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Your Ref.: **PO No. 1074/2010**

Our Ref.: **EN29023/LKM**
TEST REPORT

Date: **31/08/2010**

Page **1 of 5**

(This Report is issued subject to the terms & conditions set out below)

Subject : Industrial Hygiene Monitoring for Titanium Dioxide in the premises of Delta Intercontinental Pte Ltd on 30/08/2010.

Tested For : **Delta Intercontinental Pte Ltd**
38 Woodlands Industrial Park E1
#06-04
Singapore 757700
Attn: Ms Goh Chia Li

Sampled By : 1) Chua Kiam Poh

Chua Kiam Poh
(Assistant Engineer)

Lester Lam Kah Min
(Executive Engineer)

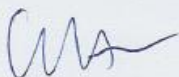
BIOLOGICAL & CHEMICAL TECHNOLOGY DIVISION

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A handwritten signature in blue ink, appearing to be 'CMA'.A handwritten signature in blue ink, appearing to be 'J. [unclear]'.

1.0 SUBJECT

Industrial Hygiene Monitoring for Titanium Dioxide in the premises of Delta Intercontinental Pte Ltd on 30/08/2010.

2.0 OBJECTIVE

Industrial Hygiene monitoring was carried out to determine the occupational exposure to Titanium Dioxide in compliance with the Long Term and Short Term Permissible Exposure Levels (PEL) stated in The "Workplace Safety and Health (General Provisions) Regulations", The First Schedule (Appendix 7A) "Permissible Exposure Limits of Toxic Substances" published by the Ministry of Manpower (MOM), Singapore on 1st March 2006.

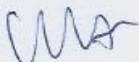
3.0 METHODOLOGY

During the course of this study, the parameters monitored were as follows: -

- Titanium Dioxide

A two-stage impinger with Teflon tubing was used for each sampling location. All the impingers were cleaned with copious amount of clean ultra-pure water and checked for its cleanliness. Sixty milliliters (ml) of water was filled into each impinger for sampling. All the sampling pumps used were calibrated prior to use and after sampling. The flow rate was set at approximately 3 litres/min and the sampling duration was for 15 minutes. *(please refer to the worksheet attached under Appendix on exact flow rate and sampling duration for each location).*

The samples were then analysed using Inductively Coupled Argon Plasma - Optical Emission Spectrometry (ICP-OES).



4.0 TEST RESULTS

Test Location		Test Date	Test Results (mg/m ³)	MOM Long Term PEL (mg/m ³) *
R & D Lab	Front	30/08/10	ND (< 0.00006)	10
	Back	30/08/10	ND (< 0.00006)	

- Notes :**
- 1) '**' denotes the Long Term and Short Term Permissible Exposure Levels (PEL) stated in The "Workplace Safety and Health (General Provisions) Regulations", The First Schedule (Appendix 7A) "Permissible Exposure Limits of Toxic Substances" published by the Ministry of Manpower (MOM), Singapore on 1st March 2006.
 - 2) 'ND' denotes the result is below the analytical detection limit (actual detection limit value stated in brackets)

5.0 CONCLUSION

Throughout the monitoring period, analyses yielded all results to be within the Long and Short Term Permissible Exposure Levels (PEL) stated in The "Workplace Safety and Health (General Provisions) Regulations", The First Schedule (Appendix 7A) "Permissible Exposure Limits of Toxic Substances" published by the Ministry of Manpower (MOM), Singapore on 1st March 2006.

It should be noted that this study is based upon the limited information gathered during the execution of this project and reflects our findings at the time and place inspected.

BIOLOGICAL & CHEMICAL TECHNOLOGY DIVISION




JOB NO.: EN29023/LKM

SAMPLING DATE: 30/08/2010

FIELD WORKSHEET PAGES: 1 of 1

TEST DESCRIPTION :

Industrial Hygiene Monitoring

TESTED FOR (Company) :

Delta Intercontinental Pte Ltd

Location of Sampling, Equipment ID, Staff Name	Pump ID	Calibration of Pumps			Time of Sampling		Total Volume of air Sampled (litres)
		Flowrate Before Sampling (ml/min)	Flowrate After Sampling (ml/min)	Average Flowrate (ml/min)	Start Time (hrs)	End Time (hrs)	
R&D Lab	Front - 1F	2842.00	2793.00	2817.50	10:23	10:38	42.26
	Back - 1B	2730.00	2726.00	2728.00			
							40.92

Sampled By:


 Chua Kiam Poh
 (Assistant Engineer)

Checked By:



Lester Lam
 (Executive Engineer)