

Air Cleaner Test Report

Applicant : RHT Industries Limited

Address : Block B, 2/F, Goodwill Industrial Building, No. 36-44 Pak Tin Par
Street, Tsuen Wan, New Territories, Hong Kong

Application Number : N/A

Report Number : REPAP22090201

Report Issue Date : 17 Sep 2022

Total Page : 9 Pages (including this page)

This document is issued by the Company under its General Conditions of Service printed overleaf. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30days only. This document cannot be reproduced except in full, without prior approval of the Company.

Acron International Technology Limited
IAQ Contractor; IAQ Control Facilities Supplier; IAQ Consultant
Subsidiary company of the Hong Kong University of Science and Technology
Under the Entrepreneurship Program

TABLE OF CONTENT

1. Sample Description	3
2. Detailed Description of the sample	4 – 5
3. Testing Environment	6
4. Testing Method of Removal Efficiency	7
5. Result of Removal Efficiency	8 – 9



1. Sample Description

Product	: Air Cleaner
Brand Name	: b-MOLA
Model No.	: BM20
No. of Sample Received	: 1
Test Date	: 26 May 2022 – 26 May 2022
Test Item(s)	: Pollutants Removal Efficiency
Test Requested	: Tetrachloroethylene
Test Reference(s)	: In-house method SOP200 (for VOC removal rate)
Test Equipment	: Honeywell instrument ppbRAE 3000
Equipment no.	: E002 – 003
Test Result	: See the attached sheets
Remark	: N/A

2. Detailed Description of the sample



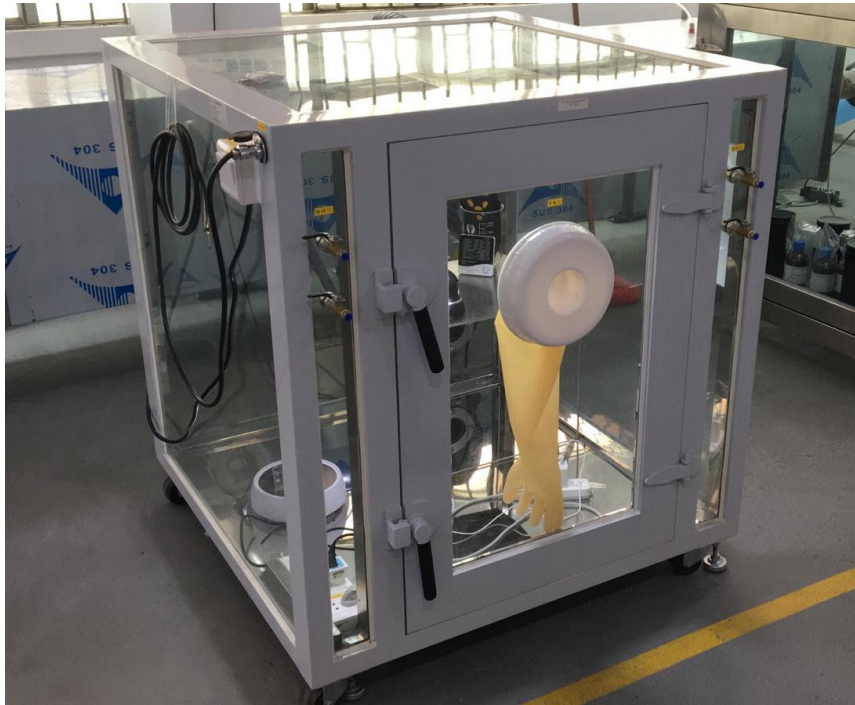
b-MOLA/ BM20



NCCO Filter and HEPA

3. Testing Environment

Temperature	: 26.4 °C
Relative Humidity	: 48 %
Testing Chamber	: 1m ³ Testing Chamber
Size (W × H × D) mm	: 1000 × 1000 × 1000



1m³ Testing Chamber

4. Testing Method of Removal Efficiency

In a 1m³ chamber, chemical was injected into the chamber by a syringe and evaporated by a hot plate. Internal circulation was turned on throughout the test to ensure the uniformity of chemical concentration inside the chamber. Initial concentration (C_0) of the chemical was recorded before switching on the air cleaner with a range of 100 (± 10) mg/m³. Then, the air cleaner is switched on for 60 minutes and the chemical concentration was recorded as C_{60} , the final concentration of chemical.

The test was repeated without the air cleaner to determine the natural decay of the chemical at the test chamber. Chemical was injected into the chamber by a syringe and evaporated by a hot plate with an initial concentration (C_{N0}). The final concentration (C_{N60}) was determined 60 minutes later.

New filters and HEPA have been used for each chemical test.

5. Results of Removal Efficiency

Brand/ Model No.	Operation Mode	Test Chemical	Volume of use (mL)
b-MOLA/ BM20	H	Tetrachloroethylene	0.12

Initial Concentration (mg/m ³)	Natural Decay, k_n (min ⁻¹)	Total Decay, k_e (min ⁻¹)	Removal Efficiency (%)
105.8	0.0034	0.0391	91

Remark: Initial concentration is set within $100 \pm 10 \text{ mg/m}^3$.

