High-purity rare earth oxide

Name	Formula	Purity	TREO	Appearance & Property	Typical Usage
Lanthanum oxide	La2O3	99.9995%	99.5%	White powder	Optical glasses, optical fibers, fluorescent materials.
Cerium oxide	CeO2	99.9995%	99.5 %	Light yellowish powder	Glass decolorizing agent, glass polishing agent
Praseodymium oxide	Pr6O11	99.9995%	99.5 %	Black or brown powder	Ceramic colorant.
Neodymium oxide	Nd2O3	99.9995%	99.5 %	Light purple powder	Glass & ceramic colorant.
Samarium oxide	Sm2O3	99.9995%	99.5 %	Light yellowish powder	Metallic samarium, Sm-Co permanent magnetic.
Europium oxide	Eu2O3	99.9995%	99.5 %	White powder with pinkish	Fluorescent powder, luminous powder.
Gadolinium oxide	Gd2O3	99.9995%	99.5 %	White powder	Fluorescent powder, optical glasses.
Terbium oxide	Tb4O7	99.9995%	99.5 %	Brown powder	Luminous material activator
Dysprosium oxide	Dy2O3	99.9995%	99.5 %	White or light yellow powder	Nd-Fe-B magnet,
Holmium oxide	Ho2O3	99.9995%	99.5 %	Light yellow or yellow powder	Glass, ceramics & electronic.
Erbium oxide	Er2O3	99.9995%	99.5 %	Pinkish powder	Glass colorant, Optical glasses
Thulium oxide	Tm2O3	99.9995%	99.5 %	White powder with light green	Fluorescent activator.
Ytterbium oxide	Yb2O3	99.9995%	99.5 %	White powder	Optical glass, battery
Lutetium oxide	Lu2O3	99.9995%	99.5 %	White powder	Electronics
Yttrium oxide	Y2O3	99.9995%	99.5 %	White powder	Fluorescent powder,

Nano-powder rare earth oxide

Name	Formula	Purity	Appearance & Property	Primary Particle Size d_{50}	Loose density	Granularity	Specific Surface Area BET
Lanthanum oxide	La2O3	99~99.9 9%	White, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Cerium oxide	CeO2	99~99.9 9%	Light yellowish, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Praseodymium oxide	Pr6O11	99~99.9 9%	Black or brown, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Neodymium oxide	Nd2O3	99~99.9 9%	Light purple, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Samarium oxide	Sm2O3	99~99.9 9%	Light yellowish, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Europium oxide	Eu2O3	99~99.9 99%	White powder with pinkish, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Gadolinium oxide	Gd2O3	99~99.9 95%	White, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Terbium oxide	Tb4O7	99~99.9 95%	Brown, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Dysprosium oxide	Dy2O3	99~99.95 %	White or light yellow, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Holmium oxide	Ho2O3	99~99.9 95%	Light yellow or yellow, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Erbium oxide	Er2O3	99~99.95 %	pinkish, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Thulium oxide	Tm2O3	99~99.9 95%	White powder with light green, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Ytterbium oxide	Yb2O3	99~99.9 95%	white, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Lutetium oxide	Lu2O3	99~99.9 99%	White, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g
Yttrium oxide	Y2O3	85~99.9 99%	White, Soft, loose	50nm	<0.5g/ml	<300nm	>25m^2/g

Compound of rare earth materials:

Name	Formula	Purity	TREO	Appearance & Property
Lanthanum chloride	LaCl3.xH2O	99~99.995%	42%	White crystalline or lump aggregates
Lanthanum fluoride	LaF3	99~99.995%	81%	White materials
Lanthanum carbonate	La2(CO3)3.xH2O	99~99.995%	45%	White materials
Lanthanum acetate	La(O2C2H3)3.xH2O	99~99.995%	42%	White crystal
Lanthanum nitrate	La(NO3)3.6H2O	99~99.995%	37%	White crystal
Lanthanum sulfate	La2(SO4)3.xH2O	99~99.995%	39%	White crystal
Lanthanum hydroxide	La(OH)3.xH2O	99~99.995%	45%	White materials

Name	Formula	Purity	TREO	Appearance & Property
Cerium chloride	CeCl3.xH2O	99~99.995%	42%	White crystalline or lump aggregates
Cerium fluoride	CeF3	99~99.995%	81%	White materials
Cerium carbonate	Ce2(CO3)3.xH2O	99~99.995%	40%	White materials
Cerium acetate	Ce (O2C2H3)3.xH2O	99~99.995%	45%	White crystal
Cerium nitrate	Ce (NO3)3.6H2O	99~99.995%	39%	White crystal
Cerium sulfate	Ce2(SO4)3.xH2O	99~99.995%	40%	White crystal
Cerium hydroxide	Ce (OH)3.xH2O	99~99.995%	40%	White materials

