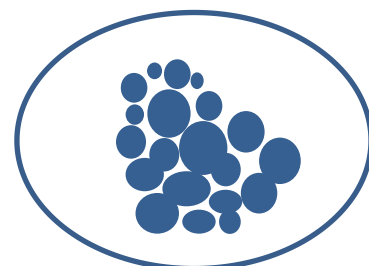


# HIGH PURITY INORGANIC POWDERS

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## High Purity Inorganic Chemical Powders

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### PURITY

Purity is based on spectrographic values of trace metals found, i. e. 99.999% pure indicates that 0.001% (10 ppm) total of trace metals have been observed. Gases, Carbon and Sulfur are not included in the analysis but can possibly be determined if needed.

### PARTICLE SIZE

Particle sizes are listed as determined with sieves. “-100,+325 mesh” means that all of the particles pass through a 100 mesh screen and are completely retained on a 325 mesh screen. “Mesh” indicates the number of sieve openings per linear inch.

### CERTIFICATE

Each batch of material is shipped with a certificate of analysis and represents the current batch only.

Material Safety Data Sheet (MSDS) will be attached if the materials are dangerous.

### CUSTOM MANUFACTURING

VI HALBLEITERMATERIAL provides custom service if there is no dimensions or purity you want on the list, Don't hesitate to contact us.



## Particle Size Conversion Table

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MESH SIZE	APPROXIMATE DIAMETER(mm)	MESH SIZE	APPROXIMATE DIAMETER(mm)
2	8	80	0.180
3	6.7	100	0.150
4	4.75	120	0.125
5	4.00	140	0.106
6	3.35	170	0.090
7	2.80	200	0.075
8	2.36	230	0.063
10	2.00	270	0.053
12	1.70	325	0.045
14	1.40	400	0.040
16	1.18	500	0.025
18	1.00	600	0.023
20	0.850	800	0.018
25	0.710	1000	0.013
30	0.600	1250	0.010
35	0.500	2000	0.0065
40	0.425	2500	0.0050
45	0.355	5000	0.0026
50	0.300	8000	0.0016
60	0.250	10000	0.0013
70	0.212		

# Halide Materials

VI HALBLEITERMATERIAL offers a series of metal halide materials, its unique photoelectric properties make it a typical emerging application material, and widely used in the fields of solar cells, light-emitting diodes and nano-lasers.

## Fluoride Powder

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Aluminum Fluoride	AlF <sub>3</sub>	7784-18-1	99.5%-99.99 %
Aluminum Fluoride Trihydrate	AlF <sub>3</sub> •3H <sub>2</sub> O	15098-87-0	99.9%
Ammonium Fluoride	NH <sub>4</sub> F	12125-01-8	96.0%-98.0%
Ammonium Hexafluorotitanate	(NH <sub>4</sub> ) <sub>2</sub> TiF <sub>6</sub>	16962-40-6	99.99%
Barium Fluoride	BaF <sub>2</sub>	7787-32-8	99%-99.99%
Bismuth Fluoride	BiF <sub>3</sub>	7787-61-3	99.0%-99.95%
Calcium Fluoride	CaF <sub>2</sub>	7789-75-5	99.0%-99.99 %
Cesium Fluoride	CsF	13400-13-0	99.0%-99.99%
Chromium(II) Fluoride	CrF <sub>2</sub>	10049-10-2	95.0%
Chromium(III) Fluoride	CrF <sub>3</sub>	7788-97-8	99.98%
Chromium(III) Fluoride Hydrate	CrF <sub>3</sub> •xH <sub>2</sub> O	123333-98-2	99.0%-99.90%
Cobalt(II) Fluoride Tetrahydrate	CoF <sub>2</sub> •4H <sub>2</sub> O	13817-37-3	99.99%
Cobalt(II) Fluoride, anhydrous	CoF <sub>2</sub>	10026-17-2	99.0%
Cobalt(II) Tetrafluoroborate Hydrate	Co(BF <sub>4</sub> ) <sub>2</sub> •xH <sub>2</sub> O	26490-63-1	96.0%
Cobalt(III) Fluoride	CoF <sub>3</sub>	10026-18-3	99.0%
Copper(II) Fluoride	CuF <sub>2</sub>	7789-19-7	99.5%
Cryolite	Na <sub>3</sub> AlF <sub>6</sub>	13775-53-6	99.5%-99.96%
Gallium Fluoride	GaF <sub>3</sub>	7783-51-9	99.85%
Hafnium Fluoride	HfF <sub>4</sub>	13709-52-9	99.95%
Indium Fluoride	InF <sub>3</sub>	7783-52-0	99.95%-99.995%
Iron Fluoride	FeF <sub>3</sub>	7783-50-8	97.0%
Iron(II) Fluoride	FeF <sub>2</sub>	7789-28-8	98.0%
Iron(III) Fluoride Trihydrate	FeF <sub>3</sub> •3H <sub>2</sub> O	15469-38-2	99.0%-99.9%
Lead Fluoride	PbF <sub>2</sub>	7783-46-2	99.9%-99.99%
Lead(IV) Fluoride	PbF <sub>4</sub>	7783-59-7	99.0%

