

भारत सरकार

परमाणु ऊर्जा विभाग

Department of Atomic Energy

Government of India



विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड
Board of Radiation & Isotope Technology
(BRIT/BARC Vashi Complex, Sector-20 Vashi, Navi Mumbai-400 705)



Microbiological analytical services offered by BRIT for spices & allied food products

As you are aware that Radiation Processing Plant, BRIT, offers radiation processing services for spices & allied food products including pet feed & ayurvedic raw materials. You are our valued customer since long, hence for your convenience we offer you effective quality control procedure by supplying Biological Indicator for better in process control as well as Microbiological analytical services for your valued food products. The services proposed to offer by BRIT are-

1. Supply of Biological indicators to be irradiated with your product at your end.
2. Analysis & certification of Biological Indicator.
3. Microbiological analysis of spices & allied food products for-
 - a. Total aerobic plate count
 - b. Total yeast & mold count
 - c. Total coliform count
 - d. Detection of *E. coli*
 - e. Detection of *Salmonella sp.*

We supply herewith the free samples of Biological Indicator for your use & we require the feed back for the same. Our services offered will be at the very reasonable cost. We are also enclosing the technical information for carrying out in process control using Biological Indicator. A feedback form is enclosed herewith, please do fill up & send back to us at the earliest. We will be able to serve you better based on your feedback.. We are looking ahead to interact with you in this concern.

To,

Director/manager,

Dr. Ramesh Chander
General Manager
Gamma Radiation Processing Services
Contact No. 022-25595374/27887405

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FEEDBACK FORM

1. Do you get your microbiological testing done at your end or from outside analytical laboratories? In house testing/analytical laboratories
2. Do you feel in process control will give you better confidence on quality of your product? Yes/No
3. If yes would you like to purchase the Biological Indicators? Yes/No
* Give us your monthly requirement -----50/100/200
4. Would you like to get it analyzed by us? Yes/No
5. Alternatively would you like to use the ready to use kit for Biological Indicator, which will be released soon for sale? Yes/No
6. Do you feel that the above in process control will help you in releasing your product before microbiological analysis gets completed? Yes/No
7. Would you be interested in using our services being offered for microbiological analysis of spices & allied food products? Yes/No
 - If yes give us your monthly requirement -----5/10/50 samples

From:

Signature & Name of user :

Name of manufacturer :

Address :

Contact No.:

E mail :

Date:



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Placement of BI

These are required to be placed at the minimum dose position in the product box.

Procedure

- 1 A pair of BI tubes should be placed along with the product for radiation processing at minimum dose position as indicated by radiation processing facility.
- 2 After processing remove pair of BI tube & separately, aseptically transfer 1 ml sterile normal saline to the BI tubes.
- 3 Shake the BI tubes in vortex mixer for 30 seconds, incubate for 30 minutes and shake again.
- 4 Inoculate 50 µl of spore suspension from each BI tubes onto the sterile **soyabean casein digest agar** plates & spread the inoculum evenly with the help of sterile bent glass rod.
- 5 Incubate the plates at 37 °C for 24 hrs & count the number of surviving spore population (SSP) as-
 $SSP = \text{No. of colonies} \times 20.$
- 6 Calculate the spore log reduction (SLR) as-
 $SLR = 7 - \log SSP \text{ (average of BI pair) .}$
- 7 Record the SLR achieved in the record sheet.

REPORT SHEET FOR BIOLOGICAL INDICATOR (BI)

1. Manufacturer	:	
2. Product	:	
3. BI	:	<i>Bacillus pumilus (ATCC 14884)</i>
4. Spores per disc	:	$\sim 10^7$
5. Batch No. of BI	:	
6. Irradiation details	:	GRPS/ISM/C- /PNI- /Date
7. Spore Log Reduction achieved	:	Greater than 3 SLR/ lesser than 3 SLR
8. Remarks	:	Product passes/does not passes BI test

Name & seal of the testing Lab

Analyst (Name & signature)

Note:

1. If SLR achieved is greater than 3 SLR, the product passes the BI test.
2. If SLR achieved is lesser than 3 SLR, the product does not passes the BI test.
3. The work should be carried out by a trained microbiologist with thorough knowledge of aseptic techniques.