

Instruction for Use

NOVASTREAK Microbial Contamination Monitoring Device (Cat. No. BD-511) Oxytetracycline-Glucose-Yeast-Extract Agar (OGYE) and Rose Bengal Chloramphenicol Agar



INTENDED USE

NOVASTREAK MCMD BD-511 is a convenient semi-quantitative screening culture device for sampling and assessing microbial contamination of food and dairy products, industrial fluids and surfaces of sanitary importance. A unique streaking mechanism permits the isolation of single colonies even when the original bacterial population of the sample was as high as 10^7 organisms per milliliter. NOVASTREAK MCMD BD-511 is intended for use in the food industry.

SUMMARY AND EXPLANATION

NOVASTREAK MCMD BD-511 comprises a plastic paddle with two types of agar attached back-to-back, housed in a closed transparent plastic tube. A ring with elongated prongs is attached to the end of the paddle so that there are prongs on each side of the slide. The ends of the prongs are dipped into the liquid sample. Upon re-insertion into the plastic tube, the prongs are prevented from moving and the agar surfaces are inoculated with the sample as the paddle passes over the prongs. The result is a series of streaks of decreasing bacterial concentration, which permits isolation of single colonies even when the original bacterial population of the sample was as high as 10^7 organisms per milliliter. NOVASTREAK MCMD BD-511 can be used to monitor microbial growth wherever the potential may exceed 10^2 microorganisms in ml of sample. NOVASTREAK MCMD BD-511

unit consists of two different agar modifications: Oxytetracycline-Glucose-Yeast-Extract Agar (OGYE) and Rose Bengal Chloramphenicol Agar, attached back-to-back on a plastic sampling paddle, which is permanently fastened to the cap for comfort of handling during use.

SAMPLING

SAMPLE TYPE	MATERIAL TO BE TESTED	PROCEDURE	READING
Liquid samples	Milk (raw and pasteurized)	Dip sampling procedure	Compare with Colony Density Chart No. 2
	Industrial water (waste, recycled, cooling or process water), dairy products (starter cultures, sour cream, yogurt and other fermented products)	General streaking procedure	Compare with Colony Density Chart No. 1
Viscous and friable samples	Syrups, pasts and dehydrated products (vegetables, fruit, egg powder, milk powder, powdered soups, instant desserts, cocoa, etc.)	Dilute 1:1 or 1:10 in sterile water with following General streaking procedure	Compare with Colony Density Chart No. 1 and multiply the result by 2 or 10
Solid samples	Raw material, frozen and chilled products (meat, fish and sea food products)	Homogenize and suspended 1:1 or 1:10 in sterile water with following General streaking procedure	Compare with Colony Density Chart No. 1 and multiply the result by 2 or 10
Surfaces	Utensils, work surfaces	Touch surface with paddle for several seconds	Compare with Colony Density Chart No. 3

GENERAL PROCEDURE

A. STREAKING SAMPLING

1. Unscrew the NOVASTREAK MCMD cap. Pull the paddle out. Do not touch any part but the cap.
2. Hold the paddle vertically and dip the white prongs into the sample up to about half of their length (see below).
3. Return the paddle to its container in a quick, continuous and vertical motion and tighten cap.
4. Transport the tube to laboratory for incubation and examination
5. Before incubation, loosen cap one-half turn.
6. Incubate the entire container at (20- 25°C) for 5 days in a vertical position.
7. Interpret the results by simple visual comparison of bacterial growth on the agar surface with Colony Density Chart No. 1 provided. **No actual colony counting is necessary.**

B. DIP SAMPLING (DIPSLIDE TECHNIQUE)

1. Unscrew the NOVASTREAK MCMD cap. Pull the paddle out. Do not touch any part but the cap.
2. Immediately return the paddle to the tube (in order to move the prongs out of the way) and then pull the paddle out again.

3. Dip the culture paddle into a diluted/undiluted sample or pour the sample over agar surfaces, if the volume of sample is not adequate to fully immerse the agar surfaces.
4. Replace inoculated culture paddle in its protective NOVASTREAK MCMD vial and close cap.
5. Transport NOVASTREAK MCMD vial to laboratory for incubation and examination.
6. Place inoculated NOVASTREAK MCMD vial upright in incubator (20- 25°C) up to 5 days. Before incubation, loosen cap one-half turn.
7. Interpret the results by simple visual comparison of bacterial growth on the agar surface with Colony Density Chart No. 2 provided. **No actual colony counting is necessary.**

