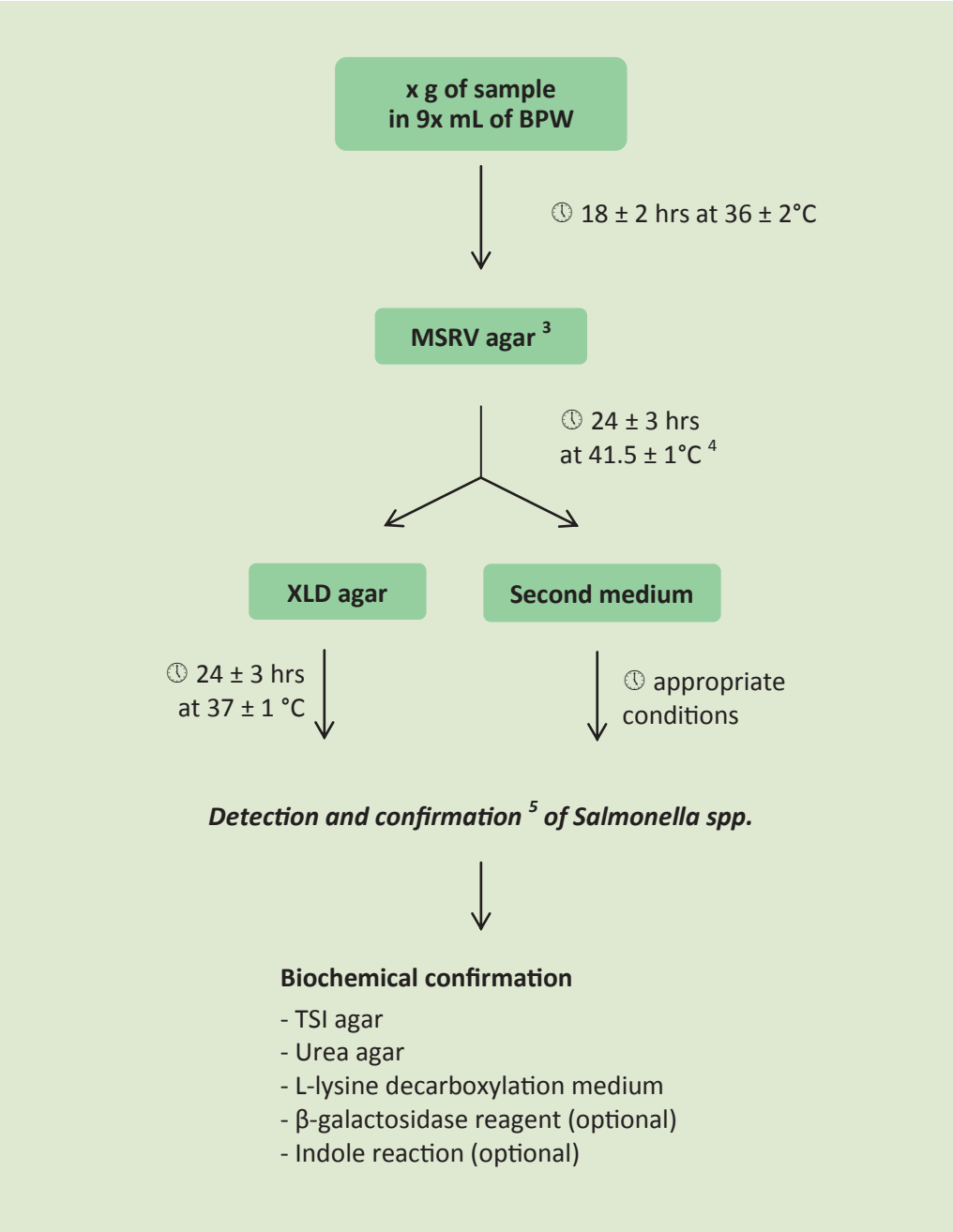
1.A Protocol for food samples, animal feed samples and environmental samples from the production area



[1] Transfer 0.1 mL of the culture obtained to 10 mL of RVS broth or to the surface of the MRSV agar by equidistant application of 1 to 3 drops onto the surface of the medium.

[2] Confirm at least one characteristic colony, then four other colonies if the first proves negative.

1.B Protocol for samples at the primary production stage



[3] Sensitivity may be increased by applying a second selective enrichment procedure, with MKTTn broth for example.

[4] If the plates are shown to be negative after 24 hours of incubation, incubate for an additional 24 hrs.

[5] Confirm at least one characteristic colony, then four other colonies if the first proves negative.

2. Media and reagents

Section	Media and reagents	Compliance
B.2 Pre-enrichment medium	- *Buffered Peptone Water* **Buffered Peptone Water (20 g/L)** [6] 500 g vial - BK131HA 5 kg drum - BK131GC **Buffered Peptone Water (25.5 g/L)** [7] 10 x 225 mL vials - BM01008 50 x 9 mL tubes - BM05608 10 x 90 mL vials - BM05708 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208 500 g vial - BK018HA 5 kg drum - BK018GC	Total
B.3 Selective enrichment medium	- *Rappaport-Vassiliadis broth with soya (RVS broth)* **RAPPAPORT-VASSILIADIS broth with soya (RVS)** 50 x 10 mL tubes - BM07408 500 g vial - BK148HA	Total [8]
B.4 Selective enrichment medium	- *Modified semi-solid Rappaport-Vassiliadis (MSRV) medium* **MSRV agar (ISO 6579)** 10 x 200 mL vials - BM12708 500 g vial - BK191HA	Total
B.5 Selective enrichment medium	- *Muller-Kauffmann tetrathionate-novobiocin (MKTTn) broth* **MULLER-KAUFFMANN tetrathionate-novobiocin broth (MKTTn ready-to-use)** 50 x 10 mL tubes - BM07808 **MULLER-KAUFFMANN tetrathionate-novobiocin broth (MKTTn base, without iodine)** 500 g vial - BK208HA **MULLER-KAUFFMANN tetrathionate-novobiocin broth (MKTTn base, without iodine, without novobiocin)** 500 g vial - BK169HA **Selective novobiocin supplement** 10 x 10 mg vials - BS03308 8 x 40 mg vials - BS05608	Total [11] Total Total
B.6 Selective plating-out media	- *Xylose lysine deoxycholate agar (XLD agar)* **XLD agar (ISO 6579)** 20 Petri dishes Ø 90 mm - BM08708 500 g vial - BK168HA	Total
	The second plating-out medium is left to the discretion of the testing laboratory [10]	
B.7 Subculture medium	- *Nutrient agar* **2 % nutrient agar** 50 x 18 mL tubes - BM11808 500 g vial - BK185HA	Total [9]

Section	Media and reagents	Compliance
B.8 Confirmation medium	- *Triple sugar/iron agar (TSI agar)* **TSI agar** 500 g vial - BK221HA	Total
B.9/B.10/B.11/B.12/ B.11/B.12/B.13 Confirmation media and reagents	- *Urea agar (Christensen)* - - *L-lysine decarboxylation (LDC) medium* - - *β-galactosidase reagent (optional)* - - *Tryptone/tryptophan medium (optional)* **Tryptophan broth** 50 x 3 mL tubes - BM07608 500 g vial - BK163HA - *Kovac's reagent (optional)* - - *Saline solution* - - *Serums* -	- - - Total[9] - - -

[6] Formula including 9.0 g/L of disodium phosphate dodecahydrate (molecular mass 358.14).

[7] Formula including 3.56 g/L of anhydrous disodium phosphate (molecular mass 141.96).

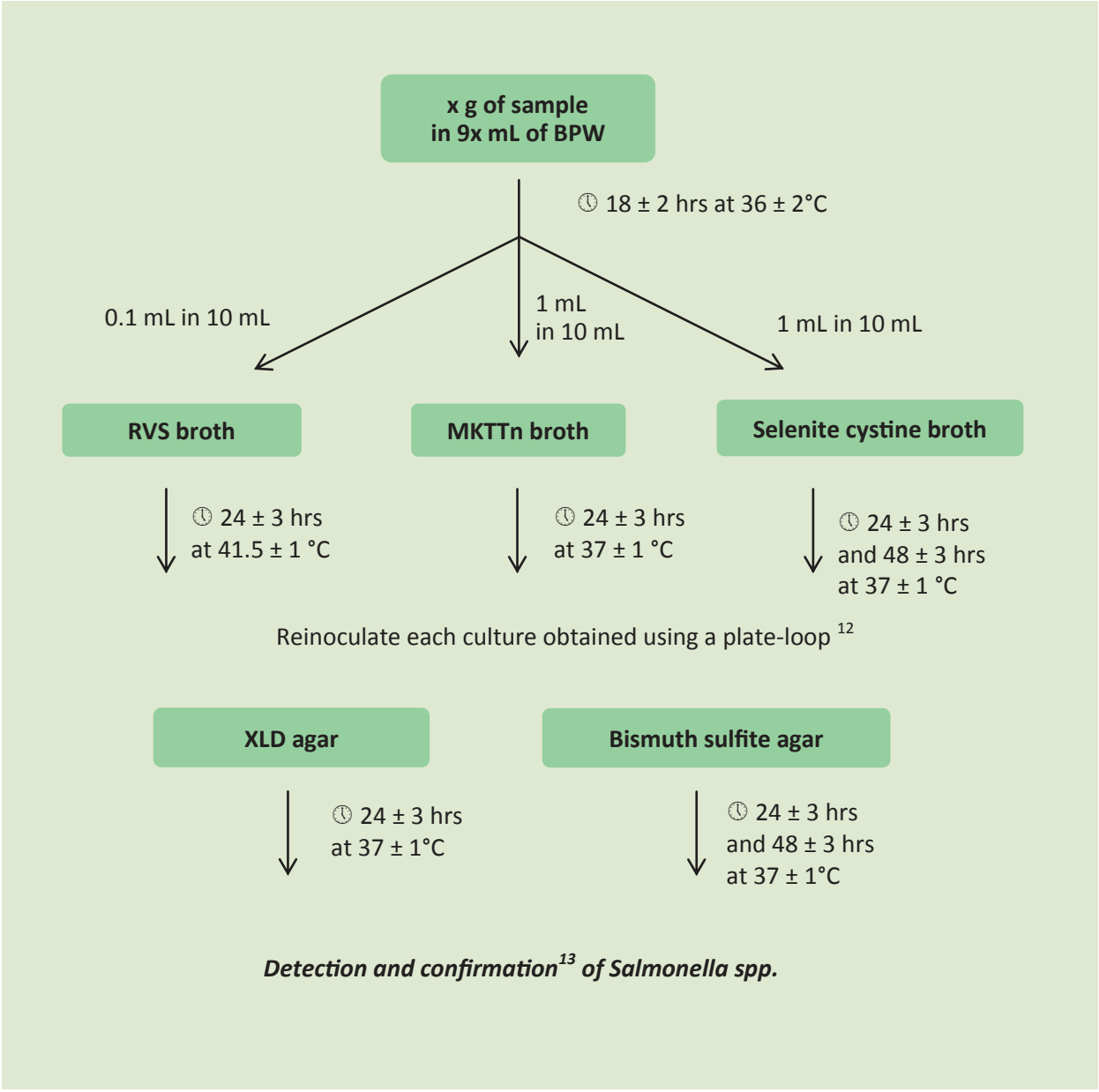
[8] Formula including anhydrous magnesium chloride instead of the hexahydrate form described.

[9] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

[10] Its intrinsic properties should complement those of XLD agar and enable detection of lactose + *Salmonella* (including Typhi and Paratyphi).

3. Appendix D: Detection of *Salmonella enterica* subspecies *enterica* serovars Typhi and Paratyphi

3.1 Protocol



Detection and confirmation[13] of Salmonella spp.

[12] Each culture obtained after the selective enrichment step is reinoculated on XLD agar and on Bismuth sulfite agar. The selenite-cystine broth is reinoculated after 24 hrs and after 48 hrs of incubation.

[13] Carry out confirmation as per the general protocol.

3.2 Media and reagents

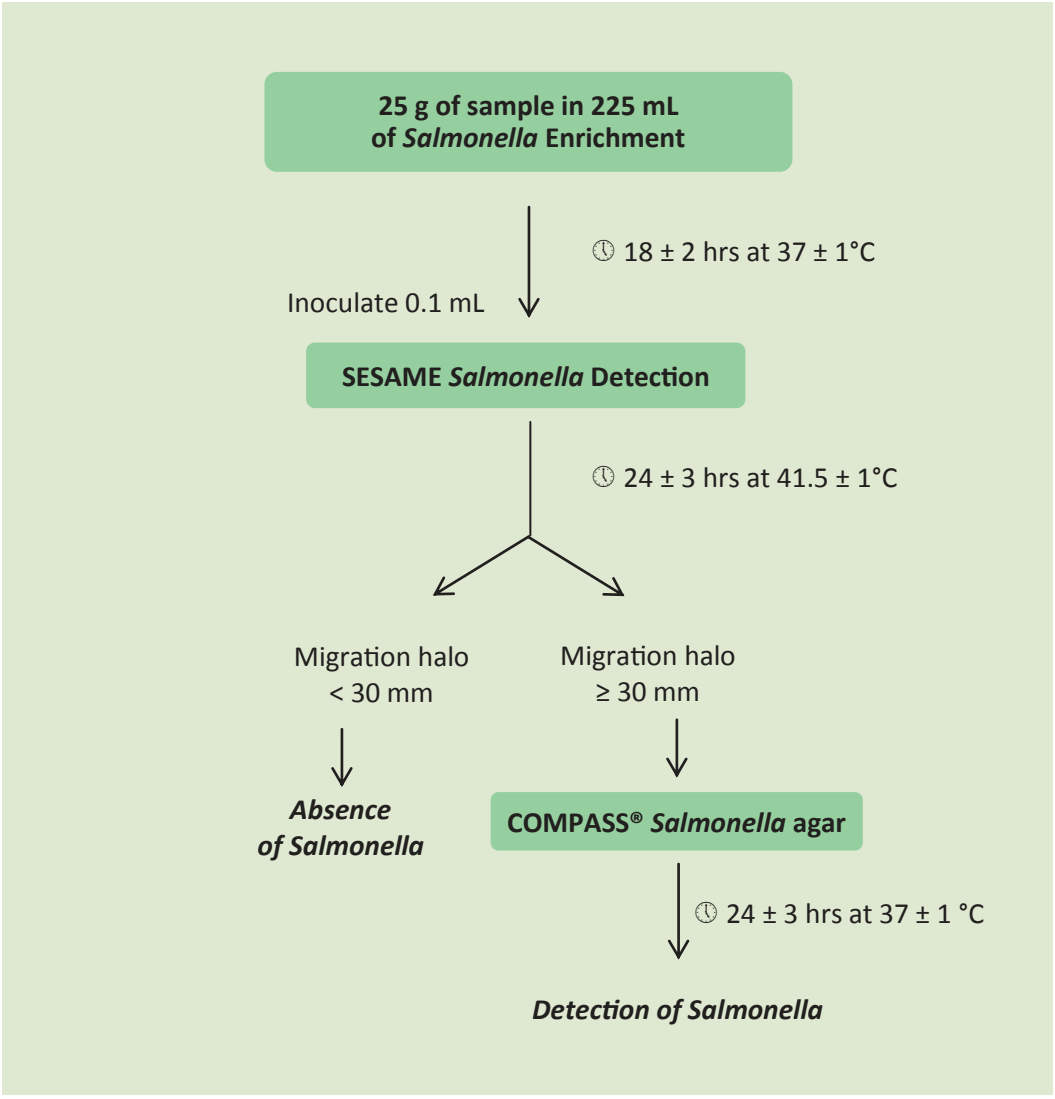
Section	Media and reagents	Compliance
D.3.1	- *Selenite cystine (SC) broth* **Selenite cystine broth** 500 g vial - BK009HA	Total
D.3.2	- *Bismuth sulfite (BS) agar* **Bismuth-sulfite agar** 500 g vial - BK223HA	Total

SESAME *Salmonella* TEST®

Alternative method for the detection of *Salmonella* spp.

BKR 23/04-12/07
Alternative food analysis method
www.afnor-validation.org

1. Protocol



2. Media and reagents

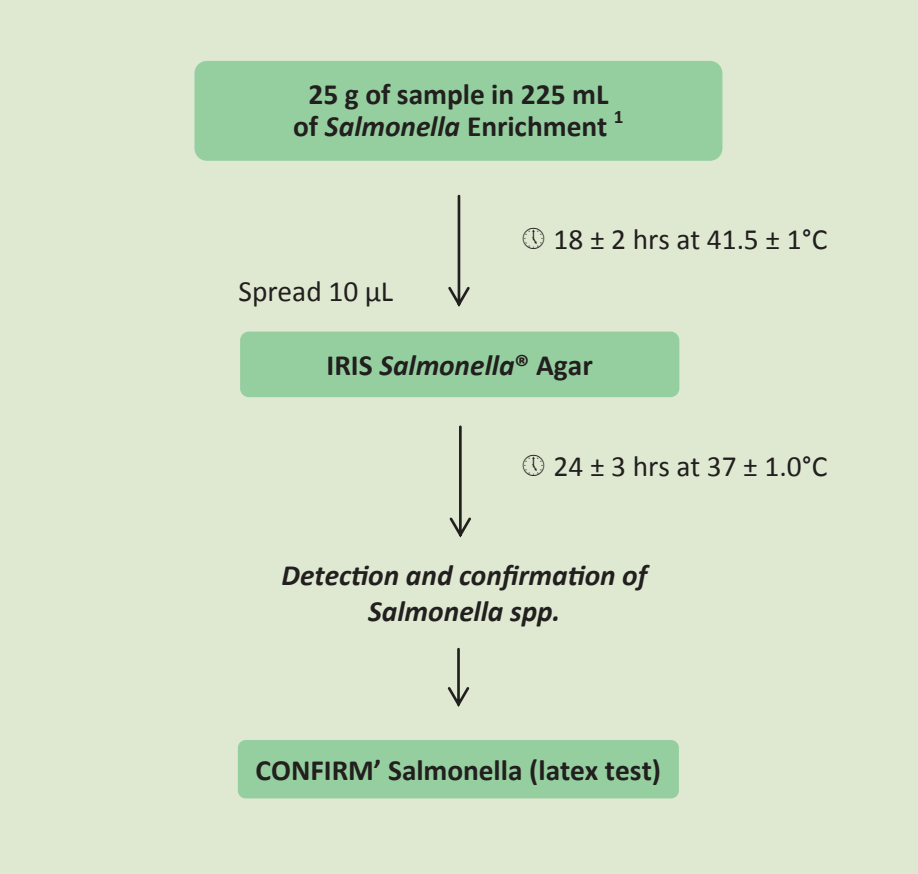
Enrichment media	***Salmonella* Enrichment** 10 x 225 mL vials - BM13608 3 x 3 L flexible bags - BM13708 2 x 5 L flexible bags - BM14408 500 g vial - BK194HA 5 kg drum - BK194GC ***Salmonella* Enrichment + Tween® 80** 3 x 3 L flexible bags - BM16308 2 x 5 L flexible bags - BM19808 **Double buffered *Salmonella* Enrichment** 10 x 225 mL vials - BM20108 2 x 5 L flexible bags - BM20008 500 g vial - BK225HA 5 kg drum - BK225GC
Selective medium	**SESAME *Salmonella* Detection** 20 Petri dishes Ø 90mm - BM14108 120 Petri dishes Ø 90mm - BM15008 10 x 200 mL vials - BM13808
Confirmation medium	**COMPASS *Salmonella* Agar** 20 Petri dishes Ø 90mm - BM06608

IRIS *Salmonella*®

Alternative method for the detection of *Salmonella* spp.

BKR 23/07-10/11
Alternative food analysis method
www.afnor-validation.org

1. Protocol



[1] The **IRIS *Salmonella*®** method is also validated for test samples of 50 g to 375 g for dried milk (including infant formula with and without probiotics) and 50 g to 125 g for flour and croquettes used in animal feedstuffs.

