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NANOPOWDERS

Accumet Materials offers high quality metal nanoparticles, alloy nanoparticles, oxide nanoparticles, and rare earth oxide nanoparticles. Our products are widely used in information technology and telecommunications, aerospace, bio-pharmacology, micro-electronics, composites, coatings and paints, organic and inorganic chemicals, plastics, textiles, magnetics, and batteries.

Most of the nanopowders are agglomerated or aggregated. They must be well dispersed when needed. For large (industrial) orders, they can be dispersed upon request.

Formula Stock # CAS #	Product Name, Purity Dimension [Particle Size (PS), Average Particle Size (APS), Outside Diameter (OD), Inside Diameter (ID)] Specific Surface Area (SSA) (m ² /g) Particle Morphology Crystallographic Structure
Ag AMCN01 7440-22-4	Silver (Ag) Purity: 99.95% APS: 80-500 nm SSA: 1.5-5 m ² /g Morphology: ~ spherical
Ag AMCN02 7440-22-4	Silver (Ag) Purity: 99+% APS: 90-210 nm SSA: 2.40 - 4.42 m ² /g Morphology: spherical
Ag AMCN143 7740-22-4 Metal Powder, Flammable, UN 3089, 4.1 II	Silver (Ag) Synthesis method: plasma CVD Purity: 99.5% (metal basis, O<10%) APS: 35 nm (TEM), max<100nm SSA: 30 - 50 m ² /g Morphology: spherical Bulk density: 0.30 - 0.60 g/cm ³ True density: 10.5 g/cm ³ Plasma CVD Synthesized
Ag AMCN144 7740-22-4	Silver (Ag, metal basis) True density: 10.5 g/cm ³ Purity: 99.9% APS: 20 nm SSA: ~18-22 m ² /g Color: black Morphology: spherical

Ag AMCN03 7440-22-4	Silver (Ag), (w/~0.2%PVP* for easy dispersion in water) Synthesis method: wet chemistry Purity: 99.9% APS: 30-50 nm (TEM) SSA: 5-10 m ² /g Morphology: spherical Bulk density: 1.2-1.3 g/cm ³
Ag AMCN04 7440-22-4	Silver (Ag) Purity: 99.95% APS: 1.5-2.5 um SSA: 0.4-0.8 m ² /g Morphology: ~ spherical
Ag AMCN05 7440-22-4	Silver (Ag) Purity: 99.95% APS: 0.6-1.6 um SSA: 0.6-1.2 m ² /g Morphology: ~ spherical
Ag AMCN06 7440-22-4	Silver (Ag)* Purity: 99.9% (metal basis) APS: 30-50 nm (TEM) SSA: 5-10 m ² /g Morphology: spherical Surface coated with 2%wt oleic acid [formula: C ₁₈ H ₃₄ O ₂ , structure: CH ₃ (CH ₂) ₇ CH=CH(CH ₂) ₇ COOH] for better dispersion in certain applications
Ag AMCN07 7440-22-4	Silver (Ag) Purity: 99.95% Thickness: 80-500 nm Length & width: 8-10 um SSA: 0.6-1.2 m ² /g Morphology: flaky
Ag AMCN08 7440-22-4	Silver (Ag) Purity: 99.95% Thickness: 80-500 nm Length & width: 5-8 um SSA: 0.7-1.3 m ² /g Morphology: flaky
Ag AMCN09 7440-22-4	Silver (Ag) Purity: 99.95% Thickness: 80-500 nm Length & width: 2-4 um SSA: 0.8-1.5 m ² /g Morphology: flaky
Ag AMCN10 7440-22-4	Silver (Ag) Purity: 99.5% APS: thickness: ~20 - 80 nm width: ~(0.6-1.2) um length: ~(0.6-1.2) um SSA: 3 m ² /g Color: pale gray Morphology: flaky

Al AMCN11 7429-90-5 UN1396	Aluminum (Al), (partially passivated) Purity: 99.9+% (metal basis) APS: 80 nm SSA: 13 m ² /g Color: black Morphology: spherical True density: 2.70 g/cm ³ Flammable Hazards, UN1396
Al AMCN12 7429-90-5 UN1396	Aluminum (Al), Purity: 99.9% passivated APS: 800 nm SSA: 10 - 20 m ² /g Color: black/grey Morphology: spherical
Al AMCN13 7429-90-5 UN1396	Aluminum (Al), Purity: 99.9% APS: 18 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical
Au AMCN139 7440-57-5	Gold (Au) Purity: 99.5% APS: 35 nm (TEM) BET: 20 m ² /g Morphology: spherical Bulk density: 1.0 g/cm ³ True density: 19.32 g/cm ³
Au AMCN14 7440-57-5	Gold (Au) Purity: 99.99+% APS: 50 - 150 nm from SSA, visual bigger, hard aggregates. SSA: 3.3 m ² /g Color: brown Morphology: spherical
B AMCN149 7440-42-8 UN3178	Boron powder (B) Purity: 99.9% APS: <80 nm True Density: 2.34 g/cc Morphology: nearly spherical
C AMCN15 7440-44-0	Diamond Black powder Purity: 52-85% Particle size: 4-25 nm SSA: 360-420 m ² /g Color: black Morphology: spherical & flaky
C AMCN16 7440-44-0	Diamond Purity: > 95% APS: 3-5 nm SSA: 278-335 m ² /g Color: gray Morphology: spherical
C AMCN17 7440-44-0	Diamond (Ultra Dispersed) Purity: > 97% APS: 3 - 6 nm, Max<10nm SSA: 200 - 450 m ² /g Color: gray Morphology: spherical

