

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-09-14 14:14:17  
Date of Next Testing: 2027-09-13 14:14:17  
Product Name: **Carbon nanotube, multi-walled**  
CAS Number: 308068-56-6  
Specifications & Purity:  
Lot #: 12312113  
SKU #: **C493324**  
Analysis: **276589**

Parameter	Limit Values	Result
Purity(TGA)	98-100 (%)	99.20000%
Outer Diameter	30-50 (nm)	32.60 nm
Length	0.5-2 ( $\mu\text{m}$ )	0.73 $\mu\text{m}$
Specific surface area (BET)	> 90 ( $\text{m}^2/\text{g}$ )	113.50 $\text{m}^2/\text{g}$
Ash	< 1.5 (%)	1.38%
-COOH Content	0.65-0.80 (%)	0.73000%
Appearance(Black powder)	pass	Pass



John Su  
QA & QC Manager