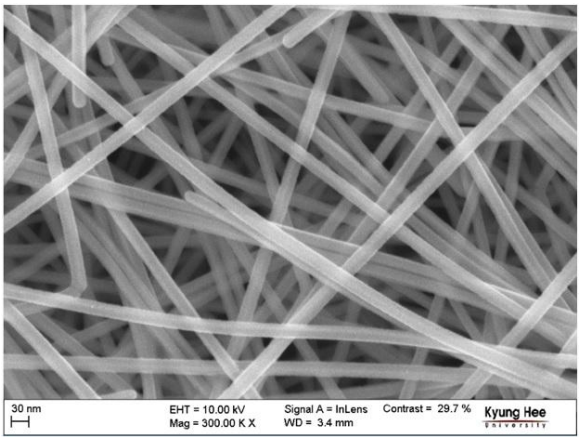
I. Flexible Transparent Electrodes

SILVER NANOWIRES DISPERSIONS

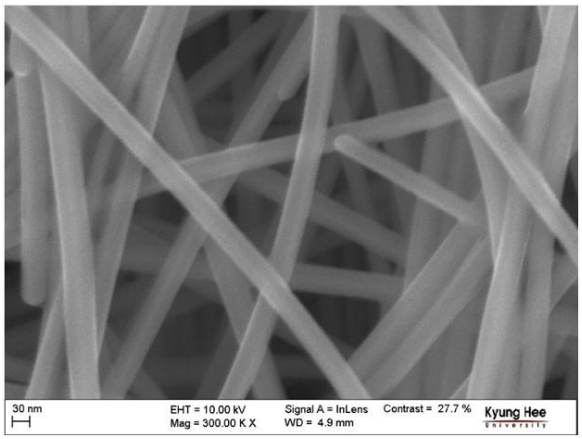
Product code	Product name	Specifications	Purity(%)
DT-AGNW-N30-1DI	1% Ag NWs Water dispersion	D:25-35nm, L:10~20um	1
DT-AGNW-N30-1MOH	1% Ag NWs Methanol	D:25-35nm, L:10~20um	1
DT-AGNW-N30-1EOH	1% Ag NWs Ethanol	D:25-35nm, L:10~20um	1
DT-AGNW-N30-1IPA	1% Ag NWs IPA	D:25-35nm, L:10~20um	1
DT-AGNW-INK-N30	Ag nanowire ink	D:25-35nm, L:10~20um	-
DT-AGNW-N50-1DI	1% Ag NWs Water dispersion	D:45-55nm, L:10~20um	1
DT-AGNW-N50-1MOH	1% Ag NWs Methanol	D: 45-55nm, L:10~20um	1
DT-AGNW-N50-1EOH	1% Ag NWs Ethanol	D: 45-55nm, L:10~20um	1
DT-AGNW-N50-1IPA	1% Ag NWs IPA	D: 45-55nm, L:10~20um	1
DT-AGNW-INK-N50	Ag nanowire ink	D: 45-55nm, L:10~20um	-

Description Silver nanowires are nanostructures and very suitable for manufacturing new generation flexible transparent electrodes. Silver nanowires have many excellent features, such as smaller diameter (D=<30nm), higher length-diameter ratio (>500), and higher purity (>99.8%). Using these silver nanowires, the flexible transparent electrodes can have lower surface resistivity (<20 ohm/sq), and lower haze.

Package 100ml, 1L, 20L



DT-AGNW-N30

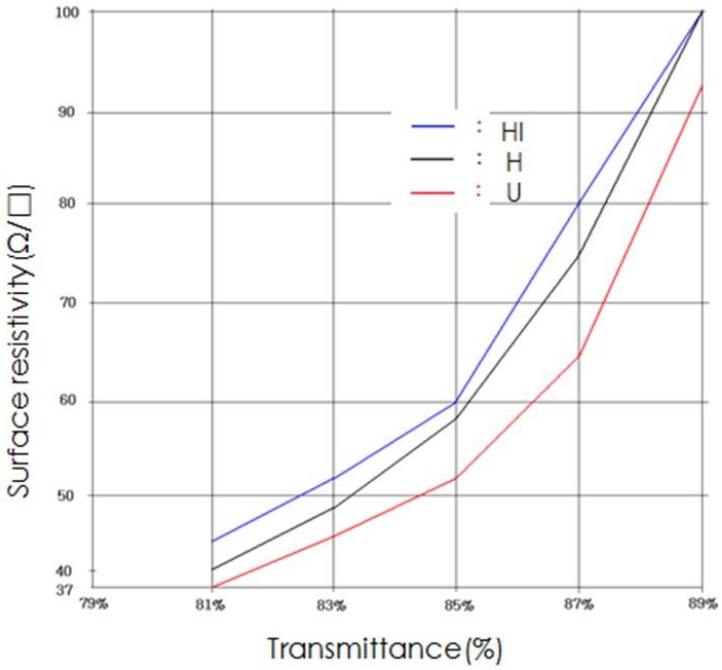


DT-AGNW-N50

PEDOT:PSS CONDUCTIVE INKS

	DT-PEDOT-H	DT-PEDOT-HI	DT-PEDOT-U
Characteristics	High transparency High conductivity Heat curable	High transparency High conductivity Suitable for jetting	High transparency High conductivity UV curable
Appearance	Dark blue liquid		
Viscosity	10~16 cps		
pH	2-3		6-8
Solid content	0.9~1.5%		
Co-Solvents	DEG, NPA, NMP, PM, Methanol, Water, MCS, NMF		
Coating method	Slot, Roll, Spray, Spin	Ink-jet	Slot, Roll, Spray, Spin
Drying conditions	160℃ for 10 min		UV cure after 160℃ for 10 min
Base materials	Glass, PET, TAC, Arton, PC, PI		
Applications	Transparent electrode for touch panel, Solar battery collector, E-paper, Smart card, Inorganic EL, 3D spectacles, EMI shielding		

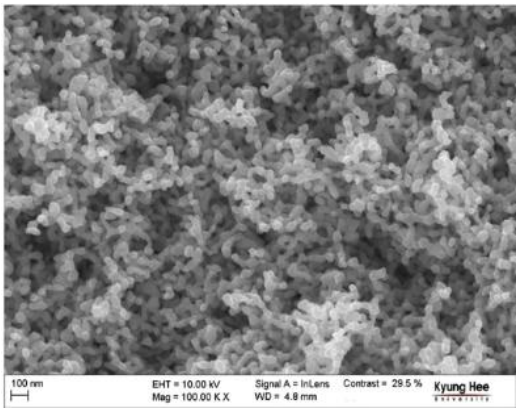
Wet thickness	Dry thickness	Drying condition	Surface resistivity
5um	50nm	160℃, 10min	100-90
10um	100nm		75-60
15um	150nm		60-45
20um	200nm		40-37