C AMCN18 7440-44-0	Graphite powder Purity: 99.9% (metal base) Impurities: quartz + mica < 0.1%, D5: 400nm, D50: 450 nm, D100: 1um SSA: not measured, Particle morphology: flaky Color: black
Co AMCN19 7440-48-4 UN3089	Cobalt (Co) Purity: 99.8% (metal basis, O<10%) APS: 28 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical
Co AMCN20 7440-48-4 UN3089	Cobalt (Co), passivated Purity: 99.8% (metal basis, O<15%) APS: 28 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical
Co AMCN21 7440-48-4 UN3089	Cobalt (Co, carbon coated) Purity: 99.8% APS: 20 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical Bulk density: 0.08 - 0.20 g/cm ³ True density: 8.92 g/cm ³
Cr AMCN140 7440-47-3 UN3089	Chromium Powder (Cr) (coated with 1-2% Oleic Acid) Purity: 99% APS: 30 nm Morphology: ~- spherical True density: 7.19 g/cm ³
Cu AMCN22 7440-50-8 UN3089	Copper (Cu) Purity: 99.8% (metal basis) APS: 500 nm SSA: N/A
Cu AMCN23 7440-50-8 UN3089	Copper (Cu) P.P. (partially passivated w/[O] ~10%. It does not usually affect the major performances.) Purity: 99.8% (metal basis) APS: 25 nm SSA: 30 - 50 m ² /g Color: black brown Morphology: spherical
Cu AMCN24 7440-50-8 UN3089	Copper (Cu, carbon coated) Purity: 99.8% (metal basis, O<10%) APS: 25 nm SSA: 30 - 50 m ² /g Color: black Morphology: spherical
Cu AMCN25 7440-50-8 UN3089	Copper (Cu, carbon coated) Purity: 99.8% (metal basis, O<10%) APS: 25 nm SSA: 30 - 50 m ² /g Color: black Morphology: spherical

Fe AMCN26 7439-89-6 UN3089	Iron (Fe) partially passivated w/[O] ~10% for safe shipping Purity: 99.6% (metal basis, O<10%) APS: 25 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical
Fe AMCN27 7439-89-6 UN3089	Iron (Fe), passivated Purity: 99.6% (metal basis, O<15%) APS: 25 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical
Fe AMCN28 7439-89-6 UN3089	Iron (Fe, carbon coated) Purity: 99.6% (metal basis, O<10%) APS: 20 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical
Mo AMCN29 7439-98-7 UN3089	Molybdenum (Mo) Purity: 99.5% (metal basis) APS: 85 nm SSA: 4.4 m ² /g Color: black
Ni AMCN30 7440-02-0 UN3089	Nickel (Ni) Purity: 99.7+% APS: 30-50 nm SSA: 12 m ² /g Color: black True density: 8.908 g/cm ³
Ni AMCN31 7440-02-0 UN3089	Nickel (Ni) Purity: 99.9+% (metal basis, O<10%) APS: <70 nm SSA: 10-16 m ² /g Color: black Morphology: spherical
Ni AMCN32 7440-02-0 UN3089	Nickel (Ni), passivated Purity: 99.9+% (metal basis, O<10%) APS: 20 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical
Ni AMCN33 7440-02-0 UN3089	Nickel (Ni, carbon coated) Purity: 99.9+% (metal basis, O<10%) APS: 20 nm SSA: 40 - 60 m ² /g Color: black Morphology: spherical
Nb AMCN154 UN3089	Niobium Metal powder, 99.9% pure, 50 nm