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Lithium Fluoride	LiF	7789-24-4	99.99%-99.995%
Lithium Hexafluoroantimonate	LiSbF <sub>6</sub>	18424-17-4	97.0%
Lithium Hexafluorophosphate	LiPF <sub>6</sub>	21324-40-3	98.0%
Lithium Hexafluorosilicate	Li <sub>2</sub> SiF <sub>6</sub>	17347-95-4	95.0%-99.0%
Lithium Tetrafluoroborate	LiBF <sub>4</sub>	14283-07-9	98.0%
Magnesium - Cerium Fluoride	MgF <sub>2</sub> - CeF <sub>3</sub>		99.995%
Magnesium - Neodymium Fluoride	MgF <sub>2</sub> - NdF <sub>3</sub>		99.99%-99.995%
Magnesium Fluoride	MgF <sub>2</sub>	7783-40-6	99.9%-99.995%
Magnesium Hexafluorosilicate Hexahydrate	MgSiF <sub>6</sub> •6H <sub>2</sub> O	18972-56-0	98.0%
Manganese Fluoride	MnF <sub>2</sub>	7782-64-1	99.5%
Manganese Fluoride	MnF <sub>2</sub> •2H <sub>2</sub> O	7782-64-1	99.99%
Manganese Fluoride	MnF <sub>3</sub>	7783-53-1	98.0%-99.5%
Molybdenum Fluoride	MoF <sub>6</sub>	7783-77-9	99.99%
Nickel Fluoride	NiF <sub>2</sub>	10028-18-9	97.0%-99.95%
Nickel(II) Fluoride Tetrahydrate	NiF <sub>2</sub> •4H <sub>2</sub> O	13940-83-5	98.0+%
Nickel(II) Tetrafluoroborate Hexahydrate	Ni(BF <sub>4</sub> ) <sub>2</sub> •6H <sub>2</sub> O	15684-36-3	99.0%-99.9%
Niobium Fluoride	NbF <sub>5</sub>	7783-68-8	99.99%
Potassium Fluoride	KF	7789-23-3	99.95%
Potassium Fluoride Dihydrate	KF•2H <sub>2</sub> O	13455-21-5	99.995%
Potassium Heptafluoroniobate(V)	K <sub>2</sub> NbF <sub>7</sub>	16924-03-1	99.5%
Potassium Heptafluorotantalate(V)	K <sub>2</sub> TaF <sub>7</sub>	16924-00-8	99.7-99.99%
Potassium Hexafluoronickelate(IV)	K <sub>2</sub> NiF <sub>6</sub>	17218-47-2	99.5%
Potassium Hexafluorophosphate	KPF <sub>6</sub>	17084-13-8	95.0%-99.0%
Potassium Hexafluorosilicate	K <sub>2</sub> SiF <sub>6</sub>	16871-90-2	98.0%
Potassium Hexafluorozirconate	K <sub>2</sub> ZrF <sub>6</sub>	16923-95-8	99.0%
Potassium Hydrogen Fluoride	KHF <sub>2</sub>	7789-29-9	99.0%
Rubidium Fluoride	RbF	13446-74-7	99.0%-99.98%
Rubidium Fluoride Hydrate	RbF•xH <sub>2</sub> O	16422-67-6	99.0%
Sodium Aluminum Fluoride	Na <sub>5</sub> Al <sub>3</sub> F <sub>14</sub>	12068-55-2	99.95%-99.995%
Sodium Fluoride	NaF	7681-49-4	99.99%
Sodium Fluorophosphate	Na <sub>2</sub> PO <sub>3</sub> F	10163-15-2	99.5%
Sodium Hexafluoroantimonate	NaSbF <sub>6</sub>	16925-25-0	99.9%
Sodium Hexafluorophosphate	NaPF <sub>6</sub>	21324-39-0	98.0%-99.0%
Sodium Tetrafluoroborate	NaBF <sub>4</sub>	13755-29-8	95.0%
Sodium Yttrium Fluoride	NaYF <sub>4</sub>	14118-34-4	99.9%
Strontium Fluoride	SrF <sub>2</sub>	7783-48-4	99.99%
Tantalum(V) Fluoride	TaF <sub>5</sub>	7783-71-3	99.9%
Tin Fluoride	SbF <sub>3</sub>	7783-56-4	99.0%-99.999 %
Tin Fluoride	SnF <sub>2</sub>	7783-47-3	97.5%-99.9%

