

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-09-15 10:17:34  
Date of Next Testing: 2027-09-14 10:17:34  
Product Name: **Carbon nanotube, multi-walled**  
CAS Number: 308068-56-6  
Specifications & Purity:  
Lot #: 12312106  
SKU #: **C493324**  
Analysis: **276330**

Parameter	Limit Values	Result
Purity(TGA)	95-100 (%)	99.00000%
Outer Diameter	8-15 (nm)	13.00 nm
Length	0.5-2 ( $\mu\text{m}$ )	0.78 $\mu\text{m}$
Specific surface area (BET)	> 160 ( $\text{m}^2/\text{g}$ )	182.00 $\text{m}^2/\text{g}$
Ash	< 1.5 (%)	1.30%
-COOH Content	2.45-2.6 (%)	2.58000%
Appearance(Black powder)	pass	Pass



John Su  
QA & QC Manager