

## TEST REPORT: S08CHM03962-CSY

Date: 11 AUG 2008

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Client's Ref:

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### **SUBJECT**

Evaluation of Two Components Polyurethane Waterproofing Membrane

### **CLIENT**

Maris Polymers Asia LLP  
Block 191 Punggol Central  
#08-299  
Singapore 820191

Attn : Mr Lance Khoo

### **DESCRIPTION OF SAMPLE**

Two cans of liquid sample labeled as follows were received on 28 Jul 2008.

1. Product : MARISEAL 310A  
Color : GREY-X026-0082-0004  
Batch No : 08001100  
Prod. Date : 31.03.08  
Expiry Date : 31.12.08  
Quantity : 4kg
2. Product : MARISEAL 310 B  
Color : X026-0077-0001  
Batch No : 08001101  
Prod. Date : 31.03.08  
Expiry Date : 31.12.08  
Quantity : 1kg



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**DATE OF TEST**

29 Jul 2008 – 11 Aug 2008

**METHOD OF TEST**

According to the client's instruction, MARISEAL 310 A and MARISEAL 310 B were mixed in the ratio 4:1 by weight. The mixture was then conducted for the following tests.

<b><u>Test</u></b>	<b><u>Method</u></b>
1) Formaldehyde	The sample was analysed by UV-Vis Spectrophotometer using Acetylacetone as reagent.
2) Mercury, Lead, Cadmium and Chromium	The sample was digested in inorganic acid, followed by analysis using Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES).
3) Flash point @ 61°C	By Seta Flash.
4) Volatile organic compound content	By BS EN ISO 11890-2:2006, Paints and varnishes – <i>Determination of content volatile organic compound (VOC) content – Part 2 : Gas-chromatographic method.</i>
5) Halogenated solvent Aromatic solvent Epichlorohydrin	By Gas Chromatograph –Mass Spectrometry (GC-MS).



## RESULTS

Table 1 : The Formaldehyde results for "MARISEAL 310".

Test	Result
Formaldehyde Content	Not Detected <sup>a</sup>

<sup>a</sup> - The method detection limit was 0.1%.

Table 2 : The Elemental results for "MARISEAL 310".

Test	Result
Mercury	Not Detected <sup>b</sup>
Lead	Not Detected <sup>b</sup>
Cadmium	Not Detected <sup>b</sup>
Chromium	Not Detected <sup>b</sup>

<sup>b</sup> - The method detection limit was 0.01%.

Table 3 : The Flash Point results for "MARISEAL 310".

Test	Result
Flash point @61°C	No Flash

Table 4 : The Volatile Organic Compound (VOC) content for "MARISEAL 310".

Test	Result
VOC Content <sup>c</sup>	19.5 g/L

<sup>c</sup> - Volatile organic compound (VOC) means any organic compound having an initial boiling point less than or equal to 250°C measured at a standard pressure of 101,3kPa.

Table 5 : The analytical results for "MARISEAL 310".

Test	Result
Halogenated solvent	Not Detected <sup>d</sup>
Epichlorohydrin	Not Detected <sup>d</sup>
Aromatic solvent	0.15% (w/w)

<sup>d</sup> - The method detection limit was 0.01%.

MS CHOO SEOW YAH  
TECHNICAL EXECUTIVE

DR LIN JIANHUA  
ASSISTANT VICE PRESIDENT  
MICROCONTAMINATION DIAGNOSIS  
CHEMICAL & MATERIALS

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January 2008