TEST REPORT: 7191102950-CHM14-TSL

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SUBJECT

Evaluation of Toxic Fumes Generated From Material Sample During Burning

CLIENT

Greenlam Asia Pacific Pte Ltd
11 Sungei Kadut Crescent
Singapore 728683

Attn : Ms Lin Huiping

EGY STONE
corian-HPL compact-kitchens

SAMPLE SUBMISSION DATE

26 Nov 2014

DESCRIPTION OF SAMPLE

A piece of material sample labelled as follows was received. The test was confirmed to be analysed on 01 Dec 2014.

Sample Information		Figure of Sample
Brand Name:	Greenlam	
Type of Product :	High Pressure Decorative Laminates	
Type of Material:	High Pressure Laminates	
Nominal Density (kg/m^3):	1.38	
Nominal Thickness (mm):	0.8	

DATE OF ANALYSIS

01 Dec 2014 – 08 Dec 2014

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 b

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 600°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 Horiba Automotive Emission Analyzer
b) Hydrogen Cyanide : By Pyridine – Pyrazalone Method
c) Others ions: By Ion Chromatography

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RESULTS

Table 1: **The Toxic Fumes Results For "Greenlam High Pressure Decorative Laminates" Sample**

Toxic Fumes Generated	"Greenlam High Pressure Decorative Laminates" (mg/m^3 of Fire Effluents)	IDLH Values Limits [a] (mg/m^3)
1. Carbon Dioxide, Average (Carbon Dioxide, maximum)	322 715	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.

MS TAN SER LING
TECHNICAL EXECUTIVE

DR XIAO ZHOU
PRODUCT MANAGER
MICROCONTAMINATION DIAGNOSIS
CHEMICAL & MATERIALS

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