



## Technical Data Sheet

### ACS Material Industrial-Grade Graphene Oxide

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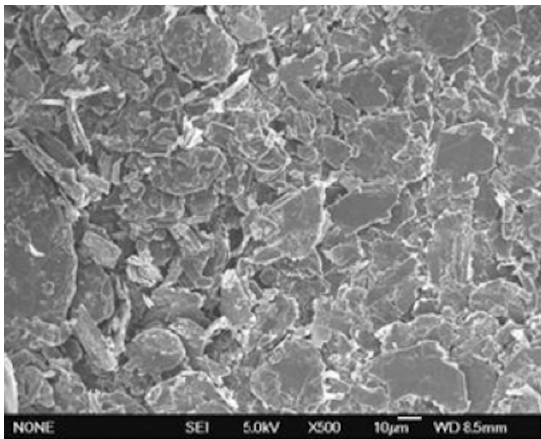
Revision: 112717

## 1. Preparation Method

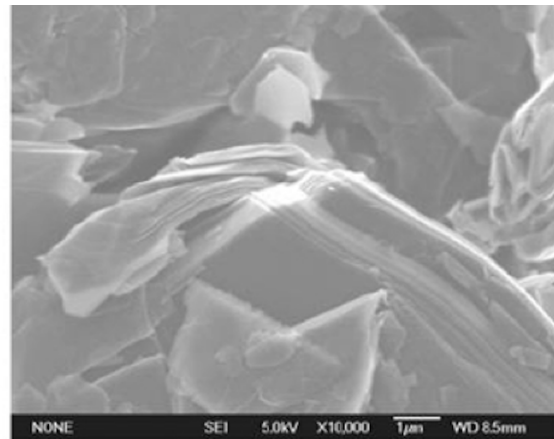
Modified Hummer's Method

## 2. Characterizations

<b>Grade:</b>	Industrial Grade
<b>Appearance:</b>	Brownish Yellow Powder
<b>Purity:</b>	N/A
<b>Lateral size:</b>	0.2-10 $\mu\text{m}$
<b>Thickness:</b>	$\sim 2$ nm
<b>pH (1mg/mL):</b>	$\sim 3.57$
<b>Singer layer Ratio:</b>	$>95\%$
<b>Carbon Content:</b>	$\sim 42.7$ wt. %
<b>Oxygen Content:</b>	$\sim 51.6$ wt. %
<b>Sulfur Content:</b>	$<2.1$ wt. %
<b>Ash Content</b>	$<1.0$ wt. %
<b>Tap Density:</b>	$\sim 0.50$ g/mL
<b>Grain Size (mesh):</b>	$<80$

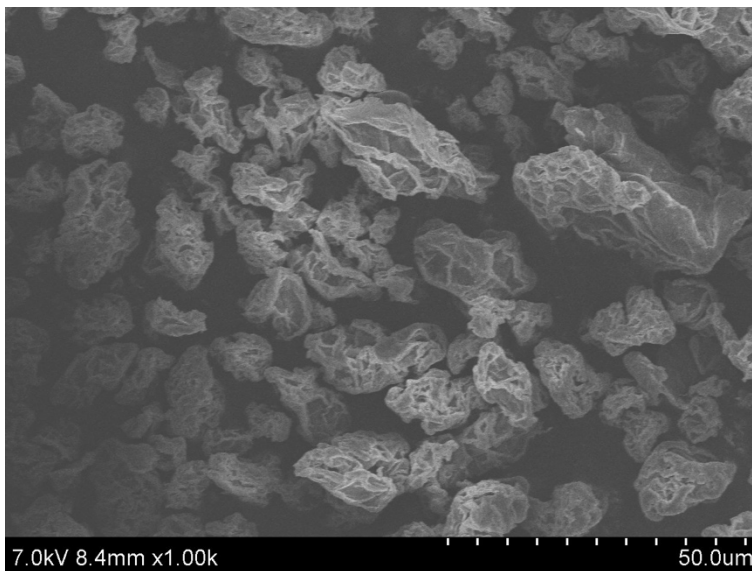


(a)

