

Catalog

- Nanomaterials from NANOKAR

NANOKAR[®] Nanomaterials offers nanoparticles, nanopowders, micron powders, and CNTs (carbon nanotubes) in small quantity for researchers and in bulk order for industry groups. Our expertise in the properties, applications and various manufacturing of advance and engineered materials 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@nanokar.com for custom-made nanomaterials for your applications.

NANOPARTICLES & NANOPOWDERS

Product # & Chemical	Description
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
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
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.
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

0123NJ

Ag
 Flammable,
 UN 3089

Silver Nanoparticle

Silver (Ag) with oleic acid coated*
 Purity: 99.95% (trace metals basis)
 Appearance: Black nanopowder
 APS: 30-50 nm
 SSA: 5-10 m²/g
 Morphology: spherical
 Synthesis Process: Wet Chemistry
 * Coated with ~0.2wt% oleic acid coated for easy dispersing, and eliminating oxygen content and aggregation.

0125DX

Ag
 Flammable,
 UN 3089

Silver Nanoparticle

Silver nanopowder coated with polymer
 Purity of Ag: 99.9%
 Particle size of Ag nanoparticles: 500~800nm
 Color: black

0127SH

Ag
 Flammable,
 UN 3089

Silver Nanoparticle

Silver nanopowder coated with polymer
 Purity of Ag: 99.99%
 Particle size of Ag nanoparticles: ≤ 15 nm
 Composition: 25% silver + 75% polymer
 Dispersibility: dispersible in water and organic solvents
 Color: black

0200SJ

Al
 Flammable,
 UN 1396

Aluminum Nanoparticle

Purity: 99.9% trace metals basis
 Appearance: Black nanopowder
 APS: 18 nm
 SSA: 40-60 m²/g
 Morphology: spherical
 Bulk density: 0.08-0.2 g/cm³
 True density: 2.7 g/cm³

0220XH

Al
 UN 1396

Aluminum Nanoparticle

Purity: 99.9% trace metals basis
 Appearance: Black nanopowder
 APS: 40-60 nm
 SSA: 20-48 m²/g
 Morphology: spherical
 Bulk density: 0.08-0.2 g/cm³
 True density: 2.7 g/cm³

0221XH

Al
 UN 1396

Aluminum Nanoparticle

Purity: 99.9% trace metals basis
 Appearance: Black nanopowder
 APS: 60-80 nm
 SSA: 9-18 m²/g
 Morphology: spherical
 Bulk density: 0.17 g/cm³
 True density: 2.7 g/cm³

0226XHAl
UN 1396**Aluminum Nanoparticle**Purity: 99.7% trace metals basis
Appearance: Black nanopowder
APS: 130nm
SSA: 15.5 m²/g
Bulk density: 1.0~1.2 g/cm³
True density: 2.7 g/cm³**NK1315TB**

AlOOH

Boehmite NanoparticleDispersible white nanopowder in water
Grain Size: 10-20 nm
D50: 170-180 nm
Secondary Particle Size: 20-30 um
Bulk Density: 0.4-0.6 g/ml
SSA: 142.8 m²/g
Pore Volume: 0.73 cm³/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-Al₂O₃
Weight Loss <20%
Purity of gamma-Al₂O₃: 99.99%
SSA: 140.9 m²/g
Pore Volume: 0.77 cm³/g
Average Pore Diameter: 23 nm
Distribution of Pore Diameter: 2-40 nm (>95%)Calcined at 1000°C for 3 hours:
SSA: 107.5 m²/g
Pore Volume: 0.80 cm³/g
Average Pore Diameter: 32 nm
Distribution of Pore Diameter: 2-80 nm (>95%)**1319NH**Alpha- Al₂O₃**Aluminum Oxide Nanoparticle**White nanopowder
APS: 40 nm
SSA: ~60 m²/g
Applications: ceramic, catalyst, polishing, phosphor....**1318DL**Alpha- Al₂O₃**Aluminum Oxide**White powder
D50: 0.5-10 um
SSA: 4-11 m²/g
Applications: crystals, PDP....**1320DL**Alpha- Al₂O₃**Aluminum Oxide Nanoparticle**White nanopowder
APS: 90~150 nm
Applications: ceramic, catalyst, polishing, phosphor....

1317NH Alpha- Al ₂ O ₃	Aluminum Oxide Nanoparticle White nanopowder APS: ~150 nm SSA: ~10 m ² /g
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....
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....
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....
1328QI Gamma- Al ₂ O ₃	Aluminum Oxide Nanoparticle White nanopowder APS: 5 nm SSA: 600 m ² /g Morphology: Fibrous
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....
1340DL Al ₂ O ₃	Aluminum Oxide Nanoparticle (Hydrophobic Coating) Purity:99% Particle size: < 100nm
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....
1341DL Al(OH) ₃	Aluminum Hydroxide Nanoparticle White nanopowder D50: 30-100 nm SSA: 350-450 m ² /g Applications: additives, flame retardant...

1342DLAl(OH)₃**Aluminum Hydroxide**

White powder
 D50: 2-10 μm
 SSA: 1-20 m^2/g
 Applications: additives, flame retardant...