C. SURFACE CONTACT SAMPLING

1. Unscrew the NOVASTREAK MCMD cap. Pull the paddle out. Do not touch any part but the cap.
2. Immediately return the paddle to the tube (in order to move the prongs out of the way) and then pull the paddle out again.
3. Gently touch the agar faces onto the surface to be tested. The agar should remain in contact for about 20 seconds.
4. Replace inoculated culture paddle in its protective NOVASTREAK MCMD vial and close cap.
5. Transport NOVASTREAK MCMD vial to laboratory for incubation and examination.
6. Place inoculated NOVASTREAK MCMD vial upright in incubator (20- 25°C up to 5 days. Before incubation, loosen cap one-half turn.
7. Interpret the results by simple visual comparison of bacterial growth on the agar surface with Colony Density Chart No. 3 provided. **No actual colony counting is necessary.**

MATERIALS PROVIDED

CAT. No	REAGENTS	COLOR OF REAGENTS	EXPECTED TYPES OF MICROORGANISMS
BD-511	Side 1: Oxytetracycline-Glucose-Yeast-Extract Agar (OGYE)	Agar Color: Yellow	Yeast & Molds
	Side 2 Rose Bengal Chloramphenicol Agar	Agar Color: Bright pink	Yeast & Molds

CLASSICAL COMPOSITION (g/liter)

1. **Oxytetracycline-Glucose-Yeast- Extract Agar:** Yeast extract 5.0; Dextrose 20; Agar 12, Oxytetracycline 0.10.
2. **Rose Bengal Chloramphenicol Agar:** Mycological peptone 5.0; Dextrose 10.0; Monopotassium phosphate 1.0; Magnesium sulphate 0.5; Rose Bengal 0.05, Chloramphenicol 0.10; Agar 15.5.

APPLICATION FIELDS

MATERIAL TO BE TESTED	TYPE OF MICROORGANISMS
	Yeast & Molds
Water (waste, recycled, cooling or process water)	•
Raw Milk	
Dairy Products (pasteurized milk, starter cultures, sour cream, yogurts and other fermented dairy products)	•
Meat, fish, sea food (raw material, frozen and chilled products)	
Surfaces	•
Syrups, pasts and dehydrated products (vegetables, fruit, egg powder, milk powder, powdered soups, instant desserts, cocoa, etc.)	•

MATERIAL REQUIRED BUT NOT PROVIDED

Incubator (20- 25°C)

Incubation Stand

WARNING AND PRECAUTIONS

1. For *In Vitro* Diagnostic Use.
2. Use aseptic technique and established laboratory procedure in handling and disposing of infectious material.

STORAGE

1. Store NOVASTREAK MCMD at 2-8°C up to 6 months, refer to product label.
2. Protect contents from direct light to ensure product stability through the expiration date, shown on the tube cap or packaging label.

KIT CONTENTS

REAGENTS	EXPECTED RESULTS
Oxytetracycline-Glucose-Yeast-Extract Agar (OGYE) is recommended for the selection and enumeration of yeasts and molds from foodstuffs. The medium uses oxytetracycline as the selective agent at a neutral pH, that gives increased counts of yeasts and moulds compared with media, which rely on a low pH to suppress bacterial growth.	OGYE agar , after 5 days at 20-25 ° C produces good to excellent growth of <i>Saccharomyces cerevisiae</i> and <i>Candida albicans</i> with total inhibition of <i>E. coli</i> .
Rose Bengal Chloramphenicol Agar is recommended for the selective isolation and enumeration of yeasts and moulds from environmental materials and foodstuffs. Mycological peptone or papaic digest of soyabean meal provides essential growth nutrients. Rose Bengal dye suppresses the development of bacteria and reduces the spreading of moulds, control the size and height of mould colonies such as <i>Rhizopus</i> species. Chloramphenicol has inhibitory action on gram-negative bacteria.	Rose Bengal Chloramphenicol Agar after 5 days at 20-25 ° C produces good to excellent growth of <i>Saccharomyces cerevisiae</i> and <i>Candida albicans</i> with total inhibition of <i>E. coli</i> .

DISPOSAL

The used *NOVASTREAK* MCMD is disposed by standard methods of biohazard disposal.

EXPIRATION DATE

1. The expiration date applies to the product in its intact container when stored as directed.
2. Do not use *NOVASTREAK* MCMD exhibiting any of the following characteristics: discoloration, dehydration, wrinkling or shrinkage of an agar surface; microbial growth prior to inoculation; or an atypical cultural response in Quality Control procedures.

