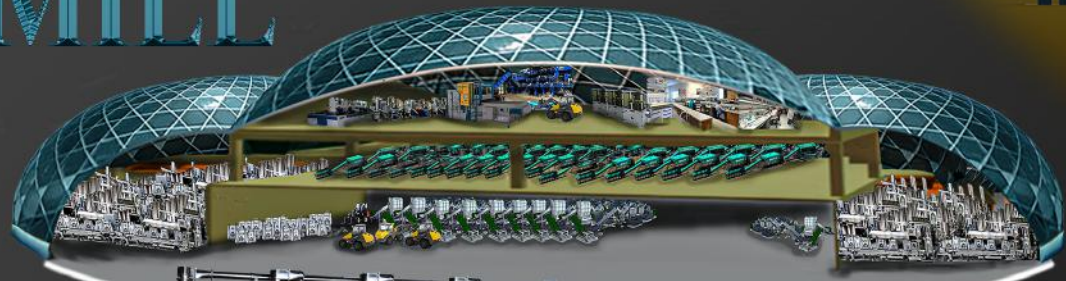
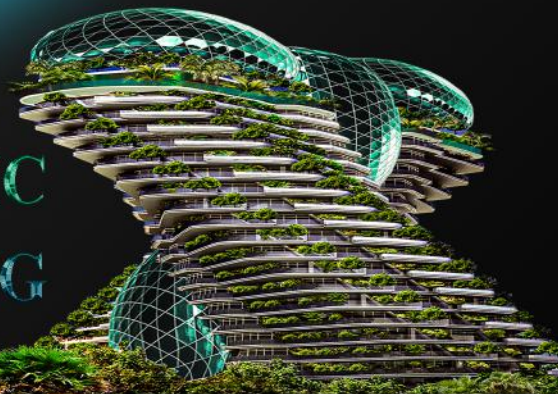


VORTEX NANO POWDER MILL

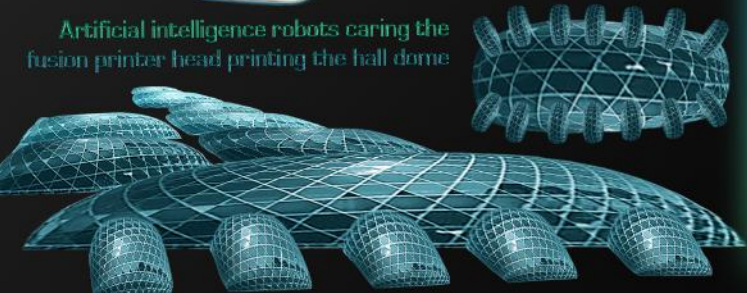


3D KINETIC FUSION PRINTING

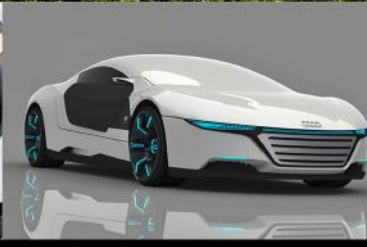


The AVIS facility is printed by TITOMIC kinetic fusion printers employing Nano Composite Glass Powder with high performance Photovoltaic printed skin

Artificial intelligence robots caring the fusion printer head printing the hall dome



CONQUEST 145M
3D PRINT CARBON METAL COMPOSITE



HMD AVIS ELECTRO PROPULSION



Catalog

- Nanomaterials from AVIS NanoTec Limited -

AVIS NanoTec Nanomaterials offers nanoparticles, nanopowders, micron powders, and CNTs (carbon nanotubes) in large quantity for the 3D printing industry, researchers and in bulk order for industry groups. All products are generated in high quality by Vortex technology, allows us to meet the needs of our customers.

- Nanoparticles:

- (1) Elements: Metals and Non-metal Elements
- (2) Oxides, Carbides, Nitrides, Borides, and Alloy...
- (3) Surface Coated Oxides

- Nanotubes

- (1) SWNTs
- (2) MWNTs
- (3) –OH and –COOH functionalized CNTs
- (4) Length tailored CNTs

- Rare Earth Materials

- (1) Rare Earth Metals
- (2) Rare Earth Oxides
- (3) Rare Earth Fluorides

Please email us at sales@avis.energy for custom-made nanomaterials for your applications.

NANOPARTICLES & NANOPOWDERS

Product # & Chemical	Description	Price
0115CY Ag Flammable, UN 3089	Silver Nanoparticle Purity: 99.95% (trace metals basis) Appearance: Black nanopowder APS: ~100 nm SSA: ~5 m ² /g Morphology: spherical Bulk density: 0.50 - 0.60 g/cm ³ True density: 10.5 g/cm ³	\$168/25g \$395/100g
0118XH Ag Flammable, UN 3089	Silver Nanoparticle Purity: 99.95% (trace metals basis) Appearance: Black nanopowder APS: 20-30 nm SSA: ~20 m ² /g Morphology: spherical Synthesis Process: Wet Chemistry True density: 10.5 g/cm ³	\$130/10g \$234/25g \$593/100g
0120XH Ag Flammable, UN 3089	Silver Nanoparticle Purity: 99.95% (trace metals basis) Appearance: Black nanopowder APS: 20-30 nm SSA: ~20 m ² /g Morphology: spherical Synthesis Process: Wet Chemistry True density: 10.5 g/cm ³ Coated with ~0.2wt% PVP (Poly Viny Pyrrolidone) surfactant for low oxygen content and easy dispersing.	\$130/10g \$234/25g \$593/100g
0121XH Ag Flammable, UN 3089	Silver Nanoparticle Purity: 99.9% (trace metals basis) Appearance: Black nanopowder APS: 50-60 nm SSA: ~12 m ² /g Morphology: spherical Bulk density: 0.35 g/cm ³ True density: 10.5 g/cm ³	\$109/10g \$196/25g \$497/100g

0123NJ	Silver Nanoparticle	\$172/25g
Ag	Silver (Ag) with oleic acid coated*	\$382/100g
Flammable,	Purity: 99.95% (trace metals basis)	\$1292/500g
UN 3089	Appearance: Black nanopowder	
	APS: 30-50 nm	
	SSA: 5-10 m ² /g	
	Morphology: spherical	
	Synthesis Process: Wet Chemistry	
	* Coated with ~0.2wt% oleic acid coated for easy dispersing, and eliminating oxygen content and aggregation.	
0125DX	Silver Nanoparticle	\$196/25g
Ag	Silver nanopowder coated with polymer	\$497/100g
Flammable,	Purity of Ag: 99.9%	
UN 3089	Particle size of Ag nanoparticles: 500~800nm	
	Color: black	
0127SH	Silver Nanoparticle	\$349/25g
Ag	Silver nanopowder coated with polymer	\$820/100g
Flammable,	Purity of Ag: 99.99%	
UN 3089	Particle size of Ag nanoparticles: ≤ 15 nm	
	Composition: 25% silver + 75% polymer	
	Dispersibility: dispersible in water and organic solvents	
	Color: black	
0200SJ	Aluminum Nanoparticle	\$92/5g
Al	Purity: 99.9% trace metals basis	\$216/25g
Flammable,	Appearance: Black nanopowder	\$468/100g
UN 1396	APS: 18 nm	
	SSA: 40-60 m ² /g	
	Morphology: spherical	
	Bulk density: 0.08-0.2 g/cm ³	
	True density: 2.7 g/cm ³	
0220XH	Aluminum Nanoparticle	\$67/10g
Al	Purity: 99.9% trace metals basis	\$121/25g
UN 1396	Appearance: Black nanopowder	\$338/100g
	APS: 40-60 nm	
	SSA: 20-48 m ² /g	
	Morphology: spherical	
	Bulk density: 0.08-0.2 g/cm ³	
	True density: 2.7 g/cm ³	
0221XH	Aluminum Nanoparticle	\$60/10g
Al	Purity: 99.9% trace metals basis	\$108/25g
UN 1396	Appearance: Black nanopowder	\$302/100g
	APS: 60-80 nm	
	SSA: 9-18 m ² /g	
	Morphology: spherical	
	Bulk density: 0.17 g/cm ³	
	True density: 2.7 g/cm ³	

0226XH	Aluminum Nanoparticle	
Al	Purity: 99.7% trace metals basis	\$102/25g
UN 1396	Appearance: Black nanopowder	\$210/100g
	APS: 130nm	\$480/500g
	SSA: 15.5 m ² /g	
	Bulk density: 1.0~1.2 g/cm ³	
	True density: 2.7 g/cm ³	
1315TB	Boehmite Nanoparticle	\$128/100g
AIOOH	Dispersible white nanopowder in water	\$295/500g
	Grain Size: 10-20 nm	\$395/1kg
	D50: 170-180 nm	
	Secondary Particle Size: 20-30 um	
	Bulk Density: 0.4-0.6 g/ml	
	SSA: 142.8 m ² /g	
	Pore Volume: 0.73 cm ³ /g	
	Average Pore Diameter: 20 nm	
	Distribution of Pore Diameter: 2-40 nm (>95%)	
	Calcined at 600 °C for 3 hours:	
	Boehmite changes into gamma-Al ₂ O ₃	
	Weight Loss <20%	
	Purity of gamma-Al ₂ O ₃ : 99.99%	
	SSA: 140.9 m ² /g	
	Pore Volume: 0.77 cm ³ /g	
	Average Pore Diameter: 23 nm	
	Distribution of Pore Diameter: 2-40 nm (>95%)	
	Calcined at 1000°C for 3 hours:	
	SSA: 107.5 m ² /g	
	Pore Volume: 0.80 cm ³ /g	
	Average Pore Diameter: 32 nm	
	Distribution of Pore Diameter: 2-80 nm (>95%)	
1319NH	Aluminum Oxide Nanoparticle	\$69/100g
Alpha- Al ₂ O ₃	White nanopowder	\$136/500g
	APS: 40 nm	
	SSA: ~60 m ² /g	
	Applications: ceramic, catalyst, polishing, phosphor....	
1318DL	Aluminum Oxide	\$135/100g
Alpha- Al ₂ O ₃	White powder	\$282/500g
	D50: 0.5-10 um	\$396/1kg
	SSA: 4-11 m ² /g	
	Applications: crystals, PDP....	
1320DL	Aluminum Oxide Nanoparticle	\$75/100g
Alpha- Al ₂ O ₃	White nanopowder	\$157/500g
	APS: 90~150 nm	\$221/1kg
	Applications: ceramic, catalyst, polishing, phosphor....	

