

## CATALOG



2019 - III

## Carbon Nano-Powders

#	Product	Description	Reference	Quantity	Packing	Price, \$
1	<b>RayND Code: 100</b>	Nanodiamond powder of laser synthesis, possibility of customized surface functionalization.	Average grain size: 4-5 nm; ash residue: <0.02 wt.%	2 g	Glass vial	30
				10 g	Plastic bottle	150
				100 g	Plastic bottle	1400
2	<b>RayND-AL Code: 104</b>	Nanodiamond powder of laser synthesis, hydroxylated & nitrogenized; metal free; for biomed research	<b>Hydrophilic &amp; Lyophilic, PL;</b> average grain size: 4-5 nm; ash residue: <0.02	2 g	Glass vial	40
				10 g	Plastic bottle	200
				100 g	Plastic bottle	2000
3	<b>RayND-M Code: 105</b>	Nanodiamond powder of laser synthesis, modified, metal free, ferro-magnetic (unknown nature); for scientific research	<b>Magnetic; luminescent</b> average grain size: 4-5 nm; ash residue: <0.1 wt.%	1 g	Glass vial	250
4	<b>RT-DND Code: 110</b>	Detonation nanodiamond powder, specially purified, graphite & metal free, non-functionalized	Average grain size: 3-6 nm; ash residue: <0.1 wt.%	10 g	Plastic bottle	30
				100 g	Plastic bottle	200
				500 g	Plastic jar	800
5	<b>RT-DND-B Code: 112</b>	Detonation nanodiamond powder, purified, modified, alkylated; for ceramics, for some of polymer resins, for nuclear research.	<b>Hydrophobic &amp; lyophobic;</b> average grain size: 3-6 nm; ash residue: <0.1 wt.%	10 g	Plastic bottle	35
				100 g	Plastic bottle	230
				500 g	Plastic jar	1000
6	<b>RT-DND-L Code: 113</b>	Detonation nanodiamond powder, purified, hydroxylated; for electroplating & polishing, coolants, water soluble polymers	<b>Hydrophilic &amp; lyophobic;</b> average grain size: 3-6 nm; ash residue: <0.1 wt.%	10 g	Plastic bottle	40
				100 g	Plastic bottle	300
				500 g	Plastic jar	1300
7	<b>RT-DND-NH Code: 114</b>	Detonation nanodiamond powder, purified, modified, hydroxylated & nitrogenized; for high quality slurries & coolants	<b>Hydrophilic &amp; Lyophilic, high PL;</b> av. grain size: 3-6 nm, ash residue: <0.1 wt.%	10 g	Plastic bottle	75
				100 g	Plastic bottle	600
				500 g	Plastic jar	2500
8	<b>RT-DND-BM Code: 115</b>	Detonation nanodiamond powder, purified, modified, alkylated & siliconized; for polymer compounds	<b>Hydrophobic &amp; lyophilic;</b> average grain size: 3-6 nm; ash residue: <0.1 wt.%	10 g	Plastic bottle	40
				100 g	Plastic bottle	250
				500 g	Plastic jar	1100
9	<b>RT-DND-Fe Code: 116</b>	Detonation nanodiamond powder, purified, Fe-doped, for optic coatings & magnetic nanofluids, bio-research	<b>Ferro-magnetic; high PL;</b> average grain size: 3-6 nm, ash residue: <0.8 wt.%	10 g	Plastic bottle	70
				100 g	Plastic bottle	500
				500 g	Plastic jar	2000
10	<b>RT-DND-AN Code: 117</b>	Detonation nanodiamond powder, purified, modified, alkylated & nitrogenized; for acetone colloids & acetone soluble rubbers	<b>Hydrophobic &amp; lyophobic;</b> average grain size: 3-6 nm; ash residue: <0.1 wt.%	10 g	Plastic bottle	70
				100 g	Plastic bottle	500
				500 g	Plastic jar	2000
11	<b>RT-HPHT-L Code: 133</b>	Crashed High Pressure High Temperature nanodiamond powder, purified, modified, hydroxylated; for polishing slurries	<b>Hydrophilic &amp; lyophobic;</b> average grain size: 30-50 nm; ash residue: <0.1 wt.%	10 g	Plastic bottle	35
				100 g	Plastic bottle	300
				500 g	Plastic jar	1100
12	<b>RT-HPHT-AL Code: 134</b>	Crashed High Pressure High Temperature nanodiamond powder, purified, modified, hydroxylated & nitrogenized, for plating	<b>Hydrophilic &amp; lyophilic;</b> average grain size: 30-50 nm; ash residue: <0.1 wt.%	10 g	Plastic bottle	80
				100 g	Plastic bottle	600
				500 g	Plastic jar	2500
13	<b>RT-CNT Code: 151</b>	Carbon nanotubes hydroxylated, soluble in water; for composite materials	<b>Hydrophilic &amp; Lyophobic;</b> 75 wt. % single wall CNT	10 g	Plastic bottle	100
				100 g	Plastic bottle	850
				500 g	Plastic jar	3200

In addition, RAY provides carbon nanoparticles with **customized surface chemistry: nanodiamonds, CNT and graphene**.