Si AMCN34 7440-21-3 UN3089	Silicon (Si) Purity: > 98% APS: 50 -70nm (max<~~100nm) SSA: 30-50 m ² /g Color: brown yellow Morphology: spherical Bulk density: 0.045 g/cm ³ True density: 2.33 g/cm ³ UN3089 4.1 III
Si AMCN35 7440-21-3 UN3089	Silicon (Si), Polycrystalline Purity: 99% APS: 50 nm SSA: 80 m ² /g Bulk Density: 0.08 g/cm ³ Color: brown yellow
Si AMCN150 UN3089 4.1 III	Silicon (Si) Purity: > 98% APS: 30 - 50 nm SSA: 70-80 m ² /g Color: brown yellow Morphology: spherical Bulk density: ~0.08 g/cm ³ True density: 2.33 g/cm ³
Ti AMCN36 7440-32-6 UN2546	Titanium (Ti) Purity: 99% APS: 60-80 SSA: 13.8 m ² /g Color: black gray Morphology: spherical
Ti AMCN37 7440-32-6 UN2546	Titanium (Ti) Purity: 99.9% trace metals basis Appearance: Black nanopowder APS: 40-60 nm SSA: ~20 m ² /g Morphology: spherical
W AMCN38 7440-33-7 UN3089	Tungsten (W) Purity: 99% Surface coated with 0.3 wt% oleic acid APS: 80 nm SSA: ~10 m ² /g Color: black Morphology: spherical Bulk density: 3.3-4.1 g/cm ³ True density: 19.3 g/cm ³
Zn AMCN39 7440-66-6 UN1436	Zinc (Zn) Purity: 99.5% APS: 130 nm SSA: 6.4 m ² /g Color: gray Morphology: spherical
Zn AMCN40 7440-66-6 UN1436	Zinc (Zn) Purity: 99.9+% (metal basis, O<10%)partially passivated APS: 100 nm SSA: 30 - 50 m ² /g Color: black gray Morphology: faceted

Non-oxide Compounds

Formula Stock # CAS #	Product Name, Purity Dimension [Particle Size (PS), Average Particle Size (APS), Outside Diameter (OD), Inside Diameter (ID)] Specific Surface Area (SSA) (m ² /g) Particle Morphology Crystallographic Structure
AlN AMCN41 24304-00-5 UN2813	Aluminum Nitride (AlN, hexagonal) 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
BaTiO₃ AMCN136 12047-27-7	Barium Titanate (BaTiO ₃) Purity: 99.8% APS: 10 nm Morphology: spherical True density: 5.85 g/cm ³
BaTiO₃ AMCN137 12047-27-7	Barium Titanate (BaTiO ₃) Purity: 99.8% APS: 30 nm Morphology: spherical True density: 5.85 g/cm ³
BN AMCN134 10043-11-5	Boron nitride (BN, hexagonal) Purity: 99% APS: 137 nm (determined from SSA) SSA: 19.4 m ² /g
LaB₆ AMCN135 12008-21-8	Lanthanum Boride (LaB ₆) Purity: 99% Average particle size: 55 nm SSA: ~ 30 m ² /g Morphology: spherical
MoS₂ AMCN147 1317-33-5	Molybdenum sulfide (MoS ₂)* Purity: 99.0% APS: 10 nm SSA: 120 m ² /g Morphology: nearly spherical Bulk Density: ~0.78 g/cm ³ True density: 4.80 g/cm ³
MoS₂ AMCN148 1317-33-5	Molybdenum sulfide (MoS ₂)* Purity: 99.0% APS: 50 nm SSA: 85 m ² /g Morphology: nearly spherical Bulk Density: ~0.78 g/cm ³ True density: 4.80 g/cm ³
SiC AMCN152 409-21-2	Silicon carbide (SiC, beta) Purity: 97% APS: 100 - 130nm SSA: 10 m ² /g Color: grayish green

SiC AMCN42 409-21-2	Silicon carbide (SiC, beta) Purity: 95% APS: 50-60 nm Density: 3.216 g/cm ³ Color: grayish white Morphology: spherical
SiC AMCN43 409-21-2	Silicon carbide (SiC, beta) Purity: > 99+% APS: 45 - 65 nm SSA: 70 -90 m ² /g Color: gray white Morphology: cubic
SiC AMCN44 409-21-2	Silicon carbide (SiC, beta) Purity: 99% APS: 20-40 nm SSA: > 90 m ² /g Color: black Morphology: nearly spherical
SiC AMCN45 409-21-2	Silicon carbide (SiC, beta) Purity: > 97% APS: 10 nm (Max<20nm) SSA: 150-200 m ² /g Color: black Morphology: nearly spherical
SiC AMCN141 409-21-2	Silicon Carbide (SiC, amorphous) Purity: > 99% Amorphous: 97-98wt%, crystalline: 2-3wt% APS: 15 nm SSA: ~ 90 m ² /g Bulk Density: 0.08 g/cm ³ Morphology: nearly spherical Color: black
SiC AMCN46 409-21-2 NOT AVAILABLE	Silicon carbide, 97.5+% APS: (10±1) (100±15) nm SSA: 121-145 m ² /g Color: black or gray black Crystallographic Structure: fibrous
Si₃N₄ AMCN47 12033-89-5 NOT AVAILABLE	Silicon nitride (Si ₃ N ₄ , alpha) Purity: 99% APS: 100 X 800 nm SSA: > 45 m ² /g Color: light gray Morphology: whisker
Si₃N₄ AMCN48 12033-89-5	Silicon nitride (Si ₃ N ₄ , amorphous) Purity: > 96% APS: 30-70 nm SSA: 25 -55 m ² /g Color: white Morphology: nearly spherical
Si₃N₄ AMCN49 12033-89-5	Silicon nitride (Si ₃ N ₄ , amorphous) Purity: > 98.5 % APS: 15 - 30 nm SSA: 103 - 123 m ² /g Color: white Morphology: spherical

