

## TEST REPORT: 7191119761-CHM15-LSM-CR1

Date: 02 SEP 2015

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### SUBJECT

Chemical Resistance Testing of Worktop Sample

### CLIENT

ERP Hychem Sdn Bhd  
No.8018, KG Bukit Cherakah  
40150 Shah Alam,  
Selangor, Malaysia

Attn: Mr. Nick Ng

### SAMPLE SUBMISSION / TEST DATE

04 Aug 2015 / 11 - 13 Aug 2015

### SAMPLE DESCRIPTION

50 pieces of worktop Sample (5 cm x 5cm) were received (**Epoxy**)



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## METHOD OF TEST

The Chemical / Stain Resistance Testing was conducted in accordance to the following test methods (client's request)

1. ASTM D3023  
Standard Practice for Determination of Resistance of Factory-Applied Coatings on Wood Products to Stains and Reagents
2. ASTM C1378  
Standard Test Method for Determination of Resistance to Staining

### Method A

Used for **Volatile** Chemicals (organic solvents):

A cotton ball, saturated with the test chemical (reagent), is placed in a 1-ounce test tube with a reservoir of liquid above the ball. The container is inverted on the test material at a standard temperature of  $23^{\circ} \pm 2^{\circ}\text{C}$  ( $73^{\circ} \pm 4^{\circ}\text{F}$ ).

### Method B

Used for **Non-Volatile** Chemicals:

5 drops (1/4cc) of the test chemical are placed on the test material surface. The chemical is covered with a watch glass (d=5cm) at a standard temperature of  $23^{\circ} \pm 2^{\circ}\text{C}$  ( $73^{\circ} \pm 4^{\circ}\text{F}$ ).

After 24 hours of exposure, exposed areas were washed with water, then a detergent solution, finally with isopropyl alcohol, Materials were then rinsed with distilled water and dried with a cloth.

The effect on the surface of the specimen shall be inspected visually and express in accordance with following rating scale:

- |     |           |   |   |
|-----|-----------|---|---|
| (0) | No effect | : | No detectable change in the material surface.   |
| (1) | Excellent | : | Slight detectable change in colour or gloss, but no change to the function or life of the work surface material.                                  |
| (2) | Good      | : | Clearly discernible change in colour or gloss, but no significant impairment of surface life or function.   |
| (3) | Fair      | : | Objectionable change in appearance due to surface discoloration or etch, possibly resulting in deterioration of function over an extended period. |



**RESULTS**

No	Group	%	Method	Rating
<b>Acid</b>				
1	Acetic Acid	98	B	0
2	Dichromate Acid	5	B	1
3	Chromic Acid	60	B	1
4	Formic Acid	90	B	0
5	Hydrochloric Acid	37	B	0
6	Hydrofluoric Acid	48	B	3
7	Nitric Acid	20	B	0
8	Nitric Acid	30	B	0
9	Nitric Acid	70	B	1
10	Phosphoric Acid	85	B	0
11	Sulphuric Acid	33	B	0
12	Sulphuric Acid	77	B	0
13	Sulphuric Acid	96	B	3
14	Sulphuric Acid 77% :Nitric Acid 70%	1:1	B	1
<b>Bases</b>				
15	Ammonia Hydroxide	28	B	0
16	Sodium Hydroxide	10	B	0
17	Sodium Hydroxide	20	B	0
18	Sodium Hydroxide	40	B	0
19	Sodium Hydroxide flake	-	B	0
<b>Halogens</b>				
20	Tincture of Iodine	-	B	0
<b>Salts</b>				
21	Sodium Sulfide	saturated	B	0
22	Silver Nitrate	saturated	B	0
23	Zinc Chloride	saturated	B	0
<b>Organic Chemicals</b>				
24	Amyl Acetate	-	A	0
25	Cresol	-	A	0
26	Dimethylformamide	-	A	0
27	Formaldehyde	37	A	0
28	Furfural	-	A	0
29	Gasoline	-	A	0
30	Hydrogen Peroxide	30	B	0
31	Methyl Ethyl Ketone	-	A	0
32	Phenol	90	A	0
33	Xylene	-	A	0
34	Acetone	-	A	0



**RESULTS (cont'd)**

No	Group	%	Method	Rating
<b>Solvents</b>				
35	Butyl Alcohol	-	A	0
36	Carban Tetrachloride	-	A	0
37	Chloroform	-	A	0
38	Dichloro Acetic Acid	-	A	0
39	Diethyl Ether	-	A	0
40	Dioxane	-	A	0
41	Ethyl Alcohol	-	A	0
42	Ethyl Acetate	-	A	0
43	Methyl Alcohol	-	A	0
44	Methylene Chloride	-	A	0
45	Naphthalene	-	A	0
46	Toluene	-	A	0
47	Trichloroethylene	-	A	0

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TECHNICAL EXECUTIVE

**for DR LI SIHAI**  
AVP / SENIOR CHEMIST  
COATINGS & INDUSTRIAL CHEMICALS  
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July 2011