RAY offers also process development for nanocarbons surface functionalization for increase in their dispersibility in various basic materials.

## Carbon Nano-Fluids

#	Product	Description	Reference	Quantity	Packing	Price, \$
1	<b>RayND-SP</b> Code: 201	1.7 wt. % disaggregated nanodiamond water suspension (RayND), pH: 3.5-4.5; for R&D, bio applications	Stable; average grain size: 4-5 nm. [The price is planned to drop]	100 ml	Glass or plastic bottle	100
2	<b>RayND-W-4A</b> Code: 202	4 wt.% nanodiamond water suspension; Nitrogenized RayND, highly dispersed; for biomedical research	Stable; average grain size: 4-5 nm, high PL. [The price is planned to drop]	20 ml	Glass vial	100
				100 ml	Plastic bottle	300
				500 ml	Plastic bottle	1000
3	<b>RT-IPA-5</b> Code: 205	5 wt. % nanodiamond isopropyl alcohol suspension (RayND), highly dispersed, for seeding in CVD diamond growth	Stable, average grain size: 4-5 nm	50 ml	Plastic bottle	50
				1 L	Plastic bottle	800
				5 L	HDPE jerrican	3500
4	<b>RT-DND-SP</b> Code: 211	1.7 wt. % nanodiamond water suspension (disaggregated RT-DND), pH=3.5-5.5; for polishing, inks, water soluble polymers	Stable, disaggregated single particles; average grain size: 3-6 nm	50 ml	Plastic bottle	50
				1 L	Plastic bottle	400
				5 L	HDPE jerrican	1500
5	<b>RT-W-10</b> Code: 212	10 wt. % nanodiamond water-based gel; pH of wide range; for lapping, running-in, polishing, cooling, ultrasonic cleaning	Stable, average grain size: 3-6 nm	50 ml	Plastic bottle	30
				1 L	Plastic bottle	300
				5 L	HDPE jerrican	1400
6	<b>RT-W-4A</b> Code: 213	4 wt. % nanodiamond water suspension (RT-DND), highly dispersed, pH of wide range; for water soluble polymers, inks, sensors	Stable, average grain size: 3-6 nm. High PL	50 ml	Plastic bottle	30
				1 L	Plastic bottle	400
				5 L	HDPE jerrican	1600
7	<b>RT-Ac-4</b> Code: 214	4 wt. % nanodiamond acetone suspension, highly dispersed, for HIPS and ABS rubbers and other acetone soluble polymers	Stable, average grain size: 3-6 nm	50 ml	Plastic bottle	50
				1 L	Plastic bottle	400
				5 L	HDPE jerrican	1600
9	<b>RT-NMP-5</b> Code: 216	5 wt. % nanodiamond N-methyl-2-pyrrolidone suspension, highly dispersed; for textiles, resins, plastics, inks, sensors	Stable. Average grain size: 3-6 nm. High PL.	50 ml	Glass bottle	50
				1 liter	Glass bottle	500
				5 liters	HDPE jerrican	2200
10	<b>RT-Xy-7</b> Code: 219	7 wt. % nanodiamond xylene suspension, highly dispersed; for varnishes, paints, polishes, wafers and PCB cleaning agents	Stable. Average grain size: 3-6 nm	50 ml	Glass bottle	60
				1 liter	Glass bottle	950
				5 liters	HDPE jerrican	4200
11	<b>RT-Cy-7</b> Code: 220	7 wt. % nanodiamond cyclohexane suspension, highly dispersed, additive to anionic elastomers	Stable. Average grain size: 3-6 nm	50 ml	Glass bottle	60
				1 liter	Glass bottle	950
				5 liters	HDPE jerrican	4200
12	<b>RT-DMF-10</b> Code: 221	10 wt. % nanodiamond dimethylformamide suspension, highly dispersed, for acrylic fibers, plastics, synthetic leathers, glues	Stable. Average grain size: 3-6 nm	50 ml	Glass bottle	50
				1 liter	Glass bottle	800
				5 liters	HDPE jerrican	3500
13	<b>RT-Bu-10</b> Code: 222	10 wt. % nanodiamond 2-Butoxyethanol suspension, highly dispersed; for varnishes, herbicides, latex paints, enamels	Stable. Average grain size: 3-6 nm	50 ml	Glass bottle	80
				1 liter	Glass bottle	1300
				5 liters	HDPE jerrican	6000
14	<b>RT-PEO-3</b> Code: 223	3 wt. % nanodiamond polyester oil colloid, highly dispersed, additive to lubricants, lapping / finishing / running-in	Stable. Average grain size: 3-6 nm	200 ml	Plastic vial	80
				1 liter	Plastic bottle	350
				5 liters	HDPE jerrican	1500
15	<b>RT-Di50-W-5</b> Code: 224	5 wt.% nanodiamond slurry, for lapping, inner surfaces flow polishing, electroplating, contains hydroxylated crashed HPHT-ND	Average grain size: 40-50 nm, requires sonication before handling	100 ml	Plastic bottle	50
				1 liter	Plastic bottle	250
				5 liter	HDPE jerrican	1200
16	<b>RT-Di50-W-3A</b> Code: 225	3 wt.% HPHT nanodiamond slurry, highly dispersed in deionized water, for finishing	High PL. Stable. Average grain size: 40-50 nm	100 ml	Plastic bottle	80
				1 liter	Plastic bottle	300
				5 liter	HDPE jerrican	1500

