



Performance Through Carbon Chemistry

## Technical Data Sheet



**GRAPHENEBLACK™**  
A Product of NanoXPlore

**3X**

DS-GB3X-201001

# GrapheneBlack™ 3X

A versatile and low-cost graphene powder available in industrial volumes.

GrapheneBlack™ 3X is a multifunctional carbon additive formulated for across-the-board performance improvements in thermoplastics, thermosets, inks, coatings, and rubbers. It provides a unique opportunity to enable manufacturers to reach the next level of long term performance and cost reduction with virgin and recycled resins. Performance improvements include:



Mechanical Properties



Electrical Conductivity & Shielding



Thermal Properties



Oxidation Resistance



UV Protection



Barrier Properties

## Physical and chemical properties

Physical properties

Property	Value
Primary particle size*	predominantly 1–2 µm
Agglomerate size**	D10 = 5 µm D50 = 14 µm D90 = 33 µm
Number of layers***	6 –10
Bulk density	0.2-0.3 g/cm <sup>3</sup>
Appearance	Black fluffy powder
Solubility	Insoluble
Moisture (TGA)	< 0.5 wt%
Ash content (TGA)	< 4 wt%

\* Average primary particle size measured by statistical TEM analysis.

\*\* Loose agglomerate size measured by laser diffraction.

\*\*\* Up to 90% of flakes within this range.

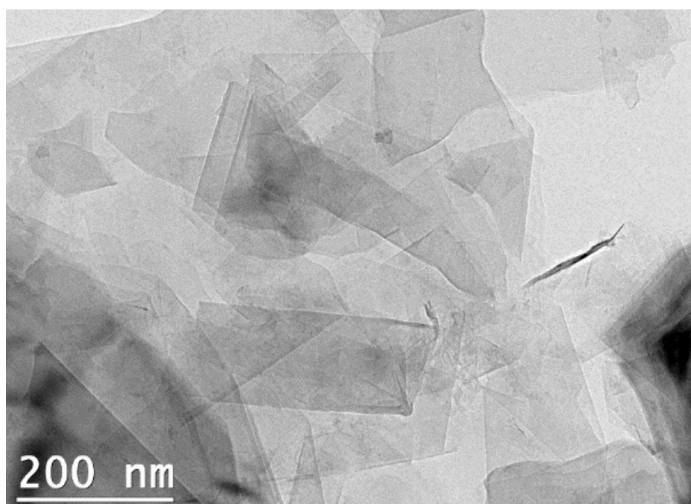
#### Chemical composition

Element	Value
Carbon	> 96 wt%
Oxygen	< 1 wt%

Elemental content measured by CHNOS.

## Electron microscopy

Few-layer GrapheneBlack™ 3X flakes under TEM.



Electron micrograph (TEM) shows various few-layer thick flakes with thicknesses mainly ranging from 6 to 10 layers.

GrapheneBlack 3X is available in:  
500kg big bag.

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