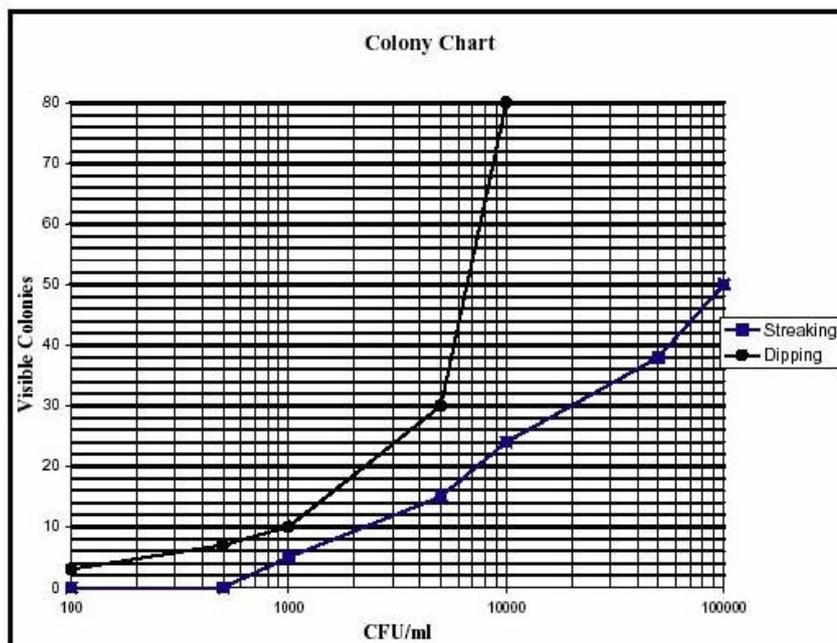
INCUBATION CONDITIONS

REAGENTS	OBJECT	TEMPERATURE (°C)	PRELIMINARY RESULTS (Hrs)	FINAL RESULTS (Hrs)
OGYE	Yeast & Molds	20- 25	48	120
Rose Bengal Chloramphenicol Agar	Yeast & Molds	20- 25	48	120

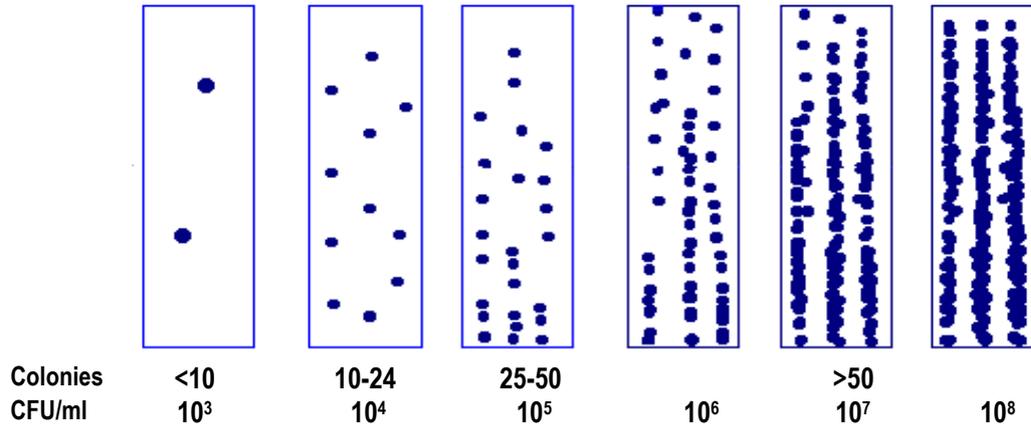
INTERPRETATION OF RESULTS

1. BACTERIAL COUNT

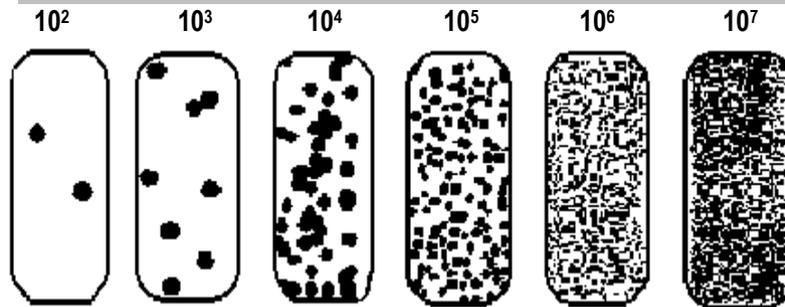
If more than 200 colonies grow on the *NOVASTREAK* MCMD, the growth may become semi-confluent and the presence of more than 100,000 bacteria per ml is indicated. If fewer than 20 colonies are counted, less than 10,000 bacteria per ml is indicated.