All suspensions are prepared without surfactants.

Ray provides customized carbon nanofluids containing nanodiamond, CNT, graphene and fullerene nanoparticles dispersed in various solvents.

RAY also offers process development for dispersing other nanoparticles within diverse solvents & composites.

## Nanodiamond Products for Industry

#	Product	Description	Reference	Quantity	Packing	Price, \$
1	<b>RT-W-10</b> Code: 212	10 wt. % nanodiamond water-based gel; for lapping, finishing, running-in, cooling, ultrasonic cleaning, pretreatment at CVD & PVD	Stable; average grain size: 3-6 nm	50 ml	Plastic bottle	30
				1 L	Plastic bottle	300
				5 L	HDPE jerrican	1400
2	<b>RT-Lub</b> Code: 312	Nanodiamond additive to antifriction synthetic oils; recommended dilution for finishing 1/25, for running-in 1/50	Stable; average grain size: 3-6 nm; based on BVA-68	200 ml	Plastic bottle	35
				1 L	Plastic bottle	130
				5 L	HDPE jerrican	600
3	<b>RT-Lap</b> Code: 313	10 wt. % nanodiamond organic-based grease for fine polishing of diamonds, CVD diamond films, optic crystals & ceramics	Stable; average grain size: 3-6 nm	10 g	3 plastic jars	30
				100 g	Plastic jar	90
				500 g	Plastic jar	430
4	<b>RT-Lap-A</b> Code: 314	5 wt. % nanodiamond antiwear grease for lapping, finishing, running-in of gears, engines, generators and precision parts	Stable, average grain size: 3-6 nm. Washed off with water	10 g	3 plastic jars	20
				100 g	Plastic jar	50
				500 g	Plastic jar	230
5	<b>ND-Galvano</b> Code: 317	20 wt.% nanodiamond water slurry, additive to electrolytes in galvanic coatings for improving wear & corrosion resistance	Stable. Recommended dilution 1/40, or 0.5 -0.6 wt. % ratio in electrolyte	1 L	Plastic bottle	600
				5 L	HDPE jerrican	2800
				25 L	5 HDPE jers	13000
6	<b>ND-Depo-Ni</b> Code: 318	20 wt.% nanodiamond water slurry, additive to electrolytes in Ni Electroless coatings for wear & corrosion resistance	Stable. Recommended dilution 1/40, or 0.5 -0.6 wt. % ratio in electrolyte	1 L	Plastic bottle	600
				5 L	HDPE jerrican	2800
				25 L	5 HDPE jers	13000

RAY provides also customized additives to polymers: epoxy and silicone resins, elastomers and plastics in forms of ready-to-use masterbatches or modified powders, which can be easily mixed with a basic material and not require additional equipment to be applied in existing processes.

Dear Sirs,

**This product catalog is valid by the end of December 2019.**

The prices do not include shipping, insurance and bank expenses.

In case of quotation request or ordering, please fill the contact form in the website:

[www.nanodiamond.co.il](http://www.nanodiamond.co.il) and we will answer you shortly.

Please feel free to contact, if you need more information about our goods and the terms of their delivery.

We are always at your service.

Ray Techniques' Team