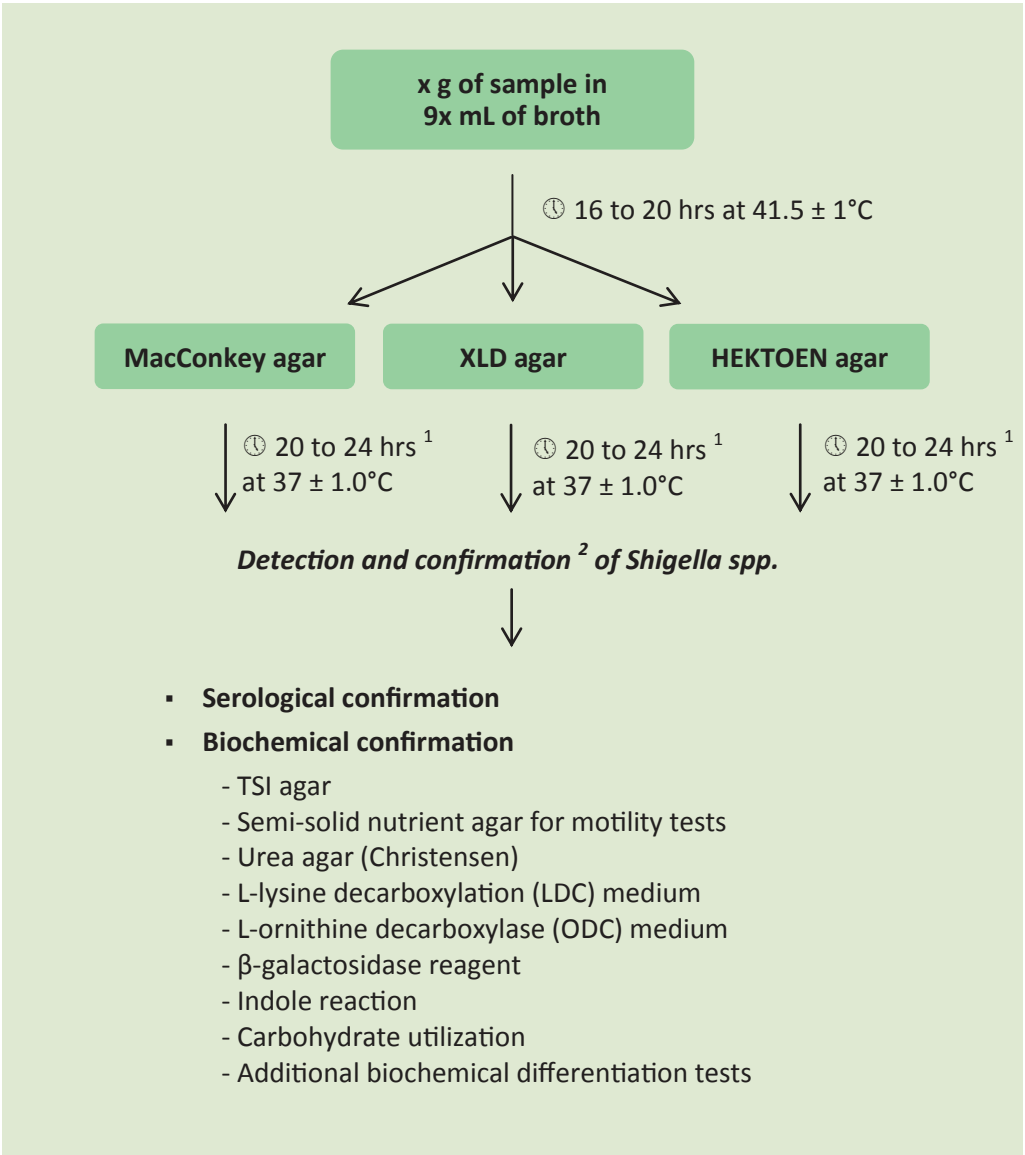
2. Media and reagents

Selective enrichment media	***Salmonella* Enrichment** 10 x 225 mL vials - BM13608 3 x 3 L flexible bags - BM13708 2 x 5 L flexible bags - BM14408 500 g vial - BK194HA 5 kg drum - BK194GC ***Salmonella* Enrichment + Tween® 80** 3 x 3 L flexible bags - BM16308 2 x 5 L flexible bags - BM19808 **Double buffered *Salmonella* Enrichment** 10 x 225 mL vials - BM20108 2 x 5 L flexible bags - BM20008 500 g vial - BK225HA 5 kg drum - BK225GC **IRIS *Salmonella*® supplement** 120 tablets q.s. 225 mL - BS07708 120 tablets q.s. 90 mL - BS09308 10 x 50 mL vials - BS07808
Selective medium	**IRIS *Salmonella*® Agar** 20 Petri dishes Ø 90mm - BM16008 120 Petri dishes Ø 90mm - BM16108
Confirmation reagent	**COMPASS® *Salmonella* Agar** Latex agglutination kit (50 tests) - BT01108

Horizontal method for the detection of *Shigella* spp.

NF EN ISO 21567: 03-2005
V 08-411

1. Protocol



[1] If no characteristic colonies appear and growth of other microorganisms is weak, incubate for an additional 24 ± 2 hours.

[2] Reinoculate 5 characteristic colonies for each plate.

Other identification methods validated by the user may also be used for identification of *Shigella* species.

[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein

[4] The fuchsin acid concentration is 40 mg/L instead of 0.1 g/L as described.

2. Media and reagents

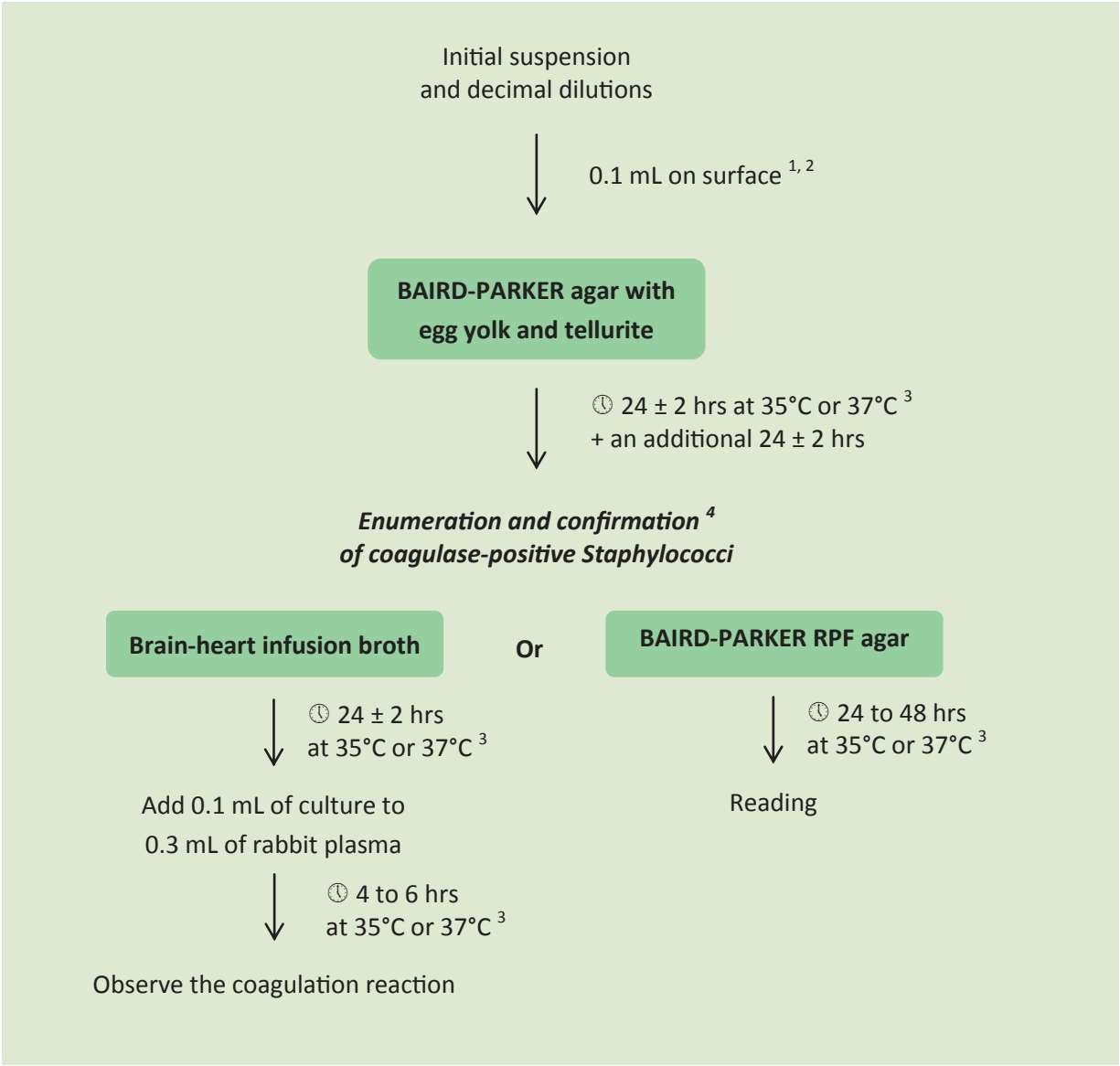
Section	Media and reagents	Compliance
9.2 Enrichment medium	- *Shigella broth* -	-
9.3 Plating-out media	- *MacConkey agar* **MacCONKEY agar** 500 g vial - BK050HA - *Xylose deoxycholate (XLD) agar* **XLD agar (ISO 6579)** 20 Petri dishes Ø 90 mm - BM08708 500 g vial - BK168HA - *Hektoen enteric (HE) agar* **Hektoen agar** 500 g vial - BK067HA	Total [3] Total Partial [4]
9.4 Confirmation media and reagents (biochemical tests)	- *Nutrient agar* **2% nutrient agar** 50 x 10 mL tubes - BM11808 500 g vial - BK185HA - Triple sugar/iron agar (TSI agar) **TSI agar** 500 g vial - BK221HA - *Semi-solid nutrient agar* - - *Urea agar (Christensen medium)* - - *L-lysine decarboxylase (LDC) medium* - - *L-ornithine decarboxylase (ODC) medium* - - *Tryptone/ DL-Tryptophan medium* **Tryptophan broth** 500 g vial - BK163HA 50 x 3 mL - BM07608 - *Kovac's indole reagent* - - *β-galactosidase reagent* - - *Buffer solution* - - *Saline solution* - - *Bromocresol purple broth* - - *Sodium acetate agar* - - *Christensen's citrate agar* - - *Mucate broth* - - *Test broth* - - *Control broth* - - Shigella spp. antisera -	Total [3] Partial - - - - Total - - - - - - - - - - - - -

Horizontal method for the enumeration of coagulase-positive Staphylococci (*Staphylococcus aureus* and other species)

Part 1: Technique using Baird-Parker agar medium

NF EN ISO 6888-1: 02-1999
Modified by Amendment A1 (2004)
Modified by Amendment A2 (2018)
V 08-014-1

1. Protocol



[1] Inoculate each dilution in duplicate.

[2] If necessary, the enumeration limits may be increased by inoculation of 1.0 mL on the surface of a plate Ø 140 mm or 3 plates Ø 90 mm.

[3] The temperature is agreed between the parties concerned and is stated in the test report.

[4] Using each plate, reinoculate 5 characteristic colonies and 5 non-characteristic colonies.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Agar medium	- *Baird-Parker agar* **BAIRD-PARKER agar with egg yolk and tellurite** 20 Petri dishes Ø 90 mm - BM01808 120 Petri dishes Ø 90 mm - BM09108 **BAIRD-PARKER base agar** 500 g vial - BK055HA 5 kg drum - BK055GC **Egg yolk emulsion with potassium tellurite** 10 x 50 mL vials - BS06008 **Sulfamethazine selective supplement (optional)** [6] 10 x 25 mg vials - BS02808	Total [5] Total [5] Total
5.4 Confirmation media and reagents	- *Brain-heart infusion broth* **Brain-heart broth** 500 g vial - BK015HA - *Rabbit plasma* **Lyophilized coagulase rabbit plasma** 10 vials 20 reactions - BR00208	Partial [7] Total

Amendment A1

AMENDMENT 1: Inclusion of precision data

Amendment A2

AMENDMENT 2 : Inclusion of an alternative confirmation test using RPFA stab method

5.6 Confirmation media	- *Rabbit plasma fibrinogen agar* **BAIRD-PARKER RPF agar** 20 Petri dishes Ø 90 mm - BM06708 20 Petri dishes Ø 55 mm - BM15908 Kit 6 x 200 mL vials + supplements - BT01008 Kit 6 x 100 mL vials + supplements - BT00508 **BAIRD-PARKER base agar** 500 g vial - BK055HA 5 kg drum - BK055GC **Rabbit plasma fibrinogen (RPF) supplement** 8 vials q.s. 100 mL - BS03408 Vial q.s. 500 mL - BS03808	Total [5]

[5] "Tryptone" is a peptone obtained by pancreatic digestion of casein

[6] Optional additive, justified by the suspected presence of *Proteus*.

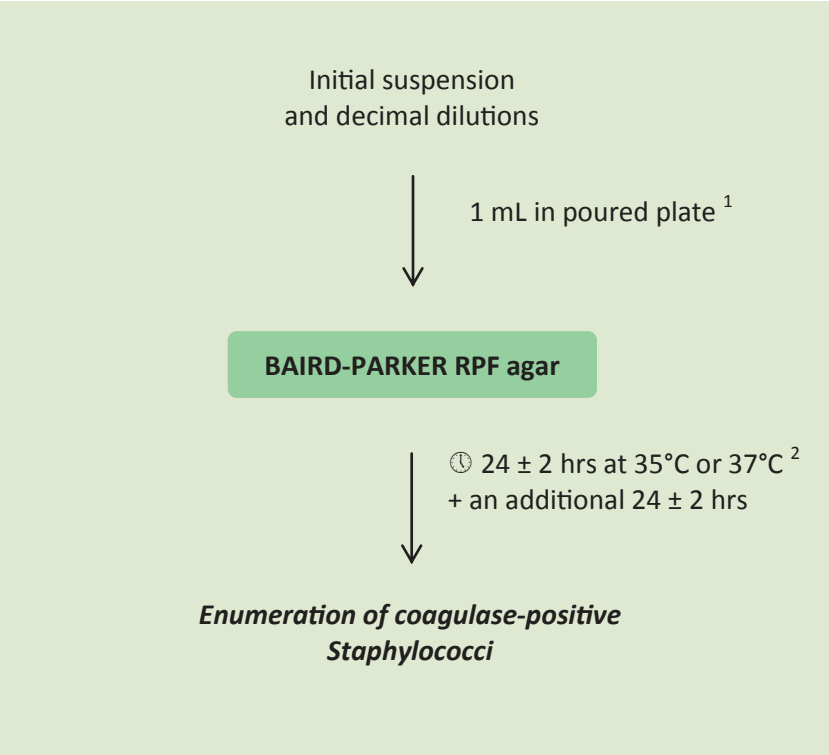
[7] Presence of a pancreatic gelatin peptone instead of the enzymatic digest of the animal tissue recommended.

Horizontal method for the enumeration of coagulase-positive Staphylococci (*Staphylococcus aureus* and other species)

Part 2: Technique using rabbit plasma fibrinogen agar medium

NF EN ISO 6888-2: 10-1999
Modified by Amendment A1 (01-2004)
V 08-014-2

1. Protocol



[1] Inoculate each dilution in duplicate.

[2] The temperature is agreed between the parties concerned and is stated in the test report.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Agar medium	- *Rabbit plasma fibrinogen agar* **BAIRD-PARKER RPF agar** 20 Petri dishes Ø 90 mm - BM06708 20 Petri dishes Ø 55 mm - BM15908 Kit 6 x 200 mL vials + supplements - BT01008 Kit 6 x 100 mL vials + supplements - BT00508 **BAIRD-PARKER base agar** 500 g vial - BK055HA 5 kg drum - BK055GC **Rabbit plasma fibrinogen (RPF) supplement** 8 vials q.s. 100 mL - BS03408 Vial q.s. 500 mL - BS03808	Total [3] Total [3]

Amendment A1

Horizontal method for the enumeration of coagulase-positive Staphylococci (*Staphylococcus aureus* and other species)

Part 2: Technique using rabbit plasma fibrinogen agar medium E

AMENDMENT 1: Inclusion of precision data

[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein

EASY *Staph*® Agar

Alternative method for the enumeration of coagulase-positive *Staphylococci*

BKR 23/10-12/15
Alternative food analysis method
www.afnor-validation.org

1. Protocol

Initial suspension
(decimal dilutions)

↓ 1 mL in poured plate
0.1 mL on surface [1]
Spiral plating [2]

EASY *Staph*® Agar

↓ 24 ± 2 hrs at 37 ± 1°C

Enumeration of coagulase-positive Staphylococci

Without confirmation

[1] The enumeration limit can be decreased by a factor of 10 by inoculating 1 mL on the surface of 3 Ø 90 mm plates.

[2] Inoculation may be performed in logarithmic mode of 50 µL or 100 µL.

2. Media and reagents

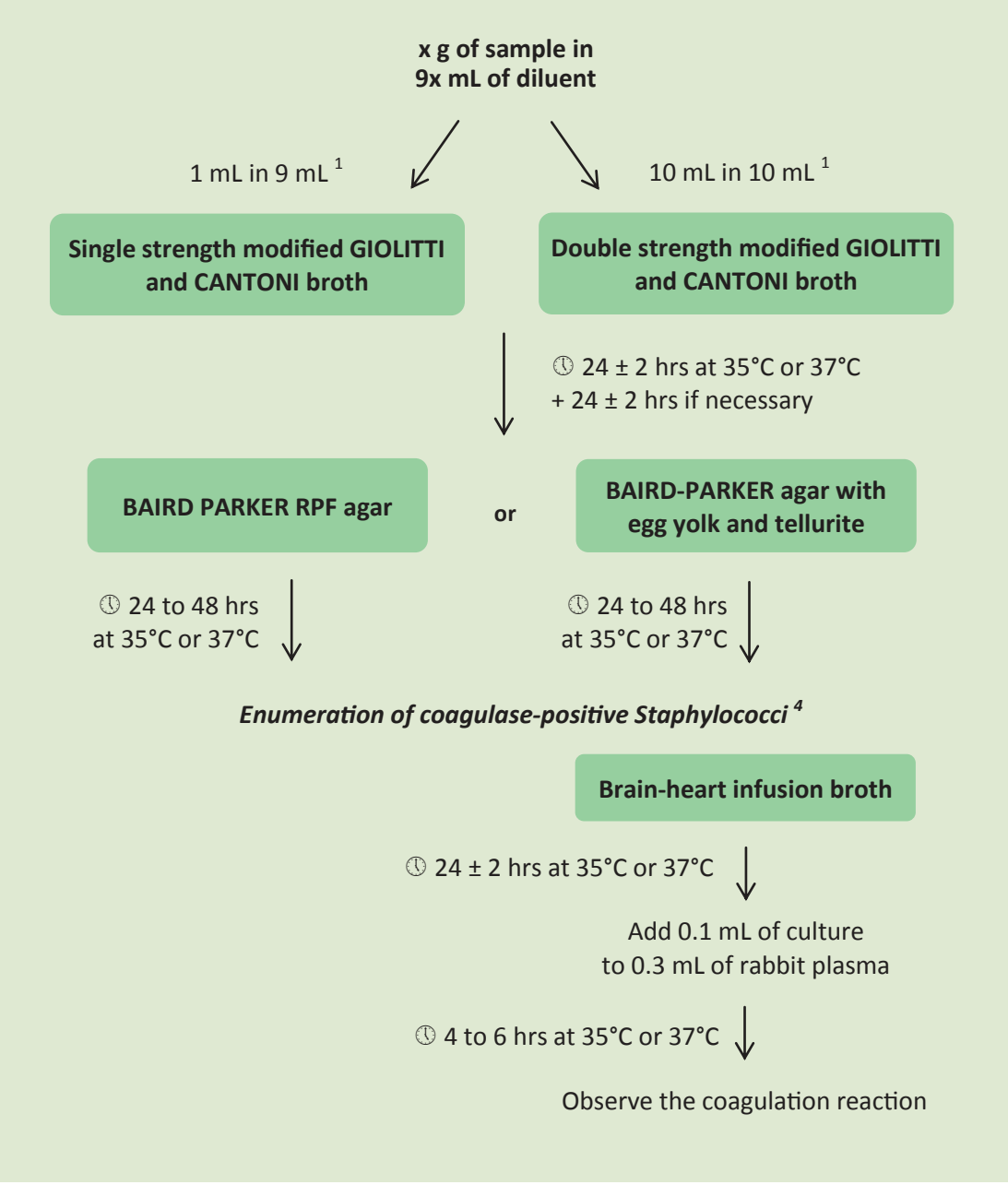
Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.
Selective medium	**EASY *Staph*® Agar pre-poured** 20 Petri dishes Ø 90 mm - BM18708 120 Petri dishes Ø 90 mm - BM19008 **EASY *Staph*® Agar Kit** 6 x 190 mL vials of base medium + 6 vials of supplement q.s. 200 mL - BT01208 6 x 90 mL vials of base medium + 6 vials of supplement q.s. 100 mL - BT01308 **EASY *Staph*® Dehydrated agar** 500 g vial - BK216HA **Supplement for EASY *Staph*® Agar** 8 vials q.s. 100 mL - BS09008

Horizontal method for the enumeration of coagulase-positive Staphylococci (Staphylococcus aureus and other species)

Part 3: Detection and MPN technique for low numbers

NF EN ISO 6888-3: 06-2003
V 08-014-3

1. Protocol



[1] Inoculate 3 tubes of single strength broth and 3 tubes of double strength broth. After inoculation, pour a layer of agar or paraffin onto the surface of the broth, then allow to solidify so as to form a sealed plug.

