

A versatile range of high quality graphene products from a reliable supply partner.

Thomas Swan is a world leader in the manufacture and supply of carbon nanomaterials which is underpinned by our position as an independent, international, performance and fine chemicals manufacturer.

In 2014, we launched **Elicarb® Graphene Powder** and **Elicarb® Graphene Dispersions** which are premium quality, few layer graphene nanoplatelet products. We have now extended our graphene product range to include **Elicarb® Graphene Electrical Grade Powder** and **Elicarb® Graphene Materials Grade Powder**, providing graphene products which can be accessed by a broad range of industries.

The advantages of Elicarb® Graphene products:

- Manufactured in a robust and scalable process delivering consistent product
- Highly conductive few layer graphene (FLG) and graphene nanoplatelets (GNPs)
- Carbon sp² layers which are substantially undamaged and non-oxidised
- Contaminants of non-carbon elements such as oxygen and transition metals are low
- Uniform particle size

All assured by the Thomas Swan commitment to reliability & quality.

Elicarb® Grade	Product	Properties*	Applications
Elicarb® Premium Grade Graphene Powder	SP8073P	Few layer graphene platelet, with typical lateral size 0.5 - 1µm. Conductivity= 10 Ω/□	Displays, sensors and device R&D.
Elicarb® Electrical Grade Graphene Powder	PR0955	Multi-layer graphene platelet, with typical lateral size 3µm. Conductivity= 10-15 Ω/□	Conductive inks, conductive coatings, energy storage, thermal management.
Elicarb® Materials Grade Graphene Powder	PR0953	Multi-layer graphene platelet, with typical lateral size 5µm. Conductivity= 15-25 Ω/□	Thermoplastics, composites - conductivity and mechanical properties.

*Sheet resistance of 30mg graphene powder deposited on a disk-shaped film of 35 mm diameter.

Applications:

- Conductive inks for printed sensors
- Elements for resistive heating
- Improved thermal conductivity in composites and plastics
- Improved modulus and strength in carbon composites

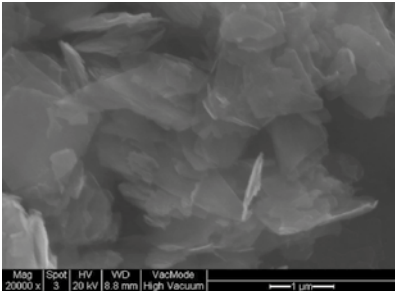
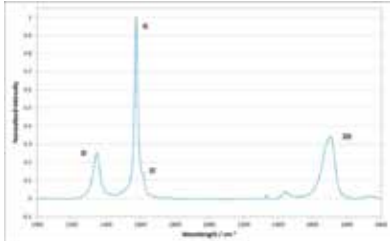
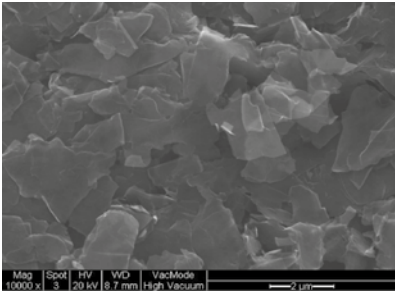
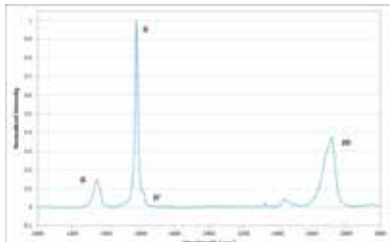
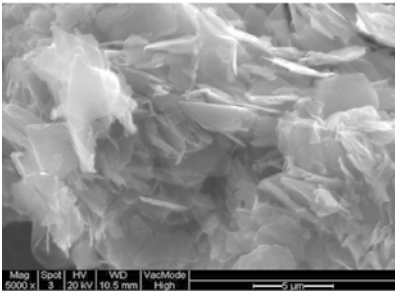
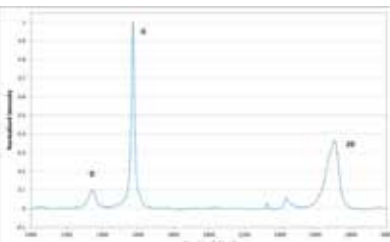


For additional information please contact:

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Committed to Responsible Care

Elicarb [®] Grade	Lateral size/ μm	Raman	Sheet Resistance* Ω/\square	Surface Area m^2g^{-1}	sp^2 carbon content % w/w
Premium Grade SP8073P	Typically = 0.5-1 μm 	D/G = 0.2-0.3 D/D' = 3.5-5.0 	10	30-50	98%
Electrical Grade PR0955	Typically = 3 μm 	D/G = 0.1-0.2 D/D' = 3.5-5.0 	10-15	30-50	98%
Materials Grade PR0953	Typically = 5 μm 	D/G = 0.07-0.1 D/D' = 3.5-5.0 	15-25	30-50	98%

Sheet resistance of 30mg powder deposited on a disk-shaped film of 35mm diameter.



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