1317NH Alpha- Al ₂ O ₃	Aluminum Oxide Nanoparticle White nanopowder APS: ~150 nm SSA: ~10 m ² /g	\$69/100g \$146/500g \$216/1kg
1321DL Alpha- Al ₂ O ₃	Aluminum Oxide White powder D50: 0.3-0.8 um SSA: 6-9 m ² /g Applications: ceramic, catalyst, polishing, phosphor....	\$53/25g
1322DL Alpha- Al ₂ O ₃	Aluminum Oxide White powder D50: 0.8-1.5 um SSA: 7-10 m ² /g Applications: catalyst, ceramic, polishing, phosphor....	\$51/100g \$105/500g \$148/1kg
1324DL Alpha- Al ₂ O ₃	Aluminum Oxide White powder D50: 3.5-15 um SSA: 1-6 m ² /g Applications: ceramic, catalyst, polishing, phosphor....	\$48/100g \$100/500g \$141/1kg
1328QI Gamma- Al ₂ O ₃	Aluminum Oxide Nanoparticle White nanopowder APS: 5 nm SSA: 600 m ² /g Morphology: Fibrous	\$96/100g \$228/500g
1330DL Gamma- Al ₂ O ₃	Aluminum Oxide Nanoparticle White nanopowder D50: 20 nm SSA: 230-400 m ² /g Applications: ceramic, catalyst, polishing, phosphor....	\$52/100g \$107/500g \$151/1kg
1340DL Al ₂ O ₃	Aluminum Oxide Nanoparticle (Hydrophobic Coating) Purity:99% Particle size: < 100nm	\$86/100g \$220/500g
1331DL Gamma- Al ₂ O ₃	Aluminum Oxide White powder D50: 0.4-1.5 um SSA: 150-230 m ² /g Applications: ceramic, catalyst, polishing, phosphor....	\$52/100g \$109/500g \$153/1kg
1341DL Al(OH) ₃	Aluminum Hydroxide Nanoparticle White nanopowder D50: 30-100 nm SSA: 350-450 m ² /g Applications: additives, flame retardant...	\$128/100g \$385/500g

1342DL Al(OH) ₃	Aluminum Hydroxide White powder D50: 2-10 um SSA: 1-20 m ² /g Applications: additives, flame retardant...	\$45/100g \$94/500g \$132/1kg
1360HK AlN UN 2813	Aluminum Nitride Nanoparticle (Hexagonal) CAS No.: 24304-00-5 Appearance: Nanopowder Color: Off-white Purity (%): 99 Oxygen Content (%): <0.8 Particle Size (nm): 40 Specific Surface Area (m ² /g): >78 Bulk Density (g/cm ³): 0.12	\$92/25g \$204/100g
0310DX Au	Gold Nanoparticle Purity: 99.99% Appearance: Black nanopowder APS: 50-100 nm SSA: ~3.5 m ² /g Color: Gold Morphology: spherical Bulk density: ~1.3 g/cm ³ True density: 19.32 g/cm ³	\$378/1g
0326SH Au	Gold Nanoparticle Gold nanoparticles coated with polymer Purity of Au: 99.99% Average Particle size: 15 nm Composition: 10% gold + 90% polymer Dispersibility: dispersible in various organic solvents and aqueous solutions Color: dark red Storage: hermetically sealed	\$491/5g
1401GC BaTiO ₃	Barium Titanate Nanoparticle (cubic) BaO/TiO ₂ : 0.999 - 1.001 Purity: 99.9% APS: 100 nm SSA: 10 - 11 m ² /g Color: white Morphology: spherical True density: 5.85 g/cm ³	\$79/100g \$178/500g
1405DX BaFe ₁₂ O ₁₉	Barium Ferrite Nanopowder Barium Hexaferrite Nanoparticles Purity: 99.5% APS: 60 nm Morphology: polyhedral True Density: 5.4 g/cm ³	\$75/5g \$150/25g \$260/100g

0400BZ B	Boron powder Purity: 99.9999% APS: 1-2 um Color: Brown Bulk density (g/cm ³): 1.73 Melt Point (°C): 2400 Boiling point (°C): 2700 Hardness (Mohs): 9.5	\$193/g \$578/5g
0401BZ B	Boron powder Purity: 99.999% APS: 1-2 um Color: Brown Bulk density (g/cm ³): 1.73 Melt Point (°C): 2400 Boiling point (°C): 2700 Hardness (Mohs): 9.5	\$169/g \$506/5g
0402BZ B	Boron powder Purity: 99.99% Particle Size (D50): ~15 um Color: Black Bulk density (g/cm ³): 2.4 Melt Point (°C): 2400 Boiling point (°C): 2700 Hardness (Mohs): 9.5	\$109/5g \$437/25g
0403BZ B	Boron Powder Purity: 99.9% Particle Size (D50): ~15 um Color: Black Bulk density (g/cm ³): 2.4 Melt Point (°C): 2400 Boiling point (°C): 2700 Hardness (Mohs): 9.5	\$86/5g \$262/25g
0410DX B UN 3178	Boron Nanoparticle Appearance: Brown nanopowder Purity: 99.9% APS: <80nm True density (g/cm ³): 2.34 Morphology: nearly spherical	\$296/25g
1520DX B ₂ O ₃	Boron Oxide Nanoparticle Appearance: White nanopowder Purity: 99.5% APS: <80nm True density: ~3.1 g/cm ³	\$692/100g

1526BZ BN	Boron Nitride (Hexagonal) CAS Number: 10043-11-5 Molecular Weight: 24.82 Assay: 99.99% Form: powder Particle Size: 3~4 um Density: 2.29 g/mL at 25 °C	\$105/100g \$283/500g
1527BZ BN	Boron Nitride (Hexagonal) CAS Number: 10043-11-5 Molecular Weight: 24.82 Assay: 99.9% Form: powder Particle Size: 3~4 um Density: 2.29 g/mL at 25°C (lit.)	\$81/100g \$218/500g
0470DX Bi UN 3089	Bismuth Nanoparticle Appearance: Black nanopowder Purity: 99.9% APS: <100nm	\$220/25g \$650/100g
0480DX Bi	Bismuth Powder Appearance: Black nanopowder Purity: 99.0+% APS: -325mesh	\$68/100g \$168/500g
1710CY Bi ₂ O ₃	Bismuth Oxide Nanoparticle (beta) Appearance: Yellow nanopowder Purity: 99.9 APS: <200 nm SSA: 3.4 - 5.0 m ² /g Color: yellow Bulk density: 0.7 g/cm ³ True density: 8.9 g/cm ³	\$134/100g \$255/500g \$383/1kg
0510HZ C	Diamond Nanoparticle Explosion Synthesized Purity: > 95% Appearance: Grey nanopowder APS: 3-4 nm SSA: ~282 m ² /g Functional group on surface: --OH, --CN, --COOH-C-O-C, --C=O Conductivity: 7.7x10 ⁷ , 0.1-2 omu.cm (Born dopped) Hydrophilia degree: -3100 MJ/mol.g Relative magnetic susceptibility: <1x10 ⁻⁸ m ² /kg Initial oxidization temperature: 803 K Morphology: spherical True density: 3.05-3.30 g/cm ³	\$69/5g \$217/25g \$734/100g

0511HZ	Diamond Nanoparticle	\$58/5g
C	Explosion Synthesized	\$181/25g
	Purity: > 93%	\$614/100g
	Appearance: Grey nanopowder	
	APS: 3-4 nm	
	SSA: ~282 m ² /g	
	Functional group on surface: --OH, --CN, --COOH-C-O-C, --C=O	
	Conductivity: 7.7x10 ⁷ , 0.1-2 omu.cm (Born dopped)	
	Hydrophilia degree: -3100 MJ/mol.g	
	Relative magnetic susceptibility: <1x10 ⁻⁸ m ² /kg	
	Initial oxidization temperature: 803 K	
	Morphology: spherical	
	True density: 3.05-3.30 g/cm ³	

0512HZ	Diamond Nanoparticle	\$93/25g
C	Explosion Synthesized	\$314/100g
	Purity: 55-75 %	
	Appearance: Black nanopowder	
	APS: 4-15 nm	
	SSA: ~350 m ² /g	
	Morphology: spherical and flaky	
	Bulk density: 0.16 g/cm ³	
	True density: 3.05-3.30 g/cm ³	

0520BX	Graphite Nanoparticle	\$138/25g
C	Explosion Synthesized	\$455/100g
	Appearance: Black nanopowder	
	APS: 1.5-3 nm	
	SSA: 540-650 m ² /g	
	Oxidization temperature: 710 K	
	Morphology: spherical	
	True density: 1.2-2.8 g/cm ³	

0521QZ	Graphite Nanoparticle	\$170/100g
C	Graphite (C, natural flake)	\$383/500g
	Appearance: Black powder	
	D50: 1 um	
	Fixed Carbon: 99+%	
	Ash:<1%	
	Morphology: flake	

0540DX	Graphene Nanopowder	\$112/25g
C	Appearance: Black powder	\$253/100g
	Thickness: 1-5nm	
	Average Particle Diameter:< 2micron	
	Surface Area:750 m2/g	
	Bulk Density: 0.2 to 0.4 g/cc	

0541DX	Graphene Nanopowder	\$109/25g
C	Graphene Platelet Nanopowder	\$247/100g
	Appearance: Black powder	
	Thickness: 6-8 nm	
	Average Particle Diameter: 15 micron	
	Surface Area: 120-150 m ² /g	
	Carbon: 99.5+%	
	Morphology: flake	

0544DX	Graphene Nanopowder	\$108/25g
C	Graphene Platelet Nanopowder	\$245/100g
	Appearance: Black powder	
	Thickness: 11-15 nm	
	Average Particle Diameter: 15 micron	
	Surface Area: 50-80 m ² /g	
	Carbon: 99.5+%	
	Morphology: flake	

0530HT	Super Activated Carbon Nanoparticle	\$96/100g
C	Appearance: Black nanopowder	\$332/500g
	APS: <100 nm	
	Super absorption capability	
	SSA: 1300 m ² /g	
	Iodine absorption: 1200 mg/g	
	H ₂ O: <1%	
	Ash: <2%	
	Color: black	
	PH: 7-9	
	Morphology: spherical	

0539DX	Carbon Powder	\$134/100g
C	Appearance: Black nanopowder	\$293/500g
	APS: 20-50um	\$488/1kg
	Purity:99.99%	

1950RH	Calcium Carbonate Nanoparticle (paste)	\$72/100g
CaCO ₃	Appearance: Nanoparticles paste in water	\$126/500g
	Average Particle Size (nm): 15-40	
	Content of CaCO ₃ (wt%): 0.5	
	CaCO ₃ dry basis (%): >97.5	
	MgO (%): <0.5	
	Surface modification: None	
	Applications: functional filler/additive in architectural paint	

1951RH CaCO_3	Calcium Carbonate Nanoparticle <p>A functional filler or opacifier in paint and coating with exceptional wettability, dispersibility, and rheological properties. Under high shear, 1951RH exhibits shear thinning in the coating, making it flow easily and facilitating the application of the coating onto a surface. Once shear is removed, viscosity returns and enables the coating to adhere to the surface without sagging or running.</p> <p>Appearance: White nanopowder Average Particle Size (nm): 15-40 Morphology: Cubic Whiteness (%): >90 Bulk Density (g/ml): 0.68 pH: 8.0-9.0 Moisture Content (w%): 0.5 CaCO_3 dry basis (%): >97.5 MgO (%): <0.5 Surface modification: None</p> <p>Applications: functional filler/additive in architectural paint</p>	\$58/100g \$89/kg
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1952RH CaCO_3	Calcium Carbonate <p>A functional filler or pigment in paint and coating with exceptional rheology and thixotropy. Under high shear, 1952RH thins out the coating making it flow easily and facilitate the application of the coating onto a surface. Once shear is removed, viscosity returns enabling the coating to adhere to the surface without sagging or running.</p> <p>Appearance: White Powder Average Particle Size (nm): 15-40 Specific Surface Area (m^2/g): >40 Morphology: Cubic Whiteness (%): >92 Bulk Density (g/ml): 0.68 pH: 8.5-9.5 Moisture Content (w%): <0.5 CaCO_3 Content (modified) (%): >94.5 MgO (%): <0.5 Surface modification: Yes</p> <p>Applications: functional filler/additive in car under-body PVC plastisol coating, car body paint, architectural paint, sealant, epoxy, and other organic compounds.</p>	\$112/kg
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1953RH CaCO ₃	Calcium Carbonate Nanoparticle	\$112/kg
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A reinforcing additive in plastics such as PP and PE. It significantly improves the impact strength, flexural modulus and tensile strength. It can partially replace existing reinforcing additives such as CPE and existing elastomeric reinforcing agents used in PP to lower your product cost.