[2] If Baird-Parker agar with egg yolk and tellurite is used for reinoculation, a confirmation test will need to be performed.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2 Enrichment medium	- *Modified Giolitti and Cantoni broth* **GIOLITTI and CANTONI broth with Tween® 80** 50 x 10 mL tubes - BM11008 (single strength) 50 x 10 mL tubes - BM11108 (double strength) 500 g vial - BK159HA - *Potassium tellurite solution* -	Total [3] -
5.3 Agar solution	- *Agar solution (20.0 g/L)* **Type A bacteriological agar** 500 g vial - A1010HA 5 kg drum - A1010GC **Type E bacteriological agar** 500 g vial - A1012HA 5 kg drum - A1012GC	Total Total
5.4 Agar medium	- *Rabbit plasma fibrinogen agar* **BAIRD-PARKER RPF agar** 20 Petri dishes Ø 90 mm - BM06708 20 Petri dishes Ø 55 mm - BM15908 Kit 6 x 200 mL vials + supplements - BT01008 Kit 6 x 100 mL vials + supplements - BT00508 **BAIRD-PARKER base agar** 500 g vial - BK055HA 5 kg drum - BK055GC **Rabbit plasma fibrinogen supplement** 8 vials q.s. 100 mL - BS03408 Vial q.s. 500 mL - BS03808	Total [3] Total [3]
5.5 Agar medium	*Baird-Parker agar* **BAIRD-PARKER agar with egg yolk and tellurite** 20 Petri dishes Ø 90 mm - BM01808 120 Petri dishes Ø 90 mm - BM09108 **BAIRD-PARKER base agar** 500 g vial - BK055HA 5 kg drum - BK055GC **Egg yolk emulsion with potassium tellurite** 10 x 50 mL vials - BS06008 **Sulfamethazine selective supplement (optional)** 10 x 25 mg vials - BS02808	Total [3] Total [3] Total
5.6/5.7 Confirmation media and reagents	- *Brain-heart infusion broth* **Brain-heart infusion broth** 500 g vial - BK015HA - *Rabbit plasma* **Lyophilized coagulase rabbit plasma** 10 vials 20 reactions - BR00208	Partial [4] Total

[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein

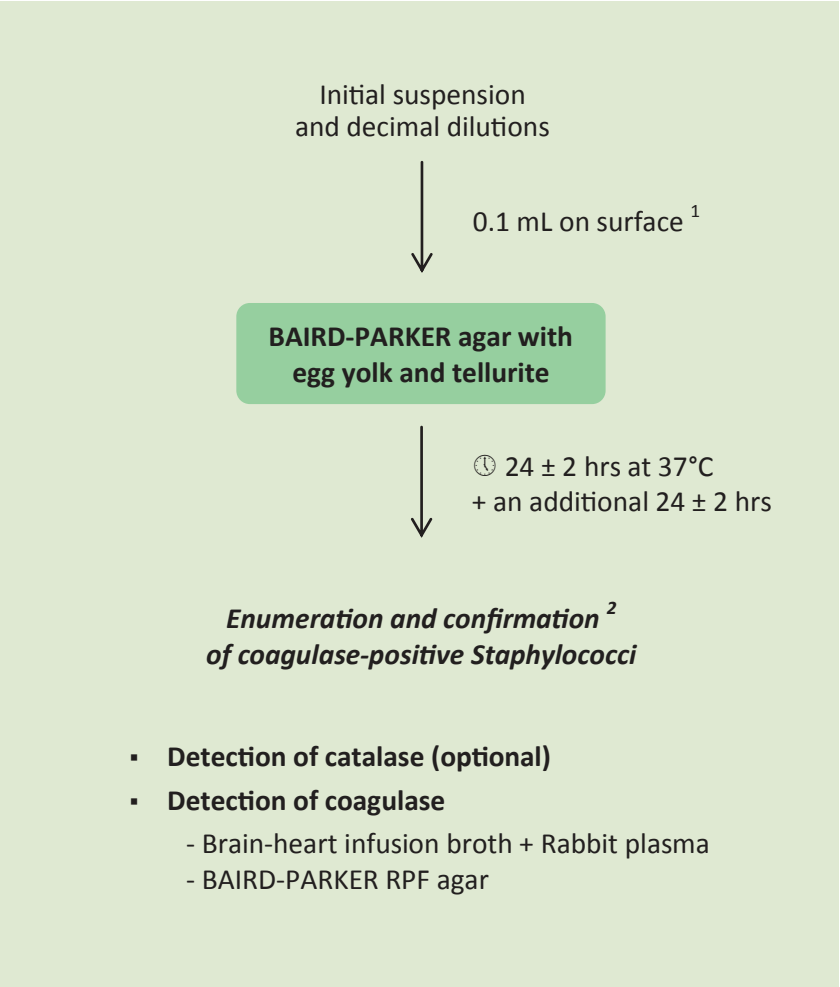
[4] Presence of a pancreatic gelatin peptone instead of the enzymatic digest of the animal tissue recommended.

Routine method for the enumeration of coagulase-positive Staphylococci by colony-count technique at 37°C

Part 1: Technique with confirmation of the colonies

NF V 08-057-1: 01-2004
V 08-057-1

1. Protocol



[1] In the event of enumeration of low numbers of coagulase-positive Staphylococci, the qualification level may be increased by inoculating 1 mL on the surface of a large plate (Ø 140 mm) or 3 small plates (Ø 90 mm).

[2] Confirm a defined number of colonies. In general, 3 characteristic colonies or of each type (characteristic or non-characteristic) are confirmed using each plate.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Agar medium	- *Baird-Parker agar* **BAIRD-PARKER agar with egg yolk and tellurite** 20 Petri dishes Ø 90 mm - BM01808 120 Petri dishes Ø 90 mm - BM09108 **BAIRD-PARKER base agar** 500 g vial - BK055HA 5 kg drum - BK055GC **Egg yolk emulsion with potassium tellurite** 10 x 50 mL vials - BS06008 **Sulfamethazine selective supplement (optional)** [4] 10 x 25 mg vials - BS02808	Total [3] Total [3] Total
5.4 Confirmation medium	- *Rabbit plasma fibrinogen agar* **BAIRD-PARKER RPF agar** 20 Petri dishes Ø 90 mm - BM06708 20 Petri dishes Ø 55 mm - BM15908 Kit 6 x 200 mL vials + supplements - BT01008 Kit 6 x 100 mL vials + supplements - BT00508 **BAIRD-PARKER base agar** 500 g vial - BK055HA 5 kg drum - BK055GC **Rabbit plasma fibrinogen supplement** 8 vials q.s. 100 mL - BS03408 Vial q.s. 500 mL - BS03808	Total [3] Total [3]
5.6/5.7 Confirmation media and reagents	- *Brain-heart infusion broth* **Brain-heart infusion broth** 500 g vial - BK015HA - *Rabbit plasma* **Lyophilized coagulase rabbit plasma** 10 vials 20 reactions - BR00208	Partial [5] Total

[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

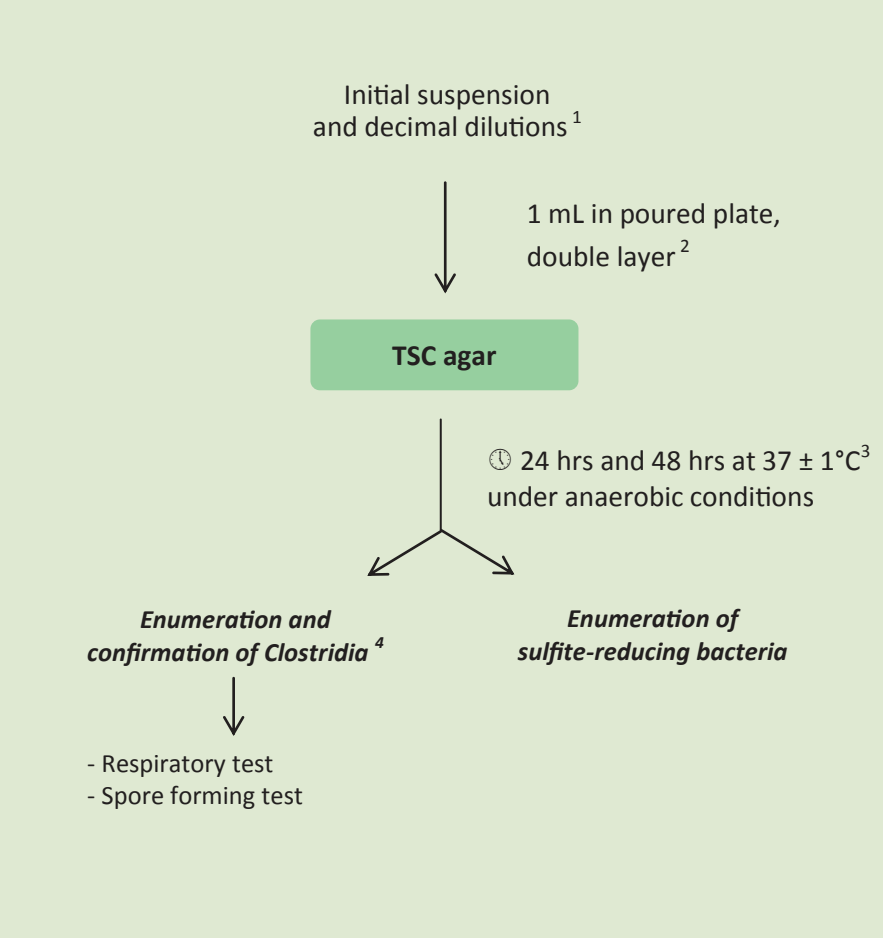
[4] Optional additive, justified by the suspected presence of *Proteus*.

[5] Presence of a pancreatic gelatin peptone instead of the enzymatic digest of the animal tissue recommended.

Horizontal method for the enumeration of sulfite-reducing bacteria growing under anaerobic conditions

NF ISO 15213: 09-2003
V 08-029

1. Protocol



[1] Heat treatment of the initial suspension may be necessary in order to eliminate vegetative forms of sporulating bacteria and/or non-sporulating bacteria. The temperature and heating time vary according to requirements (for example, 20 minutes at 75°C).

[2] Inoculate each dilution in duplicate. Tube inoculation may also be performed, gently mixing 1 mL of inoculum with the reliquefied medium. Allow to solidify and cover with a second layer of medium (2 to 3 mL).

[3] If the presence of thermophilic bacteria is suspected, prepare a second series of Petri dishes or tubes, and incubate at 50 ± 1°C.

[4] This standard is also suitable for the enumeration of *Clostridia* only. In this case, once characteristic colonies have been obtained, five should be sampled from each plate used, the Clostridium genus should be confirmed by confirmation tests (for example, tests on respiratory potential, spore formation).

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
	- *Saline peptone solution* **Tryptone-salt broth** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA	Total [5]
5.1 Agar medium	- *Iron sulfite agar* **TSC agar** 50 x 20 mL tubes - BM03908 10 x 200 mL vials - BM07708 500 g vial - BK031HA	Total [5, 6]

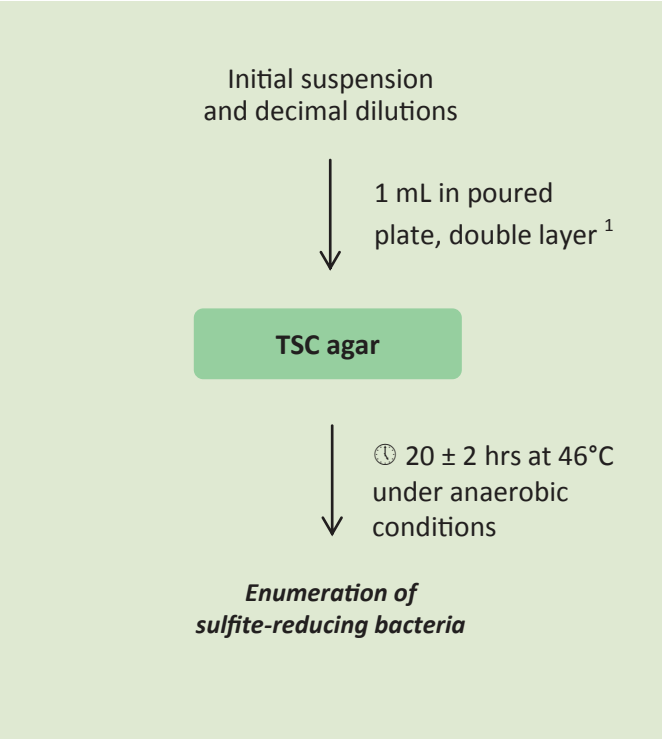
[5] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

[6] If tubes are used, incubation in jars for anaerobic conditions is not necessary.

Enumeration of sulfite-reducing bacteria under anaerobic conditions by the colony-count technique at 46°C

NF V 08-061: 12-2009
V 08-061

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Agar medium	- *Iron sulfite agar free from egg yolk* **TSC (base) agar** 50 x 20 mL tubes - BM03908 10 x 200 mL vials - BM07708 500 g vial - BK031HA	Total [2]
	- *D-cycloserine solution* **D-cycloserine 200 mg selective supplement** 10 vials q.s. 500 mL - BS00608 **D-cycloserine liquid supplement** 10 x 90 mL vials - BS09208 1 x 50 mL vial - BS09408	Total

[1] Inoculation may be carried out in Petri dishes or tubes.

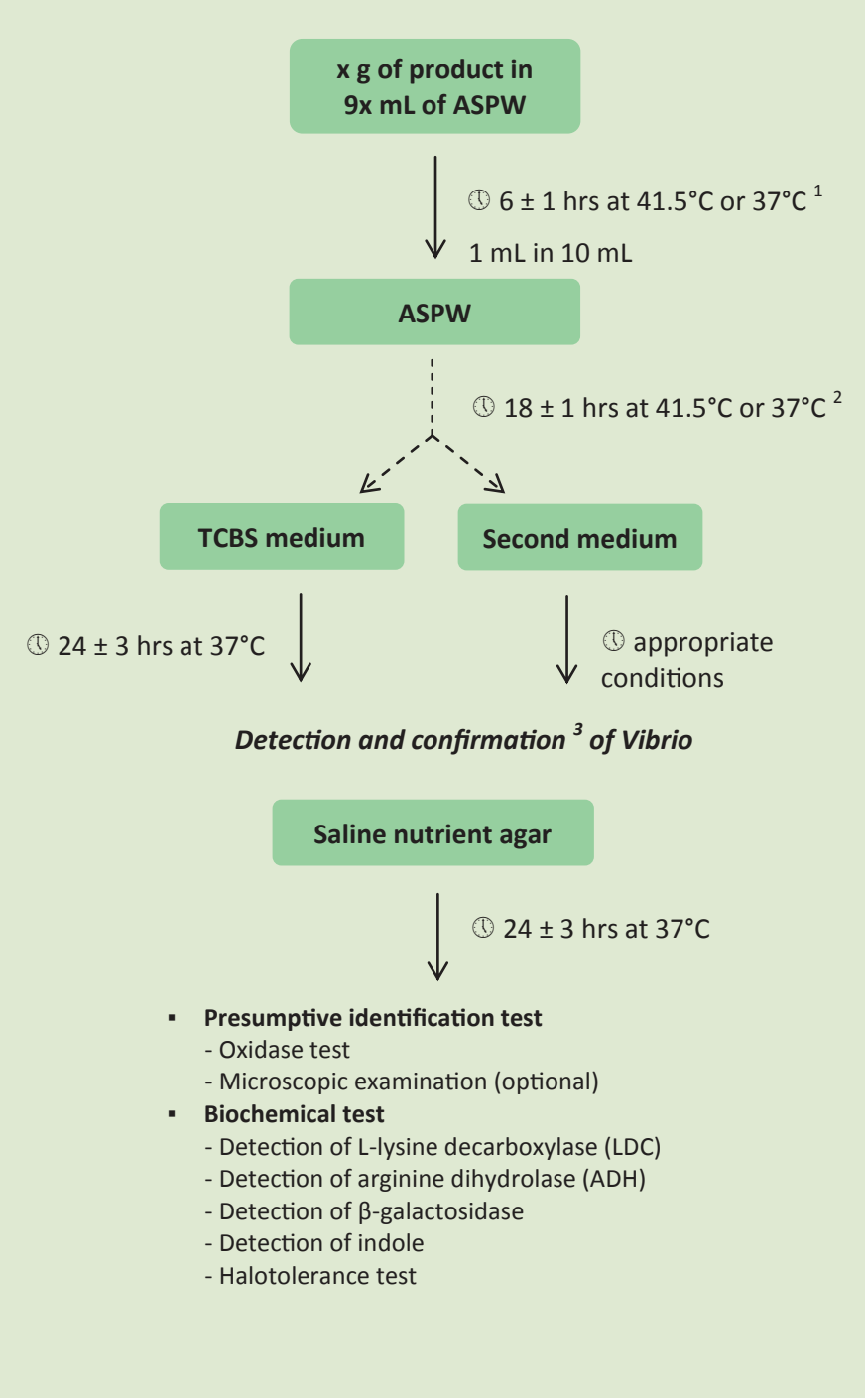
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Horizontal method for the determination of Vibrio spp.

Part 1: Detection of potentially enteropathogenic *Vibrio parahaemolyticus, Vibrio cholerae* and *Vibrio vulnificus*

NF EN ISO 21872-1: 09-2017
V 08-064-1

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
B.1 Enrichment medium	- *Alkaline saline peptone water (ASPW)* **Alkaline saline peptone water (ASPW)** 500 g vial - BK219HA	Total
B.2 Plating-out media	- *Thiosulfate, citrate, bile and sucrose (TCBS) agar* **TCBS agar** 500 g vial - BK040HA	Total [4]
	The choice of the second medium is left to the discretion of the testing laboratory	
B.3 Subculture medium	- *Saline nutrient agar (SNA)* -	-
B.4 Identification reagent	- *Oxidase reagent* -	-
B.5/B.6/B.7/B.8/B.9/ B.10/B.11 Biochemical confirmation media and reagents	- *Lysine decarboxylase (LDC) detection medium* - - *Arginine dihydrolase (ADH) detection medium* - - *ONPG solution* - - *Buffer solution* - - *Tryptophan medium* **Tryptophan broth** 50 x 3 mL tubes - BM07608 500 g vial - BK163HA - *Saline peptone water* - - *Sodium chloride solution* - - *Tris acetate EDTA (TAE) buffer* -	- - - - Partial [5] - - -

[1] Incubate at 37°C for the detection of *V. parahaemolyticus* and *V. cholerae* in frozen, dried and cured products, and for *V. vulnificus* in all product states, or at 41.5°C for the detection of *V. parahaemolyticus* and *V. cholerae* in fresh products.

[2] Incubate at 37°C for the detection of *V. vulnificus* or at 41.5°C for the detection of *V. parahaemolyticus* and *V. cholerae* in all product states.

[3] Using each selective medium, reinoculate at least one well-isolated characteristic colony. If the result of the tests is negative, test four other colonies.