TiB₂ AMCN145 12045-63-5	Titanium Boride (TiB ₂) Purity: Ti > 68%, B >30% APS: 2-12 um Color: Grey True density: 4.52 g/cm ³
TiC AMCN50 12070-08-5 DISCONTINUED N/A	Titanium carbide (TiC) Purity: > 98% APS: 50-80 nm SSA: 15 -25 m ² /g Color: black Morphology: spherical & polyhedral
TiC AMCN50 12070-08-5 UN3178, 4.1 III, Flammable solid	Titanium Carbide (TiC) Purity: > 98+% APS: 80-130 nm, SSA: ~ 25 m ² /g Color: black Morphology: nearly spherical Bulk density: ~0.5-0.6 g/cm ³ True density: 4.93 g/cm ³
TiC AMCN51 12070-08-5 UN3178, 4.1 III, Flammable solid	Titanium carbide (TiC) Purity: > 98% APS: 30-40 nm, max<~80nm SSA: ~ 40 m ² /g Color: black Morphology: nearly spherical
TiC_{0.5}N_{0.5} AMCN52	Titanium carbonitride (TiC _{0.5} N _{0.5}) Purity: > 97% APS: 50-80 nm SSA: 15 -25 m ² /g Color: black Morphology: spherical & polyhedral
TiC_{0.7}N_{0.3} AMCN53	Titanium carbonitride (TiC _{0.7} N _{0.3}) Purity: > 97% APS: 50-80 nm SSA: 15 - 25 m ² /g Color: black Morphology: spherical & polyhedral
TiN AMCN54 25583-20-4 UN3178	Titanium nitride (TiN) Purity: > 97% APS: 20 nm SSA: >80 m ² /g Color: black Morphology: spherical
TiN AMCN151 25583-20-4 UN3178	Titanium nitride (TiN) Purity: > 97% APS: 100 nm SSA: >70 m ² /g Color: black Morphology: spherical
WC AMCN55 12070-12-1 UN3178	Tungsten carbide (WC) Purity: 99.0% APS: 500 nm SSA: 1.1 m ² /g Morphology: nearly spherical

WC/Co AMCN56 12070-12-1 7440-48-4 UN3178	Tungsten- carbide/cobalt [WC/Co(8wt%)] Purity: 99.5% APS: 60-250 nm SSA: 1.5 m ² /g Morphology: nearly spherical
WC/Co AMCN57 12070-12-1 7440-48-4 UN3178	Tungsten carbide/cobalt [WC/Co(12wt%)] Purity: 99.5% APS: 60-250 nm SSA: 1.5 m ² /g Morphology: nearly spherical True density: 14.3 g/cm ³
WC/Co AMCN144 12070-12-1 7440-48-4 UN3178	Tungsten- carbide/cobalt [WC/Co(8wt%)] Purity: 99.5% APS: 60-250 nm SSA: 1.5 m ² /g Morphology: nearly spherical Bulk density: ~3.9 g/cm ³ True density: 14.7 g/cm ³

Oxide Compounds

Formula Stock # CAS #	Product Name, Purity Dimension [Particle Size (PS), Average Particle Size (APS), Outside Diameter (OD), Inside Diameter (ID)] Specific Surface Area (SSA) (m ² /g) Particle Morphology Crystallographic Structure
Al₂O₃ AMCN58 1344-28-1	Aluminum Oxide (Al ₂ O ₃ , alpha) Purity: 99.97% APS: 150 nm SSA: 5-15 m ² /g Color: white Morphology: nearly spherical
Al₂O₃ AMCN59 1344-28-1 Discontinued See Inframat 100 nm material Product # 26N- 0811UPA	Aluminum Oxide (Al ₂ O ₃ , alpha) (contains ~ 5-10% gamma, Fe>10ppm) Purity: 99.5% APS: 60 nm SSA: ~35 m ² /g Color: white Morphology: spherical
Al₂O₃ AMCN60 1344-28-1	Aluminum Oxide (Al ₂ O ₃ , alpha) (contains ~ 5-10% gamma, Fe>10ppm) Purity: 99.5% APS: 27-43 nm SSA: 35 m ² /g Color: pale pink Morphology: nearly spherical