Appearance: White nanopowder
 Average Particle Size (nm): 15-40
 Specific Surface Area (m²/g): >40
 Morphology: Cubic
 Whiteness (%): >92
 Bulk Density (g/ml): 0.68
 pH: 8.0-9.0
 Moisture Content (w%): <0.5
 CaCO₃ Content (modified) (%): >94.5
 MgO (%): <0.5
 Surface modification: Yes

Applications: reinforcing additive in plastics

1954RH CaCO ₃	Calcium Carbonate Nanoparticle	\$112/kg
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Appearance: White nanopowder
 Average Particle Size (nm): 15-40
 Specific Surface Area (m²/g): >40
 Morphology: Cubic
 Whiteness (%): >92
 Bulk Density (g/ml): 0.68
 pH: 8.0-9.0
 Moisture Content (w%): <0.5
 CaCO₃ Content (modified) (%): >94.5
 MgO (%): <0.5
 Surface modification: Yes

Applications: PVC film, PVC rolling membrane

1955RH CaCO ₃	Calcium Carbonate Nanoparticle	\$112/kg
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Developed to improve ink performance in stability, glossiness, brightness

Appearance: White nanopowder
 Average Particle Size (nm): 15-40
 Specific Surface Area (m²/g): >40
 Morphology: Cubic, in chain
 Whiteness (%): >88
 Bulk Density (g/ml): 0.68
 pH: 8.0-9.0
 Moisture Content (w%): <1.2
 CaCO₃ Content (modified) (%): >94.5
 MgO (%): <0.5
 Surface modification: Yes

Applications: inks

1956RH CaCO_3	Calcium Carbonate Nanoparticle Developed to improve performance of natural and synthesized rubbers in reinforcement and other mechanical properties. Appearance: White nanopowder Average Particle Size (nm): 15-40 Specific Surface Area (m^2/g): >40 Morphology: Cubic, in chain Whiteness (%): >88 Bulk Density (g/ml): 0.68 pH: 9.0-10.0 Moisture Content (w%): <0.5 CaCO_3 Content (modified) (%): >94.5 MgO (%): <0.7 Surface modification: Yes Applications: natural and synthesized rubbers	\$112/kg
1957RH CaCO_3	Calcium Carbonate Nanoparticle Developed to improve the performance of adhesives Appearance: White nanopowder Average Particle Size (nm): 15-40 Specific Surface Area (m^2/g): >40 Morphology: Cubic Whiteness (%): >94 Bulk Density (g/ml): 0.68 pH: 8.5-9.5 Moisture Content (w%): <0.5 CaCO_3 Content (modified) (%): >94.5 Surface modification: Yes Applications: organic silicon, polyurethane, epoxy, PVC resin, latex	\$112/kg
1949LT $\text{Ca}_3(\text{PO}_4)_2$	Calcium Phosphate Nanoparticle Appearance: white nanopowder APS: 20-40 nm Contents: CaO: 51.8%-55% P_2O_5 : 39.5%-41.1% Moisture: 0.5%-0.8%	\$98/100g \$196/kg
1970NE $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$	Hydroxyapatite Nanoparticle Appearance: white nanopowder Purity: 98.5+% APS: <40 nm As: <1 ppm Morphology: needle pH: 7.4	\$118/100g \$369/500g \$576/kg

2110CG CeO ₂	Cerium Oxide Nanoparticle Appearance: Nanopowder Purity: 99.99% (REO) APS: 10-30 nm SSA: 30~50 m ² /g Color: pale yellow Morphology: spherical	\$77/25g \$180/100g
2510DX CsNO ₃	Cesium Nitrate Purity: 99%, 99.5%, 99.9% Packing: 25kg/ drum	Ask for a quote
2511DX CsOH	Cesium Hydroxide Purity: 99%, 99.5%, 99.9% Packing: 30kg/ drum	Ask for a quote
2512DX CsOH	Cesium Hydroxide Solution Purity: 50% Packing: 1.6T/ IBC	Ask for a quote
2513DX Cs ₂ CO ₃	Cesium Carbonate Purity: 99%, 99.5%, 99.9% Packing: 25kg/drum	Ask for a quote
2514DX CsF	Cesium Fluoride Purity: 99%, 99.5%, 99.9% Packing: 25kg/drum	Ask for a quote
2515DX CsI	Cesium Iodide Purity: 99.9%, 99.99% Packing: 25kg/drum	Ask for a quote
2516DX CsCOOH	Cesium Formate Purity: 80% Solution Packing: 2.2T/IBC	Ask for a quote
2518DX CsCl	Cesium Chloride Purity: 99.9% Packing: 25kg/drum	Ask for a quote
2519DX Cs ₂ SO ₄	Cesium Sulfate Purity: 99%, 99.5%, 99.9%, 99.95% Packing: 25kg/drum	Ask for a quote
2520DX Cs ₂ SO ₄	Cesium Sulfate Solution Purity: 50% Solution Packing: 1.66T/IBC	Ask for a quote

0610SJ	Cobalt Nanoparticle	\$65/5g
Co	Partially passivated for safe shipping, [O]: ~10%	\$118/25g
UN 3089	Purity: 99.8% (trace metals basis)	\$352/100g
	Appearance: Black nanopowder	
	APS: 25-30 nm	
	SSA: 40 - 60 m ² /g	
	Color: black	
	Morphology: spherical	
	Bulk density: 0.10 - 0.25 g/cm ³	
	True density: 8.92 g/cm ³	

2320SC	Cobalt(III) oxide Nanoparticle	\$238/100g
Co ₂ O ₃	Appearance: Greyish black nanopowder	\$650/500g
	APS: <100 nm	
	SSA > 10 m ² /g	
	Contents (%):	
	Co 70-74	
	Ni <0.5	
	Fe <0.07	
	Ca <0.1	
	Cu <0.3	
	Pb <0.02	

2330SC	Cobalt oxide Nanoparticle (cobaltosis oxide)	\$92/25g
Co ₃ O ₄	Appearance: Black nanopowder	\$185/100g
	APS: 50 nm	\$492/500g
	SSA > 10 m ² /g	
	Contents (%):	
	Co 72-74	
	Ni <0.2	
	Fe <0.04	
	Ca <0.05	
	Cu <0.08	
	Pb <0.002	

0811DX	Copper Nanoparticle	\$97/100g
Cu	Purity: 99.5% trace metals basis	\$291/500g
UN 3089	Appearance: Sienna nanopowder	\$459/1kg
	APS: 300 nm	
	SSA: ~6 m ² /g	

0810DX	Copper Nanoparticle	\$97/100g
Cu	Appearance: Sienna nanopowder	\$291/500g
UN 3089	Purity: 99.5% trace metals basis	\$459/1kg
	APS: 500 nm*	
	SSA: 3.0 m ² /g	

0800SJ	Copper Nanoparticle	\$116/25g
Cu	Purity: 99.8% (metal basis)	\$309/100g
UN 3089	Color: black brown nanopowder	
	APS: 25 nm	
	SSA: 30 - 50 m ² /g	
	Morphology: spherical	
	Bulk density: 0.15 - 0.35 g/cm ³	
	True density: 8.94 g/cm ³	
0820XH	Copper Nanoparticle	\$87/25g
Cu	Purity: 99.9% trace metals basis	\$244/100g
UN 3089	Appearance: Saddle brown nanopowder	
	APS: 40-60 nm	
	SSA: ~12 m ² /g	
	Morphology: spherical	
	Bulk density: 0.19 g/cm ³	
	True density: 8.9 g/cm ³	
0821XH	Copper Nanoparticle	\$77/25g
Cu	Purity: 99.9% trace metals basis	\$215/100g
UN 3089	Appearance: Saddle brown nanopowder	
	APS: 60-80 nm	
	SSA: 6-8 m ² /g	
	Morphology: spherical	
	Bulk density: 0.21 g/cm ³	
	True density: 8.9 g/cm ³	
0851HN	Copper Nanoparticle	\$128/100g
Cu	An oil-soluble copper nanoparticles well dispersed in organic media. It can be further dispersed in toluene, chloroform, lubricating greases, resin, rubber, coatings, and plastic. The particles have very narrow particle size distribution from 5 to 7 nm. It is a perfect anti-wear and friction reducing additive in lubricants and grease to fix scratched and worn surface.	\$267/500g
	Contents of Cu (%): 14	\$384/1kg
	Particle size (nm): 5-7	
0881NW	Copper Nanowires immersed in ethanol	\$220/5g
Cu	Copper Nanowires immersed in ethanol(25g of copper nanowires in 100ml ethanol). The copper nanowires are same as product 0880NW	
0882NW	Copper Nanowires	\$146/5g
Cu	Size: 300+/-100nm in diameter, minimum 5 um in length	
	Form: Powder	

0883NW Cu	Copper Nanowires immersed in ethanol Copper Nanowires immersed in ethanol(25g of copper nanowires in 100ml ethanol). The copper nanowires are same as product 0882NW	\$160/5g
2810NH CuO	Copper Oxide Nanoparticle Purity: 99+% Appearance: Black nanopowder APS: 40 nm SSA: ~80 m ² /g Morphology: nearly spherical Bulk density: ~0.80 g/cm ³ True density: 6.4 g/m ³	\$75/100g \$236/500g
2910DX Dy ₂ O ₃	Dysprosium Oxide Nanoparticle Purity: 99.9+% Appearance: White nanopowder APS: 50 nm SSA: >20 m ² /g Morphology: spherical Bulk density: 0.45 g/cm ³ True density: 7.8 g/m ³	\$85/5g \$190/25g
3010DX Er ₂ O ₃	Erbium Oxide Nanoparticle Purity: 99.9% (REO) Appearance: Pink nanopowder APS: 40-50 nm SSA: 16 m ² /g Morphology: nearly spherical Bulk density: 0.59 g/cm ³ True density: 8.64 g/cm ³	\$60/25g \$125/100g \$350/500g
3110DX Eu ₂ O ₃	Europium Oxide Nanoparticle Purity: 99.99% Appearance: White nanopowder APS: 50 nm SSA: 16 m ² /g Morphology: nearly spherical Bulk density: 0.56 g/cm ³ True density: 7.42 g/cm ³	\$133/5g \$365/25g
0915SJ Fe UN 3089	Iron Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 20 nm SSA: 40-60 m ² /g Morphology: spherical Bulk density: 0.1-0.25 g/cm ³ True density: 7.90 g/cm ³	\$60/5g \$112/25g \$337/100g

0920XH Fe UN 3089	Iron Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 40-60 nm SSA: 6-13 m ² /g Morphology: spherical Bulk density: 0.36 g/cm ³ True density: 7.90 g/cm ³	\$87/25g \$244/100g \$854/500g
0921XH Fe UN 3089	Iron Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 60-80 nm SSA: 7 m ² /g Morphology: spherical Bulk density: 0.5 g/cm ³ True density: 7.90 g/cm ³	\$77/25g \$215/100g
0961XH Stainless Steel 316L UN 3089	Iron Nanoparticle Appearance: Black nanopowder APS: 60-80 nm SSA: n/a Morphology: spherical Bulk density: 0.5 g/cm ³ True density: 7.90 g/cm ³	\$171/25g \$455/100g
0990JH Fe UN 3089	Carbonyl Iron Particle Appearance: Black powder CAS #: 7439-89-6 APS (um): 4-8* Bulk Density (g/cm ³): 2.2-3.2 Contents (%)*: Fe 99.0 C <0.15 O <0.4 N <0.1	\$238/100g
3310DX Alpha- Fe ₂ O ₃	Iron Oxide Nanoparticle Purity: 99% Appearance: Red nanopowder APS: 20 - 40 nm SSA: 40-60 m ² /g Morphology: spherical Bulk density: 1.20 g/cm ³ True density: 5.24 g/cm ³	\$98/100g \$262/500g \$380/1000g
3315DX Gamma- Fe ₂ O ₃	Iron Oxide Nanoparticle Purity: 99% Appearance: Red brown nanopowder APS: 20-40 nm SSA: 40-60 m ² /g Morphology: spherical	\$98/100g \$262/500g \$380/1000g