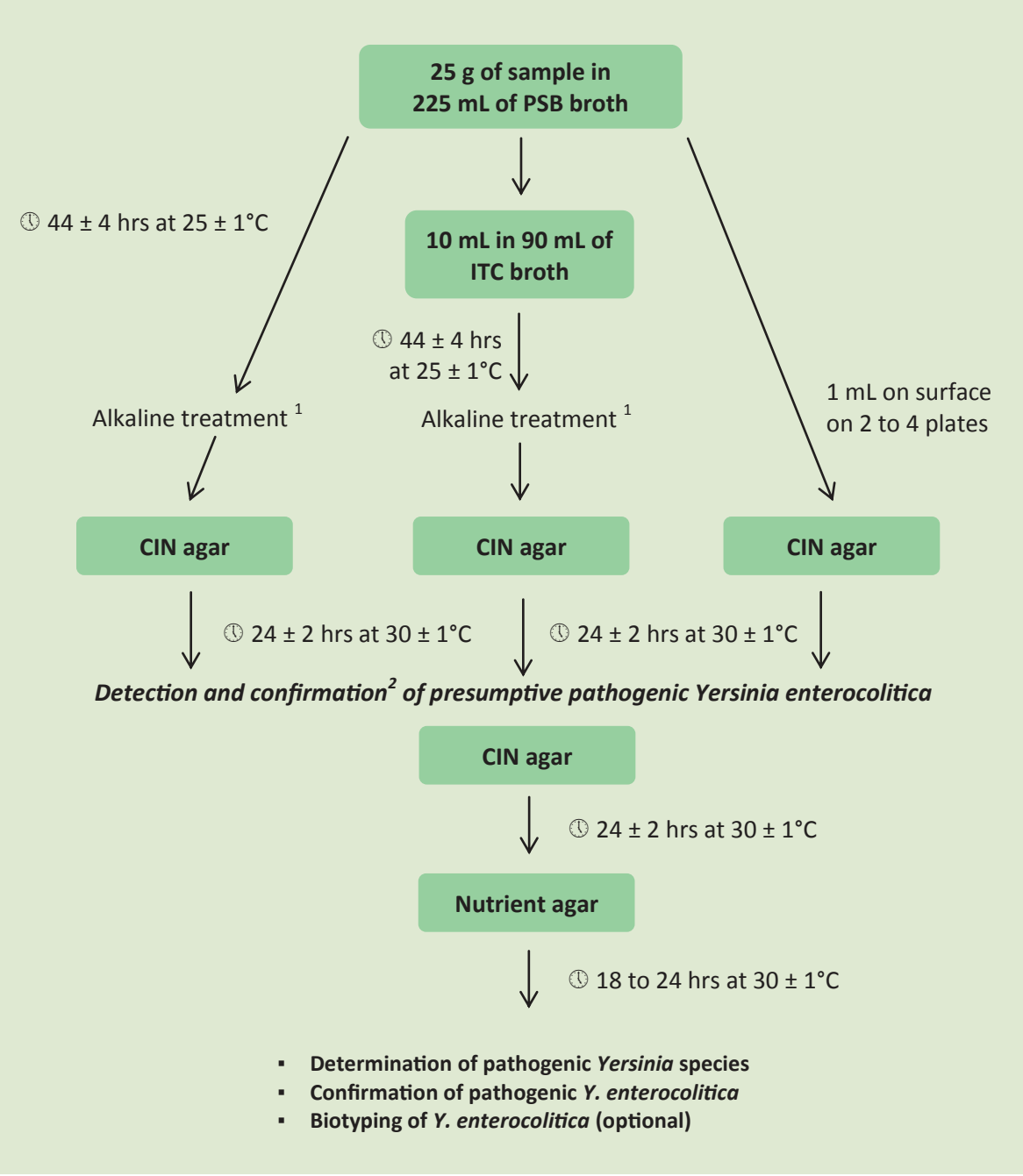
[4] The 8.0 g/L of dried bovine bile consists of the following: 5 g/L of bacteriological bovine bile and 3 g/L of sodium cholate.

[5] Presence of 5.0 g of sodium chloride instead of 10.0 g and pH of 7.5 ± 0.2 instead of 7.0 ± 0.2.

Horizontal method for the detection of pathogenic *Yersinia enterocolitica*

NF EN ISO 10273: 06-2017
V 08-027

1. Protocol



[1] Transfer 0.5 mL of enrichment to 4.5 mL of KOH, after 20 ± 5 s inoculate in streaks on the surface of a CIN agar plate.

[2] Sample 5 characteristic colonies (if available) and prepare a subculture on CIN agar. Examine the plates and reinoculate a typical colony on a non-selective agar, such as nutrient agar. Then carry out the confirmation tests.

2. Media and reagents

Section	Media and reagents	Compliance
B.2/B.3 Enrichment media	- *Peptone, sorbitol and bile salts (PSB) broth* - - *Irgasan, ticarcillin and potassium chlorate (ITC) broth* -	- -
B.4/B.5 Alkaline reagents	- *Sodium chloride solution* - - *Potassium hydroxide solution in saline solution* -	- -
B.6/B.7 Plating-out media	- *Cefsulodin, Irgasan and novobiocin (CIN) agar* - - *Nutrient agar (example of a non-selective medium)* **2% nutrient agar** 50 x 18 mL tubes - BM11808 500 g vial - BK185HA	- Total [3]
B.8/B.9/B.10/B.11/ B.12/B.13/B.14/ B.15/B.16/B.17/ B.18/B.19/B.20/ B.21/B.22 Confirmation media and reagents	- *Tryptic soy broth (TSB)* **Trypticase soy broth (TSB)** 50 x 10 mL tubes - BM03008 10 x 100 mL vials - BM00908 10 x 90 mL vials - BM17908 2 x 5 L flexible bags - BM16608 500 g vial - BK046HA/5 kg drum - BK046GC - *Sterile glycerol* - - *Urea agar (Christensen)* - - *Congo red-magnesium (CR-MOX) agar* - - *Bile and esculin agar* - - *Casein-soya agar for detection of pyrazinamidase* - - *Ammonium iron(II) sulfate solution for detection of pyrazinamidase* - - *Decarboxylase basal medium (lysine or arginine)* - - *Phenylalanine (tryptophan) desaminase agar* - - *Ferric chloride, 10%* - - *Media for fermentation of carbohydrates* - - *Simmons' citrate medium* - - *Medium for Tween-esterase test* - - *Tryptone/tryptophan medium* **Tryptophan broth** 50 x 3 mL tubes - BM07608 500 g vial - BK163HA - *Kovac's reagent* -	Total [3] - - - - - - - - - - - - - Partial [4] -

[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

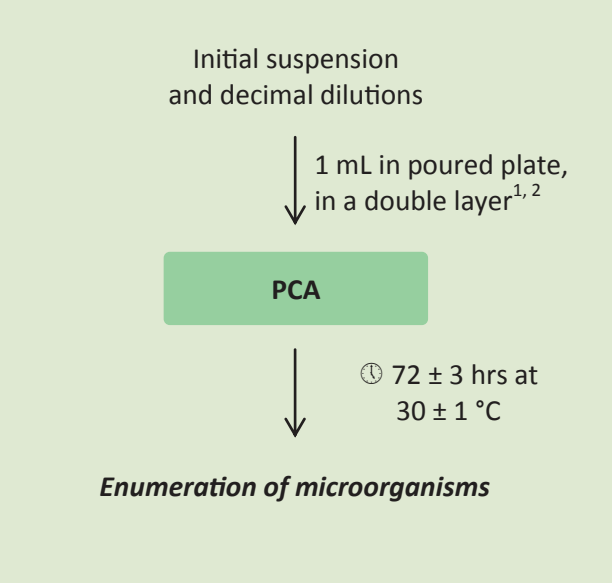
[4] Presence of 1 g/L of tryptophan instead of 3 g/L as recommended.

Horizontal method for the enumeration of microorganisms

Part 1: Colony count at 30°C by the pour plate technique

NF EN ISO 4833-1: 10-2013
V 08-011-1

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2 Selective medium	- *Plate count medium (PCA)* **Plate count agar (PCA)** 10 x 100 mL vials - BM01508 10 x 200 mL vials - BM03308 500 g vial - BK144HA 5 kg drum - BK144GC **Plate count agar (PCA) with skim milk** [4] 10 x 200 mL vials - BM08608 500 g vial - BK161HA	Total [3] Total [3]
5.3 Double layer medium [2]	**Type A bacteriological agar** 500 g vial - A1010HA 5 kg drum - A1010GC **Type E bacteriological agar** 500 g vial - A1012HA 5 kg drum - A1012GC	Total

[1] Inoculate each dilution in duplicate.

[2] If microorganisms are susceptible to overgrow the surface of agar, add a double layer.

[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

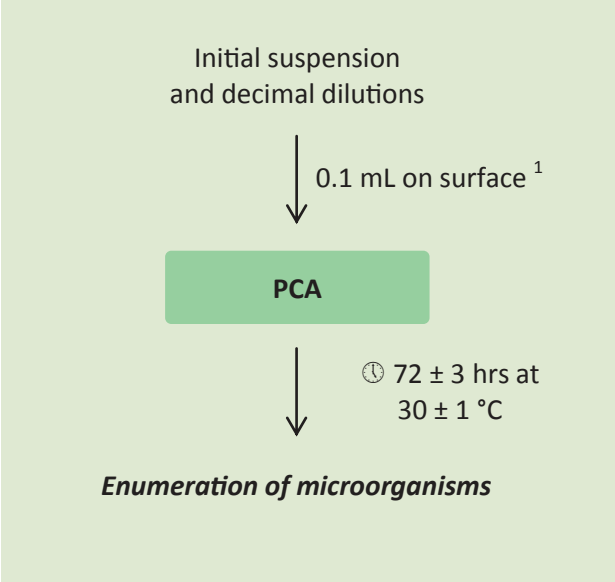
[4] For the analysis of milk products.

Horizontal method for the enumeration of microorganisms

Part 2: Colony count at 30°C by the surface plating technique

NF EN ISO 4833-2: 10-2013
V 08-011-2

1. Protocol



2. Media and reagents

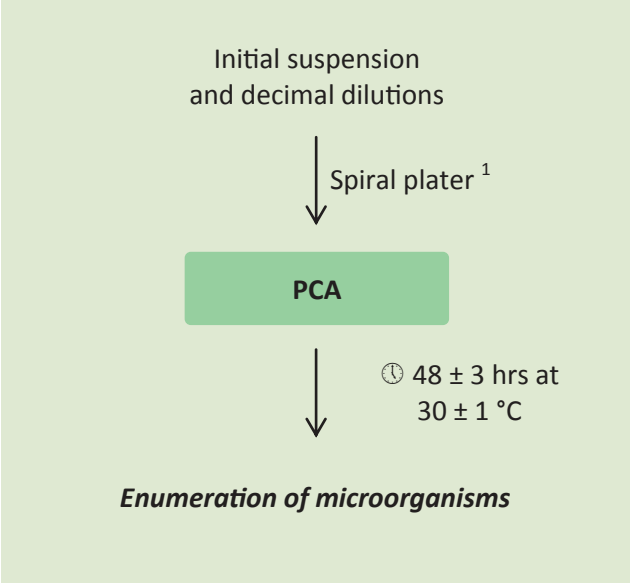
Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2 Selective medium	- *Plate count medium (PCA)* **Plate count agar (PCA)** 10 x 100 mL vials - BM01508 10 x 200 mL vials - BM03308 500 g vial - BK144HA 5 kg drum - BK144GC **Plate count agar (PCA) with skim milk[3]** 10 x 200 mL vials - BM08608 500 g vial - BK161HA	Total [2] Total [2]

[1] Inoculate each dilution in duplicate.
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.
[3] For the analysis of milk products.

Enumeration of microorganisms by colony-count technique at 30°C after inoculation by the spiral method

XP V 08-034: 09-2010
V 08-034

1. Protocol



2. Media and reagents

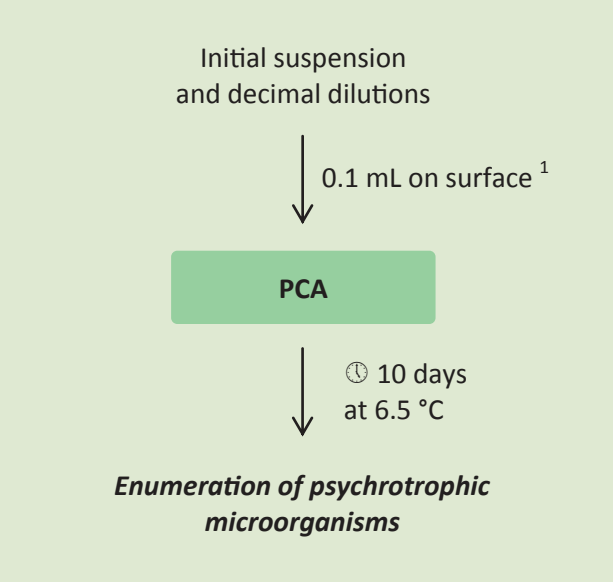
Section	Media and reagents	Compliance
5.2 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.3 Selective medium	- *Plate count medium (PCA)* **Plate count agar (PCA)** 10 x 100 mL vials - BM01508 10 x 200 mL vials - BM03308 500 g vial - BK144HA 5 kg drum - BK144GC **Plate count agar (PCA) with skim milk [3]** 10 x 200 mL vials - BM08608 500 g vial - BK161HA	Total [2] Total [2]
5.4 Double layer medium [2]	**Type A bacteriological agar** 500 g vial - A1010HA 5 kg drum - A1010GC **Type E bacteriological agar** 500 g vial - A1012HA 5 kg drum - A1012GC	Total

[1] If microorganisms are susceptible to overgrow the surface of agar, add a double layer.
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.
[3] For the analysis of milk products.

Horizontal method for the enumeration of psychrotrophic microorganisms

NF ISO 17410: 11-2001
V 08-033

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 96 to 103.	
5.2 Selective medium	- *Plate count medium (PCA)* **Plate count agar (PCA)** 10 x 100 mL vials - BM01508 10 x 200 mL vials - BM03308 500 g vial - BK144HA 5 kg drum - BK144GC **Plate count agar (PCA) with skim milk** [3] 10 x 200 mL vials - BM08608 500 g vial - BK161HA	Total [2] Total [2]

[1] Inoculate each dilution in duplicate.
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.
[3] For the analysis of milk products.

Preparation of test samples, initial suspension and decimal dilutions for microbiological examination

Part 1: General rules for the preparation of the initial suspension and decimal dilutions

NF EN ISO 6887-1: 06-2017
V 08-010-1

1. Protocol

1. Preparation of the initial suspension (1:10)
x g or x mL of sample
+

2. Decimal dilutions
1 mL of initial suspension
+
9 mL of diluent

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluents for general use	- *Saline peptone solution* **Tryptone-salt broth** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA	Total
	- *Buffered Peptone Water* **Buffered Peptone Water (20.0 g/L)** [1] 500 g vial - BK131HA/5 kg drum - BK131GC **Buffered Peptone Water (25.5 g/L)** [2] 50 x 9 mL tubes - BM05608 10 x 90 mL vials - BM05708 10 x 225 mL vials - BM01008 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208 500 g vial - BK018HA/5 kg drum - BK018GC	Total [1]
	- *Double strength buffered peptone water* **Salmonella Enrichment double strength buffered** [3] 500 g vial - BK225HA/5 kg drum - BK225GC 2 x 5 L flexible bags - BM20008 10 x 225 mL vials - BM20108	Total
5.3 Diluents for special purposes	Refer to the section of standard NF EN ISO 6887 corresponding to the product to be examined, pages 99 to 103.	

[1] Formula including 9.0 g/L of disodium phosphate dodecahydrate (molecular mass 358.14).
[2] Formula including 3.56 g/L of anhydrous disodium phosphate (molecular mass 141.96).
[3] The Salmonella Enrichment double-strength buffered formulation conforms to that of double-strength buffered peptone water.

Preparation of test samples, initial suspension and decimal dilutions for microbiological examination

Part 2: Specific rules for the preparation of meat and meat products

NF EN ISO 6887-2: 06-2017
V 08-010-2

1. Use Intended

Preparation of the initial suspension and, if necessary, decimal dilutions for the test samples of:

- fresh, raw and processed meats,
- poultry,
- game,
- and their products:
  - refrigerated or frozen;
  - cured or fermented;
  - minced or comminuted;
  - meat preparations;
  - mechanically separated meat;
  - cooked meats;
  - dried and smoked meats at various degrees of dehydration;
  - concentrated meat extracts;
  - excision and swab samples from carcasses.

2. Media and reagents

Part	Media and reagents
5. Diluents	Refer to standard NF EN ISO 6887-1, page 96

Preparation of test samples, initial suspension and decimal dilutions for microbiological examination

Part 3: Specific rules for the preparation of fish and fishery products

NF EN ISO 6887-3: 06-2017
V 08-010-3

1. Use Intended

Preparation of the initial suspension and, if necessary, decimal dilutions for the test samples of:

- Raw fishery products, molluscs, tunicates and echinoderms
- Processed products,
- Raw or cooked frozen fish, crustaceans, molluscs and others, in blocks or otherwise.

2. Media and reagents

Part	Media and reagents
5. Diluents	Refer to standard NF EN ISO 6887-1, page 96

Preparation of test samples, initial suspension and decimal dilutions for microbiological examination

Part 4: Specific rules for the preparation of miscellaneous products

NF EN ISO 6887-4: 06-2017
V 08-010-4

1. Use Intended

Preparation of the initial suspension and, if necessary, decimal dilutions for the test samples of:

- acidic (low pH) products;
- hard and dry products;
- dehydrated, freeze-dried and other low aw products
- flours, whole cereal grains, cereal by-products;
- animal feed, cattle cake, kibbles and pet chews;
- gelatin (powdered and leaf);
- margarines, spreads and non-dairy products with added water;
- eggs and egg products;
- bakery goods, pastries and cakes;
- fresh fruit and vegetables;
- fermented products and other products containing viable microorganisms;
- alcoholic and non-alcoholic beverages;
- alternative protein products.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Basic materials	Refer to standard NF EN ISO 6887-1, page 96.	
5.2 Diluents for general use	- *Peptone salt solution with bromocresol purple* **Tryptone-salt broth (base)** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA	Total [1]
	- *Buffered Peptone Water* **Buffered Peptone Water (20.0 g/L)** [2] 500 g vial - BK131HA/5 kg drum - BK131GC **Buffered Peptone Water (25.5 g/L)** [3] 50 x 9 mL tubes - BM05608 10 x 90 mL vials - BM05708 10 x 225 mL vials - BM01008 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208 500 g vial - BK018HA/5 kg drum - BK018GC	Total [1]

[1] "Tryptone" is a peptone obtained by pancreatic digestion of casein.
[2] Formula including 9.0 g/L of disodium phosphate dodecahydrate (molecular mass 358.14).
[3] Formula including 3.56 g/L of anhydrous disodium phosphate (molecular mass 141.96).

Section	Media and reagents	Compliance
5.3 Diluents for special purposes	*Double strength buffered peptone water* **Salmonella Enrichment double strength buffered** [3] 500 g vial - BK225HA 5 kg drum - BK225GC 2 x 5 L flexible bags - BM20008 10 x 225 mL vials - BM20108 *- Phosphate buffer solution* -	Total[1]
5.6 Enzyme solutions	*- Alpha-amylase solution* - *- Cellulase solution* - *- Papain solution* -	- - -

[1] "Tryptone" is a peptone obtained by pancreatic digestion of casein.
[2] Formula including 9.0 g/L of disodium phosphate dodecahydrate (molecular mass 358.14).
[3] Formula including 3.56 g/L of anhydrous disodium phosphate (molecular mass 141.96).
[4] Multiply the reconstitution rate by two, to yield double strength buffered peptone water.

Preparation of test samples, initial suspension and decimal dilutions for microbiological examination

Part 5: Specific rules for the preparation of milk and milk products

NF EN ISO 6887-5: 10-2010
V 08-010-5

1. Use Intended

Preparation of the initial suspension and, if necessary, decimal dilutions for the test samples of:

- milk and liquid milk products
- dried milk products;
- cheese;
- casein and caseinates;
- butter;
- ice-cream;
- custard, desserts and sweet cream;
- fermented milk and sour cream;
- milk-based infant foods.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluents for general use	- *Saline peptone solution* **Tryptone-salt broth** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA	Total [1]
	- *Quarter-strength Ringer's solution* **Quarter-strength RINGER's solution** 100 tablets - BR00108	Total
	- *Peptone solution* **0.1% peptone water** 2 x 5 L flexible bags - BM16408	Total [1]
	- *Buffered Peptone Water* **Buffered Peptone Water (20.0 g/L)** [3] 500 g vial - BK131HA/5 kg drum - BK131GC **Buffered Peptone Water (25.5 g/L)** [4] 50 x 9 mL tubes - BM05608 10 x 90 mL vials - BM05708 10 x 225 mL vials - BM01008 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208	Total

[1] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Section	Media and reagents	Compliance
5.3 Diluents for special purposes	- *Sodium citrate solution* - - *Diphosphate hydrogenphosphate solution* **Dipotassium hydrogenphosphate solution 20 g/L** 2 x 5 L flexible bags - BM19308 - *Dipotassium hydrogenphosphate solution with antifoam agent* - - *Tripolyphosphate solution* - - *Diluent for general use with α-amylase solution* - - *Buffered Peptone Water with bromocresol purple* **Buffered Peptone Water (20.0 g/L)** [3] 500 g vial - BK131HA/5 kg drum - BK131GC **Buffered Peptone Water (25.5 g/L)** [4] 50 x 9 mL tubes - BM05608 10 x 90 mL vials - BM05708 10 x 225 mL vials - BM01008 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208 500 g vial - BK018HA/5 kg drum - BK018GC - *Bromocresol purple supplement* -	- Total - - - Total -

Preparation of test samples, initial suspension and decimal dilutions for microbiological examination

Part 6: Specific rules for the preparation of samples taken at the primary production stage

NF EN ISO 6887-6: 05-2013
V 08-010-6

1. Use Intended

Preparation of the initial suspension and, if necessary, decimal dilutions for the samples taken from the :

- farm;
- environment;
- animals;
- slaughterhouse;
- hatchery;
- vehicle, units or crates used for animal transportation.

