TEST REPORT: 7191127129-CHM15-TSL_CR2

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SUBJECT

Evaluation of Toxic Fumes Generated From Material Sample During Burning

CLIENT

Principal:

Dincel Construction System Pty Ltd
101 Quarry Rd, Erskine Park NSW 2759, Australia

Attn : Mr. Burak Dincel

Exclusive Distributor (Singapore):

Current Pte Ltd
160 Paya Lebar Road
#08-05, Orion @ payalebar
Singapore 409022

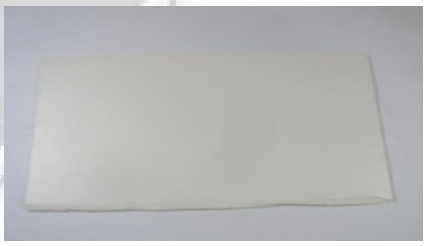
Attn : Mr. Raymond Pang

SAMPLE SUBMISSION DATE

04 Nov 2015

DESCRIPTION OF SAMPLE

A piece of material sample labelled as follows was received. The test was confirmed to be analysed on 23 Nov 2015.

Sample Information		Figure of Sample
Brand & Model Reference:	Dincel Construction System	
Generic Product Name:	PVC Permanent Formwork	
Density of Material (g/m^3):	1.5	
Nominal Thickness (mm):	2.4	

DATE OF ANALYSIS

23 Nov 2015 – 01 Dec 2015

Amendments:

The following amendment was made on 21 Dec 2015:

The Sample Information were amended as requested.

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METHOD OF TEST

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 48 hours and tested as whole for the following tests.

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 800°C for 20 minutes in a tube furnace. A further 20 minutes 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 Testo 300 XL-I Flue Gas Analyser

b) Hydrogen Cyanide : By Pyridine – Pyrazalone Method

c) Others ions: By Ion Chromatography

RESULTS

Table 1: **The Toxic Fumes Results For "Dincel Construction System, PVC Permanent Formwork" Sample**

Toxic Fumes Generated	"Dincel Construction System, PVC Permanent Formwork" (mg/m^3 of Fire Effluents)	IDLH Values Limits [a] (mg/m^3)
1. Carbon Dioxide, Average (Carbon Dioxide, maximum)	<200 <200	73000 -
2. Carbon Monoxide, Average (Carbon Monoxide, maximum)	<200 <200	1400 -
3. Hydrogen Fluoride. HF	<5	25
4. Hydrogen Chloride, HCl	<5	76
5. Hydrogen Bromide, HBr	<5	101
6. Sulfur Dioxide, SO2 [b]	<5	270
7. Nitrogen Dioxide, NO2 [c]	<5	38
8. Hydrogen Cyanide, HCN	<5	56

[a] 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].
[b] Sulfur Dioxide includes Sulfur trioxide expressed as sulfur dioxide
[c] Nitrogen dioxide includes nitric oxide expressed as nitrogen dioxide

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 less than 0.3.

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.

"Dincel Construction System, PVC Permanent Formwork" Sample, Toxicity emission - R<0.3, complies with FSSB, "Table 2B: Fire tests and acceptance criteria for plastic wall/ ceiling material/ finishes "of FSR 10:2014.

MS TAN SER LING
TECHNICAL EXECUTIVE

DR XIAO ZHOU
PRODUCT MANAGER
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