Acron International Technology Limited
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HKUST Entrepreneur

Air Cleaner Test Report

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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

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1. Sample Description

Product	:	Air Cleaner
Brand Name	:	Westinghouse
Model No.	:	NCCO1804
No. of Sample Received	:	1
Test Date	:	22 Jun 2020 – 22 Jun 2020
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 – 002
Test Result	:	See the attached sheets
Remark	:	N/A

2. Detail Description of the sample

Westinghouse/ NCCO1804

NCCO Reactor and HEPA

3. Testing Method of Removal Efficiency

In a $0.027m^3$ chamber, chemical pollutant 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 pollutant concentration inside the chamber. Initial concentration (C_0) of the chemical pollutant was recorded before switching on the air cleaner with a fixed volume of VOC pollutant. Then, the air cleaner is switched on for 60 minutes and the chemical concentration was recorded as C_{60}, the final concentration of chemical.

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

4. Results of Removal Efficiency

Brand/ Model No.	Operation Mode	Test Chemical
Westinghouse/ NCCO1804	Blue Light Mode	Tetrachloroethylene

Initial Concentration (ppm)	Total Decay, k_e (min^{-1})	Removal Efficiency (%)
104.00	0.040	90.0

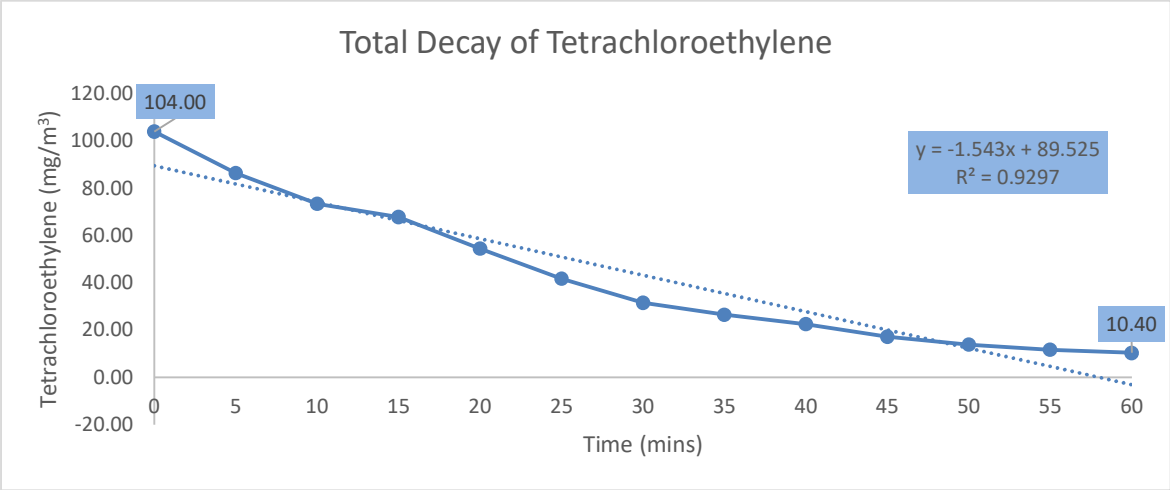

Figure a. Total Decay of Tetrachloroethylene

Calculation:

$$A_1 = \frac{C_0 - C_{60}}{C_0}$$

A_1:	Removal Efficiency	(%)
C:	Concentration of testing subject	(ppm)

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