2. Media and reagents

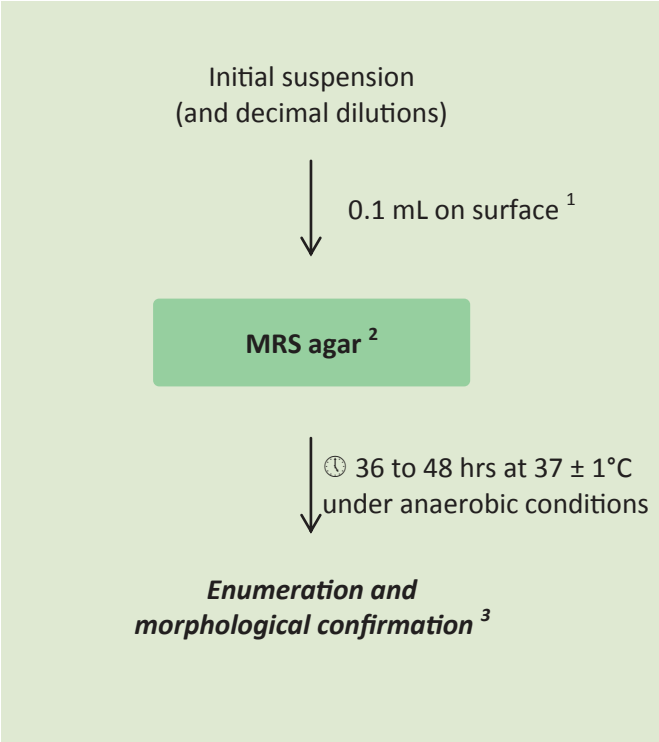
Section	Media and reagents
5. Diluents	Refer to standard NF EN ISO 6887-1, page 96.
5.2 Diluents for special purposes	- *Neutralizing agents* -

Animal feeding stuffs

Isolation and enumeration of *Bifidobacterium* spp.

NF EN 15785: 12-2009
V 18-238

1. Protocol



[1] Inoculate each dilution on 2 plates.

[2] If an additional microflora is present, inoculation may be performed in a selective medium, such as AMRS agar, MRS agar + TTC and MRS agar with selective antibiotics.

[3] If colonies with different characteristics are detected during confirmation, repeat the analysis with a more selective medium (MRS+TTC, AMRSA, selective antibiotic medium).
Confirm 2 to 5 colonies of each morphological type, selected at random.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluents	- *Phosphate buffer (PBS)* - - *Saline peptone solution* **Tryptone-salt broth** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA	- Total [4]
5.2 Culture media	- *MRS agar* **MRS agar** 10 x 200 mL vials - BM08908 500 g vial - BK089HA - *MRS agar supplemented with TTC* [6] **MRS agar** 10 x 200 mL vials - BM08908 500 g vial - BK089HA **TTC supplement 12.5 mg** 10 vials - BS02608 **TTC supplement 50 mg** 10 vials - BS02708 - *AMRSA (pH 5.4)* **MRS agar** 10 x 200 mL vials - BM08908 500 g vial - BK089HA - *Selective medium supplemented with 0.05% cysteine hydrochloride* -	Total [5] Total Partial [5] -

[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

[5] The pH of the medium is 5.7, and will be adjusted to 6.5 or 5.4 according to standard practice.

[6] MRS medium at pH 6.5 supplemented with 1 mL per 100 mL of a 1% TTC solution.

Animal feeding stuffs

Isolation and enumeration of presumptive *Bacillus* spp.

NF EN 15784: 12-2009
V 18-237

1. Protocol

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluents	- *Phosphate buffer (PBS)* - - *0.2% sodium hydroxide solution* - - *Saline peptone solution* **Tryptone-salt broth** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA - *Polysorbate 80 solution* -	- - Total -
5.2 Culture medium	- *Tryptone soy agar* **Trypticase soy agar (TSA)** 20 plates Ø 90 mm - BM05008 10 x 100 mL vials - BM01708 10 x 200 mL vials - BM04908 500 g vial - BK047HA	Total [1]

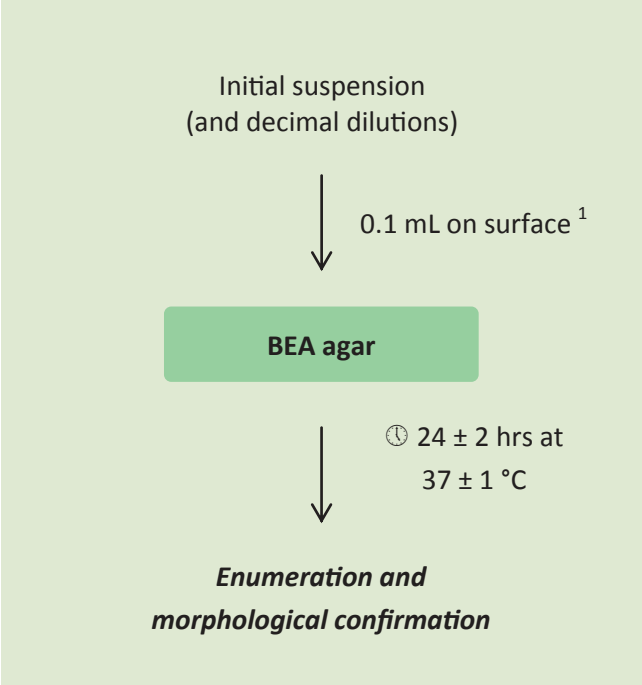
[1] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Animal feeding stuffs

Isolation and enumeration of Enterococci (*E. faecium*) spp.

NF EN 15788: 12-2009
V 18-232

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluents	- *Phosphate buffer (PBS)* - - *Saline peptone solution* **Tryptone-salt broth** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA	- Total [2]
5.2 Selective medium	- *Bile-esculin-azide (BEA) agar* **BEA agar** 10 x 100 mL vials - BM10408 500 g vial - BK158HA	Partial [2, 3]

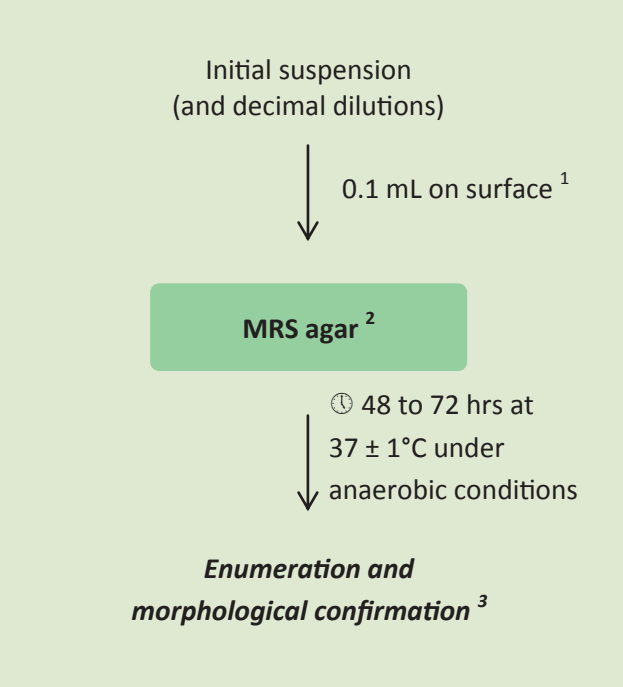
[1] Inoculate 2 plates and repeat the operation for each dilution.
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.
[3] Presence of 0.15 g of sodium azide instead of 0.25 g as recommended.

Animal feeding stuffs

Isolation and enumeration of *Lactobacillus* spp.

NF EN 15787: 12-2009
V 18-231

1. Protocol



[1] Inoculate in duplicate and repeat the operation for each dilution.

[2] If Lactobacilli are the only bacterial components of a feed, use MRS agar or AMRSA; if predominantly present with an additional microflora, enumeration may begin in AMRSA, MRS + TTC or LAMVAB medium. If Lactobacilli are not predominant, use LAMVAB medium.

If colonies are detected which do not fulfil these criteria, repeat the analysis with AMRSA and/or LAMVAB agar. If yeasts are present, add nystatin to the agar.

[3] Confirm 2 to 5 colonies of each morphological type, selected at random.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluents	- *Phosphate buffer (PBS)* - - *Saline peptone solution* **Tryptone-salt broth** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA	- Total [4]
5.2 Culture media	- *MRS agar* **MRS agar** 10 x 200 mL vials - BM08908 500 g vial - BK089HA - *MRS agar supplemented with TTC* [6] **MRS agar** 10 x 200 mL vials - BM08908 500 g vial - BK089HA **TTC supplement 12.5 mg** 10 vials - BS02608 **TTC supplement 50 mg** 10 vials - BS02708 - *AMRSA (pH 5.4)* **MRS agar** 10 x 200 mL vials - BM08908 500 g vial - BK089HA - *Selective medium supplemented with 0.05% cysteine hydrochloride* -	Total [5] Total Partial [5] -

[4] The pH of the medium is 5.7, and will be adjusted to 6.5 or 5.4 according to standard practice.

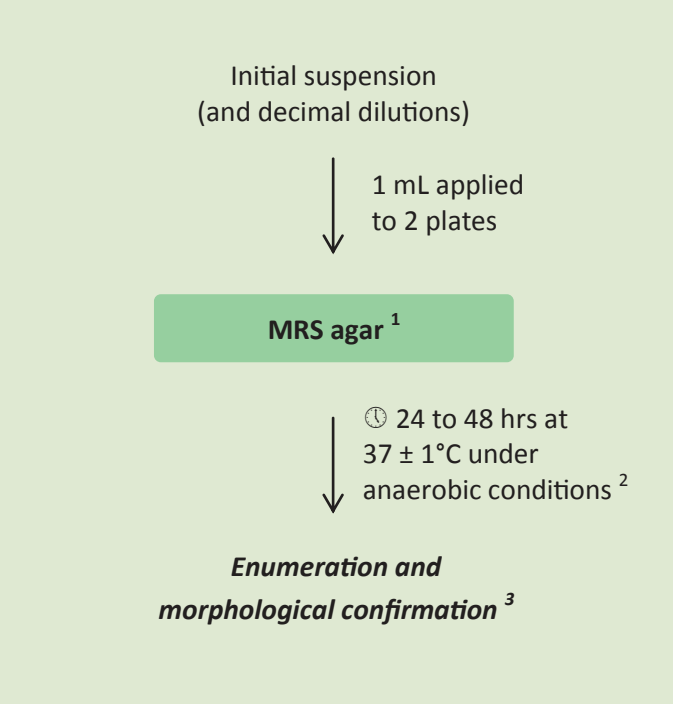
[5] MRS medium at pH 6.5 supplemented with 1 mL per 100 mL of a 1% TTC solution.

Animal feeding stuffs

Isolation and enumeration of *Pediococcus* spp.

NF EN 15786: 12-2009
V 18-230

1. Protocol



[1] If Pediococci are the only bacterial components of the feed, use the MRS agar. If these are predominantly present with an additional microflora, enumeration may be performed in AMRSA, MRS + TTC medium or in a selective antibiotic medium. If Pediococci are not predominant, use the selective antibiotic medium.

[2] Incubate the selective antibiotic medium for 24 hours only, so as to limit the growth of Lactobacillus colonies. Incubate the MRSA, AMRSA and MRSA + TTC agar for a period of between 36 and 48 hrs. Incubate the MRSA + TTC plates under anaerobic conditions; incubation under anaerobic conditions is optional for the MRS and AMRS agars.

[3] Confirm 2 to 5 colonies of each morphological type, selected at random.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluents	- *Phosphate buffer (PBS)* - - *Saline peptone solution* **Tryptone-salt broth** 50 x 9 mL tubes - BM00808 10 x 90 mL vials - BM11408 3 x 3 L flexible bags - BM13508 500 g vial - BK014HA	-Total
5.2 Culture media	- *MRS agar* **MRS agar** 500 g vial - BK089HA 10 x 200 mL vials - BM08908 - *MRS agar supplemented with TTC* [5] **MRS agar** 500 g vial - BK089HA 10 x 200 mL vials - BM08908 **TTC supplement 12.5 mg** 10 vials - BS02608 **TTC supplement 50 mg** 10 vials - BS02708 - *AMRSA (pH 5.4)* **MRS agar** 500 g vial - BK089HA 10 x 200 mL vials - BM08908 - *Selective medium supplemented with 0.05% cysteine hydrochloride*	Total [4] Total Total [4] -

[4] The pH of the medium is 5.7, and will be adjusted to 6.5 or 5.4 according to standard practice.

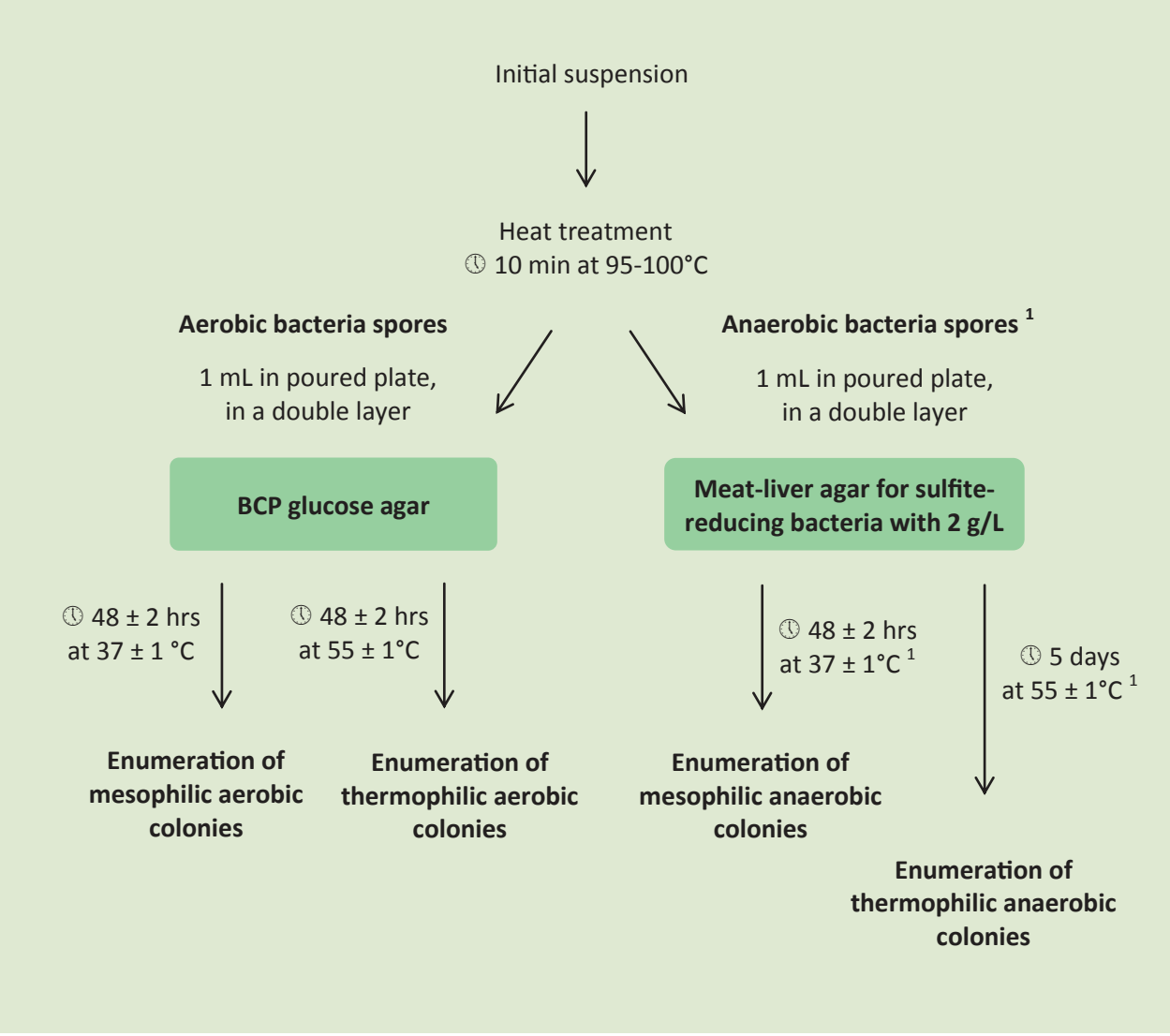
[5] MRS medium at pH 6.5 supplemented with 1 mL per 100 mL of a 1% TTC solution.

Microbiology of food

Enumeration of spores in food products before preserving treatment by the colony-count technique

NF V 08-602: 05-2011
V 08-602

1. Protocol



[1] For the detection of anaerobic bacteria spores, incubate in jars under anaerobic conditions.

2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	- *Buffered Peptone Water (BPW)* [2] **Buffered Peptone Water 20.0 g/L** [3] 500 g vial - BK131HA 5 kg drum - BK131GC **Buffered Peptone Water 25.5 g/L** [4] 50 x 9 mL tubes - BM05608 10 x 90 mL vials - BM05708 10 x 225 mL vials - BM01008 3 x 3 L flexible bags - BM13108 2 x 5 L flexible bags - BM13208 500 g vial - BK018HA 5 kg drum - BK018GC	Total
5.2 Culture medium	- *BCP glucose agar* **BCP glucose agar** 10 x 200 mL vials - BM16808	Total
5.3 Culture medium	- *Meat-liver glucose agar for sulfite-reducing bacteria with 0.2% yeast extract* **Meat-liver agar for sulfite-reducing bacteria + 2 g/L yeast extract** 10 x 200 mL vials - BM16908	Total [5]

[2] Except for special samples (fatty products, for example), refer to the section of standard NF EN ISO 6887 corresponding to the product to be analysed.

[3] Formula including 9.0 g/L of disodium phosphate dodecahydrate (Molecular mass = 358.14).

[4] Formula including 3.56 g/L of anhydrous disodium phosphate (Molecular mass = 141.96).

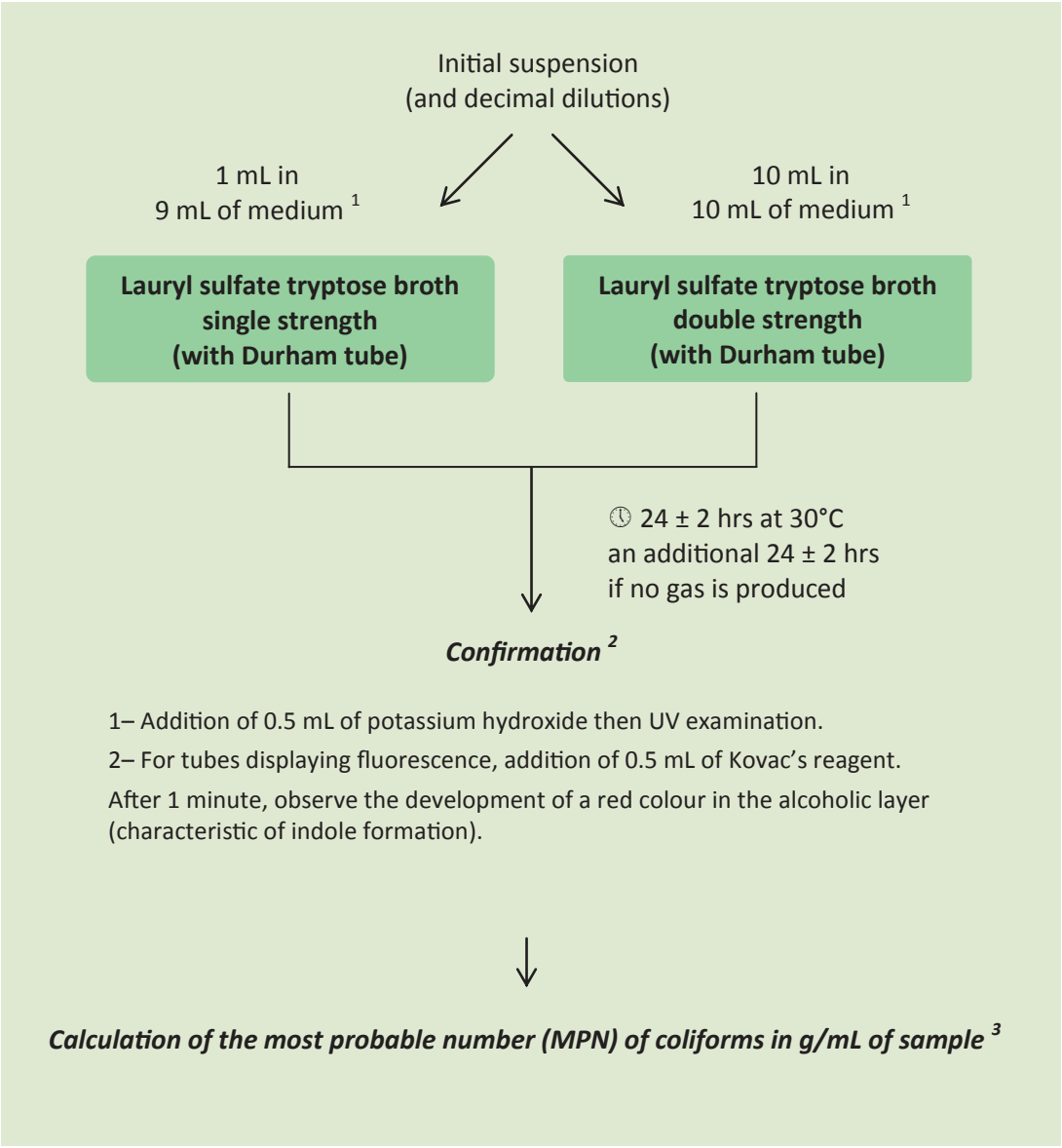
[5] There is an error in the composition, in the text of the standard: presence of meat-liver peptone instead of enzymatic digest of casein in the standard.