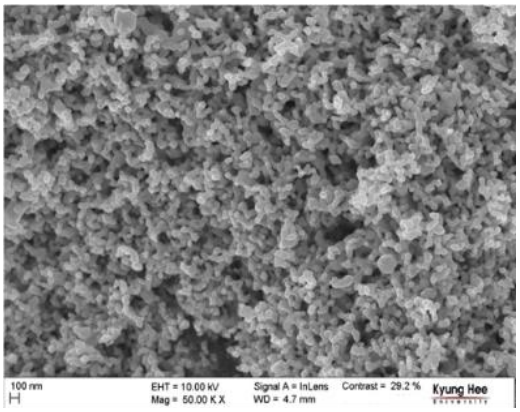
II. NANO POWDERS & DISPERSIONS

Ag, silver

Product code	Product name	Specifications (APS)	Purity (%)
DT-AG-N50	Ag *nanopowder*	40-60nm, *dark brown*	>99.8
DT-AG-S10	Ag *nanopowder*	90-110nm, *dark gray*	>99.8
DT-AG-S15	Ag *nanopowder*	150nm, *dark gray*	>99.8
DT-AG-S70	Ag *silver submicron powder*	APS 600-800nm, *beige*	>99.8
DT-AG-M01	Ag *silver submicron powder*	APS 0.9-1.1um, *gray*	>99.8
DT-AGF-M02	Ag *silver flake*	D10 <1um, D50 1.5um, D100 8um	>99.8
DT-AGCU-N40	AgCu *silver copper nanopowder*	30-50nm, *ratio controllable*	>99.8
DT-AGNI-N40	AgNi *silver nickel nanopowder*	30-50nm, *ratio controllable*	>99.8
DT-SAC-N40	SnAgCu *tin silver copper nano*	30-50nm, *ratio controllable*	>99.8
OS-AGS-7DI	7% Silver water *alkaline, transparent*	<5nm, sintered below 170°C	7
OS-AGS-7MOH	7% Silver methanol *alkaline, transparent*	<5nm, sintered below 170°C	7
Applications	Conductive Slurry, Antivirus, Antibacterial, Efficacious Catalyst, Biological Pharmacy, Additive for low-temperature, Sintering in Solar Cell, Transparent flexible Electrodes		



DT-AG-N50



DT-AG-S10



OS-AGS-7MOH

Al, aluminum

Product code	Product name	Specifications (APS)	Purity (%)
NM-AL-N70	Al *aluminum, passivated*	60-80nm, *Spherical*	99.9
NM-AL-S13	Al *aluminum, passivated*	120-140nm, *Spherical*	99.9
NM-AL-M35	Al *aluminum powder*	30-40um, *Irregular*	>99
DT-ALO-N05	Al_2O_3 *alumina nanopowder*	3-8nm, *Spherical*	>99.8
DT-ALO-N15	Al_2O_3 *alumina nanopowder*	10-20nm, *Spherical*	>99.8
DT-ALO-N30	Al_2O_3 *alumina nanopowder*	20-40nm, *Spherical*	>99.8
DT-ALO-S35	Al_2O_3 *alumina powder*	250-400nm, *Spherical*	>99.9
DT-ALO-S90	Al_2O_3 *alumina powder*	0.8-1.0um, *Irregular*	>99.8
DT-ALO-M02	Al_2O_3 *alumina powder*	1.5-2.5um, *Sphere-like*	>99.8
DT-ALO-M03	Al_2O_3 *alumina powder*	2.5-3.5um, *Irregular*	>99.8
DT-ALO-M04	Al_2O_3 *alumina powder*	4um, *sphere, SSA 0.5m²/g*	>99.9
DT-ALOF-M10	Al_2O_3 plate *alumina powder*	5-15um, plate type	>99.5
DT-ALO-M45	Al_2O_3 *alumina powder*	45um, *sphere, SSA 0.2m²/g*	>99.8
DT-ALOF-M35	Al_2O_3 plate *alumina powder*	30-40um, plate type	>99.5
DT-ALOH-N30	Aluminum hydroxide nanopowder	<30nm, *Spherical*	>99.8
DT-ALOS-20DI	Al_2O_3 nano dispersion *no additive type*	10-15nm, *Water based*	20
DT-ALOS-15DI	Al_2O_3 nano dispersion	20-40nm, *Water based*	15
DT-ALOS-15DI-LT	Al_2O_3 nano dispersion *additives with low boiling temp., alkaline*	20-40nm, *Water based*	15
DT-ALOS-15OH	Al_2O_3 nano dispersion *Methanol/Ethanol/IPA*	20-40nm, *Alcohol based*	15
DT-ALOS-15MK	Al_2O_3 nano dispersion *MEK/MIBK*	20-40nm, *Ketone based*	15
DT-ALOS-15PG	Al_2O_3 nano dispersion *PGME/PGMEA*	20-40nm, *Glycol based*	15
DT-ALOS-15ARO	Al_2O_3 nano dispersion *Toluene/4M2P*	20-40nm, *Aromatic based*	15
NM-ALN-N70	AlN *aluminum nitride*	70nm, spherical	>99.5
DT-ALNS-10MK	AlN nanodispersion *MEK/MIBK*	100-200nm, *Ketone based*	10
DT-ALNS-10ARO	AlN nano dispersion *Toluene/4M2P*	100-200nm, *Aromatic based*	10
Applications	Efficacious Catalyzer, Actuating sintering additives, Conductive coating material Filler, Catalyst and Catalyst support, Gas purification & absorption field, Abrasive High thermally conductive ceramics, Electrically insulating packages for electronics		

Au, gold

Product code	Product name	Specifications (APS)	Purity (%)
DT-AU-N50	Au *gold nanopowder*	40-60nm	>99.9
DT-AU-S70	Au *gold nanopowder*	600-800nm	>99.9
DT-AU-M02	Au *gold powder*	1.5-2.5um	>99.9
Applications	Biocatalyst, DNA Identification, Coloring stability		

B, boron

Product code	Product name	Specifications (APS)	Purity (%)
NM-B-S10	B *boron nanopowder*	80-120nm	>99.5
NM-B-M05	B *boron powder*	4-6um	>99.8
NM-BC-N50	B_4C *boron carbide nanopowder*	40-60nm	>99
DT-BCS-10DI-LT	B_4C nano dispersion *additives with low boiling temp.*	80-120nm, *Water based*	10
DT-BCS-10MK	B_4C nanodispersion *MEK/MIBK*	80-120nm, *Ketone based*	10
DT-BCS-10ARO	B_4C nanodispersion *Toluene/4M2P*	80-120nm, *Aromatic based*	10
NM-BN-S20	h-BN *boron nitride nanopowder*	150-250nm, *Sphere-like*	99.3
NM-BN-M05	h-BN *boron nitride micro*	5um, *Plate*	99.3
NM-BN-M10	h-BN *boron nitride micro*	10um, *Plate*	99.3
NM-BN-M17	h-BN *boron nitride micro*	17um, *Plate*	99.3
NM-BN-M35	h-BN *boron nitride micro*	30-40um, *Plate*	99.3
DT-BNS-20DI-LT	BN nano dispersion *additives with low boiling temp.*	200-400nm, *Water based*	20
DT-BNS-20MK	BN nanodispersion *MEK/MIBK*	200-400nm, *Ketone based*	20
DT-BNS-20ARO	BN nanodispersion *Toluene/4M2P*	200-400nm, *Aromatic based*	20
Applications	high purity reagent, Intermingle reagent of semiconductor, Coating material, Solid lubricant for high-temperature applications, Mold release for die casting and injection molding, Thermally conductive filler for polymers		

