

## Certificate of Analysis

Date of Testing: 2023-09-16 11:42:08  
Date of Next Testing: 2027-09-15 11:42:08  
Product Name: **Carbon nanotube, multi-walled**  
CAS Number: 308068-56-6  
Specifications & Purity:  
Lot #: 12312134  
SKU #: **C493326**  
Analysis: **276962**

Parameter	Limit Values	Result
Purity(TGA)	99.9-100 (%)	99.99000%
Outer Diameter	30-50 (nm)	48.00 nm
Length	<10 ( $\mu\text{m}$ )	9.96 $\mu\text{m}$
Specific surface area (BET)	>80 ( $\text{m}^2/\text{g}$ )	92.80 $\text{m}^2/\text{g}$
Ash	<0.1 (%)	0.01%
-COOH Content	0.30-0.40 (%)	0.35000%
Appearance(Black powder)	pass	Pass



John Su  
QA & QC Manager