Milk and milk products

Enumeration of presumptive *Escherichia coli*
Part 1: Most probable number technique using MUG

NF ISO 11866-1: 09-2006
IDF 170-1

1. Protocol



[1] Inoculate 3 tubes of single strength medium and 3 tubes of double strength medium for each dilution.

[2] Identify gas-producing tubes as positive for presumptive coliforms. Identify tubes displaying fluorescence and formation of indole as positive for presumptive Escherichia coli.

[3] Based on the number of positive tubes of the chosen dilution, determine the MPN coefficient using a MPN table.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.3 Culture medium	- *Lauryl sulfate tryptose broth (selective enrichment medium)* **Laurylsulfate tryptose broth (single strength)** 50 x 10 mL tubes, with Durham tubes - BM09708 **Laurylsulfate tryptose broth (double strength)** 50 x 10 mL tubes, with Durham tubes - BM09808 **Laurylsulfate tryptose broth (base)** 500 g vial - BK010HA - *4-Methylumbelliferyl-β-D-glucuronide (MUG)* **MUG supplement 50 mg** 10 vials - BS02408	Partial [4] Total
5.4/5.5 Confirmation reagents	- *Indole reagent (Kovac's reagent)* - - *Sodium hydroxide solution c (NaOH) ≈ 0.5 mol/L* -	- -

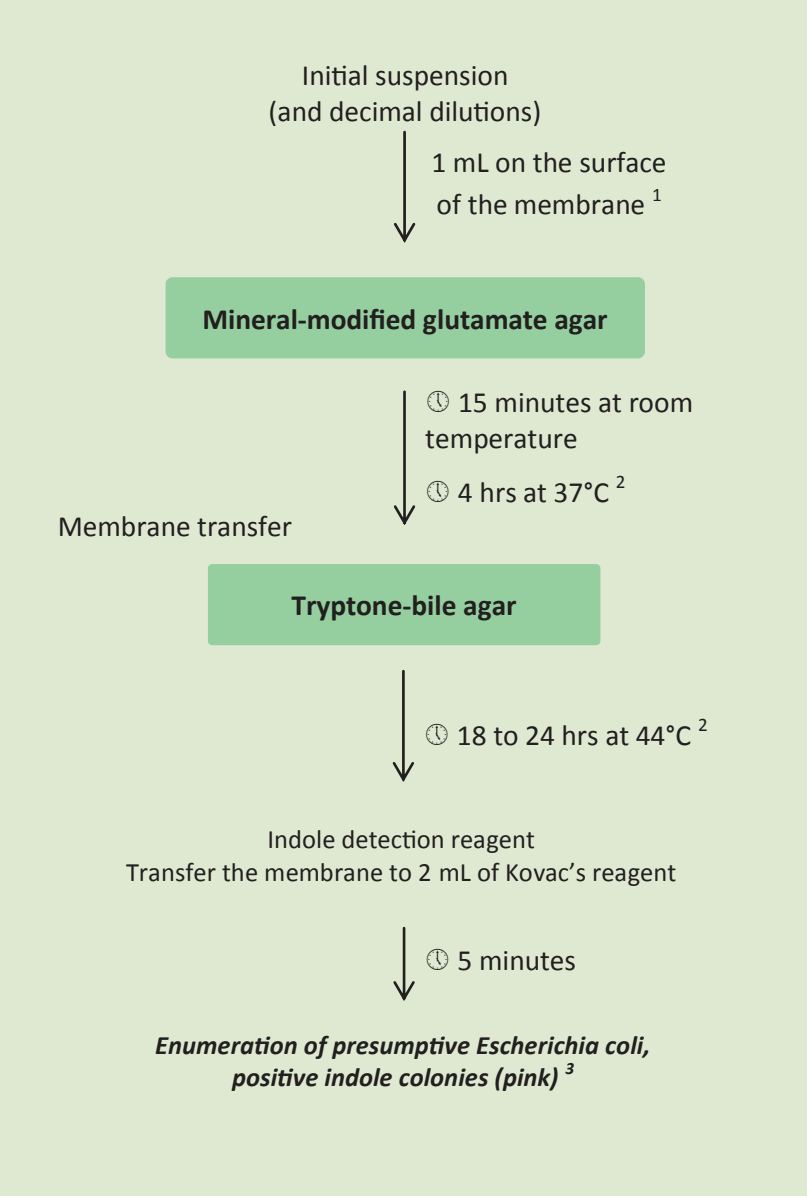
[4] 0.1 g/L (single strength broth) and 0.2 g/L (double strength broth) of 4-methylumbelliferyl-β-D-glucuronide (MUG) and 1.0 g/L or 2.0 g/L of tryptophan need to be added to the formula.

Milk and milk products

Enumeration of presumptive *Escherichia coli* - Part 2: Colony-count technique at 44°C using membranes

NF ISO 11866-2: 09-2006
IDF 170-2

1. Protocol



[1] A cellulose acetate membrane is first placed on the surface of the agar medium.

[2] Incubate the plates horizontally with the membrane upwards.

[3] If permanent recording is necessary, place the membrane under a UV lamp for 30 minutes.

2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.3 Culture medium	- *Mineral-modified glutamate agar* **Glutamate broth** 500 g vial - BK186HA **Type A bacteriological agar** 500 g vial - A1010HA 5 kg drum - A1010GC **Type E bacteriological agar** 500 g vial - A1012HA 5 kg drum - A1012GC - *Tryptone-bile agar* -	Partial [4] -
5.3.3 Confirmation reagent	- *Indole reagent (Kovac's reagent)* -	-

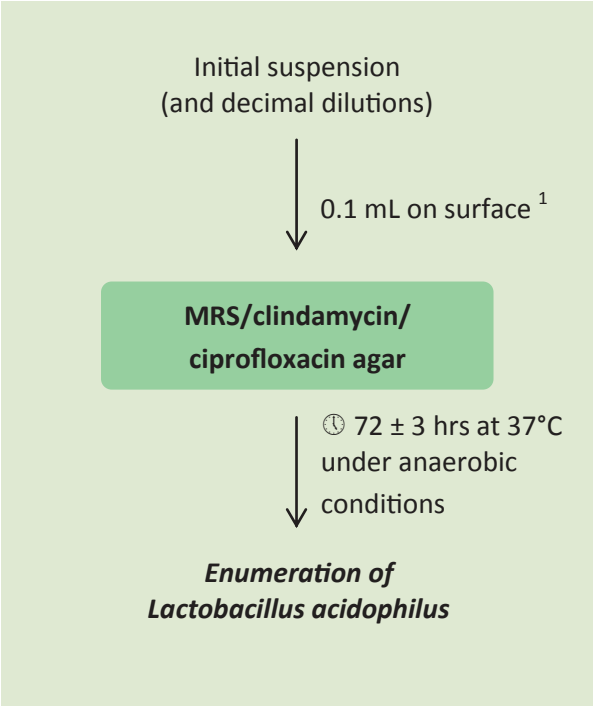
[4] There is an error in the composition, in the text of the standard: inversion of L(-)aspartic acid and L(+)arginine levels. Presence of bromocresol (10 mg/L) in addition.

Milk and milk products

Presumptive *Lactobacillus acidophilus* on a selective medium - Colony-count technique at 37°C

ISO 20128: 05-2006
IDF 192

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.3 Culture medium	- *MRS agar* **MRS agar (base)** 10 x 200 mL vials - BM08908 500 g vial - BK089HA - *Clindamycin solution* - - *Ciprofloxacin solution* -	Total - -

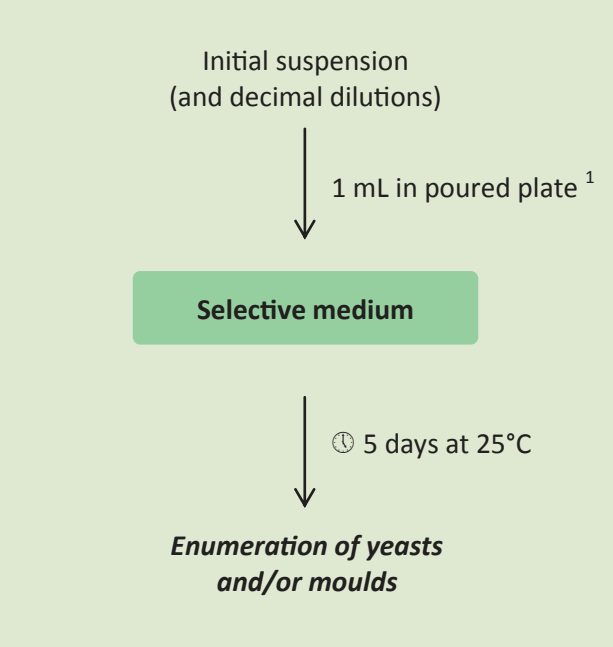
[1] Inoculate each dilution in duplicate.

Milk and milk products

Enumeration of colony-forming units of yeasts and/or moulds - Colony-count technique at 25°C

ISO 6611: 10-2004
FIL 94

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.1 Diluent	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.2 or 5.3 Selective media	- *Yeast extract/dextrose/oxytetracycline/agar medium* **Oxytetracycline glucose agar (OGA ready-to-use)** 10 x 110 mL vials - BM02208 **Oxytetracycline glucose agar (OGA base)** 500 g vial - BK053HA **Oxytetracycline 50 mg selective supplement** 10 vials q.s. 550 mL - BS00808 - *Yeast extract/dextrose/chloramphenicol agar* **Chloramphenicol glucose agar** 10 x 100 mL vials - BM02108 10 x 200 mL vials - BM07908 500 g vial - BK007HA	Total Total

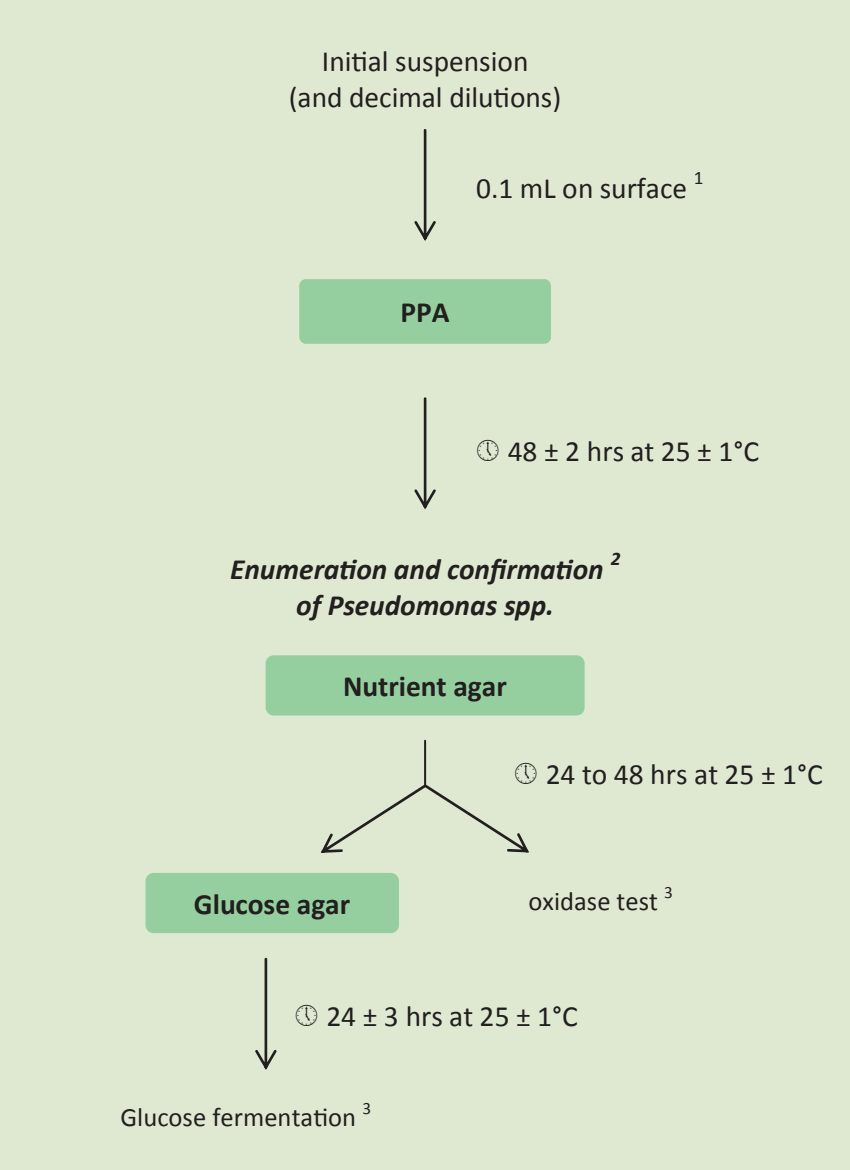
[1] Inoculate each dilution in duplicate.

Milk and milk products

Method for the enumeration of *Pseudomonas* spp.

XP ISO/TS 11059: 10-2009
V 04-025

1. Protocol



[1] Inoculate each dilution in duplicate.

[2] Select 5 characteristic colonies and carry out the confirmation tests.

[3] The presence of *Pseudomonas* is confirmed by a positive oxidase test and a negative glucose fermentation test.

2. Media and reagents

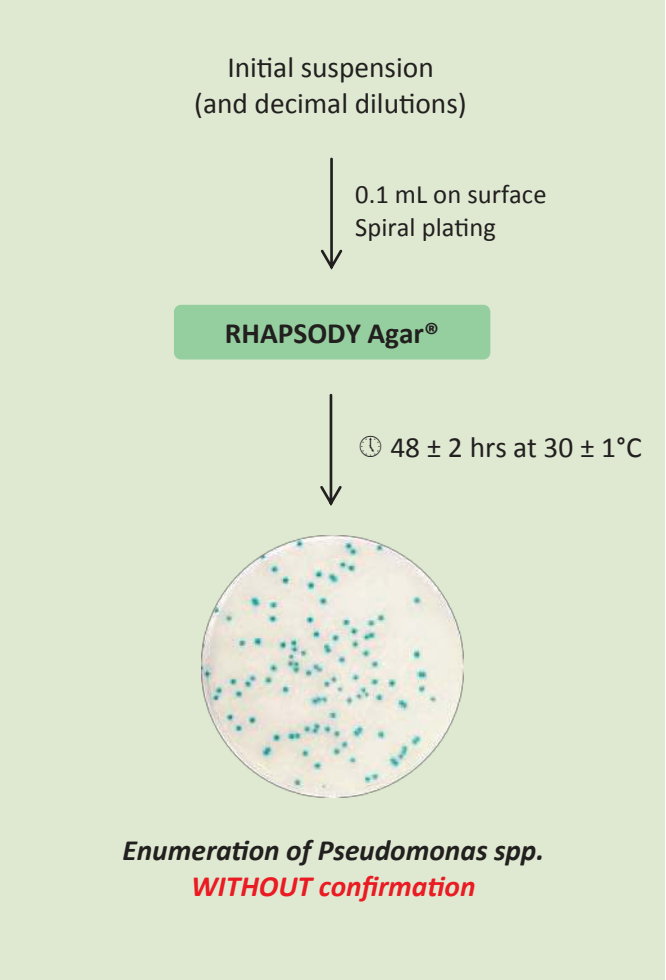
Section	Media and reagents	Compliance
5.2 Diluents	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.3 Selective medium	- *Penicillin and pimaricin agar (PPA)* **PPA medium** 20 plates Ø 90 mm - BM15608	Total
5.4/5.5/5.6 Confirmation media and reagent	- *Nutrient agar* **2 % nutrient agar** 50 x 18 mL tubes - BM11808 500 g vial - BK185HA - *Glucose agar* **Glucose agar** 50 x 10 mL tubes - BM09908 - *Reagent for the detection of oxidase* -	Total Total -

RHAPSODY Agar®

**Method for the enumeration of *Pseudomonas* spp.
in human food products and environmental samples**

BKR 23/09-05/15 A (meat products)
BKR 23/09-05/15 B (milk products)
Alternative food analysis method
www.afnor-validation.org

1. Protocol



2. Media and reagents

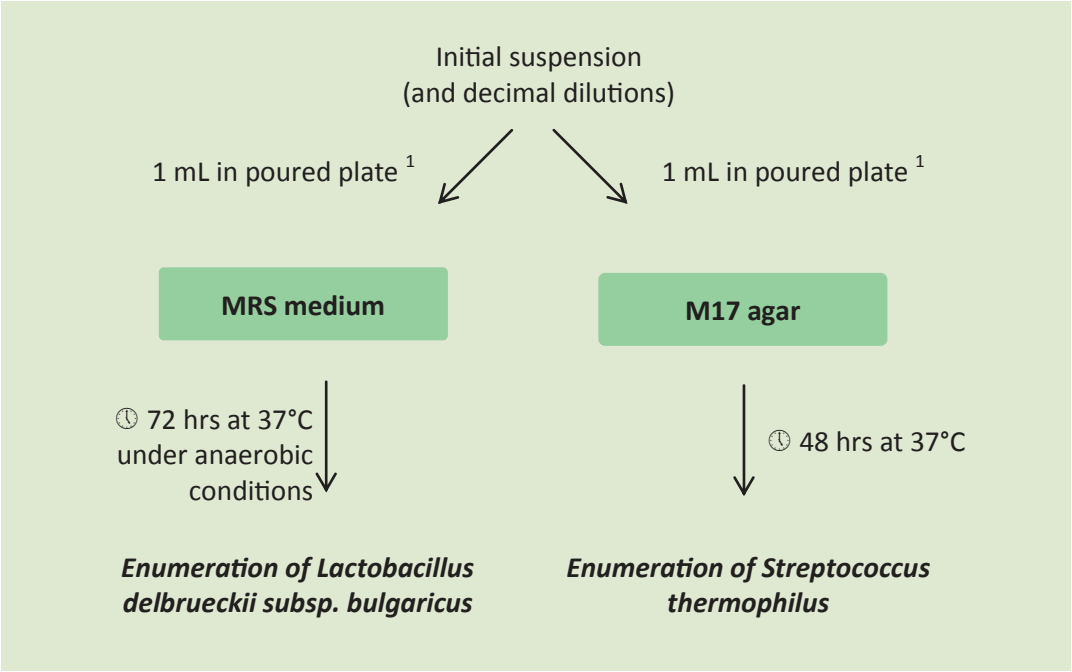
Diluents	Refer to standard NF EN ISO 6887-5, pages 101-102.
Selective medium	**RHAPSODY Agar®** BM16708 - 20 plates Ø 90 mm

Yogurt

Enumeration of characteristic microorganisms

ISO 7889: 02-2003
IDF 117

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2/5.3/5.4 Diluents	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.5 Selective media	- *Acidified MRS medium (pH 5.4)* [2] **MRS agar** 500 g vial - BK089HA - *M17 medium* **M17 agar** 500 g vial - BK088HA	Partial [3] Total [4]

[1] Inoculate each dilution in duplicate.

[2] According to DE MAN J.C., ROGOSA M. and SHARPE M.E. (1960) A medium for the cultivation of Lactobacilli. Journal of Applied Bacteriology. 23, 130-135.

[3] Presence of polypeptone (10.0 g/L) instead of casein tryptic hydrolysate (10.0 g/L) as recommended.