Ba, barium

Product code	Product name	Specifications (APS)	Purity (%)
DT-BACO-N40	$BaCO_3$ *barium carbonate*	30-50nm	>99.8
DT-BACO-S80	$BaCO_3$ *barium carbonate*	700-900nm	>99.8
DT-BATIO-N30	$BaTiO_3$ *barium titanate nanopowder*	20-40nm	>99.8
DT-BATIO-S15	$BaTiO_3$ *barium titanate nanopowder*	100-200nm	>99.8
DT-BATIO-M01	$BaTiO_3$ *barium titanate submicron*	900-1100nm	>99.8
DT-BTOS-20DI	$BaTiO_3$ nano dispersion	30-50nm, *Water based*	20
DT-BTOS-20DI-LT	$BaTiO_3$ nano dispersion *additives with low boiling temp.*	30-50nm, *Water based*	20
DT-BTOS-20OH	$BaTiO_3$ nano dispersion *Methanol/Ethanol/IPA*	30-50nm, *Alcohol based*	20
DT-BTOS-20MK	$BaTiO_3$ nano dispersion *MEK/MIBK*	30-50nm, *Ketone based*	20
DT-BTOS-20PG	$BaTiO_3$ nano dispersion *PGME/PGMEA*	30-50nm, *Glycol based*	20
DT-BTOS-20ARO	$BaTiO_3$ nano dispersion *Toluene/4M2P*	30-50nm, *Aromatic based*	20
Applications	Phosphor base material, Magnetic material, Semiconducting base material, Multi-layer ceramic capacitors (MLCCs), Embedded decoupling capacitors (EDC), PTC thermistors, Ceramic filters		

Be, beryllium

Product code	Product name	Specifications (APS)	Purity (%)
DT-BEO-N20	BeO *beryllium oxide nanopowder*	10-30nm	99.9
DT-BEO-N60	BeO *beryllium oxide nanopowder*	50-70nm	99.9
Applications	Radiation windows for X-ray tubes, Lightweight structural component, Neutron source in the discovery of nuclear fission, Electrical insulator with a thermal conductivity		

Bi, bismuth

Product code	Product name	Specifications (APS)	Purity (%)
DT-BI-N30	Bi *bismuth nanopowder*	20-40nm	>99.8
DT-BIO-S30	Bi_2O_3 *bismuth oxide submicron*	200-400nm	>99.5
DT-BIO-M01	Bi_2O_3 *bismuth oxide micro*	1um	>99.5
Applications	Metallurgical additives, Cosmetics, Pharmaceutical, Solid oxide fuel cell electrolytes, A replacement of red lead		

C, carbon

Product code	Product name	Specifications (APS)	Purity (%)
DT-CBS-10DI	Carbon black nano dispersion	50-80nm, *Water based*	10
DT-CBS-10MOH	Carbon black nano dispersion	50-80nm, *Methanol based*	10
DT-CBS-10MEK	Carbon black nano dispersion	50-80nm, *MEK based*	10
DT-CBS-30DI	Carbon black nano dispersion	150-250nm, *Water based*	30
DT-CBS-30DI-LT	Carbon black nano dispersion *additives with low boiling temp.*	150-250nm, *Water based*	30
DT-CBS-30TLN	Carbon black nano dispersion	*150-250nm, Toluene based*	30
DT-CBS-30OH	Carbon black nano dispersion *Methanol/Ethanol/IPA*	*150-250nm, Alcohol based*	30
DT-CBS-30MK	Carbon black nano dispersion *MEK/MIBK*	*150-250nm, Ketone based*	30
DT-CBOS-20PG	Carbon black nano dispersion *PGME/PGMEA*	150-250nm, *Glycol based*	30
DT-CBOS-20ARO	Carbon black nano dispersion *Toluene/4M2P*	150-250nm, *Aromatic based*	30
NM-CG-N70	C *graphite nanopowder*	60-80nm	>99
NM-CG-S20	C *graphite submicron powder*	150-250nm	>99
XG-GR-M05	C *graphene nanoplatelets*	6-8nm/5um, *120-150m^2/g*	>98.5
XG-GR-M15	C *graphene nanoplatelets*	6-8nm/15um, *120-150m^2/g*	>98.5
XG-GR-M25	C *graphene nanoplatelets*	6-8nm/25um, *120-150m^2/g*	>98.5
XG-GR-H05	C *graphene nanoplatelets*	15nm/5um, *50-80m^2/g*	>98.5
XG-GR-H15	C *graphene nanoplatelets*	15nm/15um, *50-80m^2/g*	>98.5
XG-GR-H25	C *graphene nanoplatelets*	15nm/25um, *50-80m^2/g*	>98.5
XG-GR-C300	C *graphene nanoplatelets*	1-2nm/<2um, *300m^2/g*	>98.5
XG-GR-C500	C *graphene nanoplatelets*	1-2nm/<2um, *500m^2/g*	>98.5
XG-GR-C750	C *graphene nanoplatelets*	1-2nm/<2um, *750m^2/g*	>98.5
NM-CD-N10	C *diamond nanopowder*	5-15nm	>99.5
NM-CD-M05	C *diamond powder*	3-7um	>99.5
DT-CNTS-2DI	CNT nanodispersion	*Water based*	2
DT-CNTS-2MEK	CNT nanodispersion	*MEK based*	2
Applications	Electrodes, Battery, Reinforced material, Thermal conductive, Pigment in inks, coatings, and plastics, Hard & abrasive material, Heat sink, Semiconductor, Field effect transistor, Paper batteries, Solar cells, Ultracapacitors, Super hard material		

Ca, calcium

Product code	Product name	Specifications (APS)	Purity (%)
DT-CACO-N30	$CaCO_3$ *calcium carbonate nanopowder*	20-40nm, *Sphere-like*	>99.5
DT-CACO-M01	$CaCO_3$ *calcium carbonate powder*	<1um	>99.5
DT-CAO-N15	CaO *calcium oxide nanopowder*	10-20nm	>99
DT-CAOS-20MK	CaO nano dispersion *MEK/MIBK*	30-50nm, *Ketone based*	20
DT-CAOS-20PG	CaO nano dispersion *PGME/PGMEA*	30-50nm, *Glycol based*	20
DT-CAOS-20ARO	CaO nano dispersion *Toluene/4M2P*	30-50nm, *Aromatic based*	20
Applications	Phosphor base material, Dielectric ceramic material, Proton conductor, Hydrogen sensor		

Ce, cerium

Product code	Product name	Specifications (APS)	Purity (%)
DT-CEO-N10	CeO_2 *cerium oxide nanopowder*	5-15nm, *Spherical*	99.9
DT-CEO-N50	CeO_2 *cerium oxide nanopowder*	40-60nm, *Spherical*	99.9
DT-CEO-S20	CeO_2 *cerium oxide submicron*	100-300nm, *Sphere-like*	99.9
DT-CEOS-20TR	CeO_2 nano dispersion *transparent, suitable for glass*	<5nm, *Toluene based*	20
DT-CEOS-20DI	CeO_2 nano dispersion	30-50nm, *Water based*	20
DT-CEOS-20DI-LT	CeO_2 nano dispersion *additives with low boiling temp.*	30-50nm, *Water based*	20
DT-CEOS-20OH	CeO_2 nano dispersion *Methanol/Ethanol/IPA*	30-50nm, *Alcohol based*	20
DT-CEOS-20MK	CeO_2 nano dispersion *MEK/MIBK*	30-50nm, *Ketone based*	20
DT-CEOS-20PG	CeO_2 nano dispersion *PGME/PGMEA*	30-50nm, *Glycol based*	20
DT-CEOS-20ARO	CeO_2 nano dispersion *Toluene/4M2P*	30-50nm, *Aromatic based*	20
Applications	FCC Catalyst, CMP Polishing powder, Ceramics, Crystals, Phosphors		