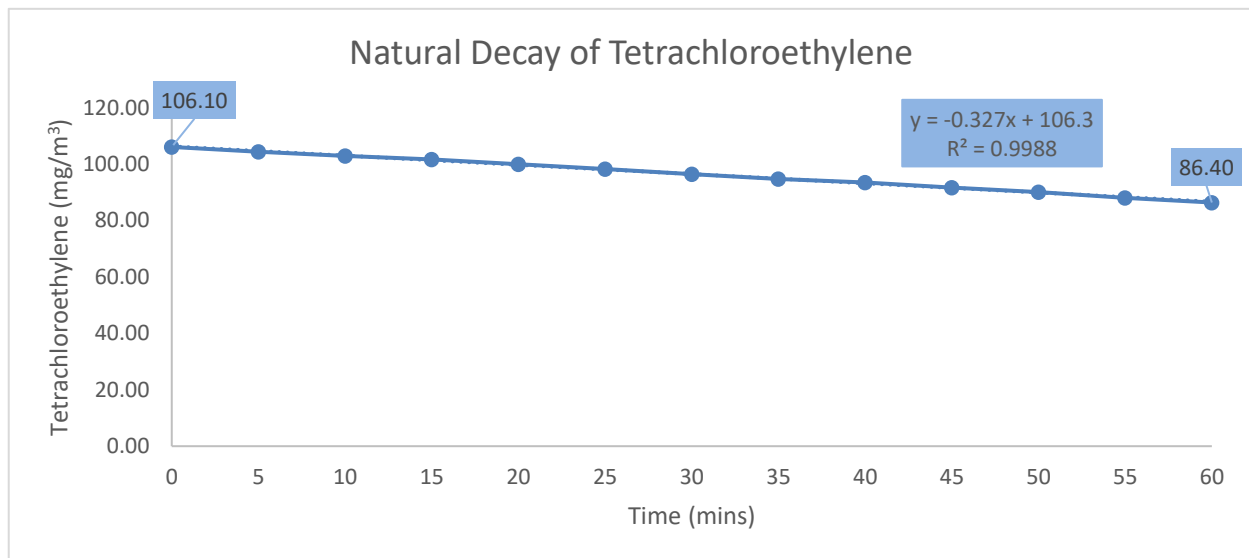


Figure a. Natural Decay of Tetrachloroethylene

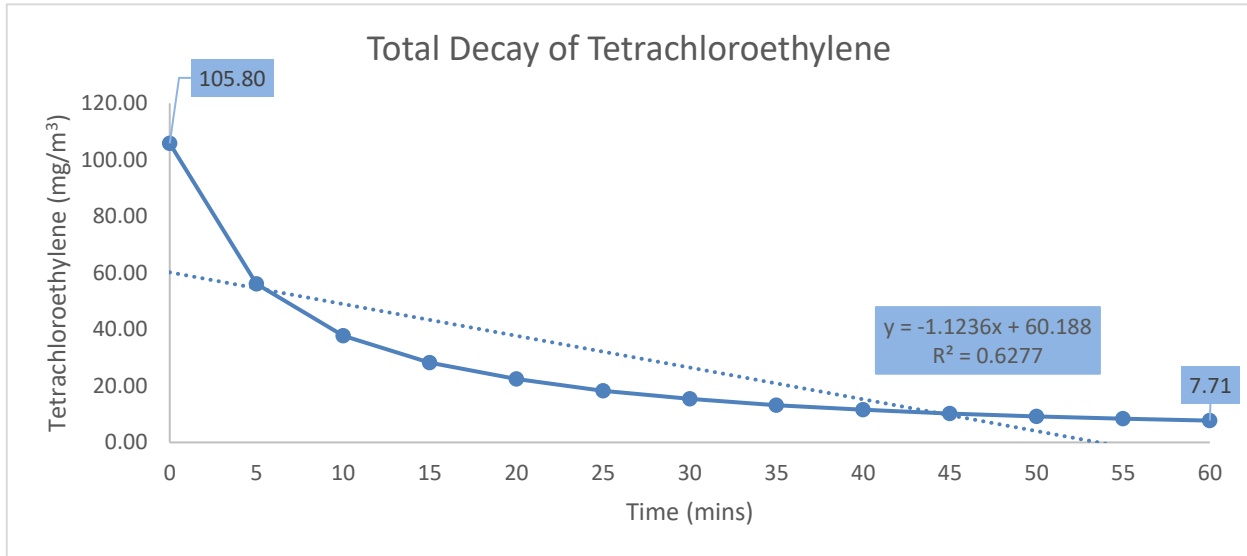


Figure b. Total Decay of Tetrachloroethylene

Calculation:

$$A_2 = \frac{C_{N0} - C_{N60}}{C_{N0}}$$

$$R = \frac{C_0(1 - A_2) - C_{60}}{C_0(1 - A_2)}$$

R: Removal efficiency (%)
 A₂: Natural decay rate (%)
 C: Concentration of testing subject (mg/m³)

***** End of Report *****