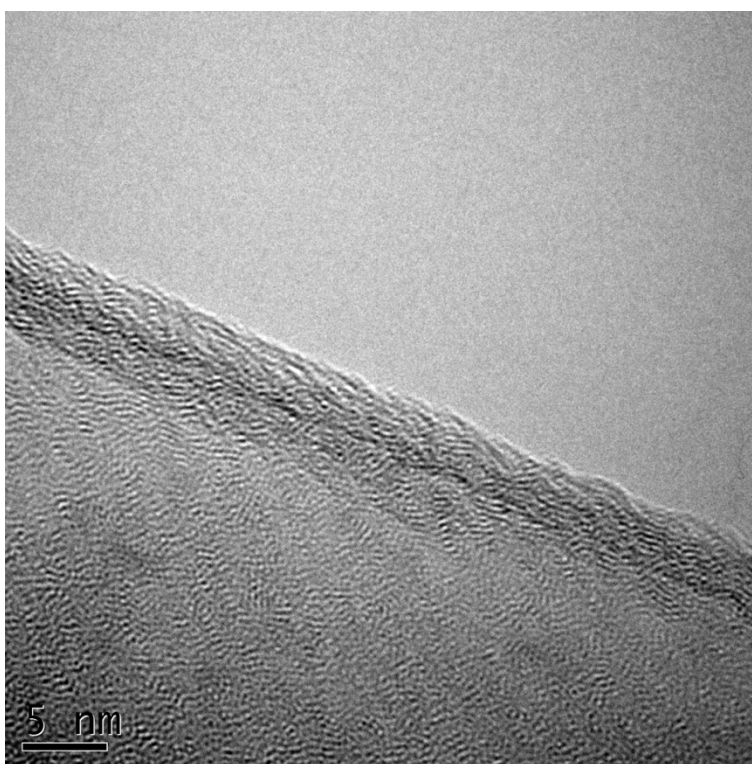


(b)

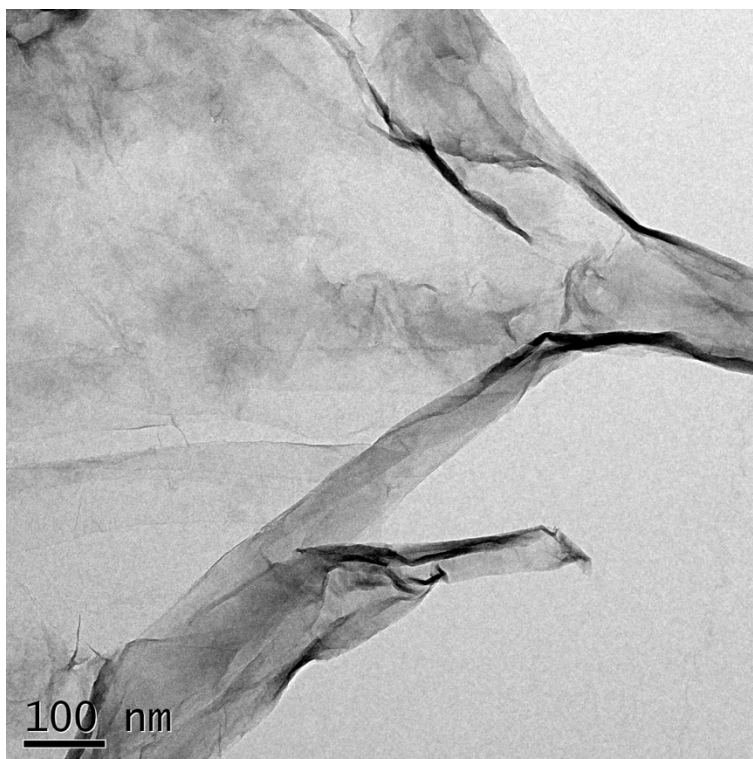
Typical SEM of ACS Material Graphene (a, b)



Typical SEM of ACS Material Graphene Oxide (Industrial Grade)



Typical TEM (1) of ACS Material Graphene Oxide (Industrial Grade)



Typical TEM (2) of ACS Material Graphene Oxide (Industrial Grade)

### 3. Application Fields

- 1) Preparation of graphene
- 2) Solar energy
- 3) Graphene semiconductor chips
- 4) Conductive graphene film
- 5) Graphene computer memory
- 6) Biomaterials
- 7) Transparent conductive coatings

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