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

0310DX

Au

Gold Nanoparticle

Purity: 99.99%
 Appearance: Black nanopowder
 APS: 50-100 nm
 SSA: $\sim 3.5 \text{ m}^2/\text{g}$
 Color: Gold
 Morphology: spherical
 Bulk density: $\sim 1.3 \text{ g}/\text{cm}^3$
 True density: $19.32 \text{ g}/\text{cm}^3$

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

1401GCBaTiO₃**Barium Titanate Nanoparticle (cubic)**

BaO/TiO₂: 0.999 - 1.001
 Purity: 99.9%
 APS: 100 nm
 SSA: 10 - 11 m^2/g
 Color: white
 Morphology: spherical
 True density: $5.85 \text{ g}/\text{cm}^3$

1405DXBaFe₁₂O₁₉**Barium Ferrite Nanopowder**

Barium Hexaferrite Nanoparticles
 Purity: 99.5%
 APS: 60 nm
 Morphology: polyhedral
 True Density: $5.4 \text{ g}/\text{cm}^3$

0400BZ	Boron powder
B	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

0401BZ	Boron powder
B	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

0402BZ	Boron powder
B	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

0403BZ	Boron Powder
B	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

0410DX	Boron Nanoparticle
B	Appearance: Brown nanopowder
UN 3178	Purity: 99.9%
	APS: <80nm
	True density (g/cm ³): 2.34
	Morphology: nearly spherical

1520DX	Boron Oxide Nanoparticle
B ₂ O ₃	Appearance: White nanopowder
	Purity: 99.5%
	APS: <80nm
	True density: ~3.1 g/cm ³

1526BZ	Boron Nitride (Hexagonal)
BN	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

1527BZ	Boron Nitride (Hexagonal)
BN	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.)

0470DX	Bismuth Nanoparticle
Bi	Appearance: Black nanopowder
UN 3089	Purity: 99.9%
	APS: <100nm

0480DX	Bismuth Powder
Bi	Appearance: Black nanopowder
	Purity: 99.0+%
	APS: -325mesh

1710CY	Bismuth Oxide Nanoparticle (beta)
Bi ₂ O ₃	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

0510HZ	Diamond Nanoparticle
C	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

0511HZ	Diamond Nanoparticle
C	Explosion Synthesized Purity: > 93% 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
C	Explosion Synthesized 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
C	Explosion Synthesized 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
C	Graphite (C, natural flake) Appearance: Black powder D50: 1 um Fixed Carbon: 99+ % Ash: <1% Morphology: flake

0540DX	Graphene Nanopowder
C	Appearance: Black powder Thickness: 1-5nm Average Particle Diameter: < 2micron Surface Area: 750 m ² /g Bulk Density: 0.2 to 0.4 g/cc

0541DX

C

Graphene Nanopowder

Graphene Platelet Nanopowder
 Appearance: Black powder
 Thickness: 6-8 nm
 Average Particle Diameter: 15 micron
 Surface Area: 120-150 m²/g
 Carbon: 99.5+ %
 Morphology: flake

0544DX

C

Graphene Nanopowder

Graphene Platelet Nanopowder
 Appearance: Black powder
 Thickness: 11-15 nm
 Average Particle Diameter: 15 micron
 Surface Area: 50-80 m²/g
 Carbon: 99.5+ %
 Morphology: flake

0530HT

C

Super Activated Carbon Nanoparticle

Appearance: Black nanopowder
 APS: <100 nm
 Super absorption capability
 SSA: 1300 m²/g
 Iodine absorption: 1200 mg/g
 H₂O: <1%
 Ash: <2%
 Color: black
 PH: 7-9
 Morphology: spherical

0539DX

C

Carbon Powder

Appearance: Black nanopowder
 APS: 20-50um
 Purity:99.99%

1950RHCaCO₃**Calcium Carbonate Nanoparticle (paste)**

Appearance: Nanoparticles paste in water
 Average Particle Size (nm): 15-40
 Content of CaCO₃ (wt%): 0.5
 CaCO₃ dry basis (%): >97.5
 MgO (%): <0.5
 Surface modification: None
Applications: functional filler/additive in architectural paint

1951RHCaCO₃**Calcium Carbonate Nanoparticle**

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.

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

CaCO₃ dry basis (%): >97.5

MgO (%): <0.5

Surface modification: None

Applications: functional filler/additive in architectural paint

1952RHCaCO₃**Calcium Carbonate**

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.

Appearance: White Powder

Average Particle Size (nm): 15-40

Specific Surface Area (m²/g): >40

Morphology: Cubic

Whiteness (%): >92

Bulk Density (g/ml): 0.68

pH: 8.5-9.5

Moisture Content (w%): <0.5

CaCO₃ Content (modified) (%): >94.5

MgO (%): <0.5

Surface modification: Yes

Applications: functional filler/additive in car under-body PVC plastisol coating, car body paint, architectural paint, sealant, epoxy, and other organic compounds.