Al₂O₃ AMCN61 1344-28-1	Aluminum Oxide (Al ₂ O ₃ , alpha) (contains ~ 5-10% gamma, Fe>10ppm) Purity: 99.5% APS: 27-43 nm SSA: 35 m ² /g Color: pale pink Morphology: nearly spherical
Al₂O₃ AMCN62 1344-28-1	Aluminum oxide (gamma), ≥ 99% APS: 40-80 nm SSA: 100-200 m ² /g Color: milky white Morphology: spherical
Al₂O₃ AMCN63 1344-28-1	Aluminum Oxide (Al ₂ O ₃ , gamma) Purity: 99.97% APS: 20 nm SSA: 180 m ² /g Color: white Morphology: nearly spherical
Al₂O₃ AMCN64 1344-28-1	Aluminum Oxide (Al ₂ O ₃ , gamma) Purity: 99% APS: 10 nm SSA: > 160 m ² /g Color: white Morphology: spherical Bulk density: 0.1 g/cm ³ True density: 3.7 g/cm ³
BaSO₄ AMCN65 7727-43-7 Toxic, 6.1, III, UN1564	Barium Sulfate (BaSO ₄) Purity: 99% APS: < 500 nm Crystallite Size: 80 nm SSA: not measured Color: white
BaSO₄ AMCN66 7727-43-7 Toxic, 6.1, III, UN1564	Barium Sulfate (BaSO ₄) Purity: 99% APS: < 1,000 nm Crystallite Size: 100 nm SSA: not measured Color: white
BaTiO₃ AMCN67 12047-27-7	Barium Titanate (BaTiO ₃ , Cubic) BaO/TiO ₂ : 0.999 - 1.001 Purity: 99.9% APS: 100 nm (from SEM) SSA: 10 - 11 m ² /g Color: white Morphology: spherical
Bi₂O₃ AMCN68 1304-76-3	Bismuth oxide (Bi ₂ O ₃ , beta) Purity: 99.9+% APS: <210 nm SSA: 3.4 - 5.0 m ² /g Color: yellow Morphology: spherical
B₂O₃ AMCN153 1303-86-2	Boron Oxide (B ₂ O ₃) Purity: 98% APS: 40-80 nm Morphology: spherical BET: 35 m ² /g

CeO₂ AMCN69 1306-38-3	Cerium oxide (CeO ₂) Purity: 99.9% (REO) APS: 70-105 nm (from SSA) SSA: 8-12 m ² /g Color: pale yellow Morphology: spherical
CeO₂ AMCN70 1306-38-3	Cerium oxide (CeO ₂) Purity: 99.9% (REO) APS: 32-40nm (from SSA) SSA: N/A Color: pale yellow Morphology: spherical
CeO₂ AMCN71 1306-38-3	Cerium oxide (CeO ₂) Purity: 99.9% (REO) APS: 15-30 nm SSA: 30-50 m ² /g Color: pale yellow Morphology: spherical
CoO AMCN146 1308-06-1	Cobalt (II) Oxide (CoO) Purity: 99.5% APS: 50nm BET >30m ² /g True density: 6.45 g/cm ³
Co₃O₄ AMCN72 1308-06-1	Cobalt Oxide(Co ₃ O ₄) (Co content = 72 - 74%) Purity: 99% APS: 50-80 nm SSA: > 10 m ² /g Color: black Morphology: nearly spherical
Co₃O₄ AMCN73 1308-06-1	Cobalt Oxide(Co ₃ O ₄) (Co content = 71.0-72.8%) Purity: 99.8% APS: 20-30 nm SSA: 40-70 m ² /g Color: black Morphology: rods & spheres
CoFe₂O₄ AMCN74	Cobalt Iron Oxide (CoFe ₂ O ₄) Purity: 98% APS: 35-55 nm Color: black Morphology: spherical
Co_{0.5}Zn_{0.5}Fe₂O₄ AMCN75	Cobalt-Zinc Iron Oxide (Co _{0.5} Zn _{0.5} Fe ₂ O ₄) Purity: 99.5% APS: 30-50 nm Color: dark brown Morphology: nearly spherical
CuO AMCN76 1317-38-0	Copper Oxide (CuO) Purity: 99+% APS: 30-50 nm SSA: 13.1 m ² /g Color: black Morphology: nearly spherical
Dy₂O₃ AMCN77 1308-87-8	Dysprosium oxide, 99.9%(REO) APS: (25±5) (225±25) nm SSA: 18-22 m ² /g Particle Morphology: needle-like