3320DX Fe ₃ O ₄	Iron Oxide Nanoparticle Purity: 98+% trace metals basis Appearance: black nanopowder APS: 20 - 30 nm SSA: 40-60 m ² /g Morphology: spherical Bulk density: 0.84 g/cm ³ True density: 4.8-5.1 g/cm ³	\$98/100g \$262/500g \$380/1000g
3325NG Fe ₃ O ₄	Iron Oxide Nanoparticle Purity: 98+% trace metals basis Appearance: black dispersion in water Content of Fe ₃ O ₄ : 32.5wt% APS: 10-15 nm Morphology: spherical Specific Saturation Magnetization: 43.8 emu/g Magnetic Coercive Force: 43 oe Residual Magnetism: 0.28 emu/g 100ml contains 44g dry powder	\$399/50ml \$753/100ml \$2897/500 ml
3606DX Ge	Germanium Nanoparticles Appearance: Black powder CAS #: 7440-56-4 APS (nm): 70-120 Morphology: Nearly spherical	\$711/100g
3510CG Gd ₂ O ₃	Gadolinium Oxide Nanoparticle Purity: 99.9+% (REO) Appearance: white nanopowder APS: <100 nm SSA: 10-40 m ² /g Morphology: nearly spherical Bulk density: 0.3-0.4 g/cm ³ True density: 7.407 g/cm ³	\$98/25g \$220/100g
3810XX HfO ₂	Hafnium Oxide Nanoparticle Appearance: white nanopowder Purity: 99.9% (REO) APS: ~100 nm Morphology: nearly spherical	\$728/100g \$2426/500g
4110CB ITO	Indium Tin Oxide, Yellow In ₂ O ₃ :SnO ₂ =90:10(wt) Purity: 99.99% Appearance: Nanopowder, Yellow APS: 20-70 nm SSA: 15-40 m ² /g Morphology: Spherical Bulk density: ~0.8 g/cm ³ True density: 7.12 g/cm ³	\$90/5g \$146/25g \$365/100g

4111CB	Indium Tin Oxide, Yellow	\$90/5g
ITO	In ₂ O ₃ :SnO ₂ =95:5(wt)	\$146/25g
	Purity: 99.99%	\$365/100g
	Appearance: Nanopowder, Yellow	
	APS: 20-70 nm	
	SSA: 15-40 m ² /g	
	Morphology: Spherical	
	Bulk density: ~0.8 g/cm ³	
	True density: 7.12 g/cm ³	

4112CB	Indium Tin Oxide, Blue	\$140/5g
ITO	In ₂ O ₃ :SnO ₂ =90:10(wt)	\$252/25g
	Purity: 99.99%	\$651/100g
	Appearance: Nanopowder, Blue	
	APS: 20-70 nm	
	SSA: 15-40 m ² /g	
	Morphology: Spherical	
	Bulk density: ~0.6 g/cm ³	
	True density: 7.12 g/cm ³	

4113CB	Indium Tin Oxide, Blue	\$140/5g
ITO	In ₂ O ₃ :SnO ₂ =95:5(wt)	\$252/25g
	Purity: 99.99%	\$651/100g
	Appearance: Nanopowder, Blue	
	APS: 20-70 nm	
	SSA: 15-40 m ² /g	
	Morphology: Spherical	
	Bulk density: ~0.6 g/cm ³	
	True density: 7.12 g/cm ³	

4115CB	Indium Oxide Nanoparticle	\$98/5g
In ₂ O ₃	Purity: 99.99%	\$218/25g
	Appearance: yellowish green nanopowder	\$486/100g
	APS: 20-70 nm	
	SSA: 20-30 m ² /g	
	Bulk density: 0.80 g/cm ³	
	True density: 7.12 g/cm ³	

4116DX	Indium Oxide Powder	\$182/25g
In ₂ O ₃	Purity: 99.999%	\$521/100g

4430DX	Lanthanum Hexaboride Nanoparticle	\$686/100g
LaB ₆	Purity: 99.0+%	
	Appearance: nanopowder	
	APS: 50-80 nm	
	SSA: n/a	
	Morphology: nearly spherical	
	Bulk density: n/a	
	True density: 4.45 g/cm ³	

4410CG La ₂ O ₃	Lanthanum oxide Nanoparticle Purity: 99.99% (REO) Appearance: white nanopowder APS: 100 nm Bulk density: ~0.4 g/cm ³ True density: 6.51 g/cm ³	\$80/25g \$178/100g
4411CG La ₂ O ₃	Lanthanum oxide Nanoparticle Purity: 99.9% (REO) APS: 0.3-0.5um	\$63/25g \$142/100g
4441CG La ₂ O ₃	Lanthanum oxide Nanoparticle Purity: 99.9% (La ₂ O ₃ /REO); 99.0+% (TREO) Appearance: white nanopowder Bulk density: N/A True density: 6.51 g/cm ³	\$60/25g \$135/100g
4610NH LiFePO ₄	Lithium Iron Phosphate (LiFePO₄, LFP) Average particle size: ~1um SSA: 22~28m ² /g Color: Dark Grey PH: 9~11	\$128/500g \$ 210/1kg
4800DL MgO	Magnesium Oxide Nanoparticle White nanopowder without any surface treatment D50: 10-30 nm SSA: >60 m ² /g	\$89/100g \$179/500g \$239/1kg
4810NH MgO	Magnesium Oxide Nanoparticle Purity: 99% Appearance: white nanopowder APS: 20 nm SSA: ~ 50 m ² /g Morphology: polyhedral Bulk density: 0.13-0.16 g/cm ³ True density: 3.58 g/m ³	\$86/100g \$175/500g \$236/1kg
4801DL MgO	Magnesium Oxide Nanoparticle White nanopowder treated with Stearic Acid D50: 10-20 nm SSA: >20 m ² /g	\$146/100g \$294/500g \$392/1kg

4832SS Mg(OH) ₂	Magnesium Hydroxide Nanoparticle Purity: 99.8% Appearance: white nanopowder APS: <50 nm SSA: 5-10 m ² /g Morphology: Flaky Bulk density: 0.5 g/cm ³ Applications: Compared with micron magnesium hydroxide, product 4832SS can be more evenly dispersed in PA, PP, ABS, PVC, and other rubber and plastic products. It is an excellent fire or flame retardant, smoke suppressant.	\$188/1kg
4910DX Mn ₂ O ₃	Manganese Oxide Nanoparticle Purity: 98+% Appearance: Black nanopowder APS: 40-60 nm SSA: N/A Bulk density: ~0.9 g/cm ³	\$192/100g \$465/500g
4930DX MnO ₂	Manganese Oxide Nanoparticle Purity: 99+% Appearance: Black powder D50: ~5 um D90: < 10 um	\$66/100g \$118/500g \$188/1kg
4950DX MnCl ₂	Manganese Chloride Purity: 99+%	\$68/25g \$139/100g
9120XH Mo UN 3089	Molybdenum Nanoparticle Molybdenum (Mo) Purity: 99.8% trace metals basis Appearance: Black nanopowder APS: 40~60 nm True density: 10.2 g/cm ³	\$121/25g \$338/100g
9121XH Mo UN 3089	Molybdenum Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 60-80 nm SSA: 4-10 m ² /g Morphology: spherical Bulk density: 0.25 g/cm ³ True density: 10.2 g/cm ³	\$112/25g \$314/100g
9130CN Mo UN 3089	Molybdenum Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 500-800 nm SSA: 2-3 m ² /g Morphology: flaky	\$439/kg

5010DX MoO ₃	Molybdenum Oxide Nanoparticles Form: powder Purity: > 99.9% Particle Size: <100 nm	\$86/5g \$258/25g
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5030CH MoCl ₅ UN 2508 8/PG 3	Molybdenum Oxide Nanoparticles Form: powder Color: grey black Purity: > 99.0% Particle Size: micro-sized Morphology: needle crystal	\$72/25g \$98/100g
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5220DX Nb ₂ O ₅	Niobium Oxide Nanoparticles Form: Black powder Purity: > 99.9% Particle Size: ~500 nm	\$120/25g \$270/100g
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5310CG Nd ₂ O ₃	Neodymium Oxide Nanoparticle Purity: 99.9+% (REO) Appearance: pale purple nanopowder APS: <100 nm SSA: 10 m ² /g Morphology: irregular Bulk density: 0.41 g/cm ³ True density: 7.24 g/cm ³	\$99/25g \$226/100g
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9210NG Ni UN 3089	Nickel Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 500 nm* SSA: 1.2-1.6 m ² /g Morphology: spherical Bulk density: ~3.2 g/cm ³ True density: 8.9 g/cm ³	\$119/100g \$357/500g
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9213SG Ni UN 3089	Nickel Powder Purity: 99.9% trace metals basis Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 1.0-1.5 um sub-sieve SSA: N/A Bulk density: ~0.5-1.0 g/cm ³ True density: 8.9 g/cm ³	\$162/500g
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9225SJ	Nickel Nanoparticle	\$58/5g
Ni	Purity: 99.9% trace metals basis	\$118/25g
UN 3089	Appearance: Black nanopowder	\$349/100g
	APS: 20 nm	
	SSA: 40-60m ² /g	
	Manufacturing Process: Laser evaporating	
	Morphology: spherical	
	Bulk density: 0.08-0.20g/cm ³	
	True density: 8.9 g/cm ³	
9220XH	Nickel Nanoparticle	\$87/25g
Ni	Purity: 99.9% trace metals basis	\$244/100g
UN 3089	Appearance: Black nanopowder	
	APS: 40-60 nm	
	SSA: 10-15 m ² /g	
	Morphology: spherical	
	Bulk density: 0.28 g/cm ³	
	True density: 8.9 g/cm ³	
9221XH	Nickel Nanoparticle	\$77/25g
Ni	Purity: 99.9% trace metals basis	\$215/100g
UN 3089	Appearance: Black nanopowder	
	APS: 60-80 nm	
	SSA: 8-10 m ² /g	
	Morphology: spherical	
	True density: 8.9 g/cm ³	
9280JH	Carbonyl Nickel Nanoparticle	\$193/25g
Ni	Appearance: Black nanopowder	\$457/100g
	SSA (BET, m ² /g): 23-27	
	APS (nm): 45-55	
	Bulk Density (g/cm ³): 0.08-0.13	
	Contents (%):	
	Fe 0.03	
	C 0.3	
	O 7.0	
	others 0.01	
	Ni 92.65%	
9290JH	Carbonyl Nickel	\$66/100g
Ni	CAS #: 8049-31-8	\$152/500g
	APS (um): 2.2-2.8*	
	Bulk Density (g/cm ³): 2.2-3.2	
	Contents (%)*:	
	Fe <0.01	
	C <0.15	
	O <0.15	
	S <0.001	
	others <0.01	

9293JH	Carbonyl Nickel Coated Aluminum Powder	\$97/100g
Ni Shell, Al Core	Particle Size Range: 240-400 mesh- 94%*	\$223/500g
	Bulk Density (g/cm ³): 2.2-2.8	
	Liquidity (S/50g): 38	
	Contents (%)*:	
	Ni 80	
	Al 19	
	others 1	

9295JH	Carbonyl Nickel Iron Alloy	\$76/100g
Ni & Fe Alloy	Particle Size Range: 2.5-4.0 um*	\$175/500g
	Contents (%)*:	
	Fe 74-77	
	C 1.1	
	O 0.4	
	Ni residue	

5410SC	Nickel Oxide Nanoparticle	\$135/100g
NiO	Appearance: Green nanopowder	\$336/500g
	APS: <100 nm	
	SSA > 6 m ² /g	
	Contents (%):	
	Ni 77.5-78.8	
	Co <0.04	
	Si <0.05	
	Fe <0.3	
	Al <0.4	
	Mg <0.1	

9426SH	Platinum nanoparticles self-dispersing	\$982/5g
Pt	Platinum nanoparticles coated with polymer	
	Purity of Pt: 99.99%	
	Average Particle Size: 15 nm	
	Composition: 10% gold + 90% polymer	
	Dispersibility: dispersible in various organic solvents and aqueous solutions	
	Color: black	
	Storage: hermetically sealed	

6110DX	Rubidium Carbonate	Ask for a quote
Rb ₂ CO ₃	Purity: 99%, 99.5%, 99.9%	
	Packing: 25kg/ drum	

6111DX	Rubidium Nitrate	Ask for a quote
RbNO ₃	Purity: 99%, 99.5%, 99.9%	
	Packing: 25kg/ drum	