1953RHCaCO₃**Calcium Carbonate Nanoparticle**

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

1954RHCaCO₃**Calcium Carbonate Nanoparticle**

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

1955RHCaCO₃**Calcium Carbonate Nanoparticle**

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

1956RHCaCO₃**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 (m²/g): >40
 Morphology: Cubic, in chain
 Whiteness (%): >88
 Bulk Density (g/ml): 0.68
 pH: 9.0-10.0
 Moisture Content (w%): <0.5
 CaCO₃ Content (modified) (%): >94.5
 MgO (%): <0.7
 Surface modification: Yes
Applications: natural and synthesized rubbers

1957RHCaCO₃**Calcium Carbonate Nanoparticle**

Developed to improve the performance of adhesives

Appearance: White nanopowder
 Average Particle Size (nm): 15-40
 Specific Surface Area (m²/g): >40
 Morphology: Cubic
 Whiteness (%): >94
 Bulk Density (g/ml): 0.68
 pH: 8.5-9.5
 Moisture Content (w%): <0.5
 CaCO₃ Content (modified) (%): >94.5
 Surface modification: Yes
Applications: organic silicon, polyurethane, epoxy, PVC resin, latex

1949LTCa₃(PO₄)₂**Calcium Phosphate Nanoparticle**

Appearance: white nanopowder
 APS: 20-40 nm
 Contents:
 CaO: 51.8%-55%
 P₂O₅: 39.5%-41.1%
 Moisture: 0.5%-0.8%

1970NECa₁₀(PO₄)₆(OH)₂**Hydroxyapatite Nanoparticle**

Appearance: white nanopowder
 Purity: 98.5+ %
 APS: <40 nm
 As: <1 ppm
 Morphology: needle
 pH: 7.4

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
2510DX CsNO ₃	Cesium Nitrate Purity: 99%, 99.5%, 99.9% Packing: 25kg/ drum
2511DX CsOH	Cesium Hydroxide Purity: 99%, 99.5%, 99.9% Packing: 30kg/ drum
2512DX CsOH	Cesium Hydroxide Solution Purity: 50% Packing: 1.6T/ IBC
2513DX Cs ₂ CO ₃	Cesium Carbonate Purity: 99%, 99.5%, 99.9% Packing: 25kg/drum
2514DX CsF	Cesium Fluoride Purity: 99%, 99.5%, 99.9% Packing: 25kg/drum
2515DX CsI	Cesium Iodide Purity: 99.9%, 99.99% Packing: 25kg/drum
2516DX CsCOOH	Cesium Formate Purity: 80% Solution Packing: 2.2T/IBC
2518DX CsCl	Cesium Chloride Purity: 99.9% Packing: 25kg/drum
2519DX Cs ₂ SO ₄	Cesium Sulfate Purity: 99%, 99.5%, 99.9%, 99.95% Packing: 25kg/drum
2520DX Cs ₂ SO ₄	Cesium Sulfate Solution Purity: 50% Solution Packing: 1.66T/IBC

0610SJ	Cobalt Nanoparticle
Co	Partially passivated for safe shipping, [O]: ~10%
UN 3089	Purity: 99.8% (trace metals basis)
	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
Co ₂ O ₃	Appearance: Greyish black nanopowder
	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)
Co ₃ O ₄	Appearance: Black nanopowder
	APS: 50 nm
	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
Cu	Purity: 99.5% trace metals basis
UN 3089	Appearance: Sienna nanopowder
	APS: 300 nm
	SSA: ~6 m ² /g

0810DX	Copper Nanoparticle
Cu	Appearance: Sienna nanopowder
UN 3089	Purity: 99.5% trace metals basis
	APS: 500 nm*
	SSA: 3.0 m ² /g

0800SJCu
UN 3089**Copper Nanoparticle**Purity: 99.8% (metal basis)
Color: black brown nanopowder
APS: 25 nm
SSA: 30 - 50 m²/g
Morphology: spherical
Bulk density: 0.15 - 0.35 g/cm³
True density: 8.94 g/cm³**0820XH**Cu
UN 3089**Copper Nanoparticle**Purity: 99.9% trace metals basis
Appearance: Saddle brown nanopowder
APS: 40-60 nm
SSA: ~12 m²/g
Morphology: spherical
Bulk density: 0.19 g/cm³
True density: 8.9 g/cm³**0821XH**Cu
UN 3089**Copper Nanoparticle**Purity: 99.9% trace metals basis
Appearance: Saddle brown nanopowder
APS: 60-80 nm
SSA: 6-8 m²/g
Morphology: spherical
Bulk density: 0.21 g/cm³
True density: 8.9 g/cm³**0851HN**

Cu

Copper NanoparticleAn 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.
Contents of Cu (%): 14
Particle size (nm): 5-7**0881NW**

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 0880NW

0882NW

Cu

Copper NanowiresSize: 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
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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
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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
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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
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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
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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
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0920XH	Iron Nanoparticle
Fe	Purity: 99.9% trace metals basis
UN 3089	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

0921XH	Iron Nanoparticle
Fe	Purity: 99.9% trace metals basis
UN 3089	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

0961XH	Iron Nanoparticle
Stainless Steel 316L	Appearance: Black nanopowder
UN 3089	APS: 60-80 nm
	SSA: n/a
	Morphology: spherical
	Bulk density: 0.5 g/cm ³
	True density: 7.90 g/cm ³

0990JH	Carbonyl Iron Particle
Fe	Appearance: Black powder
UN 3089	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

3310DX	Iron Oxide Nanoparticle
Alpha- Fe ₂ O ₃	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

3315DX	Iron Oxide Nanoparticle
Gamma- Fe ₂ O ₃	Purity: 99%
	Appearance: Red brown nanopowder
	APS: 20-40 nm
	SSA: 40-60 m ² /g
	Morphology: spherical

3320DXFe₃O₄**Iron Oxide Nanoparticle**

Purity: 98+% trace metals basis
 Appearance: black nanopowder
 APS: 20 - 30 nm
 SSA: 40-60 m²/g
 Morphology: spherical
 Bulk density: 0.84 g/cm³
 True density: 4.8-5.1 g/cm³

