

Test Report No. 7191040913-MEC12-KSY
dated 27 NOV 2012



PSB Singapore

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SUBJECT:

Chemical Spot Test

TESTED FOR:

Greenlam Asia Pacific Pte. Ltd.
11 Sungei Kadut Crescent
Singapore 728683

Attn: Ms Huiping Lin

SAMPLES DESCRIPTION:

Ten pieces of laminate test specimen (shown in Figure 1) were submitted by Greenlam Asia Pacific Pte. Ltd. on 9 November 2012 for testing.



Figure 1a: Top view



Figure 1b: Bottom View

TEST METHODS (AS SPECIFIED AND AGREED BY THE CLIENT):

SEFA - 1999 Laboratory Furniture Casework, Shelving and Tables Recommended Practices
Clause 8.1 - Chemical Spot Test

Nominal specimen dimensions :	as received
Reagents :	Acids, Solvents, Bases, General Reagents, Stains and Indicators
Test condition :	23 ± 2 °C for 24 h
Observation :	By visual method



Laboratory:
TÜV SÜD PSB Pte. Ltd.
No.1 Science Park Drive
Singapore 118221

Phone : +65-6885 1333
Fax : +65-6776 8670
E-mail: testing@tuv-sud-psb.sg
www.tuv-sud-psb.sg
Co. Reg : 199002667R

Regional Head Office:
TÜV SÜD Asia Pacific Pte. Ltd.
3 Science Park Drive, #04-01/05
The Franklin, Singapore 118223
TUV®



TESR RESULTS:

Reagents	Observation	Level
A. Acids		
1. 20% Nitric Acid	No detectable change	0
2. 30% Nitric Acid	No detectable change	0
3. 65% Nitric Acid	No detectable change	0
4. 99% Glacial Acetic Acid	No detectable change	0
5. 33% Sulphuric Acid	No detectable change	0
6. 77% Sulphuric Acid	No detectable change	0
7. 85% Sulphuric Acid	Slight change in color/gloss	1
8. 96% Sulphuric Acid	No detectable change	0
9. 85% Phosphoric Acid	No detectable change	0
10. 90% Formic Acid	Severe staining	2
11. 48% Hydrofluoric Acid	Obvious and significant deterioration	3
12. Aqua Regia, 77% Sulphuric Acid & 65% Nitric Acid equal parts	No detectable change	0
13. 60% Chromic Trioxide (Chromic Acid Cleaning Solution)	No detectable change	0
14. 60% Perchloric Acid	Slight change in color/gloss	1
B. Solvents		
1. Carbon Tetrachloride	No detectable change	0
2. Acetone	No detectable change	0
3. 37% Formaldehyde	Slight change in color/gloss	1
4. Methanol	No detectable change	0
5. Ethyl Acetate	No detectable change	0
6. Toluene	No detectable change	0
7. N-Hexane	No detectable change	0
8. Ethyl Alcohol	No detectable change	0
9. Chloroform	Slight change in color/gloss	1
10. 80% Phenol Solution	No detectable change	0
11. Xylene	No detectable change	0
12. Amyl acetate	No detectable change	0
13. Dimethylformamide	No detectable change	0
14. Methylene Chloride	No detectable change	0
15. Methyl Ethyl Ketone	No detectable change	0
16. Tetrahydrofuran	No detectable change	0
C. Bases		
1. 10% Sodium Hydroxide	No detectable change	0
2. 20% Sodium Hydroxide	No detectable change	0
3. 40% Sodium Hydroxide	No detectable change	0
4. Sodium Hydroxide Flakes	No detectable change	0
5. 25% Ammonium Hydroxide	No detectable change	0

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TEST RESULTS (CONT'D):

Reagents	Observation	Level
D. General Reagents		
1. 5% Sodium Hypochloride	No detectable change	0
2. 3% Hydrogen Peroxide	No detectable change	0
3. 30% Trisodium Phosphate	No detectable change	0
4. Zinc Chloride (saturated solution)	No detectable change	0
5. Gasoline	No detectable change	0
6. Kerosene	No detectable change	0
7. Mineral Oil	No detectable change	0
8. Vegetable Oil (Olive)	No detectable change	0
9. Water	No detectable change	0
10. 0.1% Potassium Permanganate	No detectable change	0
11. 5% Silver Nitrite	No detectable change	0
12. 5% Copper Sulphate	No detectable change	0
13. Ethylene Glycol	No detectable change	0
14. Karl Fischer Reagent	No detectable change	0
15. 5% Urea	No detectable change	0
16. 5% Ferric Sulphate	No detectable change	0
E. Stains and Indicators		
1. 0.1 % Phenolphthalein	No detectable change	0
2. 0.1% Methyl Red	Severe staining	2
3. 1% Gentian Violet	No detectable change	0
4. 0.1% Methylene Blue	Severe staining	2
5. 0.1% Crystal Violet	No detectable change	0
6. 0.1% Malachite Green	No detectable change	0
7. 0.1 Thymol Blue	No detectable change	0

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TEST RESULTS (CONT'D):

Reagents	Observation	Level
1. 65% Nitric Acid	No detectable change	0
2. 65% Nitric Acid: 37% Hydrochloric Acid (1:3)	No detectable change	0
3. 85% Sulphuric Acid	No detectable change	0
4. 77% Sulfuric Acid: 65% Nitric Acid (1:1)	No detectable change	0
5. 85% Sulfuric Acid: 70% Nitric Acid (1:1)	No detectable change	0
6. 10% Potassium Iodite	No detectable change	0
7. 10% Sodium Chloride	No detectable change	0
8. 13% Sodium Hypochlorite	No detectable change	0
9. Iodine (Crystals)	Severe staining	2
10. Iodine Solution (0.1N)	Slight change in color/gloss	1
11. Dimethylformamide	No detectable change	0
12. 90% Phenol	No detectable change	0
13. Acetonitrile	No detectable change	0
14. Benzene	No detectable change	0
15. Butyl Alcohol	No detectable change	0
16. Dichloromethane	No detectable change	0
17. Dioxane	No detectable change	0
18. Diethyl Ether	No detectable change	0
19. Ethylene Glycol	No detectable change	0
20. Naphthelene	No detectable change	0
21. Trichloroethylene	No detectable change	0
22. Aniline Blue, water soluble 1%	No detectable change	0
23. Congo Red 1%	No detectable change	0

NOTES

- Level 0 - No detectable change.
- Level 1 - Slight change in color or gloss.
- Level 2 - Slight surface etching or severe staining.
- Level 3 - Pitting, Cratering, swelling, or erosion of coating, obvious and significant deterioration.


Ting Yeow Wah
Higher Associate Engineer


Kong Siew Yong
Senior Associate Engineer
Polymer Products
Mechanical Centre

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