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Tin(IV) Fluoride	$\text{SnF}_4$	7783-62-2	99.0%
Titanium(IV) Fluoride	$\text{TiF}_4$	7783-63-3	98.0%
Vanadium Fluoride	$\text{VF}_4$	10049-16-8	99.9%
Vanadium(III) Fluoride	$\text{VF}_3$	10049-12-4	98.0%
Vanadium(V) Trifluoride Oxide	$\text{VOF}_3$	13709-31-4	99.9%
Zinc Fluoride	$\text{ZnF}_2$	7783-49-5	99.99%
Zinc Fluoride Tetrahydrate	$\text{ZnF}_2 \cdot 4\text{H}_2\text{O}$	13986-18-0	98.0%
Zirconium Fluoride	$\text{ZrF}_4$	7783-64-4	99.9%



## Chloride Powder

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Aluminum Chloride	AlCl <sub>3</sub>	7446-70-0	99.95-99.999%
Aluminum Chloride Hexahydrate	AlCl <sub>3</sub> •6H <sub>2</sub> O	7784-13-6	99.995%
Barium Chloride	BaCl <sub>2</sub>	10361-37-2	99.9 %-99.998 %
Barium Chloride Dihydrate	BaCl <sub>2</sub> •2H <sub>2</sub> O	10326-27-9	99.0+%
Bismuth Chloride	BiCl <sub>3</sub>	7787-60-2	99.99%-99.999%
Calcium Chloride	CaCl <sub>2</sub>	10043-52-4	93.0%-99.9%
Calcium Chloride Dihydrate	CaCl <sub>2</sub> •2H <sub>2</sub> O	10035-04-8	99-99.99%
Calcium Chloride Hydrate	CaCl <sub>2</sub> •xH <sub>2</sub> O (x≈4-6)	22691-02-7	99.997%
Cadmium Chloride	CdCl <sub>2</sub>	10108-64-2	99.9%-99.999%
Cadmium Chloride Hemipentahydrate	CdCl <sub>2</sub> •2.5H <sub>2</sub> O	7790-78-5	99.99%
Cadmium Chloride Hydrate	CdCl <sub>2</sub> •xH <sub>2</sub> O	654054-66-7	99.998%
Cobalt(II) Chloride Hexahydrate	CoCl <sub>2</sub> •6H <sub>2</sub> O	10060-12-5	99.998%
Cobalt(II) Chloride	CoCl <sub>2</sub>	7646-79-9	99.7%-99.998%
Chromium(II) Chloride, Anhydrous	CrCl <sub>2</sub>	10049-05-5	98.5%-99.99 %
