Acron International Technology Limited
Your Technical Companion
HKUST Entrepreneur

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	:	KJ191001-03
Report Number	:	REPAP19110701
Report Issue Date	:	06 Nov 2019
Total Page	:	9 Pages (including this page)

TABLE OF CONTENT

1. Sample Description

Product	:	Air Cleaner
Brand Name	:	b-MOLA
Model(s)	:	MOLA300
No. of Sample Received	:	1
Test Date	:	14 Oct 2019 – 15 Oct 2019
Test Standard(s)		GB/T 18801-2015
		GB/T 18883-2002
Test Item(s)	:	Clean Air Delivery Rate (CADR)
Test Requested	:	Toluene
Test Equipment	:	Honeywell instrument ppbRAE 3000
Test Method	:	Sampled by in house method SOP-110
Equipment No.	:	E002 - 001
Test Result	:	Refer to the attached sheets
Remark	:	Client claimed that model MOLA300 same as IA60/BM300 in terms of power, parts, components and structures. Only different is the selling platform.

2. Detail Description of the sample

b-MOLA/MOLA300

NCCO Reactor (NA213020300) and Activated Carbon HEPA

3. Testing Environment

Temperature	:	25.6 ºC
Relative Humidity	:	40 %
Testing Chamber	:	30m^3 Testing Chamber
Size (W × D × H)	:	3.55m × 3.52m × 2.55m

30m^3 Testing Chamber

4. Testing Method of Clean Air Delivery Rate (CADR)

Tests were performed in accordance to GB/T 18801-2015.

1. Test Chemical

   Toluene: AR grade

2. Test Environment

   Temperature: (25 ± 2) ℃

   Relative Humidity: (50 ± 10) %

3. Test Procedure

   1) Place the air cleaner into the testing chamber. Open the air cleaner to the highest operation power to check if it is function correctly. Then turn off the air cleaner and close the testing chamber door.
   2) Turn on high efficiency air filter of the testing chamber until the concentration of particles (≥0.3 μm) is less than 1000 particle/L.
   3) Record the background toluene concentration and turn of the high efficiency air filter of the testing chamber.
   4) Inject gaseous toluene into the testing chamber until the concentration reaches (2.00±0.40) mg/m^3, close the chemical injector and turn on the mixing fan for 10 minutes.
   5) When the mixing fan is completely stop, record the initial concentration of toluene as C_0.
   6) Turn on the sample air purifier. Record toluene concentration every 5 minutes for the next 60 minutes.
   7) Repeat Procedure 1) – 6) without turning on the air cleaner, record the natural decay rate of the testing chamber.

5. Result of Clean Air Delivery Rate (CADR)

Brand/ Model No.	Operation Mode	Test Chemical	Volume (mL)
B-MOLA/MOLA300	SS	Toluene	0.15

Initial Concentration (mg/m^3)	Natural Decay, k_n (min^{-1})	Total Decay, k_e (min^{-1})	CADR (m^3/h)
2.01	0.0006	0.2050	367.9

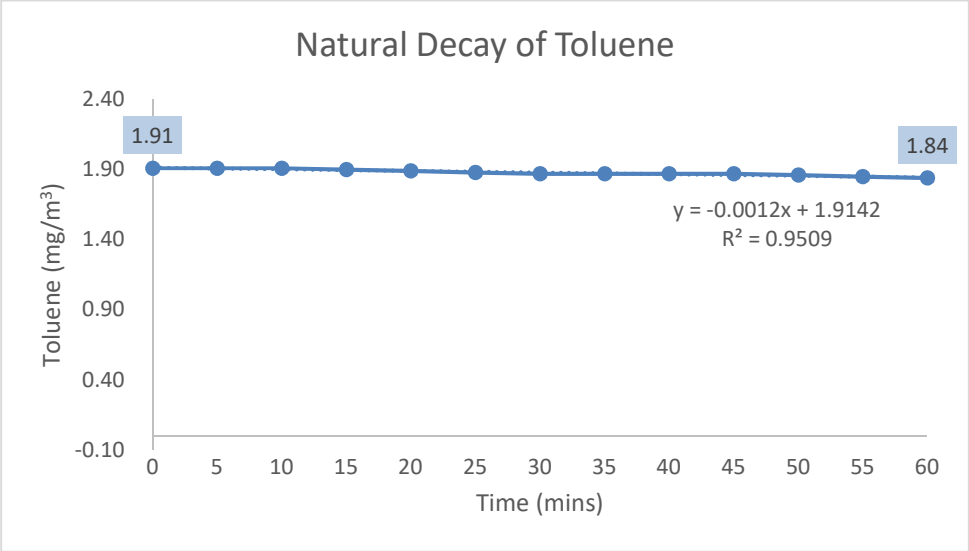

Figure a. Natural Decay of Toluene

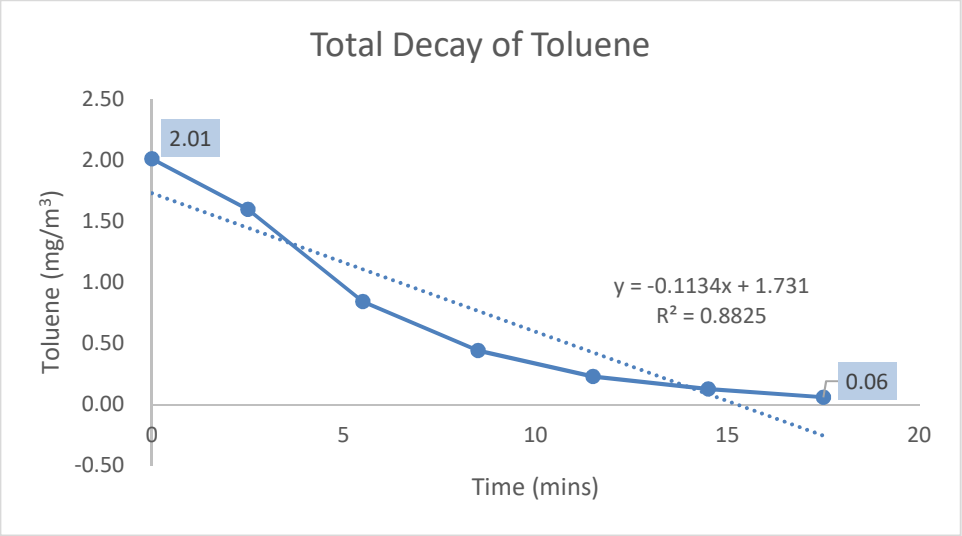

Figure b. Total Decay of Toluene

Calculation

$$CADR\ (m^3/h) = 60 \times (k_e - k_n) \times V$$

k_e:	Total decay rate	(min^{-1})
k_n:	Natural decay rate	(min^{-1})
V:	Volume of the testing chamber	(m^3)

End of Report