6112DX	Rubidium Chloride	Ask for a quote
RbCl	Purity: 99%, 99.5%, 99.9%	
	Packing: 25kg/ drum	

6113DX RbI	Rubidium Iodide Purity: 99%, 99.5%, 99.9% Packing: 25kg/ drum	Ask for a quote
6114DX RbI	Rubidium Fluoride Purity: 99%, 99.5%, 99.9% Packing: 25kg/ drum	Ask for a quote
6115DX RbOH	Rubidium Hydroxide Purity: 99%, 99.5%, 99.9% Packing: 25kg/ drum	Ask for a quote
6116DX Rb ₂ SO ₄	Rubidium Sulfate Purity: 99%, 99.5%, 99.9% Packing: 25kg/ drum	Ask for a quote
6117DX Rb ₃ PO ₄	Rubidium Phosphate Purity: 99%, 99.5%, 99.9% Packing: 25kg/ drum	Ask for a quote
6610CY Sb ₂ O ₃ UN1549	Antimony Oxide Nanoparticle Purity: 99.9% Appearance: white nanopowder APS: 150 nm SSA: 8-15 m ² /g Bulk density: ~0.6 g/cm ³ True density: 5.67 g/cm ³	\$137/100g \$260/500g \$390/1kg
9712HK Si UN 3089	Silicon Nanoparticle Form: Powder Appearance: Yellow Brown Nanopowder Purity (%): 99 Cu Content (%): <0.45 Average Particle Size (nm): 50 Specific Surface Area (m ² /g): >80 Morphology: Spherical Bulk Density (g/cm ³): 0.08	\$169/25g \$306/100g
9715DX Si UN 3089	Silicon Powder Form: Powder APS: ~500 nm Purity: 99.9%	\$162/100g \$386/500g
9719DX Si UN 3089	Silicon Powder Form: Powder Particle size: -200/+325 mesh Purity: 99.9+%	\$122/500g \$210/1kg

9720DG	Silicon	\$188/100g
Si	CAS No.: 7440-21-3	\$391/500g
	Form: lumps	\$563/kg
	Color: silvery	
	Density (g/cm ³): 2.33	
	Purity: 99.99995% trace metals basis	
	Contents	
	Si: 99.99995%	
	P: 1.99 mg/kg	
	B: not detectable	
	Fe: 1.57 mg/kg	
	Ca: 1.15 mg/kg	
	Al: 1.41 mg/kg	
6807NM	Silicon Oxide Nanoparticle	\$72/100g
SiO ₂	White naopowder, porous, no surface treatment	\$119/500g
	APS: 15-20 nm	\$180/1kg
	SSA: 640 m ² /g	
6808NM	Silicon Oxide Nanoparticle	\$72/100g
SiO ₂	White naopowder, non-porous, no surface treatment	\$119/500g
	APS: 20 nm	\$180/1kg
	Purity: 99.5%	
	SSA: 160 m ² /g	
6809NM	Silicon Oxide Nanoparticle	\$50/100g
SiO ₂	White naopowder, non-porous, no surface treatment	\$80/500g
	APS: 20 nm	\$135/1kg
	Purity: 98.7%	
6811DL	Silicon Oxide Nanoparticle	\$86/100g
SiO ₂	White nanopowder treated with Silanes Coupling Agents	\$178/500g
	D50: 10-30 nm	\$251/1kg
	SSA: >400 m ² /g	
6809NM	Silicon Oxide Nanoparticle	\$72/100g
SiO ₂	White naopowder, non-porous, no surface treatment	\$119/500g
	APS: 500nm	
	Purity: 99%	

6851HN	Silicon Oxide Nanoparticle	\$98/100g \$353/500g
SiO ₂	<p>surface modified with amino group; dispersible in toluene, epoxy resin, unsaturated resin, polymethacrylates, phenolic resin, nylon, and paint; reactive with epoxy group and carboxyl group in organics or polymers</p> <p>Properties loss on drying (%) (105 °C, 2h): <3 loss on ignition (%) (950 °C, 2h): <10 contents of SiO₂ (dry basis) (%): >85 contents of SiO₂ (950 °C, 2h) (%): >99.8 contents of carbon (%): 0.3 particle size (nm): 10-20 pH: 6.0-7.5 surface area (m²/g): 90-130 bulk density (g/ml): 0.1</p>	

6852HN	Silicon Oxide Nanoparticle	\$98/100g \$353/500g
SiO ₂	<p>Surface modified with epoxy group; dispersible in toluene, epoxy resin, polyvinyl chloride, unsaturated Polyester resin, phenolic resin, nylon, and coatings; reactive with epoxy group, amino group, carboxyl group, and hydroxyl group in resin and produce polymer/inorganic nano-composites</p> <p>Properties loss on drying (%) (105 °C, 2h): <3 loss on ignition (%) (950 °C, 2h): <12 contents of SiO₂ (dry basis) (%): >85 contents of SiO₂ (950 °C, 2h) (%): >99.8 contents of carbon (%): 0.3 particle size (nm): 10-20 pH: 6.0-7.5 surface area (m²/g): 90-130 bulk density (g/ml): 0.15</p>	

6853HN	Silicon Oxide Nanoparticle	\$98/100g \$353/500g
SiO ₂	<p>Surface modified with double bond; dispersible in toluene, unsaturated resin, Polystyrene, polycarbonate, and coatings; reactive with unsaturated bond</p> <p>Properties loss on drying (%) (105 °C, 2h): <3 loss on ignition (%) (950 °C, 2h): <12 contents of SiO₂ (dry basis) (%): >85 contents of SiO₂ (950 °C, 2h) (%): >99.8 contents of carbon (%): 0.3 particle size (nm): 10-20 pH: 6.0-7.5 surface area (m²/g): 90-130 bulk density (g/ml): 0.15</p>	

6861HN	Silicon Oxide Nanoparticle	\$98/100g
SiO ₂	<p>Surface modified with double layer structure; Dispersible in non-polar and weak polar media; decomposed in acid or polar media and SiO₂ particles separated; Used as a filler of leather; and for applications of oil based coatings, rubber, plastics</p> <p>Properties loss on drying (%) (105 °C, 2h): <3 loss on ignition (%) (950 °C, 2h): <15 contents of SiO₂ (dry basis) (%): >80 contents of SiO₂ (950 °C, 2h) (%): >99.8 contents of carbon (%):0.3 particle size (nm): 10-20 surface area (m²/g): 60-100 pH: 6.5-7.5 bulk density (g/ml): 0.15</p>	\$353/500g

6862HN	Silicon Oxide Nanoparticle	\$98/25g
SiO ₂	<ul style="list-style-type: none"> • Surface modified with single layer organic chain, super-hydrophobic and Oleophilic; • Dispersible in non-polar and weak polar organic solvents; • For applications of lubricating greases, resins, adhesives, elastomers, inks, sealants, wax, leather, and waterproof and anticorrosive coatings <p>Properties loss on drying (%) (105 °C, 2h): <3 loss on ignition (%) (950 °C, 2h): <10 contents of SiO₂ (dry basis) (%): >90 contents of SiO₂ (950 °C, 2h) (%): >99.8 contents of carbon (%):0.3 particle size (nm): 10-20 surface area (m²/g): 100-140 pH: 6.5-7.5 bulk density (g/ml): 0.15</p>	\$292/100g

6863HN SiO ₂	Silicon Oxide Nanoparticle	\$98/100g \$353/500g
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- Surface modified with single layer organic chain, ;
- hydrophobic and oleophilic;
- For applications of lubricating greases, coatings, rubber, plastics, fibers, sealants, and adhesives

Properties

loss on drying (%) (105 °C, 2h): <3
 loss on ignition (%) (950 °C, 2h): <10
 contents of SiO₂ (dry basis) (%): >90
 contents of SiO₂ (950 °C, 2h) (%): >99.8
 contents of carbon (%): 0.3
 particle size (nm): 5-15
 surface area (m₂/g): 100-140
 pH: 6.5-7.5
 bulk density (g/ml): 0.15

6864HN SiO ₂	Silicon Oxide Nanoparticle	\$98/100g \$353/500g
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- Surface modified with single layer organic chain, super-hydrophobic;
- For applications of rubber, ink, lubricating greases, coatings, plastics, fibers, sealants, and adhesives

Properties

loss on drying (%) (105 °C, 2h): <3
 loss on ignition (%) (950 °C, 2h): <5
 contents of SiO₂ (dry basis) (%): >92
 contents of SiO₂ (950 °C, 2h) (%): >99.8
 contents of carbon (%): 0.15
 particle size (nm): 10-25
 surface area (m²/g): 75-125
 pH: 6.5-7.5
 bulk density (g/ml): 0.15

6820HK Beta SiC	Silicon Carbide Nanoparticle	\$89/25g \$129/100g
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CAS No.: 409-21-2
 Appearance: Grey Green Nanopowder
 Purity (%): 99
 Oxygen Content (%): <0.6
 Particle Size (nm): 40
 Specific Surface Area (m²/g): >80
 Bulk Density (g/cm³): 0.08

6880XH	Silicon Carbide Nanofiber	\$69/10g
Beta SiC	Contents: beta- SiC>99.9+%, Beta-SiC whisker>97%, Free Carbon <0.05% Diameter: 0.1-0.3 um Length: 2.0-60 um	\$125/25g \$349/100g

Typical Properties

Crystal Type: Beta
 Decomposition Temperature: 2973 k
 Thermal Expansion Coefficient: 6.58×10^{-6} at 373k;
 2.98×10^{-6} at 1173k
 Compressibility Coefficient: 0.21×10^{-6}
 Density (288k): 3.216 g/cm³
 Hardness: 9.5 Mohs
 Tensile Strength: 20.8 GPa

6830HK	Silicon Nitride Nanoparticle (amorphous)	\$78/25g
Si ₃ N ₄	CAS No.: 12033-89-5 Appearance: White Nanopowder Purity (%): 99 Oxygen Content (%): <0.5 Particle Size (nm): 20 Specific Surface Area (m ² /g): >110 Bulk Density (g/cm ³): 0.06	\$115/100g

6835HK	Silicon Nitride Nanofiber	\$98/25g
Alpha Si ₃ N ₄	Appearance: Grey white nanowhisker/nanofiber Dimensions: 100nmX800nm Purity (%): 99 Oxygen Content (%): <1 Free Si (%): <0.4 Specific Surface Area (m ² /g): 45 Bulk Density (g/cm ³): 0.044 Crystal Cell: Hexagonal	\$138/100g

6835HM	Silicon Nitride Powder (Amorphous)	\$87/100g
Si ₃ N ₄	Purity (%): 99.5% APS:0.5-1.0um	\$358/500g

6911DX	Samarium Oxide Powder	\$92/25g
Sm ₂ O ₃	Purity (%): 99.9% D50: 3-5um	\$232/100g \$592/500g

1021XH	Tin Nanoparticle	\$77/25g
Sn UN 3089	Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: <100 nm SSA: ~7 m ² /g Morphology: spherical	\$215/100g

7012LC SnO ₂	Tin Oxide Nanoparticle Purity: 99.9% Appearance: white nanopowder APS: 50-70 nm SSA: 10-30 m ² /g Bulk density: 0.3 g/cm ³ True density: 6.95 g/cm ³	\$125/100g \$264/500g \$452/1kg
7050NH ATO	Antimony Tin Oxide Nanoparticle (ATO) SnO ₂ :Sb ₂ O ₃ =90:10 Appearance: nanopowder APS: 40 nm SSA: >75 m ² /g Electrical Conductivity: 10 ⁶ ~10 ⁹ ohm PH: 4.0~7.0 Bulk Density: 0.95 g/cm ³ Applications: Transparent Electrodes for LCD, ELD, ECD, and Solar Cell; thermal insulation; electromagnetism shield...	\$185/100g \$402/500g \$590/1kg
7191DX SrCO ₃	Strontium Carbonate Nanopowder Purity: 99.0% APS: <100 nm	\$192/100g \$422/500g
1110XH Ta UN 3089	Tantalum Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 60-80 nm Morphology: spherical	\$290/25g \$811/100g
7340DX Ta ₂ O ₅	Tantalum Oxide Powder Purity: 99.9% APS: <1um	\$98/25g \$216/100g \$486/500g
7411DX Tb ₄ O ₇	Terbium Oxide Powder Purity: 99.9% Appearance: Powder	\$630/500g
1120XH Ti UN 2546	Titanium Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 40-60 nm SSA: ~20 m ² /g Morphology: spherical True density: 2.86 g/cm ³	\$129/25g \$361/100g