3325NGFe₃O₄**Iron Oxide Nanoparticle**

Purity: 98+% trace metals basis
 Appearance: black dispersion in water
 Content of Fe₃O₄: 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

3606DX

Ge

Germanium Nanoparticles

Appearance: Black powder
 CAS #: 7440-56-4
 APS (nm): 70-120
 Morphology: Nearly spherical

3510CGGd₂O₃**Gadolinium Oxide Nanoparticle**

Purity: 99.9+% (REO)
 Appearance: white nanopowder
 APS: <100 nm
 SSA: 10-40 m²/g
 Morphology: nearly spherical
 Bulk density: 0.3-0.4 g/cm³
 True density: 7.407 g/cm³

3810XXHfO₂**Hafnium Oxide Nanoparticle**

Appearance: white nanopowder
 Purity: 99.9% (REO)
 APS: ~100 nm
 Morphology: nearly spherical

4110CB

ITO

Indium Tin Oxide, Yellow

In₂O₃:SnO₂=90:10(wt)
 Purity: 99.99%
 Appearance: Nanopowder, Yellow
 APS: 20-70 nm
 SSA: 15-40 m²/g
 Morphology: Spherical
 Bulk density: ~0.8 g/cm³
 True density: 7.12 g/cm³

4111CB	Indium Tin Oxide, Yellow
ITO	In ₂ O ₃ :SnO ₂ =95:5(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

4112CB	Indium Tin Oxide, Blue
ITO	In ₂ O ₃ :SnO ₂ =90:10(wt) Purity: 99.99% 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
ITO	In ₂ O ₃ :SnO ₂ =95:5(wt) Purity: 99.99% 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
In ₂ O ₃	Purity: 99.99% Appearance: yellowish green nanopowder 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
In ₂ O ₃	Purity: 99.999%

4430DX	Lanthanum Hexaboride Nanoparticle
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
4411CG La ₂ O ₃	Lanthanum oxide Nanoparticle Purity: 99.9% (REO) APS: 0.3-0.5um
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
4610NH LiFePO ₄	Lithium Iron Phosphate (LiFePO₄, LFP) Average particle size: ~1um SSA: 22~28m ² /g Color: Dark Grey PH: 9~11
4800DL MgO	Magnesium Oxide Nanoparticle White nanopowder without any surface treatment D50: 10-30 nm SSA: >60 m ² /g
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
4801DL MgO	Magnesium Oxide Nanoparticle White nanopowder treated with Stearic Acid D50: 10-20 nm SSA: >20 m ² /g

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.
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
4930DX MnO ₂	Manganese Oxide Nanoparticle Purity: 99+% Appearance: Black powder D50: ~5 um D90: < 10 um
4950DX MnCl ₂	Manganese Chloride Purity: 99+%
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
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
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

5010DX Molybdenum Oxide Nanoparticles

MoO₃
 Form: powder
 Purity: > 99.9%
 Particle Size: <100 nm

5030CH Molybdenum Oxide Nanoparticles

MoCl₅
 UN 2508 8/PG 3
 Form: powder
 Color: grey black
 Purity: > 99.0%
 Particle Size: micro-sized
 Morphology: needle crystal

5220DX Niobium Oxide Nanoparticles

Nb₂O₅
 Form: Black powder
 Purity: > 99.9%
 Particle Size: ~500 nm

5310CG Neodymium Oxide Nanoparticle

Nd₂O₃
 Purity: 99.9+% (REO)
 Appearance: pale purple nanopowder
 APS: <100 nm
 SSA: 10 m²/g
 Morphology: irregular
 Bulk density: 0.41 g/cm³
 True density: 7.24 g/cm³

9210NG Nickel Nanoparticle

Ni
 UN 3089
 Purity: 99.9% trace metals basis
 Appearance: Black nanopowder
 APS: 500 nm*
 SSA: 1.2-1.6 m²/g
 Morphology: spherical
 Bulk density: ~3.2 g/cm³
 True density: 8.9 g/cm³

9213SG Nickel Powder

Ni
 UN 3089
 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/cm³
 True density: 8.9 g/cm³

9225SJ	Nickel Nanoparticle
Ni	Purity: 99.9% trace metals basis
UN 3089	Appearance: Black nanopowder
	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
Ni	Purity: 99.9% trace metals basis
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
Ni	Purity: 99.9% trace metals basis
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
Ni	Appearance: Black nanopowder
	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
Ni	CAS #: 8049-31-8
	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

Ni Shell, Al Core

Particle Size Range: 240-400 mesh- 94%*

Bulk Density (g/cm³): 2.2-2.8

Liquidity (S/50g): 38

Contents (%)*:

Ni 80

Al 19

others 1

9295JH Carbonyl Nickel Iron Alloy

Ni & Fe Alloy

Particle Size Range: 2.5-4.0 um*

Contents (%)*:

Fe 74-77

C 1.1

O 0.4

Ni residue

5410SC Nickel Oxide Nanoparticle

NiO

Appearance: Green nanopowder

APS: <100 nm

SSA > 6 m²/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

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 CarbonateRb₂CO₃

Purity: 99%, 99.5%, 99.9%

Packing: 25kg/ drum

6111DX Rubidium NitrateRbNO₃

Purity: 99%, 99.5%, 99.9%

Packing: 25kg/ drum

6112DX Rubidium Chloride

RbCl

Purity: 99%, 99.5%, 99.9%

Packing: 25kg/ drum

6113DX	Rubidium Iodide
RbI	Purity: 99%, 99.5%, 99.9%
	Packing: 25kg/ drum

6114DX	Rubidium Fluoride
RbI	Purity: 99%, 99.5%, 99.9%
	Packing: 25kg/ drum

6115DX	Rubidium Hydroxide
RbOH	Purity: 99%, 99.5%, 99.9%
	Packing: 25kg/ drum

6116DX	Rubidium Sulfate
Rb ₂ SO ₄	Purity: 99%, 99.5%, 99.9%
	Packing: 25kg/ drum

6117DX	Rubidium Phosphate
Rb ₃ PO ₄	Purity: 99%, 99.5%, 99.9%
	Packing: 25kg/ drum