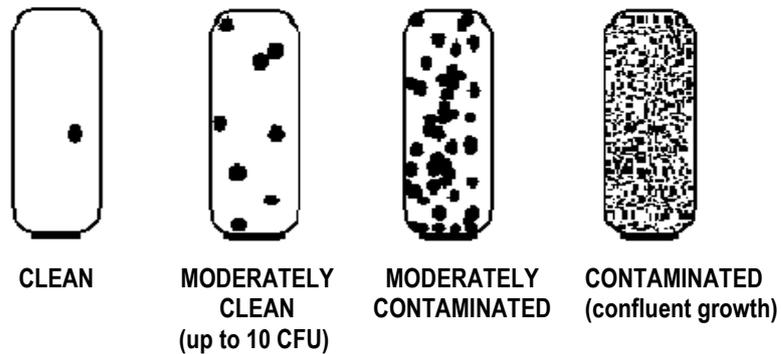
COLONY DENSITY CHART No. 1 FOR SAMPLING BY STREAKING



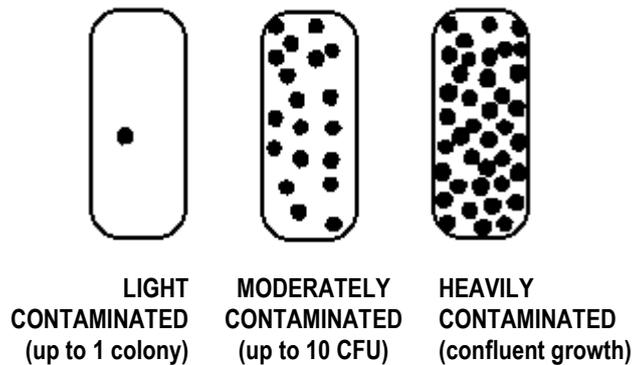
COLONY DENSITY CHART No. 2 FOR TOTAL GROWTH BY DIP SAMPLING



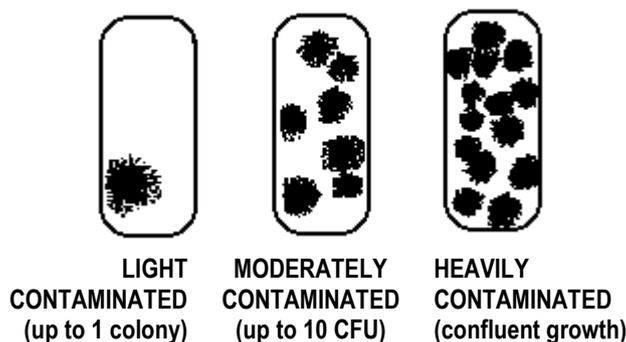
COLONY DENSITY CHART No. 3 FOR TOTAL GROWTH BY SURFACE CONTACT SAMPLING



COLONY DENSITY CHART OF YEAST GROWTH BY SURFACE CONTACT SAMPLING



COLONY DENSITY CHART OF MOLD GROWTH BY SURFACE CONTACT SAMPLING



2. COLONIES MORPHOLOGY

Preliminary identification of the microorganisms made on the base of type and color of the colonies.

ORGANISMS	OGYE (Agar Color: Yellow)	Rose Bengal Chloramphenicol Agar (Agar Color: Pink)
<i>E. coli</i>	Inhibited	Inhibited
<i>Saccharomyces cerevisiae</i>	White	White
<i>Micrococcus luteus</i>	Inhibited	Inhibited
<i>C. albicans</i>	White	Pink

PRECAUTIONS

1. For laboratory use.
2. Follow proper established laboratory procedures in handling and disposing of infectious materials.

QUALITY CONTROL

Oxytetracycline-Glucose-Yeast- Extract Agar (OGYE):

1. **Identity Specifications:** (1) sterility of media: as per sterility test of Standard Operating Procedures; (2) physical appearance: Amber, slightly opalescent; (3) pH of media: pH 7.0±0.2; (4) weight of media 3.15±0.1g;
2. **Cultural Response:** inoculate challenged media with the following microorganisms (as per inoculation procedure of Standard Operating Procedure):

Microorganisms	ATCC no.	Growth	Appearance
<i>Escherichia coli</i>	25922	Inhibition	None
<i>Saccharomyces cerevisiae</i>	9763	Growth	White colonies
<i>Candida albicans</i>	26790	Growth	White colonies

Rose Bengal Chloramphenicol Agar:

1. **Identity Specifications:** (1) sterility of media: as per sterility test of Standard Operating Procedures; (2) physical appearance: bright pink, slightly opalescent; (3) pH of media: pH 7.2±0.2; (4) weight of media: 3.15±0.1g;
2. **Cultural Response:** (5) inoculate challenged media with the following microorganisms (as per inoculation procedure of Standard Operating Procedure):

Microorganisms	ATCC no.	Growth	Appearance
<i>Escherichia coli</i>	25922	Inhibition	None
<i>Saccharomyces cerevisiae</i>	9763	Growth	White colonies
<i>Candida albicans</i>	26790	Growth	Pink colonies