Name	Formula	Purity	TREO	Appearance & Property
Praseodymium chloride	PrCl3.xH2O	99~99.995%	45%	Green crystalline or lump aggregates
Praseodymium fluoride	CeF3	99~99.995%	81%	Green materials
Praseodymium carbonate	Ce2(CO3)3.xH2O	99~99.995%	45% or 60%	Green materials
Praseodymium acetate	Ce (O2C2H3)3.xH2O	99~99.995%	45%	Green crystal
Praseodymium nitrate	Ce (NO3)3.6H2O	99~99.995%	39%	Green crystal
Praseodymium sulfate	Ce2(SO4)3.xH2O	99~99.995%	38%	Green crystal
Praseodymium hydroxide	Ce (OH)3.xH2O	99~99.995%	45, 60% or 80%	Green materials

Name	Formula	Purity	TREO	Appearance & Property
Neodymium chloride	NdCl3.xH2O	99~99.999%	42%	Light purple materials
Neodymium fluoride	NdF3	99~99.999%	81%	Light purple materials
Neodymium carbonate	Nd2(CO3)3.xH2O	99~99.999%	45%	purple materials
Neodymium acetate	Nd (O2C2H3)3.xH2O	99~99.999%	42%	purple crystal
Neodymium nitrate	Nd (NO3)3.6H2O	99~99.999%	37%	Rose crystal
Neodymium sulfate	Nd2(SO4)3.xH2O	99~99.999%	39%	Rose crystal
Neodymium hydroxide	La(OH)3.xH2O	99~99.999%	40%	Light purple materials

Compound of rare earth materials:

Name	Formula	Purity	TREO	Appearance & Property
Samarium chloride	$SmCl_3.xH_2O$	99~99.99%	42%	Light yellow materials
Samarium fluoride	SmF_3	99~99.99%	81%	White materials
Samarium carbonate	$Sm_2(CO_3)_3.xH_2O$	99~99.99%	45%	White materials
Samarium acetate	$Sm (O_2C_2H_3)_3.xH_2O$	99~99.99%	42%	Light yellow crystal
Samarium nitrate	$Sm (NO_3)_3.6H_2O$	99~99.99%	37%	Light yellow crystal
Samarium sulfate	$Sm_2(SO_4)_3.xH_2O$	99~99.99%	39%	Light yellow crystal
Samarium hydroxide	$Sm (OH)_3.xH_2O$	99~99.99%	40%	Light yellow materials

Name	Formula	Purity	TREO	Appearance & Property
Europium chloride	$EuCl_3.xH_2O$	99~99.999%	42%	White materials
Europium fluoride	EuF_3	99~99.999%	81%	White materials
Europium carbonate	$Eu_2(CO_3)_3.xH_2O$	99~99.999%	45%	White materials
Europium acetate	$Eu(O_2C_2H_3)_3.xH_2O$	99~99.999%	42%	White crystal
Europium nitrate	$Eu(NO_3)_3.6H_2O$	99~99.999%	37%	White crystal
Europium sulfate	$Eu_2(SO_4)_3.xH_2O$	99~99.999%	39%	White crystal
Europium hydroxide	$Eu(OH)_3.xH_2O$	99~99.999%	40%	White materials

Name	Formula	Purity	TREO	Appearance & Property
Gadolinium chloride	$GdCl_3.xH_2O$	99~99.995%	42%	White materials
Gadolinium fluoride	GdF_3	99~99.995%	81%	White materials
Gadolinium carbonate	$Gd_2(CO_3)_3.xH_2O$	99~99.995%	45%	White materials
Gadolinium acetate	$Gd(O_2C_2H_3)_3.xH_2O$	99~99.995%	42%	White crystal
Gadolinium nitrate	$Gd(NO_3)_3.6H_2O$	99~99.995%	37%	White crystal
Gadolinium sulfate	$Gd_2(SO_4)_3.xH_2O$	99~99.995%	39%	White crystal
Gadolinium hydroxide	$Gd(OH)_3.xH_2O$	99~99.995%	40%	White materials

Name	Formula	Purity	TREO	Appearance & Property
Terbium chloride	$TbCl_3.xH_2O$	99~99.99%	42%	White materials
Terbium fluoride	TbF_3	99~99.99%	81%	White materials
Terbium carbonate	$Tb_2(CO_3)_3.xH_2O$	99~99.99%	45%	White materials
Terbium acetate	$Tb(O_2C_2H_3)_3.xH_2O$	99~99.99%	42%	White crystal
Terbium nitrate	$Tb(NO_3)_3.6H_2O$	99~99.99%	37%	White crystal
Terbium sulfate	$Tb_2(SO_4)_3.xH_2O$	99~99.99%	39%	White crystal
Terbium hydroxide	$Tb(OH)_3.xH_2O$	99~99.99%	40%	White materials

Compound of rare earth materials:

Name	Formula	Purity	TREO	Appearance & Property
Dysprosium chloride	DyCl3.xH2O	99~99.95%	42%	White materials
Dysprosium fluoride	DyF3	99~99.95%	81%	White materials
Dysprosium carbonate	Dy2(CO3)3.xH2O	99~99.95%	45%	White materials
Dysprosium acetate	Dy(O2C2H3)3.xH2O	99~99.95%	42%	White crystal
Dysprosium nitrate	Dy(NO3)3.6H2O	99~99.95%	37%	White crystal
Dysprosium sulfate	Dy2(SO4)3.xH2O	99~99.95%	39%	White crystal
Dysprosium hydroxide	Dy(OH)3.xH2O	99~99.95%	40%	White materials

Name	Formula	Purity	TREO	Appearance & Property
Holmium chloride	HoCl3.xH2O	99~99.99%	42%	White materials
Holmium fluoride	HoF3	99~99.99%	81%	Light yellow materials
Holmium carbonate	Ho2(CO3)3.xH2O	99~99.99%	45%	White materials
Holmium acetate	Ho(O2C2H3)3.xH2O	99~99.99%	42%	White crystal
Holmium nitrate	Ho(NO3)3.6H2O	99~99.99%	37%	White crystal
Holmium sulfate	Ho2(SO4)3.xH2O	99~99.99%	39%	White crystal
Holmium hydroxide	Ho(OH)3.xH2O	99~99.99%	40%	White materials

Name	Formula	Purity	TREO	Appearance & Property
Erbium chloride	ErCl3.xH2O	99~99.999%	42%	Pink materials
Erbium fluoride	ErF3	99~99.999%	81%	Pink materials
Erbium carbonate	Er2(CO3)3.xH2O	99~99.999%	45%	Pink materials
Erbium acetate	Er(O2C2H3)3.xH2O	99~99.999%	42%	Pink crystal
Erbium nitrate	Er(NO3)3.6H2O	99~99.999%	37%	Pink crystal
Erbium sulfate	Er2(SO4)3.xH2O	99~99.999%	39%	Pink crystal
Erbium hydroxide	Er(OH)3.xH2O	99~99.999%	40%	Purple materials

Name	Formula	Purity	TREO	Appearance & Property
Thulium chloride	TmCl3.xH2O	99~99.99%	42%	White materials
Thulium fluoride	TmF3	99~99.99%	81%	White materials
Thulium carbonate	Tm2(CO3)3.xH2O	99~99.99%	45%	White materials
Thulium acetate	Tm(O2C2H3)3.xH2O	99~99.99%	42%	White crystal
Thulium nitrate	Tm(NO3)3.6H2O	99~99.99%	37%	White crystal
Thulium sulfate	Tm2(SO4)3.xH2O	99~99.99%	39%	White crystal
Thulium hydroxide	Tm(OH)3.xH2O	99~99.99%	40%	White materials

Compound of rare earth materials:

Name	Formula	Purity	TREO	Appearance & Property
Ytterbium chloride	YbCl3.xH2O	99~99.99%	42%	White materials
Ytterbium fluoride	YbF3	99~99.99%	81%	White materials
Ytterbium carbonate	Yb2(CO3)3.xH2O	99~99.99%	45%	White materials
Ytterbium acetate	Yb(O2C2H3)3.xH2O	99~99.99%	42%	White crystal
Ytterbium nitrate	Yb(NO3)3.6H2O	99~99.99%	37%	White crystal
Ytterbium sulfate	Yb2(SO4)3.xH2O	99~99.99%	39%	White crystal
Ytterbium hydroxide	Yb(OH)3.xH2O	99~99.99%	40%	White materials

Name	Formula	Purity	TREO	Appearance & Property
Lutetium chloride	LuCl3.xH2O	99~99.99%	42%	White materials
Lutetium fluoride	LuF3	99~99.99%	81%	White materials
Lutetium carbonate	Lu2(CO3)3.xH2O	99~99.99%	45%	White materials
Lutetium acetate	Lu(O2C2H3)3.xH2O	99~99.99%	42%	White crystal
Lutetium nitrate	Lu(NO3)3.6H2O	99~99.99%	37%	White crystal
Lutetium sulfate	Lu2(SO4)3.xH2O	99~99.99%	39%	White crystal
Lutetium hydroxide	Lu(OH)3.xH2O	99~99.99%	40%	White materials

Name	Formula	Purity	TREO	Appearance & Property
Yttrium chloride	YCl3.xH2O	99~99.999%	42%	White materials
Yttrium fluoride	YF3	99~99.999%	81%	White materials
Yttrium carbonate	Y2(CO3)3.xH2O	99~99.999%	45%	White materials
Yttrium acetate	Y (O2C2H3)3.xH2O	99~99.999%	42%	White crystal
Yttrium nitrate	Y (NO3)3.6H2O	99~99.999%	37%	White crystal
Yttrium sulfate	Y2(SO4)3.xH2O	99~99.999%	39%	White crystal
Yttrium hydroxide	Y(OH)3.xH2O	99~99.999%	40%	White materials

Note: custom compositions can be produced on requests.

Packing: In sealed double PVC plastic bags. 1,5,10,20,50kgs of net each bag, the bags are packed in steel drums containing 50 kg net each.

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