



Technical Information

DEMI-FRASER BROTH BASE (M401) Dehydrated Culture Media

USE: Demi-Fraser Broth Base with Supplement is used for the selective enrichment of *Listeria monocytogenes*.

DESCRIPTION: Fraser Broth Base and Fraser Broth Supplement are based on the Fraser Broth formulation of Fraser and Sperber.¹ The medium is used in the rapid detection of *Listeria* from food and environmental samples. Demi-Fraser Broth Base is a modification of Fraser Broth Base in which the nalidixic acid and acriflavine concentrations have been reduced to 10 mg/L and 12.5 mg/L respectively.² Peptone, beef extract and yeast extract provide carbon and nitrogen sources and the cofactors required for good growth of *Listeria*. Sodium phosphate and potassium phosphate buffer the medium. Selectivity is provided by lithium chloride, nalidixic acid and acriflavine. The high sodium chloride concentration of the medium inhibits growth of enterococci. All *Listeria* species hydrolyze esculin, as evidenced by a blackening of the medium. This blackening results from the formation of 6,7-dihydroxycoumarin, which reacts with ferric ions.¹ Ferric ions are added to the final medium as ferric ammonium citrate in Fraser Broth Supplement.

FORMULA* per Liter

Casein Peptone.....	10.0g
Beef Extract.....	5.0g
Yeast Extract.....	5.0g
Sodium Chloride.....	20.0g
Disodium Phosphate.....	9.6g
Monopotassium Phosphate.....	1.35g
Esculin.....	1.0g
Nalidixic Acid.....	10.0mg
Acriflavine HCl.....	12.5mg
Total.....	55g

*Medium may be adjusted and/or supplemented as required to meet performance criteria.

Final pH: 7.2 ± 0.2 at 25°C

PREPARATION: Use 1L of sterile water per 55g of dry media with repeated stirring or agitation to dissolve completely. Once dissolved, the Demi-Fraser Broth Base is ready for testing applications. If applicable to your testing procedure, add 10mL Fraser Broth Supplement (V431-10) per liter of media. Testing should include measuring pH and testing performance with Quality Control organisms.

STORAGE: Store the sealed container in a dry environment at 2 to 30°C.

QUALITY CONTROL SPECIFICATIONS:

Packaging – The Container should be tightly sealed.

Dehydrated Appearance – The powder is beige, homogeneous and free-flowing.

Prepared Appearance – Medium amber, very slightly to slightly opalescent, may have fine precipitate.

Expected Cultural Response – Results after 24-48 hours at 35°C:

Microorganism	CFU	Growth	Blackening*
<i>Enterococcus faecalis</i> ATCC™ 29212	10 ³	Inhibition	-
<i>Staphylococcus aureus</i> ATCC™ 25923	10 ³	Inhibition	-
<i>Escherichia coli</i> ATCC™ 25922	10 ³	Inhibition	-
<i>Listeria monocytogenes</i> ATCC™ 19114	10 ² – 10 ³	+	+

*After addition of Fraser Broth Supplement (V431-10).

LIMITATIONS AND PRECAUTIONS:

Once opened, Dehydrated powder should be weighed soon as possible for the amount of prepared media needed. Prepared media should be used within 3 hours for best results.

The Dehydrated media should be discarded if there has been a change from the original color, or the powder is not free flowing.

FOR LABORATORY USE ONLY.

SIZES AVAILABLE: 500g, 2Kg, 2.5Kg, 5Kg, 10Kg, customer weights upon inquiry

Additional configurations are available upon request.

REFERENCES:

1. FDA BAM, 8th Edition, Revision A, 1998. Updated and revised: 29-DEC-2000.
2. Bull. WHO, 48:167-174, 1973.
3. J. Food Technol., 12:85-91, 1977