

TEST REPORT: 7191135651-CHM16-LLH

Date: 29 APR 2016

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Client's Ref:

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SUBJECT

Toxicity Characteristic Leaching Procedure (TCLP) Test

CLIENT

STA Construction Pte Ltd
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#02-76 WCEGA Tower
Singapore 658065

Attn : Ms Sylvia Wong

SAMPLE SUBMISSION DATE

08 Apr 2016

SAMPLE DESCRIPTION

One "GFRC" sample was received for TCLP Extraction and analysis.

METHOD OF TEST

A known weight of the sample was extracted with an extraction fluid No. 2 (pH 2.88 ± 0.05) with an amount equivalent to 20 times of its weight for 18 ± 2 hours according to USEPA Method 1311: Toxicity Characteristic Leaching Procedure.



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METHOD OF TEST (Continued)

The TCLP extract obtained were analyzed as follows:

a) Elemental analysis

All inorganic analytes in the TCLP leachate were analysed by Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES), except Mercury was analysed by Cold Vapour-Atomic Absorption Spectrometry.

b) Phenolic compounds

The phenolic compounds were determined by APHA-AWWA-WEF Method 5530D - Direct Photometric Method after cleanup procedure.

c) Cyanide content

The cyanide content was analysed according to APHA-AWWA-WEF 22nd Edition "Standard Methods for the Examination of Water and Wastewater".

- i) 4500-CN'C Total Cyanide after Distillation
- ii) 4500-CN'E Colorimetric method

d) Fluoride content

The fluoride content in the extract was analysed by Ion Selective Electrode (ISE).

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RESULTS

Standard leaching Test

Contaminant	GFRC	Recommended Maximum Concentration
Arsenic as As, mg/l	< 0.05	5
Barium as Ba, mg/l	0.46	100
Cadmium as Cd, mg/l	< 0.01	1
Chromium as Cr, mg/l	0.10	5
Copper as Cu, mg/l	< 0.01	100
Iron as Fe, mg/l	< 0.01	100
Lead as Pb, mg/l	< 0.05	5
Manganese as Mn, mg/l	< 0.01	50
Mercury as Hg, mg/l	< 0.05	0.2
Nickel as Ni, mg/l	0.02	5
Selenium as Se, mg/l	0.39	1
Silver as Ag, mg/l	0.01	5
Zinc as Zn, mg/l	0.03	100
Total cyanide as CN, mg/l	< 0.1	10
Phenolic compounds (as phenol), mg/l	< 0.1	0.2
Fluoride as F, mg/l	0.81	150

Note :< indicates less than

REMARKS

The parameters tested on the TCLP leachate were found to be within the Leaching Test – Recommended Acceptance Criteria for Suitability of Industrial Wastes for Landfill Disposal.

LEE LENG HIANG
TECHNICAL EXECUTIVE

DR XIAO MAN
ASSISTANT PRODUCT MANAGER
ENVIRONMENTAL MONITORING
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