Chromium Chloride	CrCl <sub>3</sub>	10025-73-7	98.0%-99.9%
Chromium(III) Chloride Hexahydrate	CrCl <sub>3</sub> •6H <sub>2</sub> O	10060-12-5	99.5%-99.998%
Cesium Chloride	CsCl	7647-17-8	99.99 %-99.999 %
Copper Chloride	CuCl	7758-89-6	99.5%-99.999%
Copper Chloride	CuCl <sub>2</sub>	7447-39-4	99.99%-99.999%
Copper(II) Chloride Hydrate	CuCl <sub>2</sub> •2H <sub>2</sub> O	10125-13-0	99.0+%
Ammonium Copper(II) Chloride Dihydrate	CuCl <sub>2</sub> •2NH <sub>4</sub> Cl.2H <sub>2</sub> O	10060-13-6	99.0%-99.99%
Copper(II) Chloride Hydrate	CuCl <sub>2</sub> •xH <sub>2</sub> O (x≈2)	10125-13-0	99.999%
Iron Chloride	FeCl <sub>2</sub>	7758-94-3	99.5%-99.99%
Iron Chloride	FeCl <sub>2</sub> . 2H <sub>2</sub> O	7758-94-3	99.5%
Iron(II) Chloride Tetrahydrate	FeCl <sub>2</sub> •4H <sub>2</sub> O	13478-10-9	98.0%
Iron(II) Chloride Hydrate	FeCl <sub>2</sub> •xH <sub>2</sub> O	23838-02-0	99.0%
Iron(III) Chloride Anhydrous	FeCl <sub>3</sub>	7705-08-0	98.0%-99.0%
Iron(III) Chloride Hexahydrate	FeCl <sub>3</sub> •6H <sub>2</sub> O	10025-77-1	97.0%-99.9%
Gallium(II) Chloride	Ga <sub>2</sub> Cl <sub>4</sub>	24597-12-4	99.999%
Gallium Chloride	GaCl <sub>2</sub>	24597-12-4	99.998%
Gallium Chloride	GaCl <sub>3</sub>	13450-90-3	99.999%
Hafnium Chloride	HfCl <sub>4</sub>	13499-05-3	99.9%
Hafnium Dichloride Oxide Octahydrate	HfOCl <sub>2</sub> •8H <sub>2</sub> O	14456-34-9	98.0%-99.998%
Indium Chloride	InCl <sub>2</sub>	13465-11-7	99.99%
Indium Chloride	InCl <sub>3</sub>	10025-82-8	99.99%-99.999%
Indium(III) Chloride Hydrate	InCl <sub>3</sub> •xH <sub>2</sub> O	143983-91-9	99.99%

