

# NanoXplore

Performance Through Carbon Chemistry

REPLACE CONVENTIONAL ADDITIVES WITH



**GRAPHENEBLACK™**  
A Product of NanoXplore

Industrial  
Volume

Proprietary  
Technology

Low-Cost

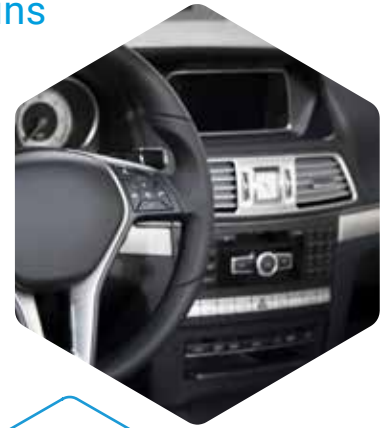
A market-ready additive that provides across-the-board performance improvements in virgin and recycled resins

## WHAT WE OFFER

World-leading innovative [graphene technology](#) for the plastics industry

[Industry-leading prices](#) for commercially-viable and sustainable products and applications

Consistent, reliable, high-quality GrapheneBlack™ powder at [industrial volumes](#)

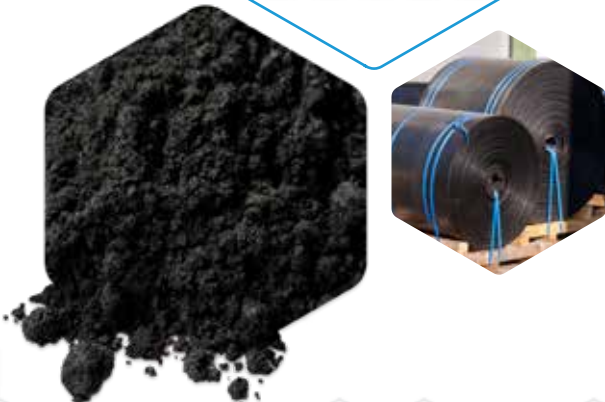


A **REVOLUTIONARY ADDITIVE** replacing standard additives at low loadings improving overall product cost and performance

Improved **MECHANICAL**, **ELECTRICAL**, and **THERMAL** properties

**ENHANCED DURABILITY** and **OXIDATION RESISTANCE**

**BETTER PROCESSABILITY** and easy **DISPERSION** in thermoplastics that include PE, PP, ABS, PA, PC, TPU, PVC and thermoset composites such as epoxy and polyester



## 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™

## 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

## Permanent Anti-Static



Electrostatic dissipation and permanent antistatic properties can be achieved with as low as 6 wt.% of GrapheneBlack™

## Processability



Facilitates extrusion by reducing undesired shear. Improves melt flow at low concentrations for increased throughput resulting in reduced energy costs

## Thermal Dissipation



Enhances thermal management properties in-and-out of plane owing to its high intrinsic thermal conductivity

## Oxidation Resistance



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

Improves resistance to oxidative degradation and makes products last longer

## 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

## Barrier Properties



*28% improvement in oxygen impermeability with 1 wt.% GrapheneBlack™*

A permanent non-depleting physical barrier to oxygen, humidity, hydrocarbons and harsh chemicals. Unlike common additives, GrapheneBlack™ is not consumed over time

## Thermal Stability



*3°C increase in heat deflection temperature and more than 20°C increase in decomposition temperature with 1 wt.% GrapheneBlack™*

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

## EMI Shielding



Provides EMI (Electromagnetic Interference) shielding properties at high frequencies due to its optimal electrical properties

## Colorability



Provides an exquisite metallic gray surface finish that is capable of taking on different color hues

## Recyclability



Reduces costs by increasing the use of recycled resins and decreasing the amount of other additives required. It further improves processability by reducing energy consumption

## ABOUT NANOXPLORE TSX.V: 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 various customers in transportation, packaging, pipe, electronics, and other industrial sectors. NanoXplore is headquartered in Montreal, Quebec with manufacturing facilities across North America and Europe.

## Contact Us



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