TM 2003 – BEER SPOILAGE ISOLATION AGAR

INTENDED USE

For selective medium recommended for the detection of contaminating/spoilage microorganisms.

PRODUCT SUMMARY AND EXPLANATION

Beer Spoilage Isolation Agar (BSI Agar) is used for isolation of beer contaminating organisms, based on the principle of Kozulis and Page who developed Universal Beer Agar Medium, a basal medium to which beer is added. Beer is the product of yeast fermentations of barley grains. The yeast usually employed in beer fermentation is one of two species of *Saccharomyces*. The gram-positive bacteria are generally regarded as the most hazardous beer spoilage organisms in modern breweries, especially the lactobacilli and the pediococci. Even though the detection of beer spoilage organisms by cultivation in laboratory media does not always provide the specificity and the sensitivity required, the use of selective media and incubation conditions still appear to be the method preferred by breweries. Due to the presence of beer in these media, it is selective for growth of microorganisms that have adapted themselves to the existent conditions in the brewery. Among the media reported so far, no single medium can be used to detect all members within a group of specific beer spoilage organisms and further work on the development of improved substrates are required both for bacteria and wild yeasts.

COMPOSITION

Ingredients	Gms / Ltr
V8 Juice	18.100
Sodium acetate	6.000
Polysorbate 80 (Tween 80)	1.000
Dipotassium hydrogen phosphate	2.000
L-Cystine hydrochloride	0.020
Carbohydrate mix	25.000
L-Ascorbic acid	0.100
Growth factors	2.600
Indicator dye	0.070
Agar	15.000

PRINCIPLE

V8 Juice provides nitrogenous, carbonaceous compounds, vitamins of B complex group. Growth factors provides other essential nutrients for the growth of common spoilage organisms. The medium contains sodium acetate which is inhibitory to other organisms. Ascorbic acid, is a carbon source for lactic acid bacteria. Indicator dye turns yellow on carbohydrate utilization. Phosphate buffers the medium.

INSTRUCTION FOR USE

- Dissolve 69.90 grams in 500 ml purified/ distilled water and 500 ml of degassed beer.
- Mix thoroughly. Heat to boiling with frequent agitation to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to beige homogeneous free flowing powder.
Appearance of prepared medium : Pale green coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 5.8±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Lactobacillus brevis	8291	50-100	Good	40-50%	30-35°C	4 Days
Pediococcus acidilactici	8042	50-100	Good-luxuriant	>=50%	30-35°C	4 Days
Pediococcus damnosus	29358	50-100	Good-luxuriant	>=50%	30-35°C	4 Days

PACKAGING:

In pack size of 100 gm bottles.

STORAGE

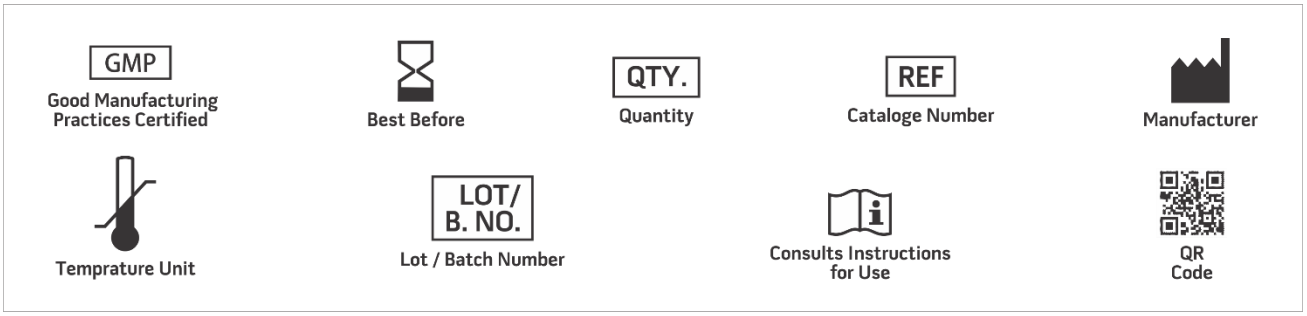
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Alcamo I. E., 2001, Fundamentals of Microbiology, 6th Ed., Jones and Bartlett Publishers.
2. Jespersen L., Jakbsen M., 1996, Int. J. Food Microbiol., 33:139-55
3. Kozulis J.A. and Page H.E., 1968, Proc. Am. Soc. Brew. Chem., 52:58Kozulis J.A. and Page H.E., 1968, Proc. Am. Soc.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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