

Test Report

REPORT NO:

UB/2019/C0041

Date: 2019/12/27

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DRAGONCHEM LIMITED

ROOM 03, 9/F, TRUST CENTRE, 912-914 CHEUNG SHA WAN ROAD, KOWLOON, HONG KONG

The following sample(s) was/were submitted and identified by/on behalf of applicant as:

Sample Name : "BACTOSTAT" POLYPROPYLENE RESIN
Applicant : DRAGONCHEM LIMITED
Address of Applicant : ROOM 03, 9/F, TRUST CENTRE, 912-914 CHEUNG SHA WAN ROAD, KOWLOON, HONG KONG
Tel No./Contact Person : +852-23190918 / Derick Yip
Packaging Condition : Please refer to the photo for sample shown at the last page of this report.
Quantity : 25 pieces
Storage Condition : Room temperature
Item No. : RP1034
Lot/Batch No. : CU204172
Manufacturer/Agent/Importer : THE HONGKONG POLYMER SCIENCE LIMITED
Date of Manufacturing : ARP. 2019
Date of Expiry : 24MONTHS
Date of Sample Received : 2019/12/06
Date of Testing : 2019/12/06 ~ 2019/12/27
Test Requested: Plastic Sample Germ-repellent test
Test Method : With reference to ISO22196:2011, Measurement of antibacterial activity on plastics and other non-porous surfaces.
Test Results: -Please refer to next page(s)-

Shin Jyh Chen
Shin-Jyh Chen, Manager
Signed for and on behalf of
SGS Taiwan Ltd.



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Test Method :

1. *S. aureus* or *E. coli* will be subculture twice with NB from frozen stock.
2. Dilute this inoculum with 1/500 NB so that the number of *S. aureus* is about 6×10^5 cells/mL and about 6×10^6 cells/mL for *E. coli*.
3. Place each test piece (a square of $50 \text{ mm} \pm 2 \text{ mm}$) in a sterilized petri dish making the test surface up.
4. Take exactly 0.4 mL of the test inoculum, and instill it onto each test piece.
5. Cover the instilled test inoculum with a film (a square of $40 \text{ mm} \pm 2 \text{ mm}$), press the film so that the test inoculum spreads over the film, and place the lid of the petri dish on.
6. Incubate the petri dish containing the test piece inoculated with the test inoculum (3 untreated test pieces and 3 test pieces) at a temperature of $35 \pm 1 \text{ }^\circ\text{C}$ and a relative humidity of not less than 90 % for $24 \pm 1 \text{ h}$.
7. After incubating, the cover film of the test sample is removed and discarded. Hold the test sample with a tweezers and tilt it at an angle of ~ 90 degree to allow the inoculum (0.4 mL) to slide off the surface into the petri dish. Gently tap the edge of the test sample against the petri dish to remove any droplets that remain on the surface. The petri dish containing the excess inoculum is discarded. The sample is transferred to a new sterile petri dish.
8. With the tweezers, soak each test sample into 100 mL normal saline for 3 seconds and then hold the test sample and tilt it at an angle of ~ 90 degree to slide any the rinsing saline solution. Gently tap the edge of the test sample against the petri dish to remove any droplets that remain on the surface. The petri dish is discarded.
9. Repeat the 8 soaking procedure with fresh normal saline twice to achieve a thorough cleansing of any remaining freely flowing bacterial inoculum. (totally soaking for rinse three times). The rinsed sample is finally placed on a new sterile petri dish and is ready for sampling by the swab method.
10. The surface of test article is swabbed with a wet (with normal saline) cotton swab.
11. Each swab is extracted with sonication for 10 minutes and hands shaking for 50 times in 100 mL normal saline and then perform 10 fold serial dilutions.
12. The extract or dilution is filtered through $0.45\mu\text{m}$ membrane and then place the membranes onto NA plates.
13. All the NA plates will be incubated at $30\sim 35^\circ\text{C}$ and enumerated after 3~7 days of incubation.
14. The germ-repellent rate will calculate as

$$\text{Germ repellent rate(\%)} = \frac{(\text{mean CFU/device of control article}) - (\text{mean CFU/device of test article})}{\text{mean CFU/device of control article}} \times 100(\%)$$

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Test Results:

<u>Organism</u>	<u>Original inoculum (CFU/device)</u>	<u>Contact time</u>	<u>Counts of the control at contact time (CFU/device)</u>	<u>Counts of the sample at contact time (CFU/device)</u>	<u>Removal rates (%)</u>
<i>Escherichia coli</i>	6.1×10^5	24 hours	7.7×10^1	1.0×10^1	87.0
<i>Staphylococcus aureus</i>	1.8×10^6	24 hours	1.5×10^5	2.0×10^3	98.7

NOTE :

- 1.The test report merely reflects the test results of the consigned matters of the client and is not a certification of the legitimacy of the related products.
- 2.All items in this testing report is based on the request from client and we are responsible for that.
- 3.The content of this report is invalid if it is not presented as the entire report.
- 4.Organism No.:

Escherichia coli BCRC 11634 ; ATCC 8739.

Staphylococcus aureus BCRC 10451 ; ATCC 6538P.

- END -

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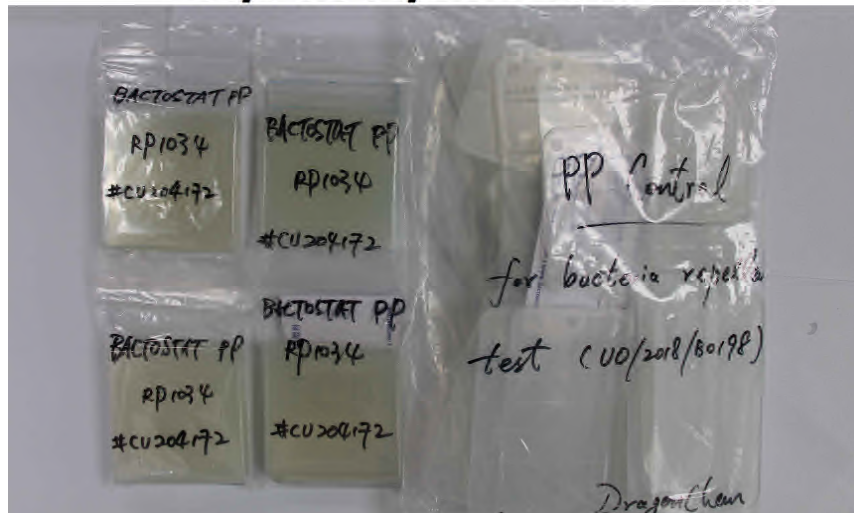


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Sample Photo

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