

NANOMATERIAL CATALOG



2017
NANOTECOL
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Nanomaterials

Nanotecol is an expert in the manufacture of nanomaterials. Its production system guarantees profitability and quality..mecánicas y térmicas, de materiales y procesos en los diferentes sectores industriales.

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Packing: Amber PET bottle in solution or powder

Quantities available: 1g to 10 kilos, immediate delivery according to availability, in production term of 30 days.

The abbreviations used in this catalog

ACS: average crystal size.

OD: Outer diameter, ID: Inner diameter.

SSA: specific surface area.

1. NANOTUBES

Carbon nanotubes multiple wall

name	Product description
MWCNT 1001	Multiwall carbon nanotubes, thin 95% C purity and modified surface COOH
MWCNT 1002	Multiwall carbon nanotubes, Short and thin 95% C purity and modified surface COOH
MWCNT 1101	D.O. × L 6-9 nm × 5 m >95% (Carbon)
MWCNT 1102	produced as cathode deposit, > 7.5% based MWCNT, O.D. L 7-15 nm x 0.5-10 microns
MWCNT 1103	Powder cylinder cores, MWCNT base 20-30%, O.D. L 7-12 nm x 0.5-10 microns
MWCNT 1104	Abstract, D.O. Wall thickness × × L × 20-30 nm 1-2 nm × 0.5-2 microns
MWCNT 1105	> 90%, D × L 110-170 nm x 5-9 microns
MWCNT 1106	> 98% Carbon base, D.O. · L 6-13 nm x 2,5-20 microns
MWCNT 1107	Thin and short, <5% metal oxide (TGA)
MWCNT 1108	Thin, <5% metal oxide (TGA)
MWCNT 1109	≥98% Carbon base, O.D. Internal diameter × L 10 nm ± 1 nm x 4.5 nm ± 0.5 nm x 3 ~ 6 microns TEM
C 1110	Carbon nanofibres (95% +, D = 200-600 nm, L = 5-50 μm)
C 1111	Graphene (Diameter 0.5-3μm, Thickness 0.55 ~ 3.74nm)
C 1112	Graphene oxide(0.5-3μm diameter, thickness 0,55 ~ 1.2nm)
C 1113	95% SWNT, High purity single wall carbon nanotubes OD <2 nm, SWCNTs purity > 95% by weight Length of 5-30 microns

C 1114	Industrial grade multi-wall carbon nanotubes (MWCNT), 88 +%, OD: 10-30 nm, ID: 5-10 nm, length: 10-30 μ m SSA: 100-130 m ² /g
C 1115	Industrial grade multi-wall carbon nanotubes(MWCNT), 88 +% OD: 20-40 nm, ID: 5-10 nm, length: 10-30 μ m SSA: 80-120 m ² /g
C 1116	Industrial grade multi-wall carbon nanotubes (MWCNT), 88 +% , OD: 50-80 nm, ID: 5-15 nm, length: 10-20 μ m SSA: 60-80 m ² /g
C 1117	Multi-grated carbon nanotubes (MWCNT), el 99,9% +, OD: 8-15 nm, ID: 3-5 nm, length: ~ 50 μ m, SSA: 80-100 m ² /g
C 1118	Multi-grated carbon nanotubes (MWCNT), el 99,9% +, OD: 10-20 nm, ID: 5-10 nm, length: 10-30 μ m SSA: 80-100 m ² /g
C 1119	Multi-grated carbon nanotubes (MWCNT), el 99,9% +, OD: 20-30 nm, ID: 5-10 nm, length: 10-30 μ m SSA: 80-100 m ² /g
C 1120	Multi-grated carbon nanotubes (MWCNT), el 99,9% +, OD: 30-50 nm, ID: 5-12 nm, length: 10-20 μ m SSA: 60-80 m ² /g
C 1121	Multi-grated carbon nanotubes (MWCNT), el 99,9% +, OD: 50-80 nm, ID: 5-15 nm, length: 10-20 μ m SSA: 80 m ² /g
C 1122	Multiple wall carbon nanotubes (MWCNT), 95 +% OD: \leq 8 nm, ID: 2-5 nm, length: 10-30 μ m SSA: 350-420 m ² /g
C 1123	Multiple wall carbon nanotubes (MWCNT), 95 +% OD: \leq 8 nm, ID: 2-5 nm, length: 0.5-2 μ m SSA: 350-420 m ² /g
C 1124	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: \leq 10 nm, ID: 2-7 nm, length: 5-15 μ m, SSA: 40-600 m ² /g
C 1125	Multiple wall nanotubes aligned (MWCNT), Purity: 95% +, OD: 10 \pm 3 nm, ID: 2-7 nm, length: 5-15 μ m, SSA: 40-300 m ² /g
C 1126	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 8-15 nm, ID: 3-5 nm, length: 10-50 μ m, SSA: 180-240 m ² /g
C 1127	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 8-15 nm, ID: 3-5 nm, length: 0,5-2 microns, SSA: 180-240 m ² /g
C 1128	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 10-20 nm, ID: 5-10 nm, length: 10-30 μ m SSA: 180-230 m ² /g
C 1129	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 10-20 nm, ID: 5-10 nm, length: 0,5-2 microns, SSA: 180-230 m ² /g
C 1130	Multiple wall carbon nanotubes (MWCNT), 90 +% DE: 10-30 nm, ID: 3-10 nm, length: 1-10 μ m, SSA: ~ 200 m ² /g

