

Algal Resistance Testing to EN 15458

For

Vivechrom SA

Final Report

Work Carried Out By

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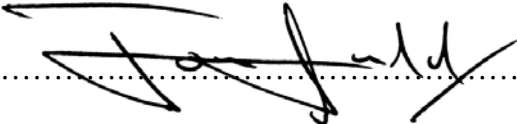


Final Report


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Work Requested Algal Resistance Testing to EN 15458

Samples Submitted Neopal Kitchen and Bathroom Eco
Paints

Work Carried out by


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Approved by


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Note – Opinions or interpretations expressed herein are outside the scope of UKAS accreditation. Only tests marked with an asterisk are UKAS accredited. A copy of the PRA accreditation schedule can be found on the UKAS website under laboratory reference 0069.

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I Materials Submitted For Testing

Neopal Kitchen and Bathroom Eco 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-algal activity was assessed employing EN 15458:2006 - Paints and Varnishes – Laboratory method for testing the efficacy of film preservatives in a coating against algae. 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 (see Section 2) of each test system were placed onto inoculated (1000 µl per sample) Bold's Basal Medium (BBM) and the film surfaces further inoculated with 0.2ml of the suspension of mixed algae (ca 10⁶ cells ml⁻¹ of each species) (see Table 1 and Ref. 1 for details). The samples were then incubated at 23°C + 2°C using light of 1000 + 200 lux and a cycle of 16 hours illumination and 8 hours darkness for up to 35 days. After 14, 21 and 28 days, the surface of each sample was rated, after 35 days the samples were rated and imaged photographically.

Species	Reference Number
Nostoc commune	CCAP 1453/29
Stichococcus bacillaris	CCAP 379/1a

Table 1: Algal Inoculum

3 Results and Observations

The results of the EN 15458 method are shown in Table 2 and Plates below.

Coating	Days of Incubation			
	14	21	28	35
Control Filter Paper	2	2	2	2
Neopal Kitchen and Bathroom Eco White	0	0	0	0
Neopal Kitchen and Bathroom Eco Base P (RAL 9010)	0	0	0	0
Neopal Kitchen and Bathroom Eco Base D	0	0	0	1
Neopal Kitchen and Bathroom Eco Base TR	0	0	0	1

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

KEY

0 = No algal growth on the surface of the specimen and in the petri dish

1 = less algal growth on the specimen containing film preservatives compared to un-preserved ones

2 = equal or more algal growth on the specimen containing film preservatives compared to un-preserved ones

It can be seen from the results in Table 2 above that the combined algal inoculum was able to colonise the blank filter paper surface after 14 days. The mixed algal 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 algal growth on the surface of the agar plate after 28 days compared to the blank material, however after 35 days colonisation of the surface of the agar was visible but not on the painted filter paper. The decrease in zone size with time suggests that either the active ingredient is degrading in the agar or that the algae are becoming acclimatised to the presence of the treatment. In contrast, no growth of the mixed algae inoculum was observed on the surfaces of Neopal White and Neopal Base P or on the agar after 35 days incubation.

4 Appearance of the Samples After 35 days

Plate 1: Untreated (Control)

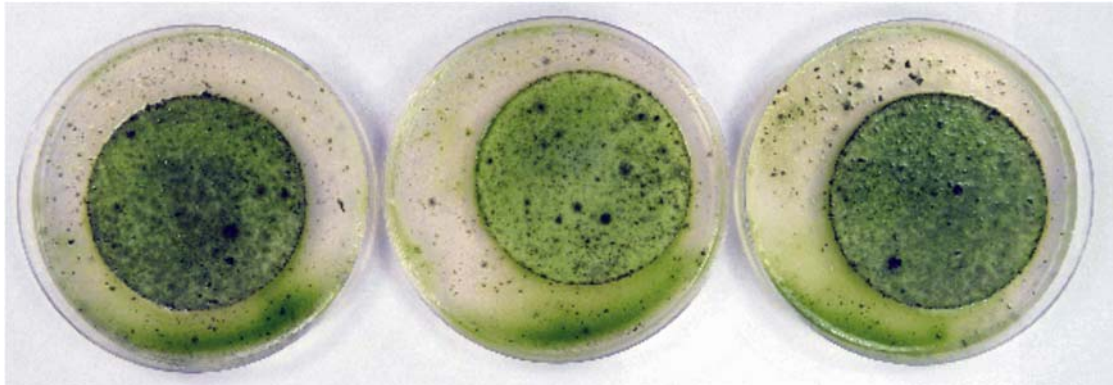


Plate 2: Neopal Kitchen and Bathroom Eco White



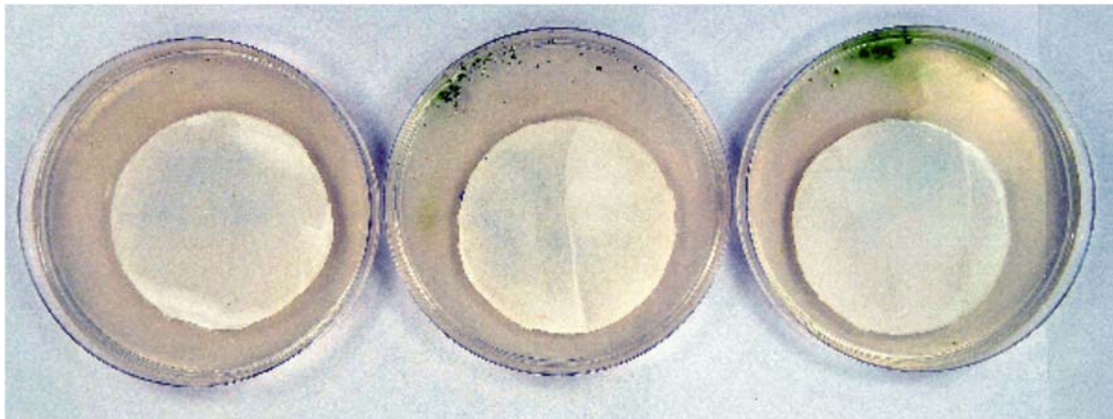
Plate 3: Neopal Kitchen and Bathroom Eco Base P



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 algal resistance.

End of Report

TJG.



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