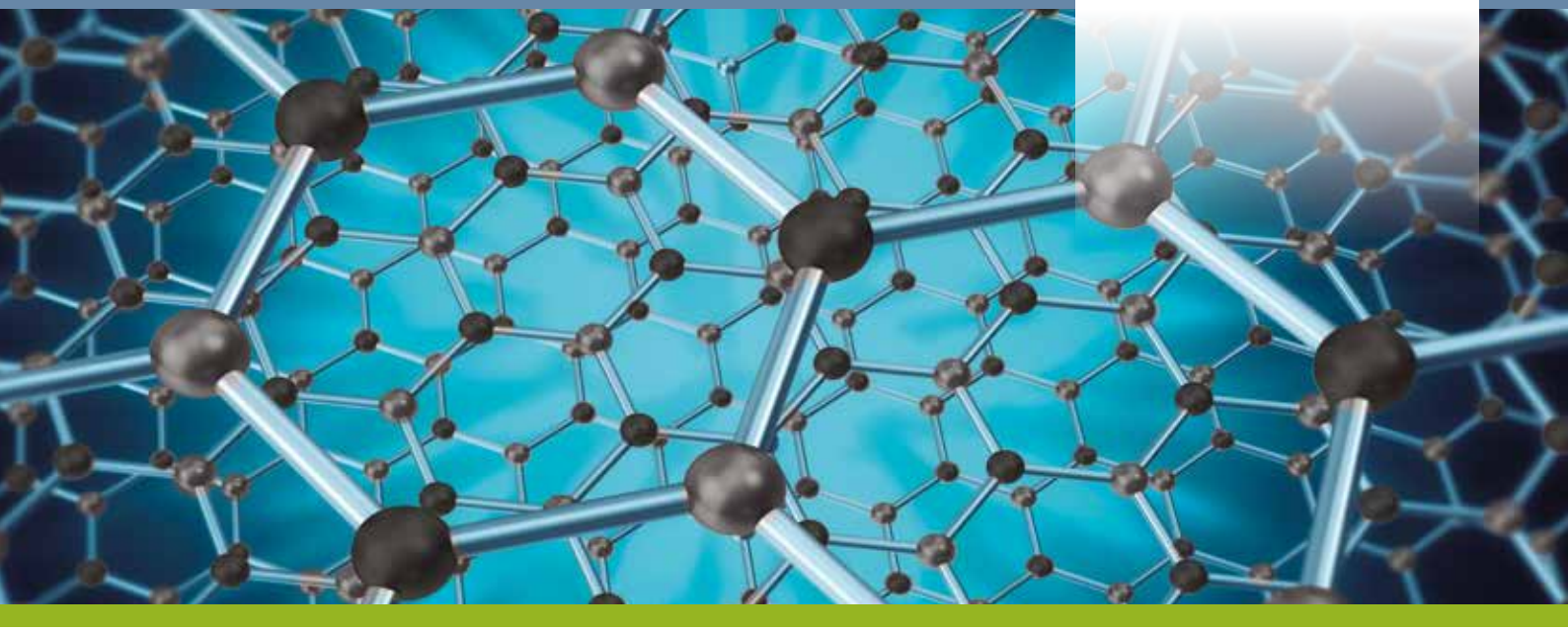
Elicarb® Graphene Epoxy Dispersion

Advanced Materials

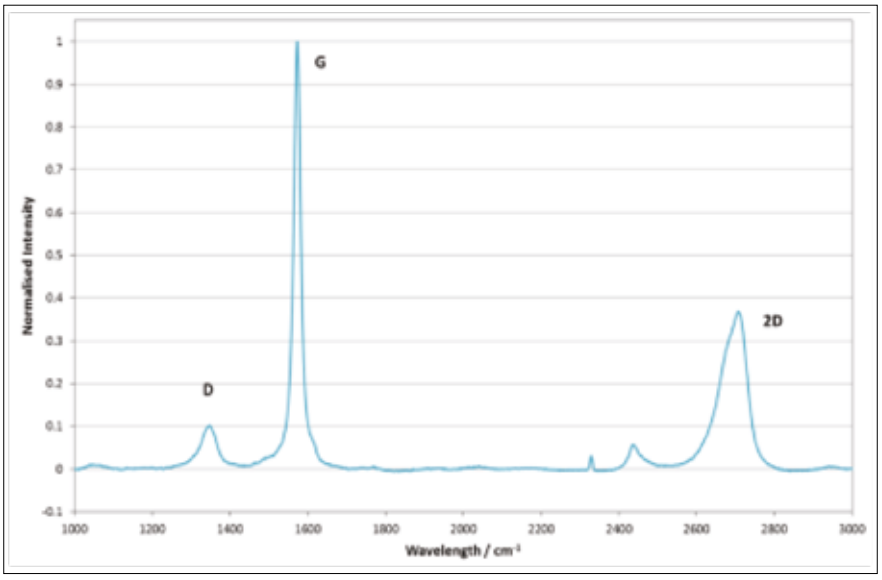


15% w/w dispersion of Elicarb® Materials Grade Graphene in Epoxy Resin.

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.

Thomas Swan has brought together their expertise in manufacturing graphene and combined it with over twenty years of formulating and suppyling coating additives to produce a stable and reliable graphene epoxy dispersion. **Elicarb® Graphene Epoxy Dispersion** allows for ease of formulation giving reproducible results in epoxy based systems. The fine dispersion ensures maximum effect of the graphene on coating performance.

Graphene has been shown to enhance corrosion resistance, thermal conductivity, surface resistivity, chemical barrier, abrasion resistance and impact resistance.



Raman analysis of Elicarb® Materials Grade Graphene showing high sp^2 contents.

The advantages of using a "top-down" graphite exfoliation are:

- Carbon sp^2 layers are substantially undamaged and non-oxidised
- Contaminants of non-carbon elements such as oxygen (Hummers method) and metal catalyst residues are low
