

# TEST REPORT: 7191034527-CHM12-TSL

Date: 28 MAY 2012

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Client's Ref: QM-0512-040

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## **SUBJECT**

Evaluation of Toxic Fumes Generated From Material Sample During Burning

## **CLIENT**

Perceptive Profile Sdn Bhd  
PT19251, Persiaran Batu Gajah Perdana 10,  
Taman Perindustrian Batu Gajah Perdana  
31550 Pusing, Perak  
Malaysia

Attn : Mr Pat Auluck

## **SAMPLE SUBMISSION DATE**

17 May 2012

## **DESCRIPTION OF SAMPLE**

A packet of brownish granule sample labelled as follows was received.

1. WPC (33G) Granules

## **DATE OF ANALYSIS**

21 May 2012 – 28 May 2012

## **METHOD OF TEST**

### **1. Analysis of Pyrolysis and Combustion Gases Generated From the Sample**

The test was conducted according to BS 6853:1999 Annex B, B.1 Mass Based Test Method – NF X 70-100 (2006) Method:

#### **1.1 Sample Preparation of Test Specimen**

The sample was conditioned at 23°C and 50% Relative Humidity for 48hours and tested as whole for the following tests.



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## METHOD OF TEST (Cont'd)

### 1.2 Generation of Pyrolysis and Combustion Gases

Approximately 1.0 g of the sample was then used for the test in a stream of air at the air flow rate of 120L/hr at 1000°C for 20minutes in a tube furnace. A further 20minutes was used to air-flush the apparatus once residue sample was removed from tube furnace.

Toxic fumes collected during the burning were analysed by the following methods:

- a) Carbon Monoxide and Carbon Dioxide : Directly determined by Horiba Automotive Emission Analyzer
- b) Hydrogen Cyanide : By Pyridine – Pyrazalone Method
- c) Others ions : By Ion Chromatography

## RESULTS:

**Table 1: The Toxic Fumes Results For “WPC (33G) Granules” Sample**

Toxic Fumes Generated	“WPC (33G) Granules” (mg/m <sup>3</sup> of Fire Effluents)	IDLH Values Limits <sup>a</sup> (mg/m <sup>3</sup> )
1. Carbon Dioxide, Average (Carbon Dioxide, maximum)	1332 2860	73000 -
2. Carbon Monoxide, Average (Carbon Monoxide, maximum)	<200 455	1400 -
3. Hydrogen Fluoride, HF	<5	25
4. Hydrogen Chloride, HCl	<5	76
5. Hydrogen Bromide, HBr	<5	101
6. Sulfur Dioxide, SO <sub>2</sub> <sup>b</sup>	<5	270
7. Nitrogen Dioxide, NO <sub>2</sub> <sup>c</sup>	<5	38
8. Hydrogen Cyanide, HCN	<5	56

<sup>a</sup> The values in Table 1 are the IDLH values of the listed gases (the concentration of the gas in the atmosphere which for an exposure time of 30mins is immediately Dangerous to Life or Health) given in the NIOSH Guide [1].

<sup>b</sup> Sulfur Dioxide includes Sulfur trioxide expressed as sulfur dioxide

<sup>c</sup> Nitrogen dioxide includes nitric oxide expressed as nitrogen dioxide



**RESULTS** (Cont'd)

1. The above results from the analysis of the toxic fumes generated from the specimen were found to be below the IDLH Value of listed gases.
2. The weighted summation index, R, is 0.1.

**Remarks**

The weighted summation index R for the sample tested was found to be within the requirement of 1.0 max when tested and assessed according to NF X 70-100 with R calculated in accordance with Annex B of BS 6853:1999.



A handwritten signature in black ink, appearing to be 'MS TAN SER LING'.

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**MS TAN SER LING**  
TECHNICAL EXECUTIVE

A handwritten signature in black ink, appearing to be 'DR LI SIHAI'.

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

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July 2011

