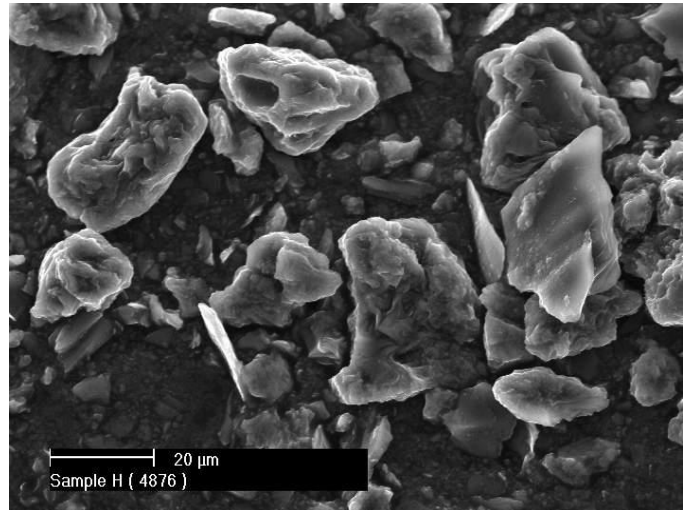


PRODUCT DESCRIPTION

HPPC provides the following product characteristics

Product ID	HPPC Conductive Black Powder
CAS Number	(CAS 150339-33-6) *A4 Not Classifiable as a human carcinogen
Application Uses:	For conductive inks, coatings, and paints
Appearance:	Black Powder
Lot #	0413C-1
Microtrac	<i>Typical Value Microns (µm)</i>
MV	18.65
D10	2.49
D50	11.99
D90	37.15
STD	13.14
Powder Resistivity	0.121 ohm.cm <i>Tube Resistance measured at 200 psig</i>
Sheet Resistance	74.10 Ω/□ <i>As measured with a cured, water-based baseline ink formulation at a film thickness of 22.13 µm, 30 wt% Active Soilds</i>
Volume Resistivity	74.10 Ω/□/mil <i>As normalized to 1 mil (25 µm) film thickness</i>
BET Specific Surface Area	17.40 m ² /g <i>Degas, N₂ Purge, 300°C, 1 hour</i>
Particle Density	2.07 g/ml <i>True Density determination performed on a dried, unground sample</i>
Carbon	99.2 wt%
Non-Carbon Components	.11 wt%
Percent Moisture	0.11 wt%
Percent Volatiles	0.41 wt%
Percent Sulfur	0.3 wt%
Ash Analysis (ICP)	Dry Basis
XRD Analysis:	No Crystalline phase identified via XRD analysis
SEM images shown , EDAX available upon request	
Product Availability	1 metric ton quantities



GENERAL INFORMATION

For safe handling information on this product consult the Safety Data Sheet.

STORAGE INFORMATION

Keep container/package tightly closed in a cool, well-ventilated place. Keep at temperatures above freezing. Allowing freezing conditions may degrade product. Store in accordance with local, regional, national, and/or international regulations.

Material removed from containers may be contaminated during use. Do not return product to the original container. Minus 100 will not assume responsibility for product which has been stored or contaminated or stored under conditions other than those previously indicated.