Co, cobalt

Product code	Product name	Specifications (APS)	Purity (%)
DT-CO-N10	Co *cobalt nanopowder in solvent*	5-15nm	>99.8
DT-COS-5ARO	Co nano dispersion *Toluene/4M2P*	*Aromatic based*	5
DT-COCU-N60	CoCu *cobalt copper nano powder*	50-70nm, *ratio controllable*	>99.5
DT-COFE-N60	CoFe *cobalt iron nano powder*	50-70nm, *ratio controllable*	>99.5
DT-CONI-N60	CoNi *cobalt nickel nano powder*	50-70nm, *ratio controllable*	>99.5
DT-COO-N20	Co_3O_4 *cobalt oxide nanopowder*	10-30nm, *Sphere-like*	>99.5
DT-COO-N50	Co_3O_4 *cobalt oxide nanopowder*	40-60nm, *Sphere-like*	>99.5
DT-COO-S20	Co_3O_4 *cobalt oxide submicron*	200nm	>99.5
DT-COOS-20DI	Co_3O_4 nano dispersion	50-80nm, *Water based*	20
DT-COOS-20DI-LT	Co_3O_4 nano dispersion *additives with low boiling temp.*	50-80nm, *Water based*	20
DT-COOS-20OH	Co_3O_4 nano dispersion *Methanol/Ethanol/IPA*	50-80nm, *Alcohol based*	20
DT-COOS-20MK	Co_3O_4 nano dispersion *MEK/MIBK*	50-80nm, *Ketone based*	20
DT-COOS-20PG	Co_3O_4 nano dispersion *PGME/PGMEA*	50-80nm, *Glycol based*	20
DT-COOS-20ARO	Co_3O_4 nano dispersion *Toluene/4M2P*	50-80nm, *Aromatic based*	20
Applications	Alloys, Batteries, Catalyst, Pigments and coloring, Magnetics, Pigment, Electronics, Photosynthesis for production of liquid, Pigment, Magnetic raw material, Green pigment, Phosphor base material		

Cr, chromium

Product code	Product name	Specifications (APS)	Purity (%)
DT-CR-N70	Cr *chromium nanopowder*	60-80nm	99.9
DT-CR-S20	Cr *chromium submicron powder*	150-250nm	99.9
DT-CRO-N50	Cr_2O_3 *chromium oxide nanopowder*	30-70nm	>99.8
DT-CRO-S10	Cr_2O_3 *chromium oxide nanopowder*	90-110nm	>99.8
DT-CRO-S35	Cr_2O_3 *chromium oxide submicron*	300-400nm	>99.8
Applications	Metallurgy, Dye and pigment, Tanning, Refractory material, Target, FPD, Magnetic data storage, Special alloy, Pigments for paints, inks, glasses		

Cu, copper

Product code	Product name	Specifications (APS)	Purity (%)
DT-CU-N30	Cu *copper nanopowder*	20-40nm	>99.8
DT-CU-S10	Cu *copper nanopowder*	90-110nm	99.9
DT-CU-S90	Cu *copper submicron powder*	0.8-1um, *sphere-like*	>99.8
DT-CUS-5ARO	Cu nano dispersion *Toluene/4M2P*	*Aromatic based*	5
DT-CUNI-N30	CuNi *copper nickel nanopowder*	20-40nm	>99.8
DT-CUNI-5ARO	CuNi nano dispersion *Toluene/4M2P*	*Aromatic based*	5
DT-CUO-N40	CuO *copper oxide nanopowder*	30-50nm, *Sphere-like*	>99.8
DT-CUOS-20DI	CuO nano dispersion	50-80nm, *Water based*	20
DT-CUOS-20DI-LT	CuO nano dispersion *additives with low boiling temp.*	50-80nm, *Water based*	20
DT-CUOS-20OH	CuO nano dispersion *Methanol/Ethanol/IPA*	50-80nm, *Alcohol based*	20
DT-CUOS-20MK	CuO nano dispersion *MEK/MIBK*	50-80nm, *Ketone based*	20
DT-CUOS-20PG	CuO nano dispersion *PGME/PGMEA*	50-80nm, *Glycol based*	20
DT-CUOS-20ARO	CuO nano dispersion *Toluene/4M2P*	50-80nm, *Aromatic based*	20
DT-CU2O-N30	Cu_2O *copper oxide nanopowder*	20-40nm, *Brown*	>90
Applications	Electronics and related devices, Biomedical applications, Antimicrobial, Ceramic glaze, Color glass, Semiconductor material, Pigment, P-type semiconductor, Dry cell batteries, Copper alloys, Magnetic materials, Electrical resistor, Phosphor base material		

Dy, dysprosium

Product code	Product name	Specifications (APS)	Purity (%)
DT-DYO-N30	Dy_2O_3 *dysprosium oxide nanopowder*	20-40nm	99.99
Applications	NdFeb Magnets, Super alloy, Sputtering target, Nuclear, Catalyst, Halide lamps, Optical fiber, Crystal dopant, Ceramics, Phosphors		

Fe, iron

Product code	Product name	Specifications (APS)	Purity (%)
DT-FE-N50	Fe *iron nanopowder*	40-60nm, *Sphere-like*	99.9
DT-FE-S10	Fe *iron nanopowder*	100nm, *Sphere-like*	99.9
DT-FEO-N15	a-Fe_2O_3 *iron oxide nanopowder*	10-20nm, *Spherical*	>99.8
DT-FEO-N50	a-Fe_2O_3 *iron oxide nanopowder*	40-60nm, *Spherical*	>99.8
DT-FEO-S20	a-Fe_2O_3 *iron oxide submicron*	150-250nm, *Sphere-like*	>99.8
DT-FEO-S40	a-Fe_2O_3 *iron oxide submicron*	300-500nm, *Sphere-like*	>99.8
DT-FEO-S15-B	Fe_3O_4 *iron oxide submicron*	100-200nm, *Sphere-like*	>99.8
DT-FEOS-20DI	Fe_2O_3 nano dispersion	70-100nm, *Water based*	20
DT-FEOS-20DI-LT	Fe_2O_3 nano dispersion *additives with low boiling temp.*	70-100nm, *Water based*	20
DT-FEOS-20OH	Fe_2O_3 nano dispersion *Methanol/Ethanol/IPA*	70-100nm, *Alcohol based*	20
DT-FEOS-20MK	Fe_2O_3 nano dispersion *MEK/MIBK*	70-100nm, *Ketone based*	20
DT-FEOS-20PG	Fe_2O_3 nano dispersion *PGME/PGMEA*	70-100nm, *Glycol based*	20
DT-FEOS-20ARO	Fe_2O_3 nano dispersion *Toluene/4M2P*	70-100nm, *Aromatic based*	20
Applications	Probes of fundamental magnetic, Interactions, Biomedical applications, Media for magnetic data storage, Ferro fluids for rotary vacuum seals, Polishing, Pigment, Biomedical, Black pigment, Catalyst, MRI-scanning, Magnetite, Magnetic fluid performance		

Ga, gallium

Product code	Product name	Specifications (APS)	Purity (%)
DT-GAO-N20	Ga_2O_3 *gallium oxide nanopowder*	20nm, *spherical*	99.9
DT-GAO-N80	Ga_2O_3 *gallium oxide nanopowder*	80nm, *sphere-like*	99.9
Applications	Semiconductor use, Fuel cell, Semiconductor devices, Vacuum deposition		

