

TEST REPORT: 7191170302-CHM17-04B-CSY

Date: 11 OCT 2017

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SUBJECT

Evaluation of "Aseal AS-4005 Green MS Sealant" comply with Singapore Green Building Product (SGBC) for the Product Group: Adhesive and Sealants

CLIENT

Aseal Marketing Sdn Bhd
Lot 2291, Jalan Kampung Baru
Kg. Baru Sungai Buloh
47000 Selangor Darul Ehsan
Malaysia

Contact Number: +603-6157 9698

DESCRIPTION OF SAMPLE

One tube of sample labelled as follows were received on 28 Aug 2017.

Brand	Product code	Product name	Quantity
Aseal	AS-4005	Green MS Sealant	1 x 290 ml

DATE OF TEST

30 Aug 2017 – 06 Oct 2017



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METHOD OF TEST

The sample was tested in the “as-received” condition.

1. Heavy metals analysis of Mercury (Hg), Lead (Pb) and Cadmium (Cd)

The sample was digested by inorganic acid, followed by analysis using Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

2. Analysis of Hexavalent Chromium (Cr⁶⁺)

The sample was analysed by UV-Vis spectrometer using 1,5-Diphenylcarbohydrazide as derivatizing agent.

3. Analysis of Halogenated solvents

The sample was analysed by Headspace-Gas Chromatography with Mass Selective Detector (HS-GC-MSD)

4. Analysis of Phthalates

The sample was analyzed by Gas Chromatography with Flame Ionization Detector (GC-FID) and/or Gas Chromatograph with Mass Selective Detector (GC-MSD), after appropriate pretreatment of the sample

5. Analysis of Alkyl Phenol Ethoxylates

The sample was analysed according to BS3762: 1990 Analysis of formulated Detergent

6. Analysis of Formaldehyde

The sample was analysed by UV-Vis Spectrophotometer using Acetylacetone as reagent

7. Analysis of VOC

The sample was analysed according to BS EN ISO 11890-2:2013, Paints and varnishes – *Determination of volatile organic compound (VOC) content – Part 2 : Gas-chromatographic method*

SUMMARY OF TEST RESULTS

The summary of test results for “Aseal AS-4005 Green MS Sealant”

Item No.	Test	Result	Method Detection Limit	SGBC Criteria	Inferred Remark
1	Heavy Metals: Mercury, Lead, Cadmium, Chromium (VI)	Not Detected	0.001%	N.D. (Pigment) < 0.01% or <0.1% *	Pass
2	Halogenated solvents	Not Detected	0.01%	Not Detected	Pass
3	Phthalates	Not Detected	0.01%	Not Detected	Pass
4	Alkyl Phenol Ethoxylates	Not Detected	0.01%	Not Detected	Pass
5	Formaldehyde Content	Not Detected	0.01%	Not Detected	Pass
6	VOC Content **	4.9 g/L	2 g/L	< 250 g/L **	Pass

* Exempted are impurities of the elements in raw materials or components in trace levels < 0.01% for Pb, Hg, Cd; and Cr (VI) < 0.1%

** For Adhesives in Architectural Applications (Indoor carpet adhesives <50 g/L; Structural glazing adhesives <100 g/L etc)
For Sealants (Architectural <250 g/L; Non membrane roof <300 g/L; Roadway <250 g/L; Single-ply roof membrane <450 g/L etc)

RESULTS (Cont'd)**Table 1 : The Heavy metals results for "Aiseal AS-4005 Green MS Sealant"**

Test	Result	Method Detection Limit
Mercury	Not Detected	0.001%
Lead	Not Detected	0.001%
Cadmium	Not Detected	0.001%
Hexavalent Chromium	Not Detected	0.001%

Table 2 : Hazardous substances analytical results for "Aiseal AS-4005 Green MS Sealant"

Test	Result	Method Detection Limit
Halogenated solvents	Not Detected	0.01%
Alkyl Phenol Ethoxylates	Not Detected	0.01%
Formaldehyde Content	Not Detected	0.01%

Table 3 : Phthalate analytical results for "Aiseal AS-4005 Green MS Sealant"

Test ^a	Result	Method Detection Limit
Dibutyl phthalate (DBP)	Not Detected	50 ppm
Benzyl butyl phthalate (BBP)	Not Detected	50 ppm
Di-(2-ethylhexyl) phthalate (DEHP)	Not Detected	50 ppm
Diisononyl phthalate (DINP)	Not Detected	50 ppm
Di-n-octyl phthalate (DNOP)	Not Detected	50 ppm
Diisodecyl phthalate (DIDP)	Not Detected	50 ppm

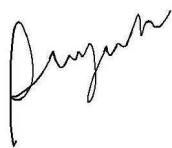
a) The following phthalates maybe used in the production of industrial adhesives for wood and plastic binding applications: DIDP and DINP.

Table 4 : Volatile Organic Compound (VOC) content for "Aiseal AS-4005 Green MS Sealant"

Test	Result	Method Detection Limit
VOC Content ^b	4.9 g/L ^c	2 g/L

b) 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.

c) The result was calculated based on the specific gravity = 1.55 provided by the client



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TECHNICAL EXECUTIVE



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