Technical Report

Fungal Resistance Testing to EN 15457

For

Vivechrom SA

Final Report

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Global Surface Coatings Covered

Final Report

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Client	Vivechrom SA Patima Magoylas Mandra Attikis 19600 Greece FAO: Iosif Tsagarogiannis
Work Requested	Fungal Resistance Testing to EN 15457
Samples Submitted	Neopal Kitchen and Bathroom Eco Indoor Paints

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1 Materials Submitted For Testing

Neopal Kitchen and Bathroom Eco Indoor Paint

White
Base P (tinted to RAL 9010)
Base D
Base TR

2 Test Procedure

The samples were submitted to an associated laboratory for testing. Anti-fungal activity was assessed employing EN 15457:2006 - Paints and Varnishes – Laboratory method for testing the efficacy of film preservatives in a coating against fungi. The coatings were applied to cellulose fibre filters (6 x Whatman #1, 55 mm diameter) and left to dry in the dark at 20°C for 1 week.

Three replicate coated filters of each test system were placed onto inoculated (1000 µl per sample) Malt Extract Agar plates (MEA) and the film surfaces further inoculated with an aliquot (0.2 ml) of the suspension of mixed spores of the test species (106 - 107 cells ml-1 of each species - see Table 1for details). The samples were then incubated at 24°C for up to 21 days. After 7 and 14 days, the surface of each sample was rated and after 21 days the samples were rated and imaged photographically.

Species	Reference Number
Aureobasidium pullulans	DSM 2404
Cladiosporium cladosporoides	DSM 62121
Aspergillus versiclor	DSM 1943
Penicillium purpurogenum	DSM 62866

Table 1: Fungal Inoculum

3 Results and Observations

The results of the EN 15457 method are shown in Table 2 and Plates below.

Coating	Days of Incubation		
	7	14	21
Control Filter Paper	4	4	4
Neopal Kitchen and Bathroom Eco White	0*	0*	0*
Neopal Kitchen and Bathroom Eco Base P	0*	0*	0
Neopal Kitchen and Bathroom Eco Base D	0*	0	1
Neopal Kitchen and Bathroom Eco Base TR	0*	1	1

Table 2: Maximum Growth Ratings Observed After Incubation (Average of 3 Replicates)

KEY

0 = No mycelium on the surface of the specimen
1 = Up to 10% growth on the surface of the specimen
2 = More than 10% up to 30% growth on the surface of the specimen
3 = More than 30% up to 50% growth on the surface of the specimen
4 = More than 50% up to 100% growth on the surface of the specimen
* = Denotes a zone of inhibition surrounding the filter paper

It can be seen from the results in Table 2 above that the combined fungal inoculum was able to colonise the blank filter paper surface by greater than 50% after 7 days. The mixed fungal suspension exposed to the filter paper coated with the paint samples Neopal Base D and Neopal TR was initially able to completely limit the level of fungal growth after 7 days compared to the blank material, however after 21 days the samples of Neopal Base D and Neopal Base TR started to show up to 10% colonisation of the test samples. The decrease in zone size with time suggests that either the active ingredient is degrading in the agar or that the organisms are bEcoming acclimatised to the presence of the treatment. In contrast, no growth of the mixed fungal inoculum was observed on the surfaces of Neopal White or Neopal Base P after 21 days with zones of inhibition around the coated filter paper of the samples of Neopal White.

4 Appearance of the Samples After 21 days

Plate 1 Untreated (Control)

Plate 2 Neopal Kitchen and Bathroom Eco White

Plate 3 Neopal Kitchen and Bathroom Eco Base P

Plate 4 Neopal Kitchen and Bathroom Eco Base D

Plate 5 Neopal Kitchen and Bathroom Eco Base TR

5 Conclusions

The Neopal Kitchen and Bathroom Eco range meets the requirements of EU Ecolabel for indoor and outdoor paints -C(2014) 3429 with respect to fungal resistance

End of Report

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