Gd, gadolinium

Product code	Product name	Specifications (APS)	Purity (%)
DT-GDO-N80	Gd_2O_3 *gallium oxide nanopowder*	70-90nm, *spherical*	99.9
Applications	Magnets, Alloys, Sputtering target, Magnetic refrigerator, Phosphor, Optical glass, Electronic ceramics, Catalyst, Laser crystal, Neutron absorption		

Ge, germanium

Product code	Product name	Specifications (APS)	Purity (%)
DT-GEO-S30	GeO_2 *germanium oxide nanopowder*	300nm, *sphere-like*	99.99
Applications	Semiconductor, Fiber-optic systems, Infrared optics, Catalyst, Phosphors, Semiconductor		

In, indium

Product code	Product name	Specifications (APS)	Purity (%)
DT-IN-N10	In *indium nanopowder*	5-15nm, *Spherical*	99.99
DT-INO-N20	In_2O_3 *indium oxide nanopowder*	10-30nm, *spherical*	99.99
DT-INO-N80	In_2O_3 *indium oxide nanopowder*	80nm, *sphere-like*	99.99
DT-ITO-N30	ITO *indium tin oxide nanopowder*	20-40nm, *spherical, blue*	99.99
DT-ITOS-30DI	ITO nano dispersion	20-40nm, *Water based*	30
DT-ITOS-30DI-LT	ITO nano dispersion *additives with low boiling temp.*	20-40nm, *Water based*	30
DT-ITOS-30OH	ITO nano dispersion *Methanol/Ethanol/IPA*	20-40nm, *Alcohol based*	30
DT-ITOS-30MK	ITO nano dispersion *MEK/MIBK*	20-40nm, *Ketone based*	30
DT-ITOS-30PG	ITO nano dispersion *PGME/PGMEA*	20-40nm, *Glycol based*	30
DT-ITOS-30ARO	ITO nano dispersion *Toluene/4M2P*	20-40nm, *Aromatic based*	30
Applications	Transparent electrodes, Component in some lead-free solder, Production for indium salt and In2O3, Batteries, Thin film infrared reflector, Semiconductor, Diffusion barrier, Transparent electrodes, Alloys, Photoanodes in photoelectro-chemical cells		

Ir, iridium

Product code	Product name	Specifications (APS)	Purity (%)
DT-IR-N50	Ir *iridium nanopowder*	40-60nm, *Spherical*	99.9
Applications	Multi-pored spinnerets, Crucibles		

La, lanthanum

Product code	Product name	Specifications (APS)	Purity (%)
DT-LAO-N30	La_2O_3 *lanthanum oxide nanopowder*	20-40nm, *Spherical*	99.9
DT-LAO-S20	La_2O_3 *lanthanum oxide submicron*	100-300nm, *Irregular*	99.9
DT-LAOS-20DI	La_2O_3 nano dispersion	50-70nm, *Water based*	20
DT-LAOS-20DI-LT	La_2O_3 nano dispersion *additives with low boiling temp.*	50-70nm, *Water based*	20
DT-LAOS-20OH	La_2O_3 nano dispersion *Methanol/Ethanol/IPA*	50-70nm, *Alcohol based*	20
DT-LAOS-20MK	La_2O_3 nano dispersion *MEK/MIBK*	50-70nm, *Ketone based*	20
DT-LAOS-20PG	La_2O_3 nano dispersion *PGME/PGMEA*	50-70nm, *Glycol based*	20
Applications	Hydrogen storage material, NiMH battery, Metallurgy alloy, Catalyst, Electronics, Glass, Water treatment, Optical glass, Catalyst, Ceramics, Electronic, Crystals, Phosphors, Magnetic material, Phosphor derivative		

Mg, magnesium

Product code	Product name	Specifications (APS)	Purity (%)
NM-MG-M08	Mg *magnesium powder*	6-10um, *Irregular*	>99
DT-MGO-N30	MgO *magnesium oxide nanopowder*	20-40nm, *Spherical*	>99.8
DT-MGO-N80	MgO *magnesium oxide nanopowder*	60-100nm, *Spherical*	>99.8
DT-MGO-S40	MgO *magnesium oxide submicron*	300-500nm, *Irregular*	>99.8
DT-MGTIO-N50	$MgTiO_3$ *magnesium titanate*	40-60nm, *Spherical*	>99.8
Applications	War industry and aviation industry, Metallurgical industry, Desulfurizer or cleaning agent for steel-making industry, Casting of non-ferrous metals, Reducer for production of rare metal, Dehydrant for organic compound		

Mn, manganese

Product code	Product name	Specifications (APS)	Purity (%)
DT-MNO-N10	MnO *manganese oxide nanopowder*	5-15nm, *Spherical*	>99.8
DT-MNO4-N80	Mn_3O_4 *manganese oxide nanopowder*	60-100nm, *Sphere-like*	>99.8
DT-MNO4-S30	Mn_3O_4 *manganese oxide submicron*	200-400nm, *Spherical*	>99.8
DT-MNOS-10TR	MnO_2 nano dispersion *suitable for glass*	<5nm, *Toluene based*	10
Applications	Steel, Aluminum alloys, Starting material for soft ferrites, Manganese zinc ferrite, Lithium batteries		

Mo, molybdenum

Product code	Product name	Specifications (APS)	Purity (%)
NM-MO-S10	Mo *molybdenum nanopowder*	80-120nm	99.9
DT-MOO-S10	MoO_3 *molybdenum oxide nanopowder*	<100nm, *Sphere-like*	>99.5
DT-MOO-M01	MoO_3 *molybdenum oxide submicron*	0.8-1.2um, *Irregular*	>99.5
Applications	Target, Catalyst, Ceramics		

Nb, niobium

Product code	Product name	Specifications (APS)	Purity (%)
DT-NBO-S10	Nb_2O_5 *niobium oxide nanopowder*	80-120nm, *Sphere-like*	99.9
Applications	Alloys, Gas pipelines, Rocket engines, Ceramic, Optical glass, Phosphors		

Nd, neodymium

Product code	Product name	Specifications (APS)	Purity (%)
DT-NDO-S15	Nd_2O_3 *neodymium oxide nanopowder*	100-200nm, *Sphere-like*	99.9
Applications	Magnets, Alloys, Sputtering target, Glass, Catalyst, Laser crystal, Electric capacitor		

Ni, nickel

Product code	Product name	Specifications (APS)	Purity (%)
DT-NI-N10	Ni *nickel nanopowder*	5-15nm	>99.8
DT-NI-S10	Ni *nickel nanopowder*	100nm	>99.8
DT-NIS-5DI-LT	Ni nano dispersion *additives with low boiling temp.*	*Water based*	5
DT-NIS-5ARO	Ni nano dispersion *Toluene/4M2P*	*Aromatic based*	5
DT-NIO-N10	NiO *nickel oxide nanopowder*	5-15nm	>99.8
DT-NIO-N50	NiO *nickel oxide nanopowder*	40-60nm	>99.8
DT-NIO-S30	NiO *nickel oxide submicron*	200-400nm	>99.8
DT-NIOS-20DI	NiO nano dispersion	30-50nm, *Water based*	20
DT-NIOS-20DI-LT	NiO nano dispersion *additives with low boiling temp.*	30-50nm, *Water based*	20
DT-NIOS-20OH	NiO nano dispersion *Methanol/Ethanol/IPA*	30-50nm, *Alcohol based*	20
DT-NIOS-20MK	NiO nano dispersion *MEK/MIBK*	30-50nm, *Ketone based*	20
DT-NIOS-20PG	NiO nano dispersion *PGME/PGMEA*	30-50nm, *Glycol based*	20
DT-NIOS-20ARO	NiO nano dispersion *Toluene/4M2P*	30-50nm, *Aromatic based*	20
Applications	Stainless steel, Magnets, Coinage, Rechargeable batteries, Electric guitar, Special alloys, Green tint in glass, Frits, Ferrites, Porcelain glazes, Soft magnetic ferrites, Perovskite-structured material		