	Crystallographic Structure: cubic
Er₂O₃ AMCN78 12061-16-4	Erbium oxide (Er ₂ O ₃) Purity: 99.9% (REO) APS: 41-53 nm (from SSA) SSA: 13-17 m ² /g Color: pale pink Morphology: spherical
Er₂O₃ AMCN79 12061-16-4	Erbium Oxide (Er ₂ O ₃) Purity: 99.9% (REO) APS: 43 nm (from SSA) SSA: 16 m ² /g Color: pink Morphology: nearly spherical
Eu₂O₃ AMCN80 1308-96-9	Europium oxide (Eu ₂ O ₃) Purity: 99.99% (REO) APS: 45-58 nm (from SSA) SSA: 14-18 m ² /g Color: white Morphology: spherical
Eu₂O₃ AMCN81 1308-96-9	Europium Oxide (Eu ₂ O ₃) Purity: 99.995% (REO) APS: 58 nm (from SSA) SSA: 14 m ² /g Color: white Morphology: nearly spherical
Fe₂O₃ AMCN82 1309-37-1	Iron Oxide (Fe ₂ O ₃ , alpha) Purity: 98+ % APS: 20 - 50 nm SSA: > 50 m ² /g Color: red brown Morphology: spherical
Fe₂O₃ AMCN83 1309-37-1	Iron Oxide (Fe ₂ O ₃ , gamma) Purity: 98% APS: 20 - 50 nm SSA: > 30 m ² /g Color: red brown Morphology: spherical
Fe₃O₄ AMCN84 1317-61-9	Iron oxide, 98+ % APS: 20-30 nm SSA: > 60 m ² /g Particle Morphology: spherical Crystallographic Structure: cubic
Gd₂O₃ AMCN85 12064-62-9	Gadolinium Oxide (Gd ₂ O ₃) Purity: 99.9+ % (REO) APS: 20-80 nm (from SSA) SSA: 10-40 m ² /g Color: white Morphology: nearly spherical
HfO₂ AMCN86	Hafnium Oxide (HfO ₂) Purity: 99.95% APS: 100-200 nm SSA: not measured True density: 9.68 g/cm ³

In₂O₃ AMCN87 1312-43-2	Indium oxide (In ₂ O ₃) Purity: 99.99% APS: 30 - 50 nm SSA: 15 m ² /g Color: yellow Morphology: faceted (major) and rod (minor)
In₂O₃ AMCN88 1312-43-2	Indium oxide (In ₂ O ₃) Purity: 99.995% APS: 30 - 50 nm SSA: 15 m ² /g Color: yellow with slight green Morphology: faceted (major) and rod (minor)
In(OH)₃ AMCN89 20661-21-6	Indium hydroxide (In(OH) ₃) Purity: 99.99% APS: 25 - 35 nm SSA: 57 m ² /g Color: white Morphology: nearly spherical
In₂O₃: SnO₂ AMCN90 50926-11-9	Indium tin oxide (In ₂ O ₃ :SnO ₂ , 95wt%: 5wt%) Purity: 99.99% APS: 30 - 50 nm SSA: 20 m ² /g Color: yellowish green Morphology: ~ spherical
In₂O₃: SnO₂ AMCN91 50926-11-9	Indium tin oxide (ITO), In ₂ O ₃ :SnO ₂ = 9:1 (wt), 99.99% APS: 30-50 nm SSA: 24 m ² /g Particle Morphology: irregular Crystallographic Structure: cubic
La₂O₃ AMCN138	Lanthanum oxide (La ₂ O ₃) Purity: 99.99% (REO) APS: 15-30 nm SSA: 20-40 m ² /g Color: white Bulk density: < 0.2 g/cm ³ True density: 6.51 g/cm ³ Mfg. method: sol-gel
MgO AMCN92 1309-48-4	Magnesium Oxide (MgO) Purity: 99% APS: 100 nm SSA: > 7 m ² /g Color: white Morphology: polyhedral
MgO AMCN93 1309-48-4	Magnesium Oxide (MgO) Purity: 99.5% APS: 50 nm SSA: ~ 20 m ² /g Color: white True density: 3.58 g/m ³
MgO AMCN94 1309-48-4	Magnesium Oxide (MgO) Purity: 99% APS: 20 nm SSA: > 50 m ² /g Color: white

