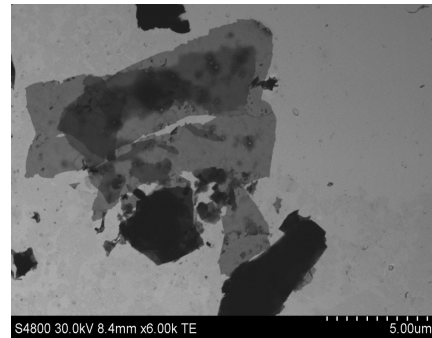


HDPlas™ Graphene Nanoplatelets (GNPs) - F

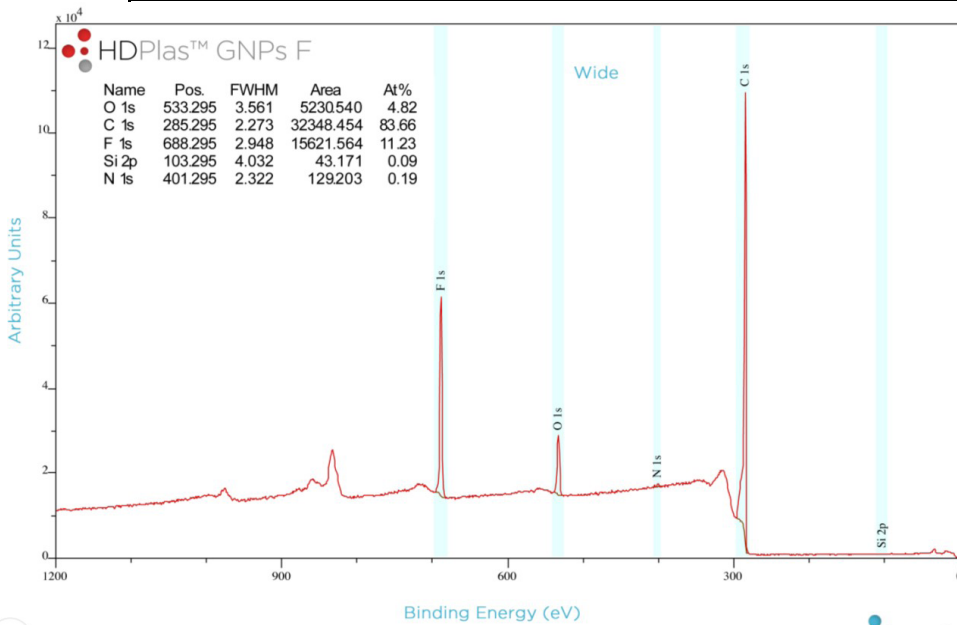
HDPlas GNPs is a refined natural graphite powder which has been plasma processed to reduce contaminants and liberate individual nanostructures in the form of Graphene Nano Platelet.

The “Split Plasma Technique” also surface engineers the nanomaterials to enable particle to matrix compatibility without damaging the crystalline structure.

Product	HDPlas GNPs
Plasma Process Gas	Tetrafluoromethane
Primary Functionality	Fx
Other Functionalities	Not Known
Source Material	Natural Graphite
Form Supplied	Dry Powder
Process	Split Plasma
Packaging	Nano-suitable airtight container



Technical Specifications	Value	Unit	Method
Production Method	Plasma Exfoliation of Natural Graphite		
C-Purity	~83.66	%	XPS
Colour	Black/Grey		Visual
Free Amorphous Carbon	Not Detectable		SEM/TEM
Bulk Density	~215	kg/m ³	EN ISO 60
Specific Surface Area	~25	m ² /g	BET Analysis
Typical GNP Planar Size	~0.3 – 5	μm	TEM
Typical GNP Thickness	<50	nm	SEM/TEM
GNP True Density	2.2	g/m ²	Theoretical
Zeta Potential	~-24.7	mV	LD



XPS Analysis

Composition: Percentage

Carbon: ~83.66%

Oxygen: ~4.82%

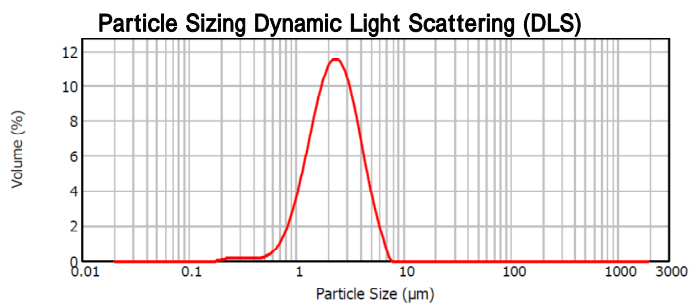
Nitrogen: Trace

Fluorine: ~11.23%

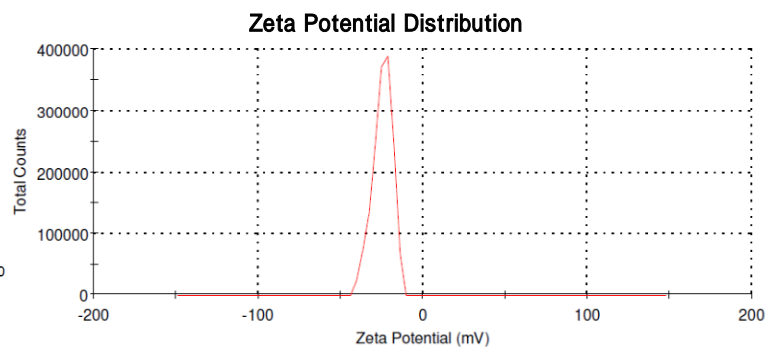
Iron: Not Detected

Silicon: Trace

Other: Not Detected



d0.1 = 1.125 μm d0.5 = 2.261 μm d0.9 = 4.270 μm



Disclaimer: Haydale HDPlas materials are trial products which have not yet been extensively tested. No guarantee can be given regarding the behaviour of these materials during handling, processing or product use. Furthermore no assurances can be given as to the conformity and long term performance of these materials and the purchaser/user uses these products entirely at their own risk and without warranty. The supplier shall not be liable for any damage arising out of use.