



TECHNICAL DATA SHEET

GRAPHENE - ENERGY STORAGE GRADE

Terracarb utilizes highly pure, research-grade, bio-derived chemicals for the production of exfoliated sheets of graphene and they are doped with metal ions for the use of various energy storage applications, which can be readily dispersed in a range of solvent systems and host matrices .



FIELD OF APPLICATION

- Energy storage Grade Graphene produced using our technology could be used as a high-performance additive in the manufacturing of supercapacitors, lead-acid, lithium-ion and other similar metal-ion batteries.
- It has been validated to improve the specific capacity and cycle life in Supercapacitors.
- It can also be used to developed advanced anode materials for Li-ion batteries, enabling a reduction in overall weight and charging time.
- Terracarb's Energy storage Grade Graphene could also be customized to cater to applications in catalysis, carbon capture, fuel cells and EMI shielding.

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PROPERTIES

PARAMETER	VALUE/SPECIFICATIONS
GRAPHENE TYPE	Doped Graphene
APPEARANCE	Greyish black powder
MANUFACTURING METHOD	Pyrolysis under controlled conditions
BULK DENSITY	0.05 g/cm ³
SPECIFIC SURFACE AREA	465 m ² /g
CARBON CONTENT	84 – 88%
OXYGEN CONTENT	9 – 11%
DISPERSIBILITY	Soluble in polar aprotic solvents
PURITY	99.99%
METALLIC IMPURITIES	<100 ppm
LATERAL SIZE	5-10 microns



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FOURTH FLOOR, J BLOCK, PSG STEP, PSG COLLEGE OF TECHNOLOGY, COIMBATORE, TN 641004



