

TEST REPORT

R. No.: 12563M/1-2

DATE OF REPORT : 23.09.11

Name of Customer : Lifeline Technologies
Address : Plot No. A – 387, Road No. 28,
Ramnagar, Wagle Estate,
Thane (W) – 400604
Contact Person : Ms. Jayshree Jadhav
Date of receipt : 08.08.11
Date of starting analysis : 22.08.11
Date of completion : 22.09.11
Sample Description : **Anti-microbial anti-fungal (SL)
chips**

- Inspections for Agri Produce Containers
- Nutritional labeling
- Microbial profile
- Chemical analysis
- Shelf-life
- Vitamins & Minerals
- Residual Pesticides & Heavy metals
- Problem solving on-site
- Consultancy
- 3rd Party Audits

Introduction :-

We are submitted sample of anti-microbial anti-fungal (SL) chips & asked to analyze the sample as per ASTM G 21.

Sample Reference:-

12563/1:- Control Chips
12563/2:- Anti-microbial anti-fungal (SL) 2 % chips

Test organism :

Aspergillus niger ATCC 6275

Test Method :

ASTM G 21 -1996 (Reapproved 2002)

MicroChem Laboratory Pvt Ltd

'MicroChem House'
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Industrial Area,

M.I.D.C., Mahape,
Navi Mumbai
Pin - 400701

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Summary of the test method used:

- Fungi are grown on solid medium and a spore suspension is prepared from *Aspergillus niger* ATCC 6275
- Spore suspensions are washed several times and eluted in a minimal salt solution.
- The concentrations of test spores are standardized and is pooled.
- Test samples are placed, in triplicate, into Petri dishes (or other appropriately sized container) filled with minimal salts agar.
- A small volume of the pooled spore preparation is sprayed directly onto the test samples. This step is repeated for the positive control (fungal growth control) and negative control (agar only).
- All Petri dishes, or containers, are sealed to maintain sufficient humidity and incubated for up to 28 days.
- Remove the specimens from incubator and rate them.
- Samples are given a performance score based on fungal growth after 28 days.

Ratings as per ASTM G21 :-

- Depending upon the growth observed on the sample they should be rated as follows:-

Observed growth on Specimen	Rating
None	0
Traces of growth less than 10%	1
Light Growth (10% to 30%)	2
Medium Growth (30% to 60%)	3
Heavy Growth (60% to complete coverage)	4

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Observation:

The incubated samples were checked for presence or absence of growth after periodic intervals and the observations were recorded as follows:

Samples	Week (1)	Week (2)	Week (3)	Week (4)
12563/1	0	0	0	0
12563/2	0	0	0	0
Positive Control plate	4	4	4	4
Negative Control plate	0	0	0	0

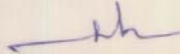
Test sample specimens without growth were confirmed by microscopic observation under a 100x objective.

Conclusion :

The above anti-microbial antifungal chips showed no growth on the surface indicating that the synthetic polymeric material used possess fungal growth resistance characteristics.

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 Authorized Signatory
Dr. Balasubramanian
 Technical Manager

NOTE: 1. Tested sample(s) not drawn by the laboratory.
 2. Test results relate to the submitted sample(s) only.
 3. Test report shall not be reproduced except in full, without written approval of the laboratory.

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