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Potassium Chloride	KCl	7447-40-7	98.0%-99.999%
Lithium Phosphorus Sulfur Chloride	Li <sub>6</sub> PS <sub>5</sub> Cl		99.9%
Lithium Phosphorus Tellurium Chloride	Li <sub>6</sub> PTe <sub>5</sub> Cl		99.9%
Lithium Chloride	LiCl	7447-41-8	99.0%-99.999%
Lithium Chloride-Potassium Chloride	LiCl.KCl	65567-96-6	98.0+%
Lithium Chloride Monohydrate	LiCl•H <sub>2</sub> O	16712-20-2	99.95%
Lithium Germanium Phosphous Sulifide Chloride	LiGePSCI		99.99%
Magnesium Chloride	MgCl <sub>2</sub>	7786-30-3	99.9%-99.99%
Magnesium Chloride Hexahydrate	MgCl <sub>2</sub> •6H <sub>2</sub> O	7791-18-6	99.99%
Manganese Chloride	MnCl <sub>2</sub>	7773-01-05	99.0%-99.9 %
Manganese(II) Chloride Tetrahydrate	MnCl <sub>2</sub> •4H <sub>2</sub> O	13446-34-9	99.999%
Molybdenum Chloride	MoCl <sub>5</sub>	10241-05-1	99.99%
Molybdenum Chloride	MoCl <sub>6</sub>	13706-19-9	99.99%
Sodium Tetrachloroaluminate	NaAlCl <sub>4</sub>	7784-16-9	99.99%
Sodium Chloride	NaCl	7647-14-5	99.0%-99.998%
Niobium Chloride	NbCl <sub>5</sub>	10026-12-7	99.0%-99.999 %
Ammonium Chloride	NH <sub>4</sub> Cl	12125-02-9	98.0%-99.999%
Ammonium Hexachlorostannate(IV)	(NH <sub>4</sub> ) <sub>2</sub> SnCl <sub>6</sub>	16960-53-5	98.0%
Nickel(II) Chloride Anhydrous	NiCl <sub>2</sub>	7718-54-9	99.99%
Nickel(II) Chloride Hydrate	NiCl <sub>2</sub> •xH <sub>2</sub> O	69098-15-3	99.995%
Lead Chloride	PbCl <sub>2</sub>	7758-95-4	99.9%-99.999%
Rubidium Chloride	RbCl	2151958	99.0%-99.995%
Rhenium Trichloride	ReCl <sub>3</sub>	13569-63-6	99.9%
Rhenium (V) Chloride	ReCl <sub>5</sub>	13596-35-5	99.9%
Antimony(III) Chloride	SbCl <sub>3</sub>	10025-91-9	99.9%-99.999%
Selenium(I) Chloride	Se <sub>2</sub> Cl <sub>2</sub>	10025-68-0	99.9%
Selenium(IV) Chloride	SeCl <sub>4</sub>	10026-03-6	99.5%
Tin Chloride	SnCl <sub>2</sub>	7772-99-8	99.999%
Tin(II) Chloride Dihydrate	SnCl <sub>2</sub> •2H <sub>2</sub> O	10025-69-1	98.0%
Tin Chloride	SnCl <sub>4</sub>	7646-78-8	99.999%
Tin(IV) Chloride Hydrate	SnCl <sub>4</sub> •xH <sub>2</sub> O	7646-78-8	98.0%
Strontium Chloride Anhydrous	SrCl <sub>2</sub>	10476-85-4	99.5%-99.995%
Strontium Chloride Hexahydrate Colorless	SrCl <sub>2</sub> •6H <sub>2</sub> O	10025-70-4	99.0%-99.99%
Tantalum Chloride	TaCl <sub>5</sub>	7721-01-9	99.9%
Tellurium Chloride	TeCl <sub>2</sub>	10025-71-5	99.9%-99.999 %
Tellurium(IV) Chloride	TeCl <sub>4</sub>	10026-07-0	99.9%-99.999%
Vanadium Chloride	VCl <sub>3</sub>	7718-98-1	99.9%



CHEMICAL NAME	FORMULA	CAS No.	PURITY
Tungsten Chloride	WCl <sub>5</sub>	13470-14-9	99.9%
Tungsten Chloride	WCl <sub>6</sub>	13283-01-7	99.9%
Zinc Chloride	ZnCl <sub>2</sub>	7646-85-7	97.0%-99.999%
Zinc Chloride Hydrate	ZnCl <sub>2</sub> •xH <sub>2</sub> O	29604-34-0	99.999%
Zirconium Chloride	ZrCl <sub>4</sub>	10026-11-6	99.9%