Pd, palladium

Product code	Product name	Specifications (APS)	Purity (%)
DT-PD-N25	Pd *palladium nanopowder*	25nm, *Sphere-like*	>99.9
Applications	Catalyst, Multilayer ceramic capacitor, Membrane reactor for hydrogen, Carbon monoxide detectors, Hydrogen storage		

Pt, platinum

Product code	Product name	Specifications (APS)	Purity (%)
DT-PT-N10	Pt *platinum nanopowder*	5-15nm	99.9
DT-PT-N30	Pt *platinum nanopowder*	20-40nm	99.9
Applications	Catalyst, Electrodes		

Pigment (Organic)

Product code	Product name	Specifications (APS)	Purity (%)
DT-PMS-R	Red pigment nano dispersion	50-70nm *in butyl acetate*	10
DT-PMS-G	Green pigment nano dispersion	50-70nm *in butyl acetate*	10
DT-PMS-B	Blue pigment nano dispersion	50-70nm *in butyl acetate*	10
DT-PMS-Y	Yellow pigment nano dispersion	50-70nm *in butyl acetate*	10
Applications	Nano Color coatings		

Ru, ruthenium

Product code	Product name	Specifications (APS)	Purity (%)
DT-RU-N40	Ru *ruthenium nanopowder*	30-50nm	99.9
Applications	Catalyst, Electrodes		

Sb, antimony

Product code	Product name	Specifications (APS)	Purity (%)
DT-SB-N70	Sb *antimony nanopowder*	60-80nm	>99.5
DT-SBO-M01	Sb_2O_3 *antimony oxide submicron*	<1um	>99.5
Applications	Flame retardants, Pigments, Opacifying agent, Catalyst, Transparent, Conductive, Anti-static radiation, UV protection, Anti-IR		

Se, selenium

Product code	Product name	Specifications (APS)	Purity (%)
DT-SE-S50	Se *selenium submicron powder*	400-600nm, *black*	>99.5
Applications	Manganese electrolysis, Glass production, Alloys		

Si, silicon

Product code	Product name	Specifications (APS)	Purity (%)
NM-SIC-N70	SiC *silicon carbide nanopowder*	60-80nm	>99
DT-SIC-S10-W	SiC *silicon carbide, whisker*	D: 100-200nm, L/D>10	>95
DT-SIN-N50	Si_3N_4 *a-type, silicon nitride nanopowder*	40-60nm	>99.5
DT-SIO-N10	SiO_2 *silicon oxide nanopowder*	5-15nm, *Spherical*	>99.8
DT-SIO-S15S	SiO_2 *silicon oxide, water dispersive*	100nm, *Mono dispersed*	>99.9
DT-SIO-S50S	SiO_2 *silicon oxide, water dispersive*	500nm, *Mono dispersed*	>99.9
DT-SIO-S10	SiO_2 *silicon oxide, spherical*	90-110nm, *Spherical*	>99.8
DT-SIO-S30	SiO_2 *silicon oxide, spherical*	250-350nm, *Spherical*	>99.8
DT-SIO-S70	SiO_2 *silicon oxide, spherical*	700nm, *Spherical*	>99.8
DT-SIO-M03	SiO_2 *silicon oxide, spherical*	3-4um, *Spherical*	>99.8
DT-SIO-M45	SiO_2 *silicon oxide, spherical*	40-50um, *Spherical*	>99.8
DT-SIOS-30DI	SiO_2 nano dispersion	5-15nm, *Water based*	30
DT-SIOS-30MOH	SiO_2 nano dispersion	5-15nm, *Methanol based*	30
DT-SIOS-30MEK	SiO_2 nano dispersion	5-15nm, *MEK based*	30
DT-SIOS-20PM	SiO_2 nano dispersion	20-30nm, *PGME based*	20
DT-SIBD-17PMA	*Silicate binder in PGMEA*	Curing at 180℃, 5min	17% SiO2
Applications	Silicon wafers, Electrical steel, Al-Si alloys in automotive industry, High electrical conductivity, Hardness, Thermoelectric properties, Abrasive and cutting tools, Automobile parts, Electric systems, Electronic circuit elements, Astronomy, Heating elements, Nuclear fuel part, Super hard material		

Sm, samarium

Product code	Product name	Specifications (APS)	Purity (%)
DT-SMO-N20	Sm_2O_3 *samarium oxide nanopowder*	10-30nm	99.9
Applications	Metallurgy, Sm-Co Magnets, Sputtering Targets, Catalysts, Glass, Neutron Absorption,		

Sn, tin

Product code	Product name	Specifications (APS)	Purity (%)
DT-SN-N30	Sn *tin nanopowder*	20-40nm	>99.8
DT-SN-S10	Sn *tin nanopowder*	100nm	>99.8
DT-SN-M15	Sn *tin powder*	15um, *Irregular*	>99
DT-SN-M60	Sn *tin powder*	50-70um, *Spherical*	>99
DT-SNBI-N30	SnBi *tin bismuth nano powder*	20-40nm	>99.8
DT-SNO-N05	SnO_2 *tin oxide nanopowder*	3-8nm(2^{nd}: 30-50nm)	>99.8
DT-SNO-N80	SnO_2 *tin oxide nanopowder*	70-90nm	>99.8
DT-SNOS-5TR	SnO_2 nano dispersion *Transparent*	<5nm, *Water based*	5
DT-SNOS-20TR	SnO_2 nano dispersion *Transparent, suitable for glass*	<5nm, *PGME based*	20
DT-SNOS-20DI	SnO_2 nano dispersion	20-40nm, *Water based*	20
DT-SNOS-20DI-LT	SnO_2 nano dispersion *additives with low boiling temp.*	20-40nm, *Water based*	20
DT-SNOS-20OH	SnO_2 nano dispersion *Methanol/Ethanol/IPA*	20-40nm, *Alcohol based*	20
DT-SNOS-20MK	SnO_2 nano dispersion *MEK/MIBK*	20-40nm, *Ketone based*	20
DT-SNOS-20PG	SnO_2 nano dispersion *PGME/PGMEA*	20-40nm, *Glycol based*	20
DT-SNOS-20ARO	SnO_2 nano dispersion *Toluene/4M2P*	20-40nm, *Aromatic based*	20
DT-ATOS-40DI	ATO nano dispersion *Antimony doped tin oxide*	20-40nm, *Water based*	40
DT-ATOS-40DI-LT	ATO nano dispersion *additives with low boiling temp.*	20-40nm, *Water based*	40
DT-ATOS-40OH	ATO nano dispersion *Methanol/Ethanol/IPA*	20-40nm, *Alcohol based*	40
DT-ATOS-20MK	ATO nano dispersion *MEK/MIBK*	20-40nm, *Ketone based*	40
DT-ATOS-20PG	ATO nano dispersion *PGME/PGMEA*	20-40nm, *Glycol based*	40
DT-ATOS-20ARO	ATO nano dispersion *Toluene/4M2P*	20-40nm, *Aromatic based*	40
Applications	Metal or alloy, Superconducting magnets in Nb3Sn, Solder, Catalyst, Opacifier in ceramic industry, Detecting material for CO detector		

