

INNOVATION. SUSTAINABILITY. PERFORMANCE.



GRAPHENEBLACK™
A Product of NanoXplore

4000MT
Capacity

EPA
Approved

Highest
Quality
Lowest
Price

A multi-functional additive that provides performance improvements, sustainability enhancements, & cost savings.

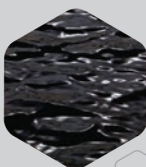


WHAT WE OFFER

GrapheneBlack™ Powder grades

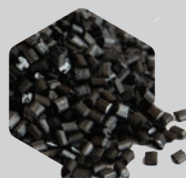
GrapheneBlack™ Concentrates:

✓ Graphene-enhanced molded parts



✓ Liquid dispersions

LLDPE, HDPE, homo-PP, recycled PP, Nylon 6,6, PC/ABS, PC, and GPPS



✓ Pellet Masterbatches



A REVOLUTIONARY ADDITIVE

replacing standard additives at low loadings improving overall product cost and performance



IMPROVED MECHANICAL PROPERTIES

enabling lightweighting opportunities



ENHANCED DURABILITY

improved barrier properties, anti-oxidancy, UV stability, corrosion & chemical resistance



UV BETTER PROCESSABILITY & EASY DISPERSION

in thermoplastics, thermosets and other composites



UV Resistance



Over 90% retention of mechanical properties after 3000 hours of UV exposure

Prevents UV degradation and retains tensile strength and elongation at break with less than 1 wt.% of GrapheneBlack™.

Barrier Properties



Oxygen & water impermeability in PE films improved by 30% with just 0.1 wt.% GrapheneBlack™

A physical barrier to oxygen, humidity, hydrocarbons and harsh chemicals.

Recyclability



1 wt.% GrapheneBlack™ improves recycled resin properties to match virgin resins

Reduces costs by increasing the use of recycled resins and decreasing the amount of other additives required.

Processability



Doubled MFI of highly viscous, mixed recycled resin stream with 1 wt.% GrapheneBlack™

Improves melt flow of highly viscous polymers reducing energy costs and increasing throughput.

Mechanical Properties



15% increase in Young's Modulus and tensile strength with 1 wt.% GrapheneBlack™

Increases stiffness and ultimate tensile strength to meet mechanical requirements and allow for lightweighting.

Sustainability



Up to 80% lower carbon footprint in CO₂ equivalency compared to conductive carbon additives

Non-toxic and safe to handle. Environmentally friendly production process with no GHG by-products or VOCs.

Oxidation Resistance



100% increase in oxidative induction time with 1 wt.% GrapheneBlack™

Improves resistance to oxidative degradation and makes products last longer.

Thermal Management



20°C increase in decomposition temperature with 1 wt.% GrapheneBlack™

Higher thermal stability leads to increased reliability & improved performance in end-products.

Flame Retardance



Up to 1 wt.% GrapheneBlack™ has synergistic effect with traditional flame retardants

Reduces the need for high loadings of halogenated & non-halogenated flame retardants. Deprives oxygen from the burning surface & suffocates the flame.

Abrasion Resistance



Over 100% improvement observed in graphene composites with the Taber Abrasion Tester

Provides enhanced abrasion resistance in various polymers at low loading concentrations.

Other benefits include:

Lubricity /
friction
reduction

Gloss
retention

Dimensional
stability

Heat
aging
prevention

Scratch
resistance

EMI
Shielding
& ESD



ABOUT NANOXPLORE
TSX: GRA | OTCQX: NNXPF

NanoXplore is a graphene company: a manufacturer and supplier of high-volume graphene powder for use in industrial markets. The company provides standard and custom graphene-enhanced plastic and composite products to customers in transportation, packaging, pipe, energy, and other industrial sectors. NanoXplore is headquartered in Montreal, Quebec with manufacturing facilities across North America and Europe.



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