6610CY	Antimony Oxide Nanoparticle
Sb ₂ O ₃	Purity: 99.9%
UN1549	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

9712HK	Silicon Nanoparticle
Si	Form: Powder
UN 3089	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

9715DX	Silicon Powder
Si	Form: Powder
UN 3089	APS: ~500 nm
	Purity: 99.9%

9719DX	Silicon Powder
Si	Form: Powder
UN 3089	Particle size: -200/+325 mesh
	Purity: 99.9+%

9720DG	Silicon
Si	CAS No.: 7440-21-3 Form: lumps 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
SiO ₂	White naopowder, porous, no surface treatment APS: 15-20 nm SSA: 640 m ² /g

6808NM	Silicon Oxide Nanoparticle
SiO ₂	White naopowder, non-porous, no surface treatment APS: 20 nm Purity: 99.5% SSA: 160 m ² /g

6809NM	Silicon Oxide Nanoparticle
SiO ₂	White naopowder, non-porous, no surface treatment APS: 20 nm Purity: 98.7%

6811DL	Silicon Oxide Nanoparticle
SiO ₂	White nanopowder treated with Silanes Coupling Agents D50: 10-30 nm SSA: >400 m ² /g

6809NM	Silicon Oxide Nanoparticle
SiO ₂	White naopowder, non-porous, no surface treatment APS: 500nm Purity: 99%

6851HNSiO₂**Silicon Oxide Nanoparticle**

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

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

6852HNSiO₂**Silicon Oxide Nanoparticle**

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

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

6853HNSiO₂**Silicon Oxide Nanoparticle**

Surface modified with double bond;
dispersible in toluene, unsaturated resin, Polystyrene,
polycarbonate, and coatings;
reactive with unsaturated bond

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

6861HNSiO₂**Silicon Oxide Nanoparticle**

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

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

6862HNSiO₂**Silicon Oxide Nanoparticle**

- 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

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

6863HNSiO₂**Silicon Oxide Nanoparticle**

- 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

6864HNSiO₂**Silicon Oxide Nanoparticle**

- 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

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

Beta SiC

Silicon Carbide Nanofiber

Contents: beta- SiC>99.9+%, Beta-SiC whisker>97%,
Free Carbon <0.05%
Diameter: 0.1-0.3 um
Length: 2.0-60 um

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/cm^3
Hardness: 9.5 Mohs
Tensile Strength: 20.8 GPa

6830HKSi₃N₄**Silicon Nitride Nanoparticle (amorphous)**

CAS No.: 12033-89-5
Appearance: White Nanopowder
Purity (%): 99
Oxygen Content (%): <0.5
Particle Size (nm): 20
Specific Surface Area (m²/g): >110
Bulk Density (g/cm³): 0.06

6835HKAlpha Si₃N₄**Silicon Nitride Nanofiber**

Appearance: Grey white nanowhisker/nanofiber
Dimensions: 100nmX800nm
Purity (%): 99
Oxygen Content (%): <1
Free Si (%): <0.4
Specific Surface Area (m²/g): 45
Bulk Density (g/cm³): 0.044
Crystal Cell: Hexagonal

6835HMSi₃N₄**Silicon Nitride Powder (Amorphors)**

Purity (%): 99.5%
APS:0.5-1.0um

6911DXSm₂O₃**Samarium Oxide Powder**

Purity (%): 99.9%
D50: 3-5um

1021XH

Sn

UN 3089

Tin Nanoparticle

Purity: 99.9% trace metals basis
Appearance: Black nanopowder
APS: <100 nm
SSA: ~7 m²/g
Morphology: spherical

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
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...
7191DX SrCO ₃	Strontium Carbonate Nanopowder Purity: 99.0% APS: <100 nm
1110XH Ta UN 3089	Tantalum Nanoparticle Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 60-80 nm Morphology: spherical
7340DX Ta ₂ O ₅	Tantalum Oxide Powder Purity: 99.9% APS: <1um
7411DX Tb ₄ O ₇	Terbium Oxide Powder Purity: 99.9% Appearance: Powder
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

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
7910DL TiO ₂	Titanium Oxide Nanoparticle (anatase) Purity: 99.5% Appearance: white nanopowder D50: 10-25 nm SSA: 50-150 m ² /g
7918DL TiO ₂	Titanium Oxide Nanoparticle (anatase + rutile) Purity: 99.5% Appearance: white nanopowder D50: 10-30 nm SSA: 50-100 m ² /g
7920DL TiO ₂	Titanium Oxide Nanoparticle (Rutile) Purity: 99.5% Appearance: white nanopowder D50: 10-30 nm SSA: ~50 m ² /g
7920SCDL TiO ₂	Titanium Oxide (Rutile, silane coated) Purity: 99.5% Appearance: white nanopowder D50: 10-30 nm SSA: ~50 m ² /g
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
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