1121XH Ti UN 2546	Titanium Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 60-80 nm SSA: 13.8 m ² /g Morphology: spherical True density: 2.86 g/cm ³	\$121/25g \$338/100g
7910DL TiO ₂	Titanium Oxide Nanoparticle (anatase) Purity: 99.5% Appearance: white nanopowder D50: 10-25 nm SSA: 50-150 m ² /g	\$64/100g \$134/500g \$188/1kg
7918DL TiO ₂	Titanium Oxide Nanoparticle (anatase + rutile) Purity: 99.5% Appearance: white nanopowder D50: 10-30 nm SSA: 50-100 m ² /g	\$108/100g \$226/500g \$317/1kg
7920DL TiO ₂	Titanium Oxide Nanoparticle (Rutile) Purity: 99.5% Appearance: white nanopowder D50: 10-30 nm SSA: ~50 m ² /g	\$64/100g \$134/500g \$188/1kg
7920SCDL TiO ₂	Titanium Oxide (Rutile, silane coated) Purity: 99.5% Appearance: white nanopowder D50: 10-30 nm SSA: ~50 m ² /g	\$117/100g \$292/500g
7940HK TiC UN 3178	Titanium Carbide Nanoparticle CAS No.: 12070-08-5 Appearance: Black nanopowder Purity (%): 99 Oxygen Content (%): <0.25 Particle Size (nm): 40 Specific Surface Area (m ² /g): >50 Bulk Density (g/cm ³): 0.08	\$95/25g \$240/100g
7945HK TiN UN 3178	Titanium Nitride Nanoparticle (Cubic) CAS No.: 25583-20-4 Appearance: Black nanopowder Purity (%): 97+ Oxygen Content (%): <1 Particle Size (nm): 20 Specific Surface Area (m ² /g): >80 Bulk Density (g/cm ³): 0.08	\$126/25g \$245/100g

8010CN WO ₃	Tungsten Oxide Appearance: Light Blue Nanopowder Purity: > 99.5% Particle Size: <100 nm SSA: 5-20 m ² /g	\$79/25g \$147/100g \$408/500g
9820XH W UN 3089	Tungsten Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 40-60 nm SSA: ~8 m ² /g Morphology: spherical Bulk density: ~3.5 g/cm ³ True density: 19.3 g/cm ³	\$129/25g \$361/100g
9821XH W UN 3089	Tungsten Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 80-100 nm SSA: 4-8 m ² /g Morphology: spherical Bulk density: 1.4-4.0 g/cm ³ True density: 19.5 g/cm ³	\$121/25g \$338/100g
8005DX WCl ₆ UN 3260	Tungsten Hexachloride Tungsten Carbide Particle Size: 80nm Crystal Structure: Hexagonal Bulk density: 3.2 g/cm ³ Specific Surface Area: 60 m ² /g	\$235/25g
8020CH WS ₂	Tungsten Disulfide Form: powder Color: silver grey Purity: > 99.9% Particle Size: 0.8 um Morphology: flaky Coefficient of Friction: 0.03 dynamic, 0.07 static Lubricating Temperature Range: Ambient: from -273 °C to 650 °C; Vacuum (10 ⁻¹⁴ Torr): -188°C to 1316°C Load bearing ability: 3x10 ⁵ PSI for coated film Coatable substrates: iron steel, aluminum, copper, plastics, and other metals and solids Compatibility: oil, solvent, paint, fuel	\$96/100g \$193/500g \$320/1 kg
8030CH WCl ₆ UN 3260	Tungsten Hexachloride Form: powder Color: purple black Purity: > 99.0% Particle Size: micro-sized	\$98/100g \$195/500g

8210CG Y ₂ O ₃	Yttrium oxide Powder Purity: 99.995% (REO) Appearance: white nanopowder APS: 30-50 nm SSA: ~40 m ² /g Morphology: spherical Bulk density: 0.33 g/cm ³ True density: 5.01 g/cm ³	\$85/25g \$184/100g
8211CG Y ₂ O ₃	Yttrium oxide Powder Purity: 99.995% (REO) Appearance: white powder APS: 0.5-1.0 micron Morphology: spherical Bulk density: 0.33 g/cm ³ True density: 5.01 g/cm ³	\$122/100g \$285/500g
8212CG Y ₂ O ₃	Yttrium oxide Powder Purity: 99.995% (REO) Appearance: white powder APS: 1.0-2.0 micron Morphology: spherical Bulk density: 0.33 g/cm ³ True density: 5.01 g/cm ³	\$122/100g \$285/500g
8223CG Y ₂ O ₃	Yttrium oxide Powder Purity: 99.995% (REO) Purity: 99.999% (Y ₂ O ₃ /REO) Appearance: white nanopowder Average Particle Size: ~3 micron	\$132/100g \$296/500g
8311DX Yb ₂ O ₃	Ytterbium oxide Powder Purity: 99.9% Appearance: Powder	\$178/100g
9920XH Zn UN 1436	Zinc Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 40-60 nm SSA: ~12 m ² /g Morphology: spherical Bulk density: 0.2-0.4 g/cm ³ True density: 7.14 g/cm ³	\$87/25g \$244/100g

9921XH Zn UN 1436	Zinc Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 80-100 nm SSA: ~6.5 m ² /g Morphology: spherical Bulk density: 0.79 g/cm ³ True density: 7.14 g/cm ³	\$77/25g \$215/100g
8410DL ZnO	Zinc Oxide Nanoparticle Purity: 99.8% Appearance: white ~ light yellow nanopowder D50: 10-30 nm SSA: >90m ² /g	\$64/100g \$134/500g \$188/1kg
8411DL ZnO	Zinc Oxide (treated with silane coupling agents) Purity: 99% Appearance: white ~ light yellow nanopowder D50: 10-30 nm SSA: >60m ² /g	\$110/100g \$230/500g \$232/1kg
8415CY ZnO	Zinc Oxide Nanoparticle Purity: 99.9% Appearance: white ~ light yellow nanopowder APS: <200 nm Bulk Density: 0.4 g/cm ³	\$59/100g \$112/500g \$168/1kg
8416DX ZnO	Zinc Oxide Nanoparticle Purity: 99.999%	\$108/25g \$236/100g \$410/500kg
8501YS ZrO ₂	Zirconium Oxide Powder Appearance: white powder Purity (ZrO ₂ + HfO ₂): 99.9% D50: 1-3 micron Morphology: Nearly Spherical	\$58/100g \$122/500g \$186/1kg
8512QI ZrO ₂	Zirconium Oxide Nanoparticle Purity: 99.9% Appearance: white nanopowder APS: 20-30 nm SSA: > 35 m ² /g Morphology: Spherical	\$83/100g \$157/500g \$245/1kg
8520DL ZrO ₂ -3Y	Zirconium Oxide Purity: 99.9% Contents of Y ₂ O ₃ (wt%): 5.2±0.2 D50: 0.3-0.5 um SSA: > 13-17 m ² /g Color: white	\$72/100g \$149/500g \$235/1kg

8522QI ZrO ₂ -3Y	Zirconium Oxide Nanoparticle (monoclinic + tetragonal) Purity: Y ₂ O ₃ - 5.4%, ZrO ₂ +HfO ₂ - 94% APS: 25 nm SSA: > 40 m ² /g Morphology: Spherical	\$86/100g \$163/500g \$254/1kg
8528QI ZrO ₂ -5Y	Zirconium Oxide Nanoparticle Purity: Y ₂ O ₃ - 8.6-9.0% APS: 20-30 nm Morphology: Spherical	\$86/100g \$163/500g \$254/1kg
8531DL ZrO ₂ -8Y	Zirconium Oxide Purity: 99.9% Contents of Y ₂ O ₃ (wt%): 13.3±0.2 D50: 0.8 um Color: white	\$73/100g \$152/500g \$239/1kg
8532QI ZrO ₂ -8Y	Zirconium Oxide (cubic) Purity: Y ₂ O ₃ - 13.5%, ZrO ₂ +HfO ₂ - 86% Appearance: white nanopowder APS: 20 nm SSA: > 50 m ² /g Morphology: Near Spherical	\$91/100g \$172/500g \$268/1kg
8540HK ZrC UN 3178	Zirconium Carbide Nanoparticle CAS No.: 12070-14-3 Appearance: Black nanopowder Purity (%): 97+ Oxygen Content (%): <1.0 Particle Size (nm): 60 Specific Surface Area (m ² /g): >70 Morphology: Spherical Bulk Density (g/cm ³): 0.08	\$141/25g \$235/100g

CARBON NANOTUBES

Product #	Description	Price
0550CA SWNT	Single-walled nanotubes (SWNTs) Purity: > 95 wt% (carbon nanotubes) > 90 wt% (single-walled nanotubes) Outside diameter: 1-2 nm Inside diameter: 0.8-1.6 nm Length: 5-20 μm SSA: > 400 m^2/g Ash: <3.0wt% Bulk density: 0.14 g/cm^3 True density: $\sim 2.1 \text{ g}/\text{cm}^3$ Color: black Manufacturing method: Catalytic CVD	\$168/1g \$790/5g
0551CA SWNT	Single-walled nanotubes (SWNTs) Purity: > 90 wt% (carbon nanotubes) > 60 wt% (single-walled nanotubes) Outside diameter: 1-2 nm Inside diameter: 0.8-1.6 nm Length: 5-20 μm SSA: > 400 m^2/g Ash: <3.0wt% Bulk density: 0.14 g/cm^3 True density: $\sim 2.1 \text{ g}/\text{cm}^3$ Color: black Manufacturing method: Catalytic CVD	\$95/1g \$318/5g
0552CA MWNTs, 95%, <8 nm	Multi walled nanotubes (MWNTs) Purity: > 95 wt% (carbon nanotubes) Outside diameter: <8 nm Inside diameter: 2-5 nm Length: 5-20 μm SSA: > 500 m^2/g Ash: <1.5wt% Electrical conductivity: >100 s/cm Bulk density: 0.27 g/cm^3 True density: $\sim 2.1 \text{ g}/\text{cm}^3$ Manufacturing method: Catalytic CVD	\$108/5g \$235/25g \$490/100g

0553CA	Multi walled nanotubes (MWNTs)	\$75/5g
MWNTs	Purity: > 95 wt%	\$169/25g
95%, 10-20 nm	Outside diameter: 10-20 nm	\$438/100g
	Inside diameter: 3-5 nm	
	Length: 5-30um	
	SSA: > 350 m ² /g	
	Ash: <1.0wt%	
	Amorphous carbon: <3.0%	
	Electrical conductivity: >100 s/cm	
	Bulk density: 0.27g/cm ³	
	True density: ~2.1 g/cm ³	
	Manufacturing method: Catalytic CVD	

0554CA	Multi walled nanotubes (MWNTs)	\$70/5g
MWNTs	Purity: > 95 wt%	\$118/25g
95%, 20-30 nm	Outside diameter: 20-30 nm	\$256/100g
	Inside diameter: 5-10 nm	
	Length: 10-30 um	
	SSA: >110 m ² /g	
	Ash: <1.5 wt%	
	Amorphous carbon: <3.0%	
	Electrical conductivity: >100 s/cm	
	Bulk density: 0.28 g/cm ³	
	True density: ~2.1 g/cm ³	
	Manufacturing method: Catalytic CVD	