	Morphology: polyhedral
MoO₃ AMCN95 1313-27-5	Molybdenum oxide (MoO ₃) Purity: 99.5% Average particle size: 370 nm (determined from SSA) Average crystallite size: 90 nm (determined from x-ray diffraction) SSA: 3.46 g/cm ³ Color: light blue Morphology: nearly spherical
Nd₂O₃ AMCN96 1313-97-9	Neodymium oxide (Nd ₂ O ₃) Purity: 99.9% (REO) APS: 49-64 nm (from SSA) SSA: 13-17 m ² /g Color: pale violet Morphology: spherical
Nd₂O₃ AMCN97 1313-97-9	Neodymium Oxide (Nd ₂ O ₃) Purity: 99.9+% (REO) APS: 83 nm (from SSA) SSA: 10 m ² /g Color: pale purple Morphology: irregular
NiFe₂O₄ AMCN98 12168-54-6	Nickel Iron Oxide(NiFe ₂ O ₄) Purity: 98% APS: 20-30 nm SSA: 59 m ² /g Color: dark brown Morphology: nearly spherical
Ni_{0.5}Zn_{0.5}Fe₂O₄ AMCN99	Nickel-Zinc Iron Oxide (Ni _{0.5} Zn _{0.5} Fe ₂ O ₄) Purity: 98.5% APS: 10-30 nm Color: dark brown Morphology: nearly spherical
NiO AMCN100 1313-99-1	Nickel Oxide green (NiO) (Ni content = 77.5-78.8%) Purity: 99% APS: 100 nm SSA: > 6 m ² /g Color: dark gray Morphology: spherical
NiO AMCN101 1313-99-1	Nickel oxide (Ni content = 71.5-75.0%), 99.8% APS: 10-20 nm SSA: 50-80 m ² /g Particle Morphology: nearly spherical Color: black
Sb₂O₃ AMCN102 1309-64-4 UN1549	Antimony oxide (Sb ₂ O ₃) Purity: 99.9+% APS: 90 - 210 nm SSA: 15. 6 m ² /g Color: white Morphology: spherical

Sb₂O₃ AMCN103 1309-64-4 UN1549	Antimony oxide, 99.8+% APS: 41-91 nm SSA: 26 m ² /g Particle Morphology: nearly spherical Crystallographic Structure: cubic
SiO₂ AMCN104 7631-86-9	Silicon Oxide (fused-SiO ₂ , amorphous) Purity: 99.94+% D50: 2.8 um, D90 ~ < 6 um SSA: 4.6 m ² /g pH: 6 Color: white Morphology: spherical
SiO₂ AMCN105 7631-86-9	Silicon Oxide (fused-SiO ₂ , amorphous) Purity: 99.94+% D50: 1.2 um, D90 ~ < 3 um, pH: 6 Color: white Morphology: spherical
SiO₂ AMCN106 7631-86-9	Silicon Oxide (SiO ₂ , quartz) Purity: 99.95+% D50 = 2.8 um, D90 ~ < 6 um SSA: 4.7 m ² /g pH: 6 Color: white Morphology: spherical
SiO₂ AMCN107 7631-86-9	Silicon Oxide (SiO ₂ , amorphous) Purity: 99+% APS: 80 nm SSA: 440 m ² /g Color: white Morphology: ~ spherical
SiO_x AMCN108 7631-86-9	Silicon Oxide (SiO _x , x=1.2-1.6, amorphous) Purity: 99.5% APS: 15 nm SSA: 160 m ² /g Color: white Morphology: spherical
SiO_x AMCN109 7631-86-9	Silicon Oxide (SiO _x , x=1.2-1.6, amorphous) Purity: 99.5% APS: 10 nm SSA: ~640 m ² /g Color: white Morphology: spherical, porous
Sm₂O₃ AMCN110 12060-58-1	Samarium oxide, 99.9% (REO) APS: 33-40 nm (determined from SSA) SSA: 18-22 m ² /g Particle Morphology: nearly spherical Color: white or pale yellow
SnO₂ AMCN111 18282-10-5	Tin oxide, 99.5% APS: 61 nm (determined from SSA) SSA: 14.2 m ² /g Particle Morphology: faceted

	Crystallographic Structure: tetragonal
SrCO₃ AMCN112 1633-05-2	Strontium Carbonate (SrCO ₃) Purity: 99% APS: 30 - 80 nm SSA: 20 - 60 m ² /g Color: white Morphology: spherical
SrTiO₃ AMCN113 12060-59-2	Strontium titanate (SrO/TiO ₂ : 0.996 - 1.005), 99.8% APS: 69-104 nm (determined from SSA) SSA: 12-18 m ² /g Particle Morphology: spherical Crystallographic Structure: cubic
Tb₄O₇ AMCN114 12037-01-3	Terbium oxide, 99.95% (REO) APS: 46-60 nm (determined from SSA) SSA: 13-17 m ² /g Particle Morphology: spherical Crystallographic Structure: cubic
TiO₂ AMCN115 13463-67-7	Titanium Oxide (TiO ₂ , anatase) Purity: 99% APS: 10 - 30 nm SSA: 200 -220 m ² /g Color: white Morphology: spherical
TiO₂ AMCN116 13463-67-7	Titanium Oxide (TiO ₂ , anatase) Purity: 99.7% APS: 15 nm SSA: ~240 m ² /g Color: white Morphology: spherical
TiO₂ AMCN117 13463-67-7	Titanium oxide (rutile), 98.5% APS: 10×40 nm SSA: 160±30 m ² /g Particle Morphology: needle-like Color: white
TiO₂ AMCN118 13463-67-7	Titanium Oxide (TiO ₂ , rutile) Purity: 99% APS: 50 nm SSA: 160 m ² /g Color: white Morphology: spherical Bulk density: True density: 4.23 g/cm ³
WO₃ AMCN119 1314-35-8	Tungsten oxide, 99+% APS: 30-70 nm SSA: not measured Particle Morphology: nearly spherical Color: yellow
Y₂O₃ AMCN120 1314-36-9	Yttrium oxide, 99.9% (REO) APS: 32-36 nm (determined from SSA) SSA: 33-37 m ² /g