8010CNWO₃**Tungsten Oxide**

Appearance: Light Blue Nanopowder
 Purity: > 99.5%
 Particle Size: <100 nm
 SSA: 5-20 m²/g

9820XH

W

UN 3089

Tungsten Nanoparticle

Purity: 99.9% trace metals basis
 Appearance: Black nanopowder
 APS: 40-60 nm
 SSA: ~8 m²/g
 Morphology: spherical
 Bulk density: ~3.5 g/cm³
 True density: 19.3 g/cm³

9821XH

W

UN 3089

Tungsten Nanoparticle

Purity: 99.9% trace metals basis
 Appearance: Black nanopowder
 APS: 80-100 nm
 SSA: 4-8 m²/g
 Morphology: spherical
 Bulk density: 1.4-4.0 g/cm³
 True density: 19.5 g/cm³

8005DXWCl₆

UN 3260

Tungsten Hexachloride

Tungsten Carbide
 Particle Size: 80nm
 Crystal Structure: Hexagonal
 Bulk density: 3.2 g/cm³
 Specific Surface Area: 60 m²/g

8020CHWS₂**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: 3x10⁵ PSI for coated film
 Coatable substrates: iron steel, aluminum, copper, plastics, and other metals and solids
 Compatibility: oil, solvent, paint, fuel

8030CHWCl₆

UN 3260

Tungsten Hexachloride

Form: powder
 Color: purple black
 Purity: > 99.0%
 Particle Size: micro-sized

8210CG	Yttrium oxide Powder
Y ₂ O ₃	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

8211CG	Yttrium oxide Powder
Y ₂ O ₃	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

8212CG	Yttrium oxide Powder
Y ₂ O ₃	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

8223CG	Yttrium oxide Powder
Y ₂ O ₃	Purity: 99.995% (REO) Purity: 99.999% (Y ₂ O ₃ /REO) Appearance: white nanopowder Average Particle Size: ~3 micron

8311DX	Ytterbium oxide Powder
Yb ₂ O ₃	Purity: 99.9% Appearance: Powder

9920XH	Zinc Nanoparticle
Zn UN 1436	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

9921XHZn
UN 1436**Zinc Nanoparticle**Purity: 99.9% trace metals basis
Appearance: Black nanopowder
APS: 80-100 nm
SSA: ~6.5 m²/g
Morphology: spherical
Bulk density: 0.79 g/cm³
True density: 7.14 g/cm³**8410DL**

ZnO

Zinc Oxide NanoparticlePurity: 99.8%
Appearance: white ~ light yellow nanopowder
D50: 10-30 nm
SSA: >90m²/g**8411DL**

ZnO

Zinc Oxide (treated with silane coupling agents)Purity: 99%
Appearance: white ~ light yellow nanopowder
D50: 10-30 nm
SSA: >60m²/g**8415CY**

ZnO

Zinc Oxide NanoparticlePurity: 99.9%
Appearance: white ~ light yellow nanopowder
APS: <200 nm
Bulk Density: 0.4 g/cm³**8416DX**

ZnO

Zinc Oxide Nanoparticle

Purity: 99.999%

8501YSZrO₂**Zirconium Oxide Powder**Appearance: white powder
Purity (ZrO₂+ HfO₂): 99.9%
D50: 1-3 micron
Morphology: Nearly Spherical**8512QI**ZrO₂**Zirconium Oxide Nanoparticle**Purity: 99.9%
Appearance: white nanopowder
APS: 20-30 nm
SSA: > 35 m²/g
Morphology: Spherical**8520DL**ZrO₂-3Y**Zirconium Oxide**Purity: 99.9%
Contents of Y₂O₃ (wt%): 5.2±0.2
D50: 0.3-0.5 um
SSA: > 13-17 m²/g
Color: white

8522QI **Zirconium Oxide Nanoparticle (monoclinic + tetragonal)**ZrO₂-3YPurity: Y₂O₃- 5.4%, ZrO₂+HfO₂- 94%

APS: 25 nm

SSA: > 40 m²/g

Morphology: Spherical

8528QI **Zirconium Oxide Nanoparticle**ZrO₂-5YPurity: Y₂O₃- 8.6-9.0%

APS: 20-30 nm

Morphology: Spherical

8531DL **Zirconium Oxide**ZrO₂-8Y

Purity: 99.9%

Contents of Y₂O₃ (wt%): 13.3±0.2

D50: 0.8 um

Color: white

8532QI **Zirconium Oxide (cubic)**ZrO₂-8YPurity: Y₂O₃- 13.5%, ZrO₂+HfO₂- 86%

Appearance: white nanopowder

APS: 20 nm

SSA: > 50 m²/g

Morphology: Near Spherical

8540HK **Zirconium Carbide Nanoparticle**

ZrC

UN 3178

CAS No.: 12070-14-3

Appearance: Black nanopowder

Purity (%): 97+

Oxygen Content (%): <1.0

Particle Size (nm): 60

Specific Surface Area (m²/g): >70

Morphology: Spherical

Bulk Density (g/cm³): 0.08

CARBON NANOTUBES

Product #	Description
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
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
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

0553CA	Multi walled nanotubes (MWNTs)
MWNTs	Purity: > 95 wt%
95%, 10-20 nm	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

0554CA	Multi walled nanotubes (MWNTs)
MWNTs	Purity: > 95 wt%
95%, 20-30 nm	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