C 1131	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 10-30 nm, ID: 5-10 nm, length: 5-15 µm SSA: 40-600 m2/g
C 1132	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 10-30 nm, ID: 5-10 nm, length: 1-2 µm, SSA: 40-600 m2/g
C 1133	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 20-30 nm, ID: 5-10 nm, length: 10-30 µm, SSA: 110-130 m2/g
C 1134	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 20-30 nm, ID: 5-10 nm, extensión: 0,5-2 µm, SSA: 110-130 m2/g
C 1135	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 20-40 nm, ID: 5-10 nm, length: 5-15 µm, SSA: 40-600 m2/g
C 1136	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 20-40 nm, ID: 5-10 nm, length: 1-2 µm, SSA: 40-600 m2/g
C 1137	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 30-50 nm, ID: 5-15 nm, length: 10-20 µm, SSA: 90-120 m2/g
C 1138	Multiple wall carbon nanotubes (MWCNT), 95% DE: 40-60 nm, length: 1-2 µm, SSA: 60-70 m2/g
C 1139	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 50-80 nm, ID: 5-15 nm, length: 10-20 µm, SSA: 60-80 m2/g
C 1140	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 50-80 nm, ID: 5-15 nm, length: 0.5-2 µm, SSA: 60-80 m2/g
C 1141	Multiple wall carbon nanotubes (MWCNT), 95 +% DE: 60-100 nm, ID: 5-10 nm, length: 5-15 µm, SSA: 40-600 m2/g
C 1142	Industrial grade multi-wall carbon nanotubes Functionalized with -OH (MWCNT-OH) Content of MWCNT (excluding -OH): 88 +%, Content of -OH: 2,36 a 2,60% in weigh, OD: 10-30 nm, ID: 5-10 nm, length: 10-30 µm, SSA: 100-130 m2/g
C 1143	Industrial grade multi-wall carbon nanotubes Functionalized with -OH (MWCNT-OH), Content of MWCNT (excluding -OH): 88 +%, Content of -OH: 1,55 a 1,71% in weigh, OD: 20-40 nm, ID: 5-10 nm, length: 10-30 µm, SSA: 80-120 m2/g
C 1144	Industrial grade multi-wall carbon nanotubes Functionalized with -OH (MWCNT-OH) Content of MWCNT (excluding -OH): 88 +%, Content of -OH: 0,72 a 0,79% in weigh, OD: 50-80 nm, ID: 5-15 nm, length: 10-20 µm, SSA: 60-80 m2/g
C 1145	Multi-grated carbon nanotubes Functionalized with -OH (MWCNT-OH), Content of MWCNT (excluding -OH): 99,9 +% Content of -OH: 1,76 a 1,94 % in weigh, OD: 8-15 nm, ID: 3 - 5 nm, length: ~ 50 µm, SSA: 80 - 100 m2/g
C 1146	Multi-grated carbon nanotubes Functionalized with -OH (MWCNT-OH), Content of MWCNT (excluding -OH): 99,9 +% Content of -OH: 1,45 a 1,61 % in weigh, OD: 10-20 nm, ID: 5 - 10 nm, length: 10 - 30 µm, SSA: 80 - 100 m2/g
C 1147	Industrial grade multi-wall carbon nanotubes, Functionalized with -COOH (MWCNT-COOH), Content of MWCNT (excluding -COOH): 88