Sr, strontium

Product code	Product name	Specifications (APS)	Purity (%)
DT-SRCO-N10	$SrCO_3$ *strontium carbonate nanopowder*	5-15nm	>99.8

DT-SRTIO-S10	$SrTiO_3$ *strontium titanate submicron*	80-130nm, *Sphere-like*	>99.5%
Applications	Ferrites, Electronic applications, Television picture tube glass, Insoluble thermally stable aluminum source suitable for glass, Optic and ceramic applications, Ferroelectric ceramic material		

Ti, titanium

Product code	Product name	Specifications (APS)	Purity (%)
NM-TI-N70	Ti *titanium nanopowder*	60-80nm	>99.9
NM-TIC-N70	TiC *titanium carbide nanopowder*	60-80nm, *Spherical*	>99
DT-TICS-10MK	TiC nano dispersion *MEK/MIBK*	100-150nm, *Ketone based*	10
DT-TICS-10ARO	TiC nano dispersion *Toluene/4M2P*	100-150nm, *Aromatic based*	10
DT-TIN-N30	TiN *titanium nitride nanopowder*	20-40nm	>99
DT-TINS-10MK	TiN nano dispersion *MEK/MIBK*	50-80nm, *Ketone based*	10
DT-TINS-10ARO	TiN nano dispersion *Toluene/4M2P*	50-80nm, *Aromatic based*	10
DT-TIOA-N05	TiO_2 *titanium oxide, anatase*	3-8nm, *Spherical*	>99.8
DT-TIOA-N30	TiO_2 *titanium oxide, anatase*	20-40nm, *Spherical*	>99.8
DT-TIOA-N50	TiO_2 *titanium oxide, anatase*	40-60nm, *Sphere-like*	>99.8
DT-TIOA-S15	TiO_2 *titanium oxide, anatase*	100-200nm, *Sphere-like*	>99.8
DT-TIOAS-20DI	TiO_2 nano dispersion, anatase	20-40nm, *Water based*	20
DT-TIOAS-20DI-LT	TiO_2 nano dispersion, anatase *additives with low boiling temp.*	20-40nm, *Water based*	20
DT-TIOAS-20OH	TiO_2 nano dispersion, anatase *Methanol/Ethanol/IPA*	30-50nm, *Alcohol based*	20
DT-TIOAS-20MK	TiO_2 nano dispersion, anatase *MEK/MIBK*	20-40nm, *Ketone based*	20
DT-TIOAS-20PG	TiO_2 nano dispersion, anatase *PGME/PGMEA*	20-40nm, *Glycol based*	20
DT-TIOAS-20ARO	TiO_2 nano dispersion, anatase *Toluene/4M2P*	20-40nm, *Aromatic based*	20
DT-TIOR-N10	TiO_2 *titanium oxide, rutile*	5-15nm, *Sphere-like*	>99.8
DT-TIOR-N40	TiO_2 *titanium oxide, rutile*	30-50nm, *Sphere-like*	>99.8
DT-TIOR-S30	TiO_2 *titanium oxide, rutile*	300nm, *Sphere-like*	>99.8
DT-TIORS-20DI	TiO_2 nano dispersion, rutile	20-40nm, *Water based*	20
DT-TIORS-20DI-LT	TiO_2 nano dispersion, rutile *additives with low boiling temp.*	20-40nm, *Water based*	20
DT-TIORS-20OH	TiO_2 nano dispersion, rutile *Methanol/Ethanol/IPA*	30-50nm, *Alcohol based*	20
DT-TIORS-20MK	TiO_2 nano dispersion, rutile *MEK/MIBK*	20-40nm, *Ketone based*	20
DT-TIORS-20PG	TiO_2 nano dispersion, rutile *PGME/PGMEA*	20-40nm, *Glycol based*	20
DT-TIORS-20ARO	TiO_2 nano dispersion, rutile *Toluene/4M2P*	20-40nm, *Aromatic based*	20

Applications	Photocatalyst: self-cleaning glass, antibacterial material, air purification, sewage treatment, chemical industry, Cosmetics: sunscreen cream, natural white moisture protection cream, beauty and whitening cream, morning and night cream, moistening refresher, vanishing cream, skin protection cream, face washing milk, skin milk, powder make-up, Coating: printing ink, plastics, food packing material, Coating for paper-making industry: Improvement the impressionability and opacity of the paper, uses for producing titanium, ferrotitanium alloys, carbide alloys in metallurgical industry

V, vanadium

Product code	Product name	Specifications (APS)	Purity (%)
DT-VO-S50	V_2O_5 *vanadium oxide submicron*	400-600nm, *Rod-like*	>99.5
Applications	Starting material for catalyst		

W, tungsten

Product code	Product name	Specifications (APS)	Purity (%)
DT-W-N70	W *tungsten nanopowder*	60-80nm	>99.9
DT-WO-N10	WO_3 *tungsten trioxide nanopowder*	5-15nm, *Spherical, Green*	>99.8
DT-WO-N10-B	WO_3 *tungsten trioxide nanopowder*	5-15nm, *Spherical, Blue*	>99.8
DT-WOS-20DI	WO_3 nano dispersion	20-40nm, *Water based*	20
DT-WOS-20DI-LT	WO_3 nano dispersion *additives with low boiling temp.*	20-40nm, *Water based*	20
DT-WOS-20OH	WO_3 nano dispersion *Methanol/Ethanol/IPA*	20-40nm, *Alcohol based*	20
DT-WOS-20MK	WO_3 nano dispersion *MEK/MIBK*	20-40nm, *Ketone based*	20
DT-WOS-20PG	WO_3 nano dispersion *PGME/PGMEA*	20-40nm, *Glycol based*	20
DT-WOS-20ARO	WO_3 nano dispersion *Toluene/4M2P*	20-40nm, *Aromatic based*	20
Applications	Starting material for catalyst		

Y, yttrium

Product code	Product name	Specifications (APS)	Purity (%)
DT-YO-N20	Y_2O_3 *yttrium oxide nanopowder*	10-30nm, *Spherical*	>99.9
DT-YO-S30	Y_2O_3 *yttrium oxide submicron*	200-400nm, *Irregular*	>99.9
Applications	Y-Al, Y-Mg Alloys, Sputtering target, Master alloy, Specialty alloy, Phosphor, Laser Crystal, Optical glass, YSZ ceramics, Electronic, Catalyst, Fuel Cell		