0555CA	Multi walled nanotubes (MWNTs)
MWNTs	Purity: > 95 wt%
95%, 30-50nm	Outside diameter: 30-50 nm
	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)
MWNTs	Purity: > 95 wt%
95%, 50-100nm	Outside diameter: 50-100nm
	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**

SWNTs Content of -OH groups: ~4wt%
-OH unfunctionalized Purity: > 95 wt% (carbon nanotubes)
90% > 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

0551CA-OH **Single-walled nanotubes (SWNTs), -OH functionalized**

SWNTs Content of -OH groups: ~4wt%
-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 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

0552CA-OH **Multi walled nanotubes -OH functionalized (MWNTs-OH)**

MWNTs Purity: > 95 wt%
-OH unfunctionalized Content of -OH group: ~5.0wt%
95%, <8nm 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

0553CA-OH Multi walled nanotubes -OH functionalized (MWNTs)

MWNTs Purity: > 95 wt%
-OH unfunctionalized Content of -OH: ~2.0 wt%
95%, 10-20 nm Outside diameter: 10-20 nm
Inside diameter: 3-5 nm
Length: 5-30um
SSA: >350 m²/g
Ash: <1.0wt%
Amorphous carbon: <3.0%
Electrical conductivity: >100 s/cm
Bulk density: 0.27g/cm³
True density: ~2.1 g/cm³
Manufacturing method: Catalytic CVD

0554CA-OH Multi walled nanotubes (MWNTs)

MWNTs Purity: > 95 wt%
-OH unfunctionalized Content of -OH: ~1.6 wt%
95%, 20-30 nm Outside diameter: 20-30 nm
Inside diameter: 5-10 nm
Length: 10-30 um
SSA: >110 m²/g
Ash: <1.5 wt%
Amorphous carbon: <3.0%
Electrical conductivity: >100 s/cm
Bulk density: 0.28 g/cm³
True density: ~2.1 g/cm³
Manufacturing method: Catalytic CVD

0555CA-OH Multi walled nanotubes (MWNTs)

MWNTs Purity: > 95 wt%
-OH unfunctionalized Content of -OH: ~1.0 wt%
95%, 30-50 nm Outside diameter: 30-50nm
Inside diameter: 5-10 nm
Length: 10-30 um
SSA: >100m²/g
Ash: <1.5 wt%
Amorphous carbon: <3.0%
Electrical conductivity: >100 s/cm
Bulk density: 0.28 g/cm³
True density: ~2.1 g/cm³
Manufacturing method: Catalytic CVD

0556CA-OH Multi walled nanotubes (MWNTs)

MWNTs Purity: > 95 wt%
-OH unfunctionalized Content of -OH: ~0.7 wt%
95%,50-100 nm Outside diameter: 50-100 nm
Inside diameter: 5-10 nm
Length: 10-30 um
SSA: >60m²/g
Ash: <1.5 wt%
Amorphous carbon: <3.0%
Electrical conductivity: >100 s/cm
Bulk density: 0.28 g/cm³
True density: ~2.1 g/cm³
Manufacturing method: Catalytic CVD

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

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

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

0553CA-COOH **Multi walled nanotubes -COOH functionalized (MWNTs)**

MWNTs
-COOH
Functionalized
95%, 10-20 nm

Purity: > 95 wt%
Content of -COOH: ~2.0 wt%
Outside diameter: 10-20 nm
Inside diameter: 3-5 nm
Length: 5-30um
SSA: >350 m²/g
Ash: <1.0wt%
Amorphous carbon: <3.0%
Electrical conductivity: >100 s/cm
Bulk density: 0.27g/cm³
True density: ~2.1 g/cm³
Manufacturing method: Catalytic CVD

0554CA-COOH **Multi walled nanotubes (MWNTs)**

MWNTs
-COOH
Functionalized
95%, 20-30 nm

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 m²/g
Ash: <1.5 wt%
Amorphous carbon: <3.0%
Electrical conductivity: >100 s/cm
Bulk density: 0.28 g/cm³
True density: ~2.1 g/cm³
Manufacturing method: Catalytic CVD

0555CA-COOH **Multi walled nanotubes (MWNTs)**

MWNTs
-COOH
Functionalized
95%, 30-50 nm

Purity: > 95 wt%
Content of -COOH: ~0.7 wt%
Outside diameter: 30-50nm
Inside diameter: 5-10 nm
Length: 10-30 um
SSA: >100m²/g
Ash: <1.5 wt%
Amorphous carbon: <3.0%
Electrical conductivity: >100 s/cm
Bulk density: 0.28 g/cm³
True density: ~2.1 g/cm³
Manufacturing method: Catalytic CVD

0556CA-COOH	Multi walled nanotubes (MWNTs)
MWNTs	Purity: > 95 wt%
-COOH	Content of -COOH: ~0.5 wt%
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
2190DX	Cerium Metal
Ce	Ce/TREM 99.9%
2191DX	Cerium Metal
Ce	Ce/TREM 99.99%
2110DX	Cerium Oxide Nanopowder
CeO ₂	CeO ₂ /TREO 99.99% 10-30nm
2113DX	Cerium Oxide Nanopowder
CeO ₂	CeO ₂ /TREO 99.9% 0.1-1um
2110DX	Cerium Oxide Nanopowder
CeO ₂	CeO ₂ /TREM 99.9% 15um
2195DX	Cerium Oxide Nanopowder
CeF ₃	REO/TREO 99.0% TREO>80%
2196DX	Cerium Oxide Nanopowder
CeF ₃	REO/TREO 99.9% TREO>80%
2980DX	Dysprosium Metal Powder
Dy	Dy/TREM 99.9% -40,-100,-325 mesh
2981DX	Dysprosium Metal Powder
Dy	Dy/TREM 99.9+%
2982DX	Dysprosium Metal Powder
Dy	Dy/TREM 99.99%
2981DX	Dysprosium Metal Powder
Dy	Dy/TREM 99.99% Disks, Plates