	+% Content of -COOH: 1,47-1,63% in weigh, OD: 10-30 nm, ID: 5-10 nm, length: 10-30 μ m, SSA: 100 - 130 m ² /g
C 1148	Multiple graphitized wall nanotubes Functionalized with -COOH de (MWCNT-COOH) Content of MWNT (excluding -COOH): 99,9 +% Content of - COOH: 0,24 a 0,26 % in weigh, OD: 50-80 nm, ID: 5 - 15 nm, length: 10.-20 μ m, SSA: 50 - 70 m ² /g
C 1149	Multiple wall carbon nanotubes Functionalized with -COOH de (MWCNT-COOH) Content of MWNT (excluding -COOH): 95 +%, Content of - COOH: 3,67 a 4,05 % in weigh, OD: <8 nm, ID: 2 - 5 nm, length: 10.-30 μ m ,SSA: 350 - 420 m ² /g
C 1150	Multiple wall carbon nanotubes Functionalized with -COOH de (MWCNT-COOH), Content of MWNT (excluding -COOH): 95 +%, Content of - COOH: 2,43 a 2,67 % in weigh, OD: 8 - 15 nm, ID: 3 - 5 nm, length: 10.-50 μ m, SSA: 180 - 240 m ² /g
C 1151	Multiple wall carbon nanotubes Functionalized with -COOH de (MWCNT-COOH), Content of MWNT (excluding -COOH): 95 +%, Content of - COOH: 1,9 a 2,1 % in weigh, OD: 10 - 20 nm, ID: 5-10 nm, length: 10.-30 μ m, SSA: 180 - 230 m ² /g
C 1152	Multiple wall carbon nanotubes Functionalized with -COOH de (MWCNT-COOH), Content of MWNT (excluding -COOH): 95 +% Content of - COOH: 1,17a 1,29% in weigh OD: 20-30 nm, ID: 5-10 nm, length: 10.-30 μ m, SSA: 110-130 m ² /g

2. NANOPARTICLES AND OXIDES

2.1. Elemental Nanoparticles

Product name	Product description
Ag 1201	Silver powder, 99% (metal), Average Diameter: 90-210 nm, SSA: 2.40-4.42 m ² / g Spherical
Ag 1202	Silver powder, 99% (metal), Average Diameter: 90-210 nm SSA: 2.40-4.42 m ² /g, Spherical
Ag 1203	Silver (Ag), w / ~ 0,3% de PVP (Polyvinylpyrrolidone), Purity: 99,9%, Average Diameter: 80 nm
Ag 1204	Silver (Ag), w / ~ 0,3% de PVP (Polyvinylpyrrolidone), Purity: 99,9%,TAE: 20 nm
Al 1205	Aluminum powder, 99 +% (metal base, O <5%), Average Diameter: 18 nm, SSA: 40-60 m ² /g, Spherical
Au 1206	Gold powder, el 99,99+%, Average Diameter: 50-100 nm, SSA: 3,3 m ² /g, Spherical
Au 1207	Gold powder, 99,5+%, Average Diameter: <100 nm, SSA: 1,3-2,2 m ² /g, Morfología de las partículas: ~ Spherical

C 1208	Graphite powder, 99.9%, Average Diameter: 400 nm, Particle morphology: flaky
Co 1209 Flammable	Cobalt powder, 99.8% (metal base, O <10%), Average Diameter: 28 nm, SSA: 40-60 m ² / g, Spherical
Cu 1210 Flammable	Copper powder, 99.8% (metal, O <10%), Average Diameter: 25 Nm, SSA: 30-50 m ² / g, Spherical
Fe 1211 Flammable	Iron Powder, 99.5% (metal, O <10%), Average Diameter: 25 Nm, SSA: 40-60 m ² / g, Spherical
Fe 1212 Flammable	Iron Powder (Coated Carbon), 99.5% (metal, O <10%), Average Diameter: 25 Nm, SSA: 40-60 m ² / g, Spherical
Ni 1213 Flammable	Nickel in powder, 99.7% +, Average Diameter: 30-50 nm, SSA: 12 m ² / g
Ni 1214 Flammable	Nickel powder, metals (basis, O <10%) + 99.9%, Average Diameter: 20 Nm, SSA: 40-60 m ² / g, Spherical