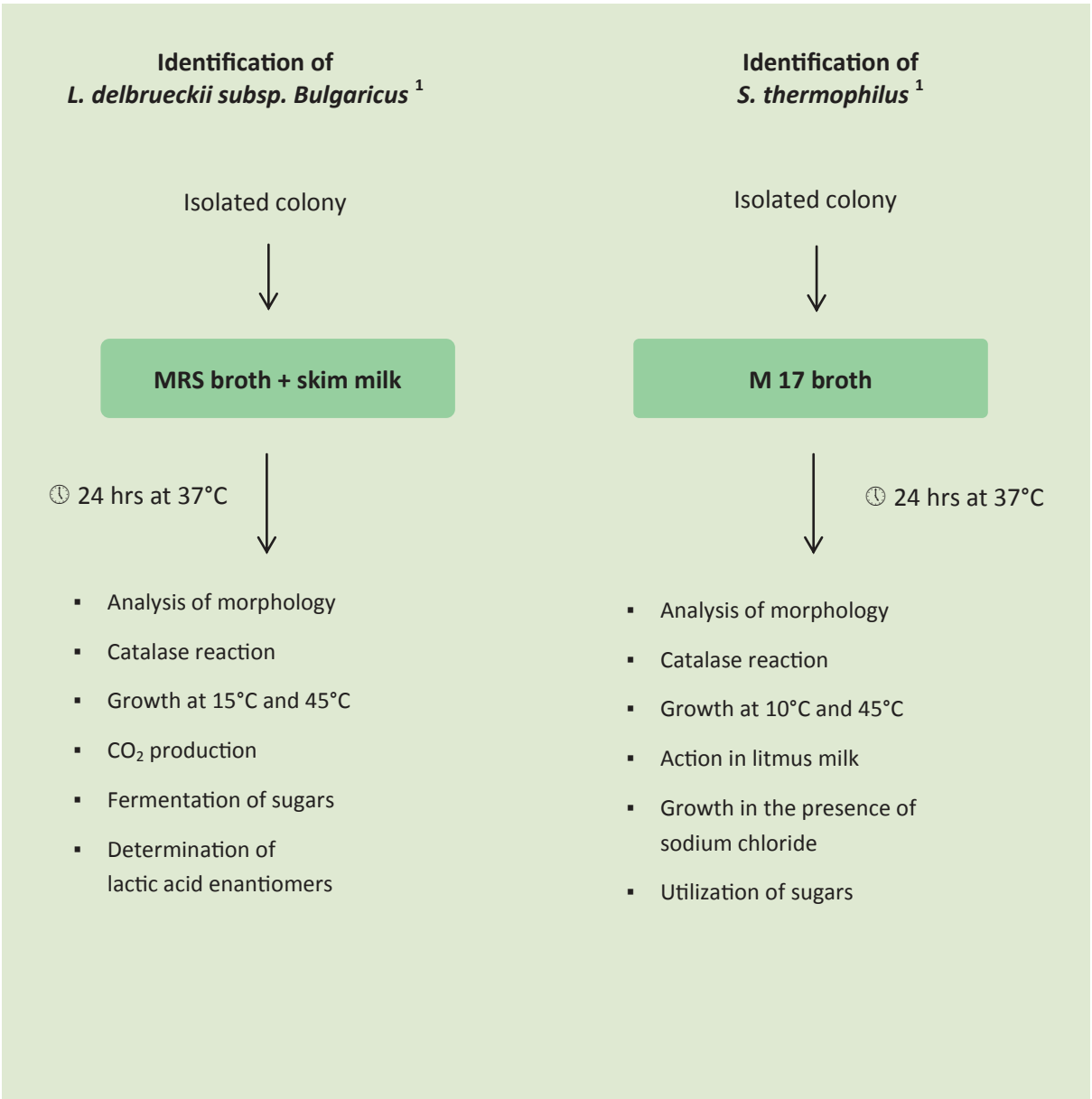
[4] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Yogurt

Identification of characteristic microorganisms (*Lactobacillus delbrueckii* subsp. *bulgaricus* and *Streptococcus thermophilus*)

ISO 9232: 02-2003
IDF 146

1. Protocol



[1] Identification of selected colonies using the plates obtained according to standard ISO 7889/IDF 117 (see page 17).

2. Media and reagents

Section	Media and reagents	Compliance
Identification of L. delbrueckii subsp. bulgaricus		
5.1.1	- *Autoclaved skim milk*	-
5.1.2	- *MRS broth* **MRS broth** [2] 500 g vial - BK070HA	Partial [3]
5.1.3	- *Base medium for fermentation tests* MRS broth [4] -	-
5.1.4	- *Culture medium for CO_2 production* MRS broth [5] -	-
5.1.5	- *Blank agar* **Type A bacteriological agar** 500 g vial - A1010HA 5 kg drum - A1010GC **Type E bacteriological agar** 500 g vial - A1012HA 5 kg drum - A1012GC	Total
Identification of S. thermophilus		
5.1.6	- *Litmus milk*	-
5.1.7	- *M17 broth* **M17 broth** 500 g vial - BK012HA	Total [6]
5.1.8	- Growth medium in the presence of 6.5% NaCl [7] -	-

[2] According to DE MAN J.C., ROGOSA M. and SHARPE M.E. (1960) A medium for the cultivation of Lactobacilli. Journal of Applied Bacteriology. 23, 130-135.

[3] Presence of polypeptone (10.0 g/L) instead of casein tryptic hydrolysate (10.0 g/L) as recommended.

[4] Without meat extract and glucose, final pH adjusted to 6.9-7.0.

[5] As for the base medium in 5.1.3 spiked with 5% glucose.

[6] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

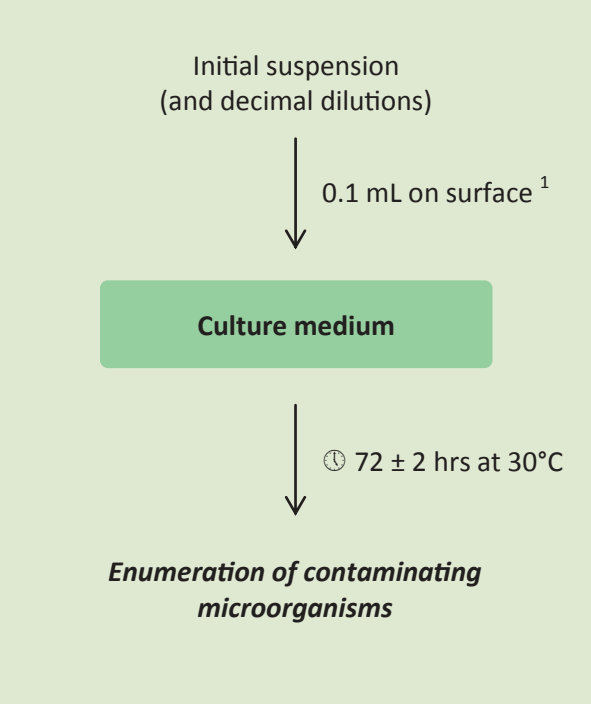
[7] M17 broth without β-glycerophosphate and containing 6.5% NaCl.

Butter, fermented milks and fresh cheese

Enumeration of contaminating microorganisms Colony-count technique at 30°C

ISO 13559: 11-2002
IDF 153

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.3/5.4/5.5 Diluents	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.6 Selective medium	- *Culture medium* **Agar for counting contaminating microorganisms in milk products (SFA)** 10 x 100 mL vials - BM12208 500 g vial - BK126HA	Total [2]

[1] Inoculate each dilution in duplicate.

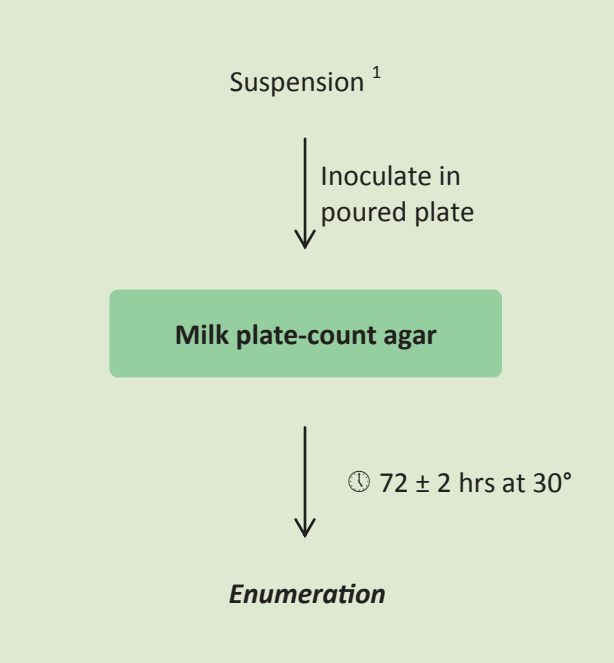
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Milk

Enumeration of microorganisms Calibrated plate-loop technique in Petri dishes at 30°C

ISO 8553: 05-2004
FIL 131

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.3 Selective medium	- *Milk plate-count agar* **Plate-count agar with skim milk** 10 x 200 mL vials - BM08608 500 g vial - BK161HA	Total [2]

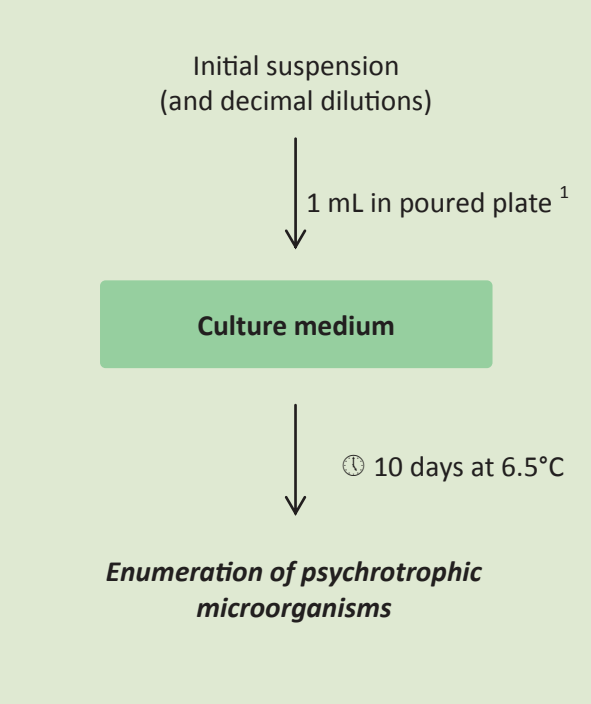
[1] Immerse a calibrated plate-loop (10 µL) in the prepared test sample, then mix directly in the Petri dish with 1 mL of diluent. Add 15 mL of medium, mix and allow to solidify.
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Milk

Enumeration of colony-forming units of psychrotrophic micro-organisms - Colony-count technique at 6.5°C

ISO 6730: 09-2005
IDF 101

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2/5.3/5.4 Diluents	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.5 Selective medium	- *Culture medium* **Plate count agar with skimmed milk** 10 x 200 mL vials - BM08608 500 g vial - BK161HA	Total [2]

[1] Inoculate each dilution in duplicate.

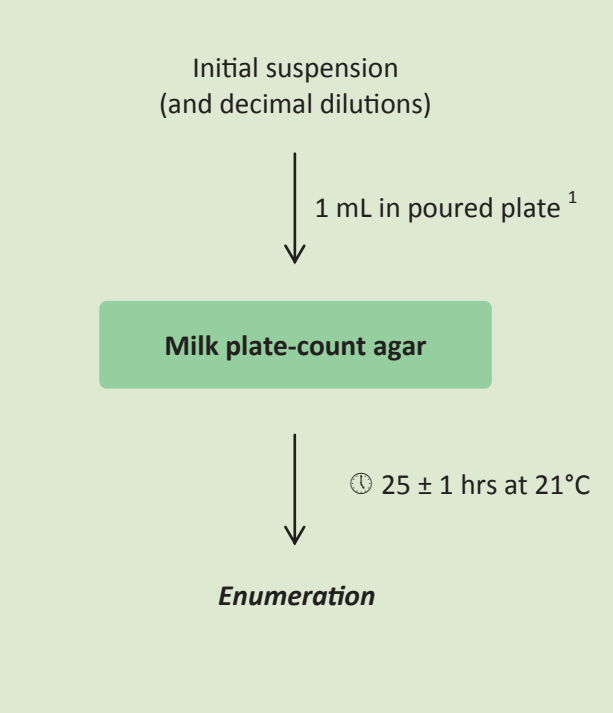
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Milk

Estimation of psychrotrophic microorganisms
Colony-count technique at 21°C (rapid method)

ISO 8552: 05-2004
FIL 132

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to standard NF EN ISO 6887-5, pages 101-102.	
5.3 Selective medium	- *Milk plate-count agar* **Plate count agar with skimmed milk** 10 x 200 mL vials - BM08608 500 g vial - BK161HA	Total [2]

[1] Inoculate each dilution in duplicate.

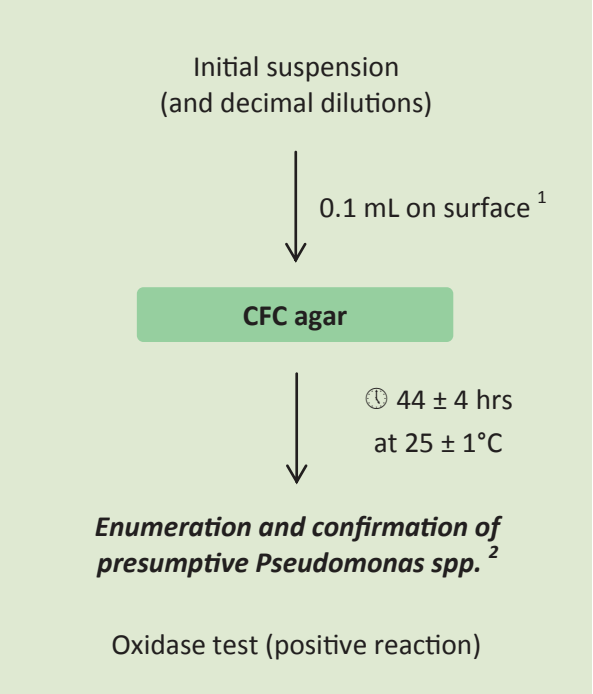
[2] "Tryptone" is a peptone obtained by pancreatic digestion of casein.

Meat and meat products

Enumeration of presumptive *Pseudomonas* spp.

NF EN ISO 13720: 11-2010
V 08-504

1. Protocol



2. Media and reagents

Section	Media and reagents	Compliance
5.2 Diluent	Refer to standard NF EN ISO 6887-2, page 97.	
5.3 Agar medium	- *Cephalotin-sodium fusidate-cetrimide (CFC) agar* **CFC agar (base + supplement)** 500 g vial - BK118HA 10 vials q.s. 500 mL - BS02208 (selective suppl.) **CFC agar (ready-to-melt)** 10 x 200 mL vials - BM09608	Total [3, 4]
5.4 Confirmation reagent	- *Reagent for the detection of oxidase* -	-

[1] Inoculate one plate per dilution, and carry out at least two successive dilutions.
[2] Confirm 5 colonies chosen at random, representing all types of colonies.
[3] "Tryptone" is a peptone obtained by pancreatic digestion of casein.
[4] Formula containing 1 g/L of fucidin instead of 1 g/L of sodium fusidate as described.

RHAPSODY Agar®

Method for the enumeration of *Pseudomonas* spp. in human food products and environmental samples

BKR 23/09-05/15 A (meat products)
BKR 23/09-05/15 B (milk products)
Alternative food analysis method
www.afnor-validation.org

1. Protocol

Initial suspension
(and decimal dilutions)

↓ 0.1 mL on surface
Spiral plating

RHAPSODY Agar®

↓ 48 ± 2 hrs
at 30 ± 1°C

Enumeration of Pseudomonas spp.
WITHOUT confirmation

2. Media and reagents

Diluents	Refer to standard NF EN ISO 6887-2, page 97.
Selective medium	**RHAPSODY Agar®** BM16708 - 20 plates Ø 90 mm

APPENDIX A: Other standards relating to the microbiology of foods

Determination of water activity	NF ISO 21807	V 08-028	01-2005
General requirements and guidance	NF EN ISO 7218	V 08-002	10-2007
Preparation of test samples, initial suspension and decimal dilutions for microbiological examination Part 6: Specific rules for the preparation of samples taken at the primary production stage	NF EN ISO 6887-6	V 08-010-6	05-2013
Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media Amendment 1	NF EN ISO 11133/ A1	V 08-104	07-2014 03-2018 (A1)
Method validation - Part 1: Vocabulary	NF EN ISO 16140-1	-	09-2016
Method validation - Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method	NF EN ISO 16140-2	-	09-2016
Technical requirements and guidance on establishment or revision of a standardized reference method	NF EN ISO 17468	V 08-751	09-2016
Surface sampling techniques, using contact plates and swabs	NF ISO 18593	V 08-035	07-2018

APPENDIX B: List of products

Product	Packaging	Standards
Alkaline saline peptone water (ASPW)	500 g vial - BK219HA	NF EN ISO 21872-1: 2017 (pages 88-89)
BAIRD-PARKER (base) agar	500 g vial - BK055HA	NF EN ISO 6888-1: 1999 (pages 74-75)
	5 kg drum - BK055GC	NF EN ISO 6888-2: 1999 (pages 76-77)
		NF EN ISO 6888-3: 2003 (pages 80-81)
		NF V 08-057-1: 2004 (pages 82-83)
BAIRD-PARKER agar with egg yolk and tellurite	20 plates Ø 90 mm - BM01808	NF EN ISO 6888-1: 1999 (pages 74-75)
	120 plates Ø 90 mm - BM09108	NF EN ISO 6888-3: 2003 (pages 80-81)
		NF V 08-057-1: 2004 (pages 82-83)
BAIRD-PARKER RPF agar	KIT 6 x 90 mL vials + 6 supplements q.s. 100 mL - BT00508	NF EN ISO 6888-2: 1999 (pages 76-77)
	KIT 6 x 190 mL vials + 6 supplements q.s. 200 mL - BT01008	NF EN ISO 6888-3: 2003 (pages 80-81)
	20 plates Ø 90 mm - BM06708	NF V 08-057-1: 2004 (pages 82-83)
	20 plates Ø 55 mm - BM15908	NF EN ISO 6888-1/A2: 2018 (pages 74-75)
BEA agar	10 x 100 mL vials - BM10408	NF EN 15788: 2009 (page 107)
	500 g vial - BK158HA	
B. cereus selective agar (base as per MOSSEL)	500 g vial (base) - BK116HA	NF EN ISO 7932: 2005 (pages 10-11)
	20 plates Ø 90 mm - BM03808	NF EN ISO 21871: 2006 (pages 8-9)
	120 plates Ø 90 mm - BM19908	
BCP glucose agar	10 x 200 mL vials - BM16808	NF V 08-602: 2011 (pages 112-113)
Brain-heart infusion broth	500 g vial - BK015HA	NF EN ISO 6888-1: 1999 (pages 74-75)
		NF EN ISO 6888-3: 2003 (pages 80-81)
		NF V 08-057-1: 2004 (pages 82-83)
Brilliant green bile lactose broth (BGBLB)	500 g vial - BK002HA	NF ISO 4832 /FIL 73B: 2006 (pages 20-21)
	50 x 10 mL tubes with Durham tubes - BM01108	NF ISO 4831 /FIL 73B: 2006 (pages 22-23)
Buffered Peptone Water (20 g/L)	500 g vial - BK131HA	NF EN ISO 21528-1: 2017 (pages 28-29)
	5 kg drum - BK131GC	NF EN ISO 11290-2 : 2017 (pages 58-59)
Buffered Peptone Water (25.5 g/L)	500 g vial - BK018HA	NF EN ISO 6579-1: 2017 (pages 62-67)
	5 kg drum - BK018GC	NF EN ISO 6887-1: 2017 (page 96)
	10 x 225 mL vials - BM01008	NF EN ISO 6887-5: 2010 (pages 101-102)
	50 x 9 mL tubes - BM05608	BKR 23/05-12/07 (pages 60-61)
	10 x 90 mL vials - BM05708	NF V 08-602: 2011 (pages 112-113)
	3 x 3 L flexible bags - BM13108	NF EN ISO 22964: 2017 (pages 26-27)
	2 x 5 L flexible bags - BM13208	
CFC agar	10 x 200 mL vials - BM09608	NF EN ISO 13720: 2010 (page 130)
	500 g vial (base) - BK118HA	
CFC supplement	10 vials q.s. 500 mL - BS02208	
Chloramphenicol glucose (YGC) agar	10 x 100 mL vials - BM02108	ISO 6611/FIL 94: 2004 (page 119)
	10 x 200 mL vials - BM07908	NF V 08-059: 2002 (pages 50-51)
	500 g vial - BK007HA	
Chromogenic coliform isolation (CCI) agar	20 plates Ø 90 mm - BM15408	NF EN ISO 22964: 2017 (pages 26-27)
Columbia (base) agar	500 g vial - BK019HA	NF EN ISO 10272-1: 2017 (pages 14-15)
		NF EN ISO 10272-2: 2017 (pages 16-17)