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

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

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

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

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

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

8216CG	Yttrium Oxide Powder
Y ₂ O ₃	Y ₂ O ₃ /TREO 99.995% 20-60um

8290DX	Yttrium Fluoride
YF ₃	REO/TREO 99.9%

8291DX	Yttrium Fluoride
YF ₃	REO/TREO 99.99%

- Tek Cidarlı NanoTüpler (SWNT'ler) ve Çok Cidarlı NanoTüpler (MWNT'ler)
- -OH ve -COOH İşlevlendirilmiş SWNT'ler ve MWNT'ler

Ayrıntılar için lütfen aşağıdaki CNT'lerden seçim yapın.



NK0550CA SWNT'ler ,% 90
NK0551CA SWNT'ler ,% 60
NK 0552CA MWNT ,% 95, OD: <8 nm
NK0553CA MWNTs,% 95, OD: 10-20 nm
NK 0554CA MWNTs,% 95, OD: 20-30 nm
NK0555CA MWNTs,% 95, OD: 30-50 nm
NK 0556CA MWNT,% 95, OD: 50-100nm
NK 0560CA MWNT,% 90, OD: 30-50 nm
NK 0562CA SWNTs ,% 95, OD: 1 - 2 nm
NK 0563CA Yüksek Saflıkta Geniş Yüzey Alanı SWNT'leri 95 +%
NK 0564CA MWNT'ler,% 98, OD: <8nm
NK 0565CA MWNT'ler,% 99.9, OD: <8nm
NK 0566CA Kısa MWNT'ler,% 98, OD: <8nm
NK 0567CA Kısa MWNT'ler,% 98, OD: 8 ~ 15nm
NK 0568CA Kısa MWNT'ler,% 98, OD: 20-30nm
NK 0569CA Kısa MWNT'ler,% 98, OD: 30 ~ 50nm
NK 0570CA Kısa MWNT'ler,% 98, OD:> 50nm
NK 0571CA DWNT'ler,% 60. OD: 2-4 nm

CNTs –OH Functionalized

NK 0550CA-OH SWNTs –OH, 90%
NK 0551CA-OH SWNTs –OH, 60%
NK 0552CA-OH MWNTs –OH, 95%, OD: <8 nm
NK 0553CA-OH MWNTs –OH, 95%, OD: 10-20 nm
NK 0554CA-OH MWNTs –OH, 95%, OD: 20-30 nm
NK 0555CA-OH MWNTs –OH, 95%, OD: 30-50 nm
NK 0556CA-OH MWNTs –OH, 95%, OD: 50-100 nm
NK 0560CA-OH MWNTs –OH, 90%, OD: 30-50 nm
NK 0562CA-OH SWNTs-OH, 95%, OD: 1~2nm
NK 0564CA-OH MWNTs-OH, 98%, OD: <8nm
NK 0565CA-OH MWNTs-OH, 99.9%, OD: <8nm
NK 0566CA-OH Short MWNTs-OH , 98%, OD:<8nm
NK 0567CA-OH Short MWNTs-OH, 98%;OD: 8~15nm
NK 0568CA-OH Short MWNTs-OH, 98%, OD: 20~30nm
NK 0569CA-OH Short MWNTs-OH, 98%, OD: 30~50nm
NK 0570CA-OH Short MWNTs-OH, 98%,OD:>50nm
NK 0571CA-OH DWNTs-OH, 60%, OD: 2~4nm

CNTs –COOH Functionalized

NK 0550CA-COOH SWNTs –COOH, 90%
NK 0551CA-COOH SWNTs –COOH, 60%
NK 0552CA-COOH MWNTs –COOH, 95%, OD: <8 nm
NK 0553CA-COOH MWNTs –COOH, 95%, OD: 10-20 nm
NK 0554CA-COOH MWNTs –COOH, 95%, OD: 20-30 nm
NK 0555CA-COOH MWNTs –COOH, 95%, OD: 30-50 nm
NK 0556CA-COOH MWNTs –COOH, 95%, OD: 50-100 nm
NK 0560CA-COOH MWNTs –COOH, 90%, OD:30-50nm
NK 0562CA-COOH SWNTs-COOH, 95+%, 1~2nm
NK 0562CA-NH2 SWNTs-NH2, 95+%, 1~2nm
NK 0564CA-COOH MWNTs-COOH, 98%, OD: <8nm
NK 0565CA-COOH MWNTs-COOH, 99.9%, OD: <8nm
NK 0566CA-COOH Short MWNTs-OH , 98%, OD: <8nm
NK 0567CA-COOH Short MWNTs-COOH, 98%, OD: 8~15nm
NK 0568CA-COOH Short MWNTs-COOH, 98%, OD: 20~30nm
NK 0569CA-COOH Short MWNTs-COOH, 98%, OD: 30~50nm
NK 0570CA-COOH Short MWNTs-COOH, 98%, OD:>50nm
NK 0571CA-COOH DWNTs-COOH, 60%, OD: 2~4nm