SIXONIA

A Supermaterial Company

TECHNICAL DATA SHEET

Sixonia Tech E-Graphene Dispersion G-DISP-H2O-CS0

Description

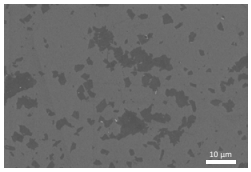
Sixonia Tech's E-Graphene Dispersion G-DISP-H2O-CS0-2 is a dispersion of functionalized, electrochemically exfoliated graphene in water at a concentration of 2 mg/ml without surfactants or other additives. E-Graphene CS0 is a few-layer graphene with large lateral size, low level of in-plane-defects and high conductivity, stabilized in dispersion via negative surface charges.

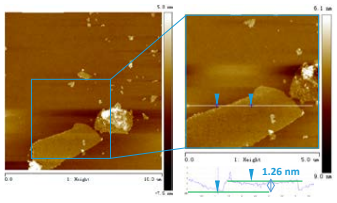
Properties

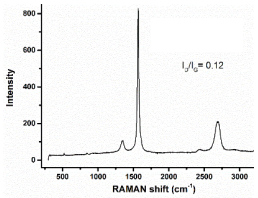
Form	Few-layer graphene dispersion	
Colour	black	
Odour	odourless	
Solvent	water	
Graphene Concentr.	≤ 0.5 wt.-% (≤ 5 mg/ml)	(gravimetric
Additives/Binders	0 wt.-% (0 mg/ml)	(not used/needed)
Average lateral size	1-2 µm	(from SEM & AFM)
Average thickness	1-5 atomic layers	(from AFM)
pH	3-4	(adjustable on demand)
Zeta Potential	-35 mV @ pH 3 to -60 mV @ pH 10	
Conductivity (bulk)	> 400 S/cm	*
Resistivity (bulk)	< 2.5·10-3 Ωcm	*
Sheet resistance	< 1 Ω/sq @ 25µm	*
Raman D/G-ratio	0.1-0.2*	(from Raman)**
C/O ratio	~20	(from XPS)

* (4-Point-Probe & SEM on as-made film, no posttreatment needed)
** Raman D/G-ratio measured on large single flake level, averaging over large area or bulk film may give different ratio.

Characterization







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