2.2. Nanoparticles of non-magnetic oxides

Product name	Product description
MoS ₂ 1301	Molybdenum sulfide (MoS ₂ , 400 ~ 500 nm x 20 ~ 40 nm)
SiC 1302	Purity: 97,5%, Average particle size: 45-55 nm, Color: grayish white, Density, higher: 0,068 g / cm ³ , Density, true: 3,22 g / cm ³ , Spherical, Synthesis method: Plasma CVD
SiC 1303	Silicon carbide nanocilbro, (Beta SiC, 99 +%), Carbon Free <0.05%, diameter: 0.1-2.5 μm, length: ≥ 2.0 to 50 μm, Crystal Type: Beta , Decomposition temperature: 2973 K, Density (288K): 3,216 g / cm ³ , Hardness (Mohs): 9.5

2.3. Nanoparticles of oxide

to	Descripción producto
Al ₂ O ₃ 1401	Aluminum oxide (alpha) powder, 99.97%, Average Diameter: 150 nm, SSA: 5-15 m ² / g, Almost spherical
Al ₂ O ₃ 1402	Aluminum oxide powder, 99.5% (mainly alpha, gamma contains 5-10%) Average Diameter: 27-43 nm, SSA: 35 m ² / g, almost spherical
Al ₂ O ₃ 1403	Aluminum oxide (gamma) powder, Al ₂ O ₃ , 99%, Average Diameter: 20 Nm, Almost spherical
SiO ₂ 1404	Silicon oxide powder, 99%, Average Diameter: 80 Nm, SSA: 440 m ² /g, Spherical

SiO2 1405	Silicon oxide powder, 99,5%, Average Diameter: 20 Nm, SSA: 160+-20 m2/g, Spherical ,Crystallographic structure: amorphous
SiO2 1406	Silicon oxide powder, 99,5%, Average Diameter: 15 Nm, SSA: 640+-50 m2/g, Spherical, porosa
SiO2 1407	Silicon dioxide, (SiO2 quartz, 99,99%, 1 a 3,5 µm)
SiO2 1408	Silicon dioxide, (SiO2 quartz, 99,998%, 1-3,5 µm)
TiO2 1409	Titanium dioxide, (TiO2 anatase, 5 nm)
TiO2 1410	Titanium dioxide (anatase) in powder, 99%, Average Diameter: 10-30nm, SSA: 210±10 m2/g, Spherical
TiO2 1411	Titanium dioxide (anatase) in powder, 99%, Average Diameter: 15 Nm SSA: 240±50 m2/g, Spherical
ZnO 1412	Zinc oxide powder, 99,9% +, Average Diameter: 90 nm SSA: 4.9 a 6.8 m2/g, Irregular
1413	Zinc oxide powder, 99,5%, Average Diameter: 20 Nm SSA: 50 m2/g, Almost Spherical

2.4. Dispersors of nanoparticles

Producto limitado a usos de laboratorio de investigación y desarrollo.

Product name	Product description
Al2O3 1500	Aluminum oxide (alpha, 20% in weight, 30 to 60 nm) in water

3. FUNCTIONALIZED CARBON NANOTECHNICS AND NANOTUBES

Functionalized nanoparticles, adapted to the client's applications. The nanotubes and functionalized nanoparticles have many applications, by modifying such structures on their surface can be used as reinforcement for materials within ceramic, metal and polymer matrices, in order to achieve intelligent materials in electronic and biomedical applications, including for bioremediation.

- Functionalized nanotubes are used to:
- To manufacture capacitors and to obtain nano batteries, almost infinite.
- Track diseases such as cancer.
- Encapsulating (storing) fuels, such as hydrogen, and / or toxic and biological waste in wastewater

4. GRAPHENE AND GRAPHENE OXIDE

Product name	Product description
Graphene oxide 1701	Form of dispersion in H ₂ O Concentration 2 mg / ml Refractive index n ₂₀ / D 1,333 Density 0.981 g / ml at 25 ° C
Graphene oxide 1702	Dispersion description: polar solvents Mono layer content (measured at 0.5 mg / ml):> 95% Form of dispersion in H ₂ O Concentration 4 mg / ml
Graphene Powder 1703	Description of the surfactant type: anionic surfactant Form: powder Graphene composition as nano plates produced Sheet resistance 10 (+/- 5) Ω / square (for a 25-micron film)
Graphene Powder 1704	Dispersion description: water (high stability in aqueous medium) From powder, Carbon composite,> 70 in weigh. % Oxygen,> 10 in. %