

Thomas Swan

Advanced Materials

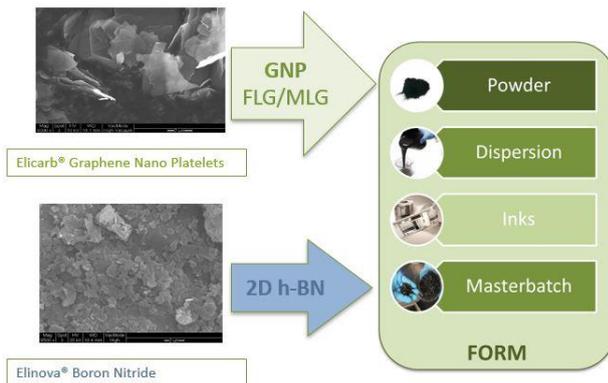
Inspiring Innovative Applications

Advanced Materials

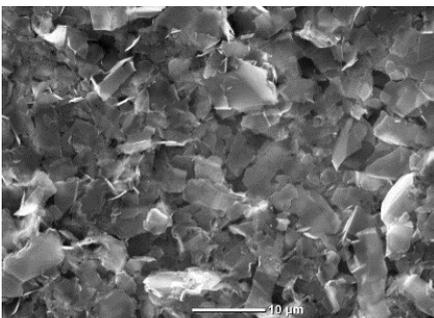
Elicarb® Graphene Nanoplatelets

Elinova® Boron Nitride

Thomas Swan is a pioneer and world-leader in the manufacture and supply of carbon nano-materials, supported by our position as an independent, performance and fine chemicals manufacturer. In the 15 years since graphene was isolated at the University of Manchester, the material has been heralded as a game-changer in the research and development of new materials. There are now a number of real applications in Lubricants, Composites, Inks, Coatings where benefits of "light-weighting", mechanical strength, fire-retardancy and barrier properties offer value to customers. Using a patented "Liquid-phase Exfoliation" Process, Thomas Swan has the capacity to produce 20t today in various forms of GNP (Graphene Nanoplatelets), from powder to dispersion and masterbatch. Depending on your application we can develop a solution for you*.



Elicarb® GNP



SEM image of PR1507 showing exfoliated flakes

Typical properties (PR1507):

Average particle size distribution**

D₁₀ = 1 µm

D₅₀ = 4 µm

D₉₀ = 10 µm

Sheet resistance = typically <25 Ω/□ normalized to 25µm

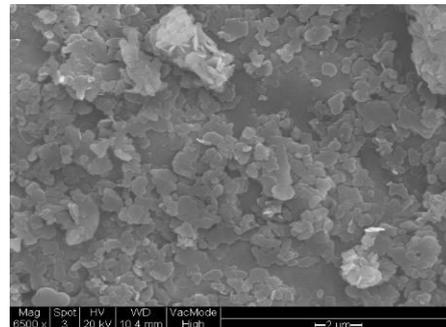
Surface area = approx. 50 – 100 m²/g (BET)

D/G = ≤0.15 (very low defect material)

% residue = ≤1%

% surfactant = ≤3%

Elinova® Boron Nitride



SEM image of PR1153 showing exfoliated flakes

Typical properties (PR1153):

Average particle size distribution*

D₁₀ = 0.2

D₅₀ = 0.5

D₉₀ = 2.2

% surfactant = ≤5%

Raman confirms absence of B₂O₃ structure

*Thomas Swan GNP products applications in composites, inks, coatings, lubricants

**measured by laser scattering technique

For additional information please contact:

elicarbsales@thomas-swan.co.uk

advancedmaterials@thomas-swan.co.uk

www.thomas-swan.co.uk



To speak to us directly, please contact:

Alina Brodowska

abrodowska@thomas-swan.co.uk

Thomas Swan & Co. Ltd. UK, Rotary Way, Consett, Durham, DH8 7ND, UK.

Tel: +44 (0) 1207 599368



For USA enquiries please contact:

Christine Sinato

csinato@thomas-swan.co.uk

Swan Chemical Inc.

136 Ridge Road, 2nd Floor, Lyndhurst, New Jersey 07071, USA.

Tel: +1 201 729 1400



Limited Warranty Information: The information contained herein is offered in good faith and is believed to be accurate at the time of printing. This information should not be used as a substitute for your own quality control and/or testing procedures to ensure that our products are safe, effective and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