0555CA	Multi walled nanotubes (MWNTs)	\$70/5g
MWNTs	Purity: > 95 wt%	\$118/25g
95%, 30-50nm	Outside diameter: 30-50 nm	\$256/100g
	Inside diameter: 5-10 nm	
	Length: 5-20 um	
	SSA: >60 m ² /g	
	Ash: <1.5 wt%	
	Amorphous carbon: <3.0%	
	Electrical conductivity: >100 s/cm	
	Bulk density: 0.28 g/cm ³	
	True density: ~2.1 g/cm ³	
	Manufacturing method: Catalytic CVD	

0556CA	Multi walled nanotubes (MWNTs)	\$70/5g
MWNTs	Purity: > 95 wt%	\$118/25g
95%, 50-100nm	Outside diameter: 50-100nm	\$256/100g
	Inside diameter: 5-10 nm	
	Length: 5-20 um	
	SSA: >60 m ² /g	
	Ash: <1.5 wt%	
	Amorphous carbon: <3.0%	
	Electrical conductivity: >100 s/cm	
	Bulk density: 0.28 g/cm ³	
	True density: ~2.1 g/cm ³	
	Manufacturing method: Catalytic CVD	

0550CA-OH	Single-walled nanotubes (SWNTs), -OH functionalized	\$196/1g
SWNTs	Content of -OH groups: ~4wt%	
-OH unfunctionalized	Purity: > 95 wt% (carbon nanotubes)	\$919/5g
90%	> 90 wt% (single-walled nanotubes)	
	Outside Diameter: 1-2 nm	
	Inside Diameter: 0.8-1.6 nm	
	Length: 5-20 um	
	SSA: > 400 m ² /g	
	Ash: <1.5wt%	
	Electrical Conductivity: >100 s/cm	
	Bulk Density: 0.14 g/cm ³	
	True density: ~2.1 g/cm ³	
	Color: black	
	Manufacturing method: Catalytic CVD	

0551CA-OH	Single-walled nanotubes (SWNTs), -OH functionalized	\$138/1g
SWNTs	Content of -OH groups: ~4wt%	\$520/5g
-OH unfunctionalized	Purity: > 90 wt% (carbon nanotubes)	
60%	> 60 wt% (single-walled nanotubes)	
	Outside Diameter: 1-2 nm	
	Inside Diameter: 0.8-1.6 nm	
	Length: 5-20 um	
	SSA: > 400 m ² /g	
	Ash: <3.0wt%	
	Bulk Density: 0.14 g/cm ³	
	True density: ~2.1 g/cm ³	
	Color: black	
	Manufacturing method: Catalytic CVD	

0552CA-OH	Multi walled nanotubes	\$132/5g
MWNTs	-OH functionalized (MWNTs-OH)	\$348/25g
-OH unfunctionalized	Purity: > 95 wt%	
95%, <8nm	Content of -OH group: ~5.0wt%	
	Outside diameter: <8 nm	
	Inside diameter: 2-5 nm	
	Length: 5-20 um	
	SSA: > 500 m ² /g	
	Ash: <1.5wt%	
	Electrical conductivity: >100 s/cm	
	Bulk density: 0.27g/cm ³	
	True density: ~2.1 g/cm ³	
	Manufacturing method: Catalytic CVD	

0553CA-OH MWNTs -OH unfunctionalized 95%, 10-20 nm	Multi walled nanotubes -OH functionalized (MWNTs) Purity: > 95 wt% Content of -OH: ~2.0 wt% Outside diameter: 10-20 nm Inside diameter: 3-5 nm Length: 5-30um SSA: >350 m ² /g Ash: <1.0wt% Amorphous carbon: <3.0% Electrical conductivity: >100 s/cm Bulk density: 0.27g/cm ³ True density: ~2.1 g/cm ³ Manufacturing method: Catalytic CVD	\$119/5g \$273/25g
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0554CA-OH MWNTs -OH unfunctionalized 95%, 20-30 nm	Multi walled nanotubes (MWNTs) Purity: > 95 wt% Content of -OH: ~1.6 wt% Outside diameter: 20-30 nm Inside diameter: 5-10 nm Length: 10-30 um SSA: >110 m ² /g Ash: <1.5 wt% Amorphous carbon: <3.0% Electrical conductivity: >100 s/cm Bulk density: 0.28 g/cm ³ True density: ~2.1 g/cm ³ Manufacturing method: Catalytic CVD	\$110/5g \$258/25g \$798/100g
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0555CA-OH MWNTs -OH unfunctionalized 95%, 30-50 nm	Multi walled nanotubes (MWNTs) Purity: > 95 wt% Content of -OH: ~1.0 wt% Outside diameter: 30-50nm Inside diameter: 5-10 nm Length: 10-30 um SSA: >100m ² /g Ash: <1.5 wt% Amorphous carbon: <3.0% Electrical conductivity: >100 s/cm Bulk density: 0.28 g/cm ³ True density: ~2.1 g/cm ³ Manufacturing method: Catalytic CVD	\$110/5g \$258/25g \$798/100g
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0556CA-OH MWNTs -OH unfunctionalized 95%,50-100 nm	Multi walled nanotubes (MWNTs) Purity: > 95 wt% Content of -OH: ~0.7 wt% Outside diameter: 50-100 nm Inside diameter: 5-10 nm Length: 10-30 um SSA: >60m ² /g Ash: <1.5 wt% Amorphous carbon: <3.0% Electrical conductivity: >100 s/cm Bulk density: 0.28 g/cm ³ True density: ~2.1 g/cm ³ Manufacturing method: Catalytic CVD	\$110/5g \$258/25g \$798/100g
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0550CA-COOH SWNTs -COOH Functionalized 95%	Single-walled nanotubes (SWNTs), -COOH functionalized Content of -COOH groups: ~3wt% Purity: > 95 wt% (carbon nanotubes) > 90 wt% (single-walled nanotubes) Outside Diameter: 1-2 nm Inside Diameter: 0.8-1.6 nm Length: 5-20 μm SSA: > 400 m^2/g Ash: <1.5wt% Electrical Conductivity: >100 s/cm Bulk Density: 0.14 g/cm^3 True density: ~2.1 g/cm^3 Color: black Manufacturing method: Catalytic CVD	\$196/1g \$1190/5g
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0551CA-COOH SWNTs -COOH Functionalized 60%	Single-walled nanotubes (SWNTs), -OH functionalized Content of -COOH groups: ~5wt% Purity: > 90 vol% (carbon nanotubes) > 60 vol% (single-walled nanotubes) Outside Diameter: 1-2 nm Inside Diameter: 0.8-1.6 nm Length: 5-20 μm SSA: > 400 m^2/g Ash: <3.0wt% Bulk Density: 0.14 g/cm^3 True density: ~2.1 g/cm^3 Color: black Manufacturing method: Catalytic CVD	\$138/1g \$520/5g
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0552CA-COOH MWNTs -COOH Functionalized 95%, <8 nm	Multi walled nanotubes -COOH functionalized (MWNTs-COOH) Purity: > 95 wt% Content of -COOH group: ~4wt% Outside diameter: <8 nm Inside diameter: 2-5 nm Length: 5-20 μm SSA: > 500 m^2/g Ash: <1.5wt% Electrical conductivity: >100 s/cm Bulk density: 0.27 g/cm^3 True density: ~2.1 g/cm^3 Manufacturing method: Catalytic CVD	\$132/5g \$348/25g
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0553CA-COOH MWNTs -COOH Functionalized 95%, 10-20 nm	Multi walled nanotubes -COOH functionalized (MWNTs) Purity: > 95 wt% Content of -COOH: ~2.0 wt% Outside diameter: 10-20 nm Inside diameter: 3-5 nm Length: 5-30um SSA: >350 m ² /g Ash: <1.0wt% Amorphous carbon: <3.0% Electrical conductivity: >100 s/cm Bulk density: 0.27g/cm ³ True density: ~2.1 g/cm ³ Manufacturing method: Catalytic CVD	\$119/5g \$273/25g
0554CA-COOH MWNTs -COOH Functionalized 95%, 20-30 nm	Multi walled nanotubes (MWNTs) Purity: > 95 wt% Content of -COOH: ~1.2 wt% Outside diameter: 20-30 nm Inside diameter: 5-10 nm Length: 10-30 um SSA: >110 m ² /g Ash: <1.5 wt% Amorphous carbon: <3.0% Electrical conductivity: >100 s/cm Bulk density: 0.28 g/cm ³ True density: ~2.1 g/cm ³ Manufacturing method: Catalytic CVD	\$110/5g \$258/25g \$798/100g
0555CA-COOH MWNTs -COOH Functionalized 95%, 30-50 nm	Multi walled nanotubes (MWNTs) Purity: > 95 wt% Content of -COOH: ~0.7 wt% Outside diameter: 30-50nm Inside diameter: 5-10 nm Length: 10-30 um SSA: >100m ² /g Ash: <1.5 wt% Amorphous carbon: <3.0% Electrical conductivity: >100 s/cm Bulk density: 0.28 g/cm ³ True density: ~2.1 g/cm ³ Manufacturing method: Catalytic CVD	\$110/5g \$258/25g \$798/100g

0556CA-COOH	Multi walled nanotubes (MWNTs)	\$110/5g
MWNTs	Purity: > 95 wt%	\$258/25g
-COOH	Content of -COOH: ~0.5 wt%	\$798/100g
Functionalized	Outside diameter: 50-100nm	
95%, 50-100 nm	Inside diameter: 5-10 nm	
	Length: 10-30 um	
	SSA: >60m ² /g	
	Ash: <1.5 wt%	
	Amorphous carbon: <3.0%	
	Electrical conductivity: >100 s/cm	
	Bulk density: 0.28 g/cm ³	
	True density: ~2.1 g/cm ³	
	Manufacturing method: Catalytic CVD	

RARE EARTH MATERIALS

Product #	Description	Price
2190DX	Cerium Metal	Ask for a quote
Ce	Ce/TREM 99.9%	
2191DX	Cerium Metal	Ask for a quote
Ce	Ce/TREM 99.99%	
2110DX	Cerium Oxide Nanopowder	Ask for a quote
CeO ₂	CeO ₂ /TREO 99.99% 10-30nm	
2113DX	Cerium Oxide Nanopowder	Ask for a quote
CeO ₂	CeO ₂ /TREO 99.9% 0.1-1um	
2110DX	Cerium Oxide Nanopowder	Ask for a quote
CeO ₂	CeO ₂ /TREM 99.9% 15um	
2195DX	Cerium Oxide Nanopowder	Ask for a quote
CeF ₃	REO/TREO 99.0% TREO>80%	
2196DX	Cerium Oxide Nanopowder	Ask for a quote
CeF ₃	REO/TREO 99.9% TREO>80%	
2980DX	Dysprosium Metal Powder	Ask for a quote
Dy	Dy/TREM 99.9% -40,-100,-325 mesh	
2981DX	Dysprosium Metal Powder	Ask for a quote
Dy	Dy/TREM 99.9+%	
2982DX	Dysprosium Metal Powder	Ask for a quote
Dy	Dy/TREM 99.99%	
2981DX	Dysprosium Metal Powder	Ask for a quote
Dy	Dy/TREM 99.99% Disks, Plates	