## Bromide Powder

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Aluminum Bromide	AlBr <sub>3</sub>	7727-15-3	99.999%
Barium Bromide	BaBr <sub>2</sub>	10553-31-8	99.998%
Barium Bromide Dihydrate	BaBr <sub>2</sub> •2H <sub>2</sub> O	7791-28-8	99.3%-99.999%
Bismuth Bromide	BiBr <sub>3</sub>	7787-58-8	99.999%
Magnesium Bromide Hexahydrate	MgBr <sub>2</sub> •6H <sub>2</sub> O	13446-53-2	98.0+%
Nickel(II) Bromide, Anhydrous	NiBr <sub>2</sub>	13462-88-9	99.0%
Strontium Bromide, Anhydrous	SrBr <sub>2</sub>	10476-81-0	99.0%
Indium(III) Bromide, Anhydrous	InBr <sub>3</sub>	13465-09-3	99.99%
Calcium Bromide	CaBr <sub>2</sub>	7789-41-5	99.5%-99.978%
Calcium Bromide Hydrate	CaBr <sub>2</sub> •xH <sub>2</sub> O	71626-99-8	99.5%-99.999%
Cadmium Bromide	CdBr <sub>2</sub>	7789-42-6	98.0%-99.999 %
Cadmium Bromide Hydrate	CdBr <sub>2</sub> •xH <sub>2</sub> O	7789-42-6	99.999%
Cadmium Bromide Hydrate	CdBr <sub>2</sub> •xH <sub>2</sub> O	681435-25-6	99.999%
Cobalt Bromide	CoBr <sub>2</sub>	7789-43-7	99.99%
Cobalt(II) Bromide Hydrate	CoBr <sub>2</sub> •xH <sub>2</sub> O	85017-77-2	99.99%
Cesium Bromide	CsBr	7787-69-1	99.9%-99.999 %
Copper Bromide	CuBr	7787-70-4	99.0%-99.998 %
Copper(II) Bromide	CuBr <sub>2</sub>	7789-45-9	98.0%-99.0%
Iron Bromide	FeBr <sub>2</sub>	7789-46-0	99.98%-99.995 %
Iron(III) Bromide, Anhydrous	FeBr <sub>3</sub>	10031-26-2	98.0+%
Gallium Bromide	GaBr <sub>3</sub>	13450-88-9	99.0%-99.998 %
Hafnium Bromide	HfBr <sub>4</sub>	13777-23-5	99.0 %-99.99 %
Indium Bromide	InBr	14280-53-6	99.99%-99.999%
Potassium Bromide	KBr	7758-02-03	99.0%-99.98%
Potassium Hexabromotellurate(IV)	K <sub>2</sub> TeBr <sub>6</sub>	16986-18-8	99.99%
Lithium Phosphorus Sulfur Bromide	Li <sub>6</sub> PS <sub>5</sub> Br		99.9%
Lithium Phosphorus Tellurium Bromide	Li <sub>6</sub> PTe <sub>5</sub> Br		99.9%
Lithium Bromide Anhydrous	LiBr	7550-35-8	99.0%-99.998%
Lithium Bromide Hydrate	LiBr•xH <sub>2</sub> O	85017-82-9	99.995%
Magnesium Bromide	MgBr <sub>2</sub>	7789-48-2	99.99%
Manganese(II) Bromide, Anhydrous	MnBr <sub>2</sub>	13446-03-2	99.0%
Manganese(II) Bromide Hydrate	MnBr <sub>2</sub> •xH <sub>2</sub> O	10031-20-6	98.0%-99.9%
Sodium Tetrabromopalladate(II)	Na <sub>2</sub> PdBr <sub>4</sub>	50495-13-1	99.95%
Sodium Bromide	NaBr	7647-15-6	97.0%-99.999%
Ammonium Bromide	NH <sub>4</sub> Br	12124-97-9	99.999%
Nickel(II) Bromide Trihydrate	NiBr <sub>2</sub> •3H <sub>2</sub> O	7789-49-3	98.0%

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Lead Bromide	PbBr <sub>2</sub>	10031-22-8	99.998%
Rubidium Bromide	RbBr	7789-39-1	99.9%
Antimony Bromide	SbBr <sub>3</sub>	7789-61-9	99.995%-99.999%
Selenium(IV) Bromide	SeBr <sub>4</sub>	7789-65-3	99.0%
Tin Bromide	SnBr <sub>2</sub>	10031-24-0	99.99%
Tin(IV) Bromide	SnBr <sub>4</sub>	7789-67-5	99.0%
Strontium Bromide Hexahydrate	SrBr <sub>2</sub> •6H <sub>2</