Product	Packaging	Standards
COMPASS® *Bacillus cereus* Agar	BM12608 - 20 plates Ø 90 mm	BKR 23/06-02/10 (pages 12-13)
COMPASS® *Bacillus cereus* Agar (base)	BM13008 - 10 x 100 mL vials	
Selective supplement for COMPASS® *Bacillus cereus* agar	BS06908 - 10 vials q.s. 100 mL	
COMPASS® Listeria Agar	20 plates Ø 90 mm - BM12308	NF EN ISO 11290-1: 2017 (pages 53-55)
	120 plates Ø 90 mm - BM12408	NF EN ISO 11290-2: 2017 (pages 58-59)
	Kit of 6 x 200 mL vials of base + 6 vials of selective suppl. + 6 vials of enrichment suppl. - BT00808	BKR 23/02-11-02 (pages 56-57)
		BKR 23/05-12/07 (pages 60-61)
CONFIRM' *L. mono* broth	18 vials - BM16208	BKR 23/02-11-02 and BKR 23/05-12/07
CONFIRM' *L. mono* agar	10 plates Ø 90 mm - BM13908	BKR 23/02-11-02 and BKR 23/05-12/07
CONFIRM' *Salmonella*	Latex agglutination kit (50 tests) - BT01108	BKR 23/07-10/11 (pages 70-72)
Cronobacter screening broth (CSB)	50 x 10 mL tubes - BM15508	NF EN ISO 22964: 2017 (pages 26-27)
Sorbitol MacCONKEY agar (CT-SMAC base)	500 g vial - BK147HA	NF EN ISO 16654: 2001 (pages 42-43)
Cefixime-tellurite supplement for CT-SMAC agar	10 vials q.s. 500 mL - BS03708	
Dichloran-Glycerol (DG 18) agar	500 g vial - BK170HA	NF V 08-036: 2003 (page 45)
	10 x 100 mL vials - BM10908	NF ISO 21527-2: 2008 (pages 48-49)
Dichloran-Rose Bengal Chloramphenicol (DRBC) agar	500 g vial - BK198HA	NF ISO 21527-1: 2008 (pages 46-47)
	10 x 200 mL vials - BM14208	NF ISO 21527-2: 2008 (pages 48-49)
Dipotassium hydrogenphosphate solution 20 g/L	2 x 5 L flexible bags - BM19308	NF EN ISO 6887-5: 2010 (pages 101-102)
D-cycloserine 200 mg selective supplement	10 vials q.s. 500 mL - BS00608	NF EN ISO 7937: 2005 (pages 18-19)
		NF V 08-061: 2009 (pages 86-87)
D-cycloserine liquid supplement	10 x 90 mL vials - BS09208	NF EN ISO 7937: 2005 (pages 18-19)
	1 x 50 mL vial - BS09408	NF V 08-061: 2009 (pages 86-87)
EASY Staph® Agar	20 plates Ø 90 mm - BM18708	BKR 23/10-12/15 (pages 78-79)
	120 plates Ø 90 mm - BM19008	
	Kit of 6 x 190 mL vials of base + 6 vials of suppl. q.s. 200 mL BT01208	
	Kit of 6 x 90 mL vials of base + 6 vials of suppl. q.s. 100 mL BT01308	
	500 g vial (base)- BK216HA	
	8 vials of suppl. - BS09008	
EC broth	500 g vial - BK162HA	NF ISO 7251: 2005 (pages 40-41)
Egg yolk emulsion with polymyxin B	10 x 50 mL vials - BS05508	NF EN ISO 7932: 2005 (pages 10-11)
Egg yolk emulsion with potassium tellurite	10 x 50 mL vials - BS06008	NF EN ISO 6888-1: 1999 (pages 74-75)
		NF EN ISO 6888-3: 2003 (pages 80-81)
		NF V 08-057-1: 2003 (pages 82-83)
Egg yolk emulsion (sterile)	10 x 50 mL vials - BS06608	NF EN ISO 21871: 2006 (pages 8-9)
Enterobacteria enrichment broth (EE as per Mossel)	500 g vial - BK127HA	NF EN ISO 21528-1: 2017 (pages 28-29)
FRASER (base) broth	500 g vial - BK133HA	NF EN ISO 11290-1: 2017 (pages 53-55)
	5 kg drum - BK133GC	NF EN ISO 11290-2: 2017 (pages 58-59)
		BKR 23/02-11-02 and BKR 23/05-12/07
FRASER broth (ready-to-use)	50 x 10 mL tubes - BM01308	NF EN ISO 11290-1: 2017 (pages 53-55)
Half-FRASER (base) broth	500 g vial - BK173HA	NF EN ISO 11290-1: 2017 (pages 53-55)
	5 kg drum - BK173GC	BKR 23/02-11/02 (pages 56-57)
		BKR 23/05-12/07 (pages 60-61)
Selective supplement for half-FRASER broth	10 vials q.s. 500 mL - BS03008	NF EN ISO 11290-1: 2017 (pages 53-55)
	8 vials q.s. 2.25 L - BS03208	BKR 23/02-11/02 (pages 56-57)

Products	Packaging	Standards
Half-FRASER broth (ready-to-use)	10 x 225 mL vials - BM01608	BKR 23/05-12/07 (pages 60-61)
	3 x 3 L flexible bags - BM13308	
	2 x 5 L flexible bags - BM13408	
Gentamicin 25 mg selective supplement	10 vials - BS00908	NF V 08-059: 2002 (pages 50-51)
Glucose agar	50 x 10 mL tubes - BM09908	NF EN ISO 21528-1: 2017 (pages 28-29)
		NF EN ISO 21528-2: 2017 (pages 30-31)
		XP ISO/TS 11059: 2009 (pages (120-121)
Glucose OF medium	50 x 10 mL tubes	NF EN ISO 21528-1: 2017 (pages 28-29)
		NF EN ISO 21528-2: 2017 (pages 30-31)
Glutamate broth	500 g vial - BK186HA	NF EN ISO 16649-3: 2015 (pages 38-39)
		NF ISO 11866-2/IDF 170-2: 2006 (pages 116-117)
HEKTOEN agar	500 g vial - BK067HA	NF EN ISO 21567: 2005 (pages 72-73)
IRIS *Salmonella*® Agar	20 plates Ø 90 mm - BM16008	BKR 23/07-10/11 (pages 70-71)
	120 plates Ø 90 mm - BM16108	
IRIS *Salmonella*® supplement	120 tablets q.s. 225 mL - BS07708	BKR 23/07-10/11 (pages 70-71)
	120 tablets q.s. 90 mL - BS09308	
	10 x 50 mL vials - BS07808	
KLIGLER agar	500 g vial - BK034HA	NF EN ISO 10273: 2017 (pages 90-91)
Lactose sulfite broth	500 g vial - BK140HA	NF EN ISO 7937: 2005 (pages 18-19)
	7 x 9 mL tubes - BM19208	
Laurylsulfate Tryptose broth	500 g vial - BK010HA	NF ISO 4831 /FIL 73B: 2006 (pages 22-23)
	50 x 10 mL tubes, with Durham tubes (single strength) - BM09708	NF ISO 7251: 2005 (pages 40-41)
	50 x 10 mL tubes, with Durham tubes (double strength) - BM09808	ISO 11866-1/IDF 170-1: 2006 (pages 114-115)
Lyophilized coagulase rabbit plasma	10 vials q.s. 20 reactions - BR00208	NF EN ISO 6888-1: 1999 (pages 74-75)
		NF EN ISO 6888-3: 2003 (pages 80-81)
		NF V 08-057-1: 2004 (pages 82-83)
M 17 broth	500 g vial - BK012HA	ISO 9232/IDF 146: 2003 (pages 124-125)
M 17 agar	500 g vial - BK088HA	ISO 7889/IDF 117: 2003 (page 123)
MacCONKEY agar	500 g vial - BK050HA	NF EN ISO 21567: 2005 (pages 72-73)
Meat-liver agar for sulfite-reducing bacteria + 2 g/L yeast extract	10 x 200 mL vials - BM16908	NF V 08-602: 2011 (pages 112-113)
Modified Giolitti and Cantoni broth	500 g vial (base) - BK159HA	NF EN ISO 6888-3: 2003 (pages 80-81)
	50 x 10 mL tubes (single strength) - BM11008	
	50 x 10 mL tubes (double strength) - BM11108	
Modified tryptone soy broth (mTSB base)	500 g vial - BK191HA	NF EN ISO 16654: 2001 (pages 42-43)
MRS broth	500 g vial - BK070HA	ISO 9232/IDF 146: 2003 (pages 124-125)
MRS agar	500 g vial - BK089HA	NF ISO 15214: 1998 (page 44)
	10 x 200 mL vials - BM08908	NF EN 15785: 2009 (pages 104-105)
		NF EN 15787: 2009 (pages 108-109)
		NF EN 15786: 2009 (pages 110-111)
		ISO 20128/IDF 192: 2006 (page 118)
		ISO 7889/IDF 117: 2003 (page 123)
MSRV agar (ISO 6579)	500 g vial - BK134HA	NF EN ISO 6579-1: 2017 (pages 62-67)
	10 x 200 mL vials - BM12708	

Products	Packaging	Standards
MUELLER-HINTON agar	500 g vial - BK048HA	NF EN ISO 10272-1: 2017 (pages 14-15)
		NF EN ISO 10272-2: 2017 (pages 16-17)
MULLER-KAUFFMANN tetrathionate-novobiocin broth (MKTTn base, without iodine, without novobiocin)	500 g vial - BK169HA	NF EN ISO 6579-1: 2017 (pages 62-67)
MULLER-KAUFFMANN tetrathionate-novobiocin broth (MKTTn base, without iodine)	500 g vial - BK208HA	NF EN ISO 6579-1: 2017 (pages 62-67)
MULLER-KAUFFMANN tetrathionate-novobiocin broth (MKTTn ready-to-use)	50 x 10 mL tubes - BM07808	NF EN ISO 6579-1: 2017 (pages 62-67)
MUG supplement	10 x 50 mg vials - BS02408	ISO 11866-1/IDF 170-1: 2006 (pages 114-115)
Novobiocin selective supplement	10 vials (10 mg) - BS03308	NF EN ISO 16654: 2001 (pages 42-43)
	8 vials (40 mg) - BS05608	NF EN ISO 6579-1: 2017 (pages 62-67)
2% nutrient agar	500 g vial - BK185HA	NF EN ISO 21528-1: 2017 (pages 28-29)
	50 x 18 mL tubes - BM11808	NF EN ISO 21528-2: 2017 (pages 30-31)
		NF EN ISO 16654: 2001 (pages 42-43)
		NF EN ISO 6579-1: 2017 (pages 62-67)
		NF EN ISO 21567: 2005 (pages 72-73)
		NF EN ISO 10273: 2017 (pages 90-91)
		XP ISO/TS 11059: 2009 (pages (120-121)
OXFORD (base) agar	500 g vial - BK110HA	NF EN ISO 11290-1: 2017 (pages 53-55)
Selective supplement for OXFORD agar (CCCFA)	10 vials q.s. 500 mL - BS00308	
Oxytetracycline glucose agar (OGA base)	500 g vial - BK053HA	NF V 08-059: 2002 (pages 50-51)
	10 x 110 mL vials - BM02208	ISO 6611/FIL 94: 2004 (page 119)
Oxytetracycline selective supplement 50 mg	10 vials q.s. 550 mL - BS00808	
PALCAM agar	500 g vial (base) - BK145HA	BKR 23/02-11/02 (pages 56-57)
	20 plates Ø 90 mm - BM02008	
Selective supplement for PALCAM agar	10 vials q.s. 500 mL - BS00408	
	8 vials q.s. 2.5 L - BS04908	
0.1% peptone water	2 x 5 L flexible bags - BM16408	NF ISO 21527-1: 2008 (pages 46-47)
		NF ISO 21527-2: 2008 (pages 48-49)
		NF EN ISO 6887-3: 2017 (page 98)
		NF EN ISO 6887-5: 2010 (pages 101-102)
Peptone water, indole free	500 g vial - BK084HA	NF ISO 7251: 2005 (pages 40-41)
Plate count agar (PCA)	10 x 100 mL vials - BM01508	NF EN ISO 4833-1: 2013 (page 92)
	10 x 200 mL vials - BM03308	NF EN ISO 4833-2: 2013 (page 93)
	500 g vial - BK144HA	XP V 08-034: 2010 (page 94)
	5 kg drum - BK144GC	NF ISO 17410: 2001 (page 95)
	500 g vial - BK161HA	
Plate count agar with skim milk (PCA)	10 x 200 mL vials - BM08608	NF EN ISO 4833-1: 2013 (page 92)
		NF EN ISO 4833-2: 2013 (page 93)
		XP V 08-034: 2010 (page 94)
		NF ISO 17410: 2001 (page 95)
		ISO 8553/FIL 131: 2004 (page 127)
		ISO 6730/IDF 101: 2005 (page 128)
		ISO 8552/FIL 132: 2004 (page 129)
PPA	20 plates Ø 90 mm - BM15908	XP ISO/TS 11059: 2009 (pages (120-121)
Polymyxin B selective supplement	10 vials - BS00708	NF EN ISO 7932: 2005 (pages 10-11)
		NF EN ISO 21871: 2006 (pages 8-9)

Products	Packaging	Standards
Rabbit plasma fibrinogen supplement	8 vials q.s. 100 mL - BS03408	NF EN ISO 6888-2: 1999 (pages 76-77)
	1 vial q.s. 500 mL - BS03808	NF EN ISO 6888-3: 2003 (pages 80-81)
		NF V 08-057-1: 2004 (pages 82-83)
RAPPAPORT-VASSILIADIS broth with soya (RVS)	500 g vial - BK148HA	NF EN ISO 6579-1: 2017 (pages 62-67)
	50 x 10 mL tubes - BM07408	
RHAPSODY® agar	20 plates Ø 90 mm - BM16708	BKR 23/09-05/15 B (page 122)
		BKR 23/09-05/15 A (page 131)
RINGER's solution (1/4 strenght)	100 tablets - BR00108	NF EN ISO 6887-5: 2010 (pages 101-102)
Salmonella Enrichment	500 g vial - BK194HA	BKR 23/04-12/07 (pages 68-69)
	5 kg drum - BK194GC	BKR 23/07-10/11 (pages 70-71)
	10 x 225 mL vials - BM13608	
	3 x 3 L flexible bags - BM13708	
	2 x 5 L flexible bags - BM14408	
Salmonella Enrichment + Tween® 80	3 x 3 L flexible bags - BM16308	
	2 x 5 L flexible bags - BM19808	
Salmonella Enrichment double strength buffered	2 x 5 L flexible bags - BM20008	BKR 23/04-12/07 (pages 68-69)
	10 x 225 mL vials - BM20108	BKR 23/07-10/11 (pages 70-71)
	500 g vial - BK225HA	NF EN ISO 6887-1: 2017 (page 96)
	5 kg drum - BK225GC	
Selenite-cystine broth	500 g vial - BK009HA	NF EN ISO 6579-1 (pages 62-67)
SESAME Salmonella Detection	20 plates Ø 90 mm - BM14108	BKR 23/04-12/07 (pages 68-69)
	120 plates Ø 90 mm - BM15008	
	10 x 200 mL vials - BM13808	
SFA - Agar for counting contaminating microorganisms in milk products	10 x 100 mL vials - BM12208	ISO 13559/IDF 153: 2002 (page 126)
	500 g vial - BK126HA	
Sulfamethazine 25 mg selective supplement	10 vials q.s. 500 mL - BS02808	NF EN ISO 6888-1: 1999 (pages 74-75)
		NF EN ISO 6888-3: 2003 (pages 80-81)
		NF V 08-057-1: 2004 (pages 82-83)
Sterile 5% ammonium ferric citrate solution	10 x 90 mL vials - BS05908	NF EN ISO 11290-1: 2017 (pages 53-55)
	7 x 10 mL tubes - BS06208	NF EN ISO 11290-2: 2017 (pages 58-59)
SYMPHONY Agar	10 x 200 mL vials	Alternative method (page 52)
TBX agar	10 x 100 mL vials - BM06908	NF ISO 16649-1: 2018 (pages 34-35)
	10 x 200 mL vials - BM17108	NF ISO 16649-2: 2001 (pages 36-37)
	500 g vial - BK146HA	NF EN ISO 16649-3: 2015 (pages 38-39)
	100-g vial - BK146HM	
TCBS agar	500 g vial - BK040HA	NF EN ISO 21872-1: 2017 (pages 88-89)
Thioglycollate broth with resazurin	500 g vial - BK017HA	NF EN ISO 7937: 2005 (pages 18-19)
	5 kg drum - BK017GC	
	50 x 10 mL tubes - BM08208	
Trypto-casein soy broth (TSB)	500 g vial - BK046HA	NF EN ISO 21871: 2006 (pages 8-9)
	5 kg drum - BK046GC	NF EN ISO 10273 : 2017 (pages 90-91)
	10 x 100 mL vials - BM00908	
	10 x 90 mL vials - BM17908	
	50 x 10 mL tubes - BM03008	
	2 x 5 L flexible bags - BM16608	
Trypto-casein soy agar (TSA)	500 g vial - BK047HA	NF EN ISO 10273: 2017 (pages 90-91)
	20 plates Ø 90 mm - BM05008	NF EN 15784: 2009 (page 106)
	10 x 100 mL vials - BM01708	NF EN ISO 22964: 2017 (pages 26-27)
	10 x 200 mL vials - BM04908	

Products	Packaging	Standards
Tryptophan broth	500 g vial - BK163HA	NF EN ISO 16654: 2001 (pages 42-43)
	50 x 3 mL tubes - BM07608	NF EN ISO 6579-1: 2017 (pages 62-67)
		NF EN ISO 21872-1: 2017 (pages 88-89)
Tryptone-salt broth	500 g vial - BK014HA	NF EN ISO 15213: 2003 (pages 84-85)
	50 x 9 mL tubes - BM00808	NF EN ISO 6887-1: 2017 (page 96)
	10 x 90 mL vials - BM11408	NF EN ISO 6887-4: 2017 (page 99-100)
	3 x 3 L flexible bags - BM13508	NF EN ISO 6887-5: 2010 (pages 101-102)
Tryptone soya agar (blood agar base)	500 g vial - BK028HA	NF EN ISO 7932: 2005 (pages 10-11)
		NF EN ISO 21871: 2006 (pages 8-9)
		NF EN ISO 11290-1: 2017 (pages 53-55)
		NF EN ISO 11290-2: 2017 (pages 58-59)
		NF EN 15785: 2009 (pages 104-105)
		NF EN 15784: 2009 (page 106)
		NF EN 15788: 2009 (page 107)
		NF EN 15787: 2009 (pages 108-109)
		NF EN 15786: 2009 (pages 110-111)
TSC (base) agar	500 g vial - BK031HA	NF EN ISO 7937: 2005 (pages 18-19)
	50 x 20 mL tubes - BM03908	NF EN ISO 15213: 2003 (pages 84-85)
	10 x 200 mL vials - BM07708	NF V 08-061: 2009 (pages 86-87)
TSI agar	500 g vial - BK221HA	NF EN ISO 6579-1: 2017 (pages 62-67)
		NF EN ISO 21567: 2005 (pages 72-73)
TSYEA medium	500 g vial - BK224HA	NF EN ISO 11290-1: 2017 (pages 53-55)
	50 x 18 mL tubes - BM10808	NF EN ISO 11290-2: 2017 (pages 58-59)
TTC supplement	10 x 12.5 mg vials - BS02608	NF EN 15785: 2009 (pages 104-105)
	10 x 50 mg vials - BS02708	NF EN 15787: 2009 (pages 108-109)
		NF EN 15786: 2009 (pages 110-111)
Type A bacteriological agar	500 g vial - A1010HA	NF EN ISO 6888-3: 2003 (pages 80-81)
	5 kg drum - A1010GC	NF EN ISO 4833-1: 2013 (page 92)
		XP V 08-034: 2010 (page 94)
		NF ISO 11866-2/IDF 170-2: 2006 (pages 116-117)
		ISO 9232/IDF 146: 2003 (pages 124-125)
Type E bacteriological agar	500 g vial - A1012HA	NF EN ISO 6888-3: 2003 (pages 80-81)
	5 kg drum - A1012GC	NF EN ISO 4833-1: 2013 (page 92)
		XP V 08-034: 2010 (page 94)
		NF ISO 11866-2/IDF 170-2: 2006 (pages 116-117)
		ISO 9232/IDF 146: 2003 (pages 124-125)
VRBG agar	500 g vial - BK011HA	NF EN ISO 21528-1: 2017 (pages 28-29)
	5 kg drum - BK011GC	NF EN ISO 21528-2: 2017 (pages 30-31)
	10 x 200 mL vials - BM07508	NF V 08-054: 2009 (pages 32-33)
VRBL broth	500 g vial - BK152HA	NF ISO 4832/FIL73B: 2006 (pages 20-21)
	5 kg drum - BK152GC	NF V 08-050: 2009 (page 24)
	10 x 100 mL vials - BM03408	NF V 08-060: 2009 (page 25)
	10 x 200 mL vials - BM03508	
Wilson-Blair agar	500 g vial - BK223HA	NF EN ISO 6579-1: 2017 (pages 62-67)
XLD agar (ISO 6579)	500 g vial - BK168HA	NF EN ISO 6579-1: 2017 (pages 62-67)
	20 plates Ø 90 mm - BM08708	NF EN ISO 21567: 2005 (pages 72-73)

BIOKAR Diagnostics - Support and services

Online information: www.biokar-diagnostics.fr

Direct access to our product technical data sheets (**TDS**), material safety data sheets (**MSDS**), and quality control certificates (**QCC**) on our website.

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