	Particle Morphology: spherical Color: white
Y₂O₃ AMCN121 1314-36-9	Yttrium oxide, 99.995% (REO) APS: 29 nm (determined from SSA) SSA: 42 m ² /g Particle Morphology: spherical Color: white
ZnO AMCN122 1314-13-2	Zinc oxide, 99.9+% APS: 90-210 nm SSA: 4.9-6.8 m ² /g Particle Morphology: irregular Color: white
ZnO AMCN123 1314-13-2	Zinc oxide, 99.5% APS: 20 nm SSA: 50 m ² /g Particle Morphology: nearly spherical Color: Milky white
ZrO₂ AMCN124 1314-23-4	Zirconium oxide, 99.9% (metal basis excluding Hf) APS: 20-30 nm SSA: >35 m ² /g Particle Morphology: spherical
ZrO₂ AMCN125 1314-23-4	Zirconium Oxide, ZrO ₂ Purity: 99.9% (metal basis excluding Hf) APS: 30 - 60 nm SSA: 15 - 40 m ² /g Color: white
ZrO₂ AMCN126 1314-23-4	Zirconium Oxide, Ytria Stabilized (ZrO ₂ + 3% mol Y ₂ O ₃) Purity: 99.9%(metal basis excluding Hf, Hf < 3 wt%) Cryst. phases: 10-30% monoclinic + 70-90% tetragonal APS: 20 - 30 nm SSA: 30 - 60 m ² /g Color: white Morphology: spherical Bulk density: 0.36-0.42 g/cm ³ True density: 5.88 - 5.91 g/cm ³
ZrO₂ + 3mol% Y₂O₃ AMCN127 64417-98-7	Zirconium oxide, yttrium oxide stabilized, 99.9% (metal basis excluding Hf, Hf = 2-3 wt%) APS: 58-76 nm (determined from SSA) SSA: 13.5-17.5 m ² /g Particle Morphology: spherical Crystallographic Structure: 70%monoclinic + 30% tetragonal
ZrO₂ + 3mol% Y₂O₃ AMCN128 64417-98-7	Zirconium Oxide, Ytria Stabilized (ZrO ₂ + 3% mol Y ₂ O ₃) Purity: 99.9%(metal basis excluding Hf, Hf < 3 wt%) Cryst. phases: 10-30% monoclinic + 70-90% tetragonal APS: 20 - 30 nm

	SSA: 30 - 60 m ² /g Color: white Morphology: spherical
ZrO₂ + 8mol% Y₂O₃ AMCN142 64417-98-7	Zirconium Oxide, Yttria Stabilized (ZrO ₂ + 8% mol Y ₂ O ₃) Purity: 99.9%(metal basis excluding Hf, Hf=2-3 wt%) APS: 51 - 65 nm SSA: 16 - 20 m ² /g Color: white Morphology: spherical Bulk density: 0.88 g/cm ³ True density: 5.77 - 5.83 g/cm ³
ZrO₂ + 8mol% Y₂O₃ AMCN129 64417-98-7	Zirconium Oxide, Yttria Stabilized (ZrO ₂ + 8% mol Y ₂ O ₃) Purity: 99.9% (metal basis excluding Hf, Hf=2-3 wt%) APS: 200-300 nm (from SSA, sub-micron aggregate) SSA: N/A Color: white Morphology: spherical
ZrO₂ + 8mol% Y₂O₃ AMCN130 64417-98-7	Zirconium oxide, yttrium oxide stabilized, 99.9% (metal basis excluding Hf, Hf < 3 wt%) APS: 20-30 nm SSA: 30-60 m ² /g Particle Morphology: spherical Crystallographic Structure: cubic
ZrO₂ + 8%mol CaO AMCN131 1314-23-4	Zirconium Oxide, Calcia Stabilized (ZrO ₂ + 8% mol CaO) Purity: 99.9%(metal basis excluding Hf, Hf < 3 wt%) Cryst. stru.: tetragonal APS: 20 - 30 nm SSA: 30 - 60 m ² /g Color: white Morphology: spherical
ZrO₂ + 10%mol CeO₂ AMCN132 1314-23-4	Zirconium Oxide, Ceria Stabilized (ZrO ₂ + 10% mol CeO ₂) Purity: 99.9%(metal basis excluding Hf, Hf < 3 wt%) Cryst. phases: 30-50% monoclinic + 50-70% tetragonal APS: 20 - 30 nm SSA: 30 - 60 m ² /g Color: light yellow Morphology: spherical