- Particle size is uniform and in 0.5um to 2.0um range
- Highly conductive few layer graphene platelets (FLGs) are produced

Thomas Swan
Advanced Materials

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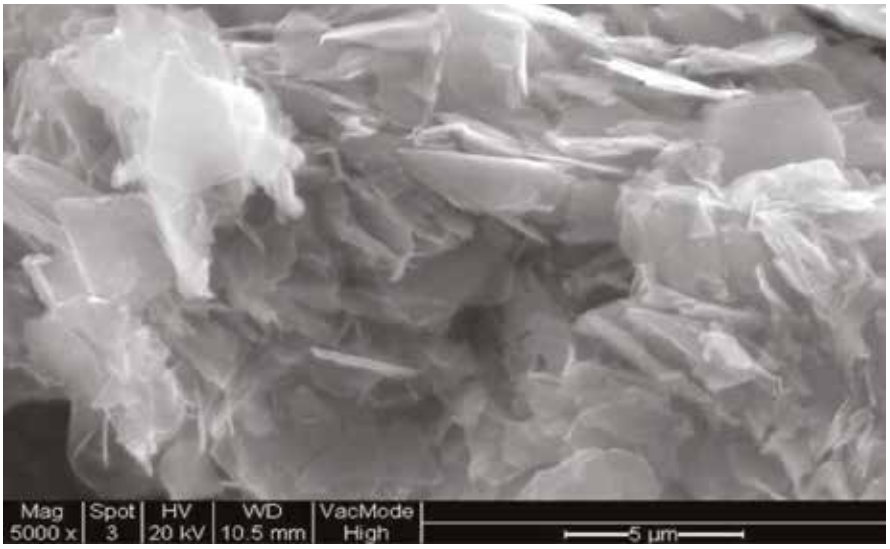
Elicarb® Materials Grade Graphene Powder

- Available at commercial volumes.
- Multi-layer graphene platelet, with typical lateral size of 5µm.
- Conductivity = 15-25 Ω/□ *
- Sheet resistance of 30mg graphene powder deposited on a disk-shaped film of 35mm diameter.



***Scanning Electron Micrograph (SEM) of Elicarb® Materials Grade graphene powder.**

Elicarb® Graphene Epoxy Dispersion.

Elicarb® Graphene Epoxy Dispersion

Features	Benefits
Stable dispersion	Reproducible results
Safe handling	No handling of carbon nano powders.
Epoxy based dispersion	Ease of formulating
Fine dispersion of nanoplatelets	Maximum effect of the 2D product on performance
Reliable quality of graphene	Reproducible results

Benefit of Elicarb® graphene powder dispersed in epoxy resin.

Elicarb® Graphene Epoxy Films

Elicarb® Graphene Epoxy Dispersion - easily diluted for formulation development.

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