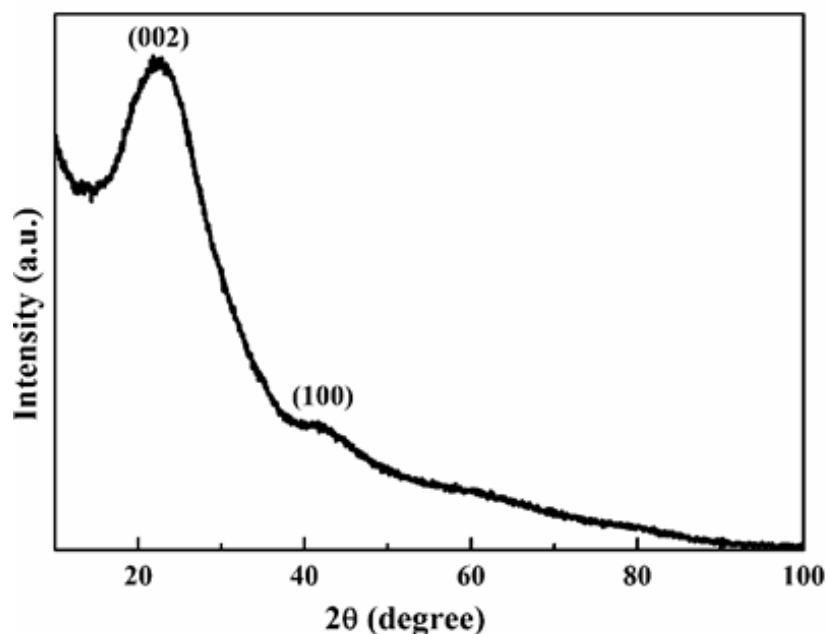
Terracarb

Disruption through sustainable innovation

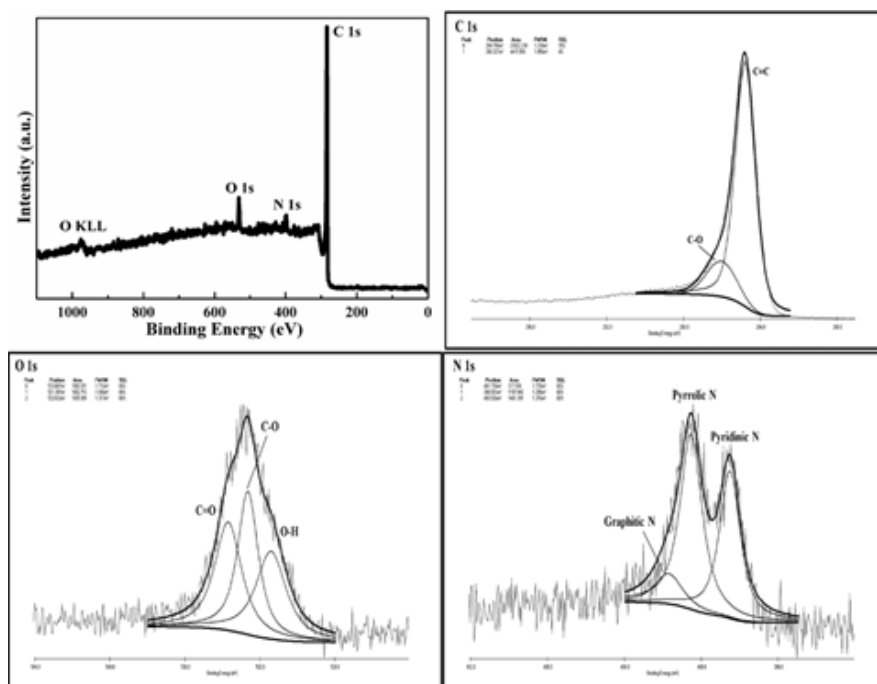


CHARACTERIZATION RESULTS

X-RAY DIFFRACTION (XRD)



X-RAY PHOTOELECTRON SPECTROSCOPY (XPS)