Zn, zinc

Product code	Product name	Specifications (APS)	Purity (%)
NM-ZN-M02	Zn *zinc powder*	1.5-2.5um, *Spherical*	>99
DT-ZNO-N20	ZnO *zinc oxide nanopowder*	10-30nm, Spherical	>99.8
DT-ZNO-S20	ZnO *zinc oxide submicron*	150-250nm, *Sphere-like*	>99.8
DT-ZNO-S20-R	ZnO *zinc oxide submicron*	100-300nm, *Rod-like*	>99.8
DT-ZNOS-7TR	ZnO nano dispersion *Transparent*	<5nm, *Water based*	7
DT-ZNOS-25TR	ZnO nano dispersion *Transparent, suitable for glass*	<5nm, *PGMEA based*	25
DT-ZNOS-20DI	ZnO nano dispersion	20-40nm, *Water based*	20
DT-ZNOS-20DI-LT	ZnO nano dispersion *additives with low boiling temp.*	20-40nm, *Water based*	20
DT-ZNOS-20OH	ZnO nano dispersion *Methanol/Ethanol/IPA*	20-40nm, *Alcohol based*	20
DT-ZNOS-20MK	ZnO nano dispersion *MEK/MIBK*	20-40nm, *Ketone based*	20
DT-ZNOS-20PG	ZnO nano dispersion *PGME/PGMEA*	20-40nm, *Glycol based*	20
DT-ZNOS-20ARO	ZnO nano dispersion *Toluene/4M2P*	20-40nm, *Aromatic based*	20
DT-AZO-N30	AZO *Aluminum doped zinc oxide*	25-35nm, *Spherical*	>99.8
DT-AZOS-20DI	AZO nano dispersion	50-70nm, *Water based*	20
DT-AZOS-20DI-LT	AZO nano dispersion *additives with low boiling temp.*	50-70nm, *Water based*	20
DT-AZOS-20OH	AZO nano dispersion *Methanol/Ethanol/IPA*	50-70nm, *Alcohol based*	20
DT-AZOS-20MK	AZO nano dispersion *MEK/MIBK*	50-70nm, *Ketone based*	20
DT-AZOS-20PG	AZO nano dispersion *PGME/PGMEA*	50-70nm, *Glycol based*	20
DT-AZOS-20ARO	AZO nano dispersion *Toluene/4M2P*	50-80nm, *Aromatic based*	20
Applications	UV-resisting material, Catalyst, Cosmetics, Electrics, Semiconductor		

Zr, zirconium

Product code	Product name	Specifications (APS)	Purity (%)
DT-ZRC-N50	ZrC *zirconium carbide nanopowder*	40-60nm, *Sphere-like*	>99
DT-ZRCS-10MK	ZrC nano dispersion *MEK/MIBK*	80-120nm, *Ketone based*	10
DT-ZRCS-10ARO	ZrC nano dispersion *Toluene/4M2P*	80-120nm, *Aromatic based*	10
DT-ZRO-N10	ZrO_2 *zirconium oxide nanopowder*	5-15nm, *Spherical*	>99.5
DT-ZRO-N25	ZrO_2 *zirconium oxide nanopowder*	20-30nm, *Sphere-like*	>99.5
DT-ZRO-N50	ZrO_2 *zirconium oxide nanopowder*	40-60nm, *Sphere-like*	>99.5
DT-ZROS-15DI	ZrO_2 nano dispersion	<5nm, *Water based*	15
DT-ZROS-15MOH	ZrO_2 nano dispersion	<5nm, *Methanol based*	15
DT-ZROS-15MIBK	ZrO_2 nano dispersion	<5nm, *MIBK based*	15
DT-ZROS-15PMA	ZrO_2 nano dispersion	<5nm, *PGMEA based*	15
DT-ZROS-20DI	ZrO_2 nano dispersion	10-30nm, *Water based*	20
DT-ZROS-20DI-LT	ZrO_2 nano dispersion *additives with low boiling temp.*	10-30nm, *Water based*	20
DT-ZROS-20OH	ZrO_2 nano dispersion *Methanol/Ethanol/IPA*	10-30nm, *Alcohol based*	20
DT-ZROS-20MK	ZrO_2 nano dispersion *MEK/MIBK*	10-30nm, *Ketone based*	20
DT-ZROS-20PG	ZrO_2 nano dispersion *PGME/PGMEA*	10-30nm, *Glycol based*	20
DT-ZROS-20ARO	ZrO_2 nano dispersion *Toluene/4M2P*	10-30nm, *Aromatic based*	20
DT-3YSZ-N40	Yttria- stabilized Zirconia, 3YSZ	20-40nm	>99.8
DT-5YSZ-N40	Yttria- stabilized Zirconia, 5YSZ	20-40nm	>99.8
DT-8YSZ-N40	Yttria- stabilized Zirconia, 8YSZ	20-40nm	>99.8
DT-YSZS-20OH	YSZ nano dispersion *Methanol/Ethanol/IPA*	50-70nm, *Alcohol based*	20
DT-YSZS-20MK	YSZ nano dispersion *MEK/MIBK*	50-70nm, *Ketone based*	20
Applications	Ultra high temperature ceramic, Hard refractory ceramic material, Oxygen sensor, High ionic conductivity, Fuel cell membrane, Insulation, Abrasives, Enamels, Ceramic glazes		

**Nano metal alloys or mixtures are applicable from Ag, Au, Bi, Co, Cu, Fe, In, Ni, Pd, Pt, Sn, etc.*

*** The detailed FE-SEM or TEM photos are always available from our homepages.*

III. NANO COAT SERIES

Anti-Finger Print Coats		
	DT-AFP-H	**DT-AFP-U**
Appearance	Clear	Clear
Specific gravity	1.8	1.41
pH	-	7.0
Solid content (%)	0.1	10.2
Main ingredient	Fluorinated silicate	Fluorinated acrylate
Curing method	30 min. at 150℃	1 min. at 90~100℃ → 800~1000mJ
Coating methods	Spray, Spin coating	Micro gravure, Slot, Spin, Spray
Substrates	Glass	TAC, PET
T(%) of bare film	-	TAC(80um): 90 PET(100um): 88
T(%) of coated films	-	TAC(80um): 90.5 PET(100um): 91
Contact angle	118°	115°
Pencil harness	9H	2H
Rubbing test	110° after 10,000 times	◎
Acid resistant test	113°	◎
Alkali resistant test (72 hrs)	112°	◎
Packages	200g, 1Kg, 20Kg	

Anti-Glare Coats

	DT-AG-H		DT-AG-U	
Appearance	Clear		Yellowish Clear	
Specific gravity	1.0		1.41	
pH	5.0~6.0		7.0	
Solid content (%)	3~15(H05~H15)		10.5	
Main ingredient	SiO2		Fluorinated acrylates, SiO2	
Curing method	20 min. at 180~220℃		1 min. at 90~100℃ → 800~1000mJ	
Coating methods	Spray coating		Micro gravure, Slot, Spin, Spray	
Substrates	Glass		TAC, PET	
T(%) of bare substrate	>91		TAC(80um)	90
			PET(100um)	88
T(%) of coated substrate	DT-AG-H05	>90	TAC(80um)	87
	DT-AG-H07	>91		
	DT-AG-H10	>90	PET(100um)	87
	DT-AG-H15	>90		
Haze(%)	DT-AG-H05	<5	10	
	DT-AG-H07	<7		
	DT-AG-H10	5~10		
	DT-AG-H15	10~15		
Pencil harness	DT-AG-H05	>8H	2H	
	DT-AG-H07	>6H		
	DT-AG-H10	>8H		
	DT-AG-H15	>8H		
Dilution solvent	Water		Fluorinated solvent	
Packages	200g, 1Kg, 20Kg			

	Anti-Reflective Coat	Hard coat
	DT-AR-H	**DT-ARH-H**
Appearance	Clear	Clear
Specific gravity	0.8~0.9	0.8~0.9
pH	5.5~6.5	5.5~6.5
Solid content (%)	2.8~3.2	28~32
Main ingredient	Organic Inorganic hybrid	Silicate
Curing method	30~10 min. at 80~120℃	30~10 min. at 80~120℃
Coating methods	Spray, Spin coating	Micro gravure, Slot, Spin
Substrates	Glass, PET, etc.	Glass, PET, etc.
Reflective index(n)	1.300	Good AR function
Dilution solvent	Alcohols, Glycols	IPA
Pencil harness	-	9H on glass
Packages	200g, 1Kg, 20Kg	

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