2910DX Dy ₂ O ₃	Dysprosium Oxide Nanopowder Dy ₂ O ₃ /TREM 99.9+% 50nm	Ask for a quote
2920DX Dy ₂ O ₃	Dysprosium Oxide Micron powder Dy ₂ O ₃ /TREM 99.9+%	Ask for a quote
2920DX Dy ₂ O ₃	Dysprosium Oxide Micron powder Dy ₂ O ₃ /TREM 99.9+%	Ask for a quote
3080DX Er	Erbium Metal Powder Er/TREM 99.9+% -100,or -325 mesh	Ask for a quote
3081DX Er	Erbium Metal Powder Er/TREM 99.9+%	Ask for a quote
3082DX Er	Erbium Metal Powder Er/TREM 99.99%	Ask for a quote
3083DX Er	Erbium Metal Powder Er/TREM 99.9% Disks, Plates	Ask for a quote
3010DX Er ₂ O ₃	Erbium Oxide Nanopowder Er ₂ O ₃ /TREM 99.9+% 40-50nm	Ask for a quote
3011DX Er ₂ O ₃	Erbium Oxide Micron Powder Er ₂ O ₃ /TREM 99.9% D50: 10micron	Ask for a quote
3012DX Er ₂ O ₃	Erbium Oxide Nanopowder Er ₂ O ₃ /TREM 99.995% D50: 10micron	Ask for a quote
3180DX Eu	Europium Metal Powder Eu/TREM 99.9+% -100mesh	Ask for a quote
3181DX Eu	Europium Metal Eu/TREM 99.9+%	Ask for a quote
3182DX Eu	Europium Metal Powder Eu/TREM 99.99%	Ask for a quote
3183DX Eu	Europium Sputtering Target Eu/TREM 99.99% Disks, Plates	Ask for a quote
3110DX Eu ₂ O ₃	Europium Oxide Nanopowder Eu ₂ O ₃ /TREM 99.99% 50nm	Ask for a quote
3111DX Eu ₂ O ₃	Europium Oxide Nanopowder Eu ₂ O ₃ /TREM 99.9% D50: 2-3um	Ask for a quote
3110DX Eu ₂ O ₃	Europium Oxide Nanopowder Eu ₂ O ₃ /TREM 99.999% D50:2-3um	Ask for a quote

3520DX GdCl ₃ · 6H ₂ O	Gadolinium Trichloride Gd/TREM 99.99%	Ask for a quote
3580DX Gd	Gadolinium Metal Powder Gd/TREM 99.9% -40 or -100 mesh	Ask for a quote
3581DX Gd	Gadolinium Metal Sputtering Target Gd/TREM 99.9% Disks, Plates	Ask for a quote
3510CG Gd ₂ O ₃	Gadolinium Oxide Nanopowder Gd ₂ O ₃ /TREO 99.9+% 30-50nm	Ask for a quote
3511DX Gd ₂ O ₃	Gadolinium Oxide Nanopowder Gd ₂ O ₃ /TREO 99.995% 3-5um	Ask for a quote
3590DX GdF ₃	Gadolinium Fluoride Nanopowder REO/TREO 99.9%	Ask for a quote
3590DX GdF ₃	Gadolinium Fluoride Nanopowder REO/TREO 99.99%	Ask for a quote
3980DX Ho	Holmium Metal Powder Ho/TREM 99.9+% -100mesh	Ask for a quote
3981DX Ho	Holmium Metal Ho/TREM 99.9+%	Ask for a quote
3982DX Ho	Holmium Metal Ho/TREM 99.9+%	Ask for a quote
3983DX Ho	Holmium Sputtering Target Ho/TREM 99.99% Disks, Plates	Ask for a quote
3911DX Ho ₂ O ₃	Holmium Oxide Micron Powder Ho ₂ O ₃ /TREO 99.5%	Ask for a quote
3911DX Ho ₂ O ₃	Holmium Oxide Micron Powder Ho ₂ O ₃ /TREO 99.9%	Ask for a quote
3911DX Ho ₂ O ₃	Holmium Oxide Micron Powder Ho ₂ O ₃ /TREO 99.99%	Ask for a quote
4480DX La	Lanthanum Metal Powder La/TREM 99.9% -100mesh	Ask for a quote
4481DX La	Lanthanum Metal Sputtering Target La/TREM 99.9% Disks, Plates	Ask for a quote
4410CG La ₂ O ₃	Lanthanum Oxide Nanopowder La ₂ O ₃ /TREO 99.9+% 100nm	Ask for a quote

4411DX La ₂ O ₃	Lanthanum Oxide powder La ₂ O ₃ /TREO 99.9% 3-5um	Ask for a quote
4440DX La ₂ O ₃	Lanthanum Oxide powder La ₂ O ₃ /TREO 99.995% 3-5um	Ask for a quote
4780DX Lu	Lutetium Metal Powder Lu/TREM 99.9+% -100mesh	Ask for a quote
4781DX Lu	Lutetium Metal Lu/TREM 99.9%	Ask for a quote
4782DX Lu	Lutetium Metal Lu/TREM 99.99%	Ask for a quote
4781DX Lu	Lutetium Sputtering Target Lu/TREM 99.99% Disks, Plates	Ask for a quote
4711DX Lu ₂ O ₃	Lutetium Oxide Micron Powder Lu ₂ O ₃ /TREO 99.9% D50:3-5um	Ask for a quote
4711DX Lu ₂ O ₃	Lutetium Oxide Micron Powder Lu ₂ O ₃ /TREO 99.99% D50:3-5um	Ask for a quote
4711DX Lu ₂ O ₃	Lutetium Oxide Micron Powder Lu ₂ O ₃ /TREO 99.999% D50:3-5um	Ask for a quote
4711DX Lu ₂ O ₃	Lutetium Oxide Micron Powder Lu ₂ O ₃ /TREO 99.999% D50:3-5um	Ask for a quote
5380DX Nd	Neodymium Metal Powder Nd/TREM 99.9% -100mesh	Ask for a quote
5381DX Nd	Neodymium Metal Sputtering Target Nd/TREM 99.9% Disks, Plates	Ask for a quote
5310CG Nd ₂ O ₃	Neodymium Oxide Nanopowder Nd ₂ O ₃ /TREO 99.9+% <100nm	Ask for a quote
5311DX Nd ₂ O ₃	Neodymium Oxide powder Nd ₂ O ₃ /TREO 99.9% 3-5um	Ask for a quote
5311DX Nd ₂ O ₃	Neodymium Oxide powder Nd ₂ O ₃ /TREO 99.995%	Ask for a quote

	3-5um	
5390DX NdF ₃	Neodymium Fluoride powder REO/TREO 99.5%	Ask for a quote
5390DX NdF ₃	Neodymium Fluoride powder REO/TREO 99.99%	Ask for a quote
5980DX Pr	Praseodymium Metal powder Pr/TREM 99.9% -100mesh	Ask for a quote
5981DX Pr	Praseodymium Metal powder Pr/TREM 99.9% Disks, Plates	Ask for a quote
5911DX Pr ₆ O ₁₁	Praseodymium Oxide Powder Pr ₆ O ₁₁ /TREO 99.9% 3-5um	Ask for a quote
5912DX Pr ₆ O ₁₁	Praseodymium Oxide Powder Pr ₆ O ₁₁ /TREO 99.995% 3-5um	Ask for a quote
5990DX PrF ₃	Praseodymium Fluoride Powder REO/TREO 99.5%	Ask for a quote
5992DX PrF ₃	Praseodymium Fluoride Powder REO/TREO 99.99%	Ask for a quote
6980DX Sm	Samarium Metal Powder Sm /TREM 99.9+% -100mesh	Ask for a quote
6981DX Sm	Samarium Metal Powder Sm /TREM 99.9%	Ask for a quote
6982DX Sm	Samarium Metal Powder Sm /TREM 99.99%	Ask for a quote
6983DX Sm	Samarium Sputtering Target Sm /TREM 99.99% Disks, Plates	Ask for a quote
6911DX Sm ₂ O ₃	Samarium Oxide Micron Powder Sm ₂ O ₃ /TREO 99.9% D50: 3-5um	Ask for a quote
6912DX Sm ₂ O ₃	Samarium Oxide Micron Powder Sm ₂ O ₃ /TREO 99.99% D50: 3-5um	Ask for a quote
6913DX Sm ₂ O ₃	Samarium Oxide Micron Powder Sm ₂ O ₃ /TREO 99.9999% D50: 3-5um	Ask for a quote

7080DX Sc	Samarium Metal Powder Sc /TREM 99.9+% -100 mesh	Ask for a quote
7081DX Sc	Samarium Metal Sc /TREM 99.9%	Ask for a quote
7082DX Sc	Samarium Metal Sc /TREM 99.99%	Ask for a quote
7083DX Sc	Samarium Sputtering Target Sc /TREM 99.99% Disks, Plates	Ask for a quote
7011DX Sc ₂ O ₃	Samarium Oxide Micron Powder Sc ₂ O ₃ /TREM 99.9% D50:3-5um	Ask for a quote
7012DX Sc ₂ O ₃	Samarium Oxide Micron Powder Sc ₂ O ₃ /TREM 99.99% D50:3-5um	Ask for a quote
7013DX Sc ₂ O ₃	Samarium Oxide Micron Powder Sc ₂ O ₃ /TREM 99.999% D50:3-5um	Ask for a quote
7480DX Tb	Terbium Metal Powder Tb /TREM 99.9% -100 mesh	Ask for a quote
7481DX Tb	Terbium Metal Tb /TREM 99.9%	Ask for a quote
7482DX Tb	Terbium Metal Tb/TREM 99.99%	Ask for a quote
7483DX Tb	Terbium Metal Sputtering Target Tb /TREM 99.99% Disks, Plates	Ask for a quote
7411DX Tb ₄ O ₇	Terbium Oxide Micron Powder Tb ₄ O ₇ /TREM 99.9% D50:3-5um	Ask for a quote
7412DX Tb ₄ O ₇	Terbium Oxide Micron Powder Tb ₄ O ₇ /TREM 99.99% D50:3-5um	Ask for a quote
7413DX Tb ₄ O ₇	Terbium Oxide Micron Powder Tb ₄ O ₇ /TREM 99.999% D50:3-5um	Ask for a quote
7580DX Tm	Thulium Metal Powder Tm/TREM 99.9% -100 mesh	Ask for a quote
7581DX Tm	Thulium Metal Tm/TREM 99.9%	Ask for a quote
7582DX Tm	Thulium Metal Tm/TREM 99.99%	Ask for a quote
7583DX Tm	Thulium Sputtering Target Tm/TREM 99.99% Disks, Plates	Ask for a quote

7511DX Tm ₂ O ₃	Thulium Oxide Micron Powder Tm ₂ O ₃ /TREO 99.9% D50:3-5um	Ask for a quote
7512DX Tm ₂ O ₃	Thulium Oxide Micron Powder Tm ₂ O ₃ /TREO 99.99% D50:3-5um	Ask for a quote
7512DX Tm ₂ O ₃	Thulium Oxide Micron Powder Tm ₂ O ₃ /TREO 99.999% D50:3-5um	Ask for a quote
8380DX Yb	Ytterbium Metal Powder Yb/TREM 99.9% -100mesh	Ask for a quote
8381DX Yb	Ytterbium Metal Sputtering Target Yb/TREM 99.9% Disks, Plates	Ask for a quote
8311DX Yb ₂ O ₃	Ytterbium Oxide Powder Yb ₂ O ₃ /TREO 99.9% 3-5um	Ask for a quote
8312CG Yb ₂ O ₃	Ytterbium Oxide Powder Yb ₂ O ₃ /TREO 99.9% 3-5um	Ask for a quote
8310DX YbF ₃	Ytterbium Fluoride REO/TREO 99.9% 0.4um	Ask for a quote
8392DX YbF ₃	Ytterbium Fluoride REO/TREO 99.99%	Ask for a quote
8280DX Y	Yttrium Metal Powder Y/TREM 99.9% -40,-100,-325 mesh	Ask for a quote
8281DX Y	Yttrium Metal Sputtering Target Y/TREM 99.9% Disks, Plates	Ask for a quote
8210CG Y ₂ O ₃	Yttrium Oxide Nanopowder Y ₂ O ₃ /TREO 99.995% 30-50nm	Ask for a quote

8216CG Y ₂ O ₃	Yttrium Oxide Powder Y ₂ O ₃ /TREO 99.995% 20-60um	Ask for a quote
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8290DX YF ₃	Yttrium Fluoride REO/TREO 99.9%	Ask for a quote
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8291DX YF ₃	Yttrium Fluoride REO/TREO 99.99%	Ask for a quote
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