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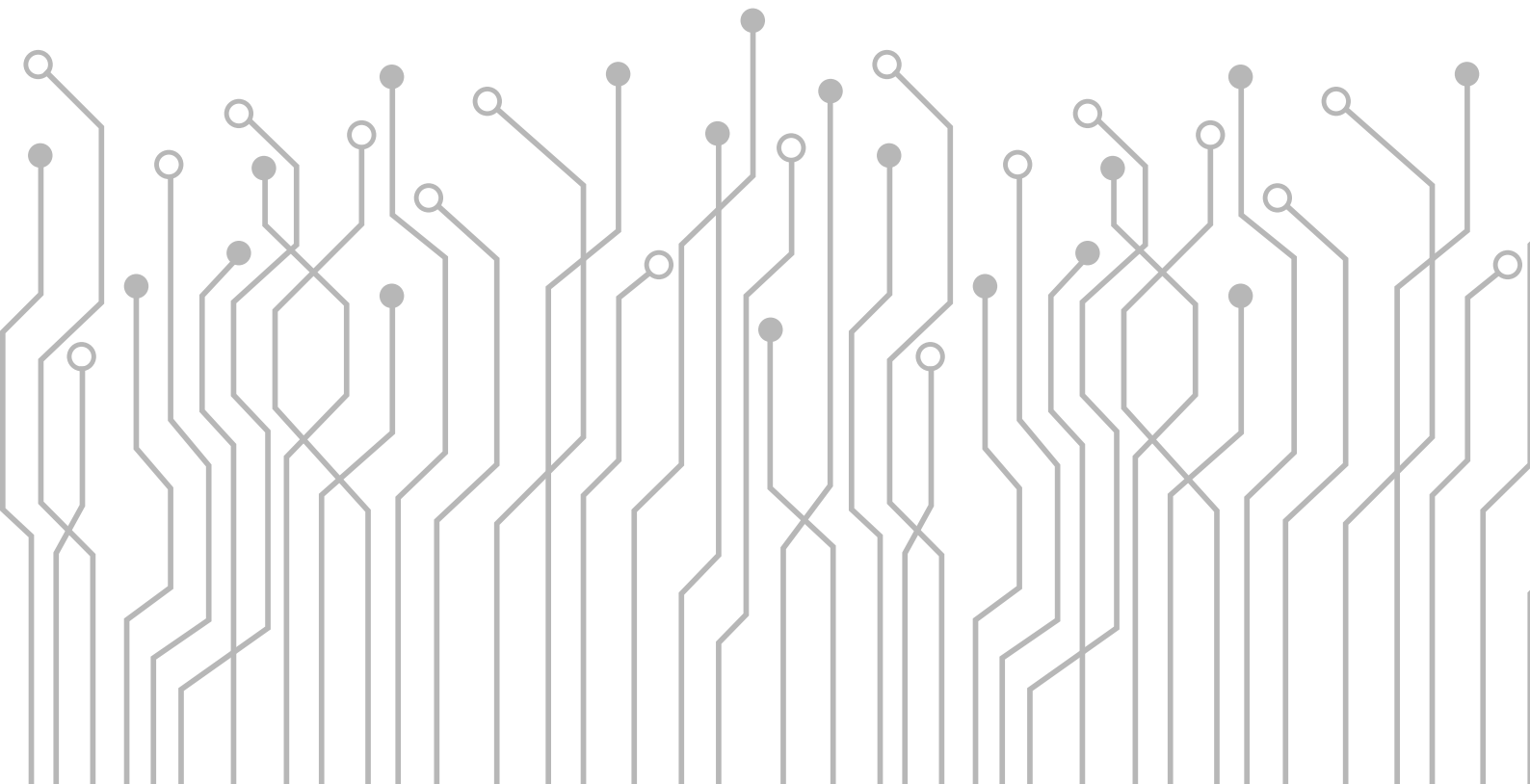
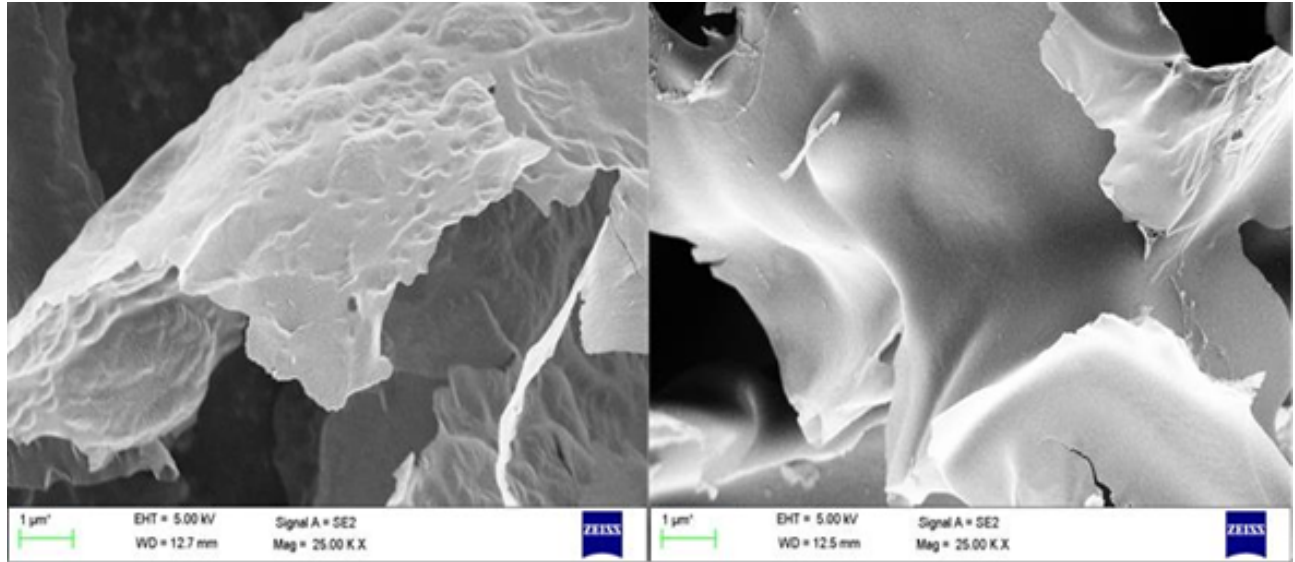


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FIELD EMISSION SCANNING ELECTRON MICROSCOPY (FE-SEM)



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