

## TEST REPORT: 7191039544-CHM12-LLP

Date: 06 AUG 2012

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### SUBJECT

Emission Rate Test for Panel Board/Wallboard Product Samples – GLS-41

### CLIENT

ERP Hychem Sdn Bhd  
Lot 8018, Off Jalan 4D,  
Bukit Cheraka, Kg. Baru Subang,  
40150 Shah Alam, Selangor,  
Malaysia

Attn: Mr Nick Ng

### DESCRIPTION OF SAMPLE

Two pieces of board labelled as follow were received on 18 Jun 2012:

HYCHEM Epoxy Worktop and Sink

### DATE OF ANALYSIS

23 Jul 2012 – 06 Aug 2012



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**METHOD OF TEST**

The following emission tests were conducted according to ASTM D5116-10 – *Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products*, as reference.

A) Emission Test

- 1) Total Volatile Organic Compounds (TVOC) Emission Rate
- 2) Formaldehyde Emission Rate
- 3) 4-Phenylcyclohexene Emission Rate
- 4) Total Phthalates Emission
  - Dibutyl Phthalate (DBP)
  - Diethylhexyl Phthalate (DEHP)
  - Diethyl Phthalate (DEP)
  - Butylbenzyl Phthalate (BBP)
  - Di-octyl Phthalate (DOP)
  - Dimethyl Phthalate (DMP)
- 5) Total Particles Emission

Emission Test Condition

- 1) Chamber Volume : about 1m<sup>3</sup>
- 2) Temperature : 23°C
- 3) Relative Humidity : 50%
- 4) Air Exchange Rate : n=1 (air change rate per hour in the chamber)
- 5) Chamber Loading Ratio : 0.4-1.0m<sup>2</sup>/m<sup>3</sup> (total exposed surface area of the test specimen divided by the net air volume of the emission test chamber)
- 6) Air Velocity : 0.1m/s to 0.3m/s (over the surface of the test specimen)



**RESULTS****Table 1. Total Volatile Organic Compounds (TVOC) Emission Rate Test Result**

Sample	Test Result (After 24 hours)	Criteria for Singapore Green Label Product	Inferred Result
"HYCHEM Epoxy Worktop and Sink"	<0.2 mg per m <sup>3</sup> per hour	0.25 mg per m <sup>3</sup> per hour or less	Pass

**Table 2. Formaldehyde Emission Rate Test Result**

Sample	Test Result (After 48 hours)	Criteria for Singapore Green Label Product	Inferred Result
"HYCHEM Epoxy Worktop and Sink"	<0.02 mg per m <sup>3</sup> per hour	0.02 mg per m <sup>3</sup> per hour or less	Pass

**Table 3. 4-Phenylcyclohexene Emission Rate Test Result**

Sample	Test Result (After 48 hours)	Criteria for Singapore Green Label Product	Inferred Result
"HYCHEM Epoxy Worktop and Sink"	Not Detected*	0.0065 mg per m <sup>3</sup> per hour or less	Pass

\*The method detection limit was 0.002 mg per m<sup>3</sup>**Table 4. Total Phthalates Emission Test Result**

Sample	Test Result	Criteria for Singapore Green Label Product	Inferred Result
"HYCHEM Epoxy Worktop and Sink"	<0.01 mg per m <sup>3</sup>	< 0.01 mg per m <sup>3</sup>	Pass

**Table 5. Total Particles Emission Test Result**

Sample	Test Result	Criteria for Singapore Green Label Product	Inferred Result
"HYCHEM Epoxy Worktop and Sink"	<0.02 mg per m <sup>3</sup>	< 0.02 mg per m <sup>3</sup>	Pass




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**MS LIM LEE PING**  
CHEMIST




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for **DR LI SIHAI**  
AVP / SENIOR CHEMIST  
MICROCONTAMINATION DIAGNOSIS  
CHEMICAL & MATERIALS

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06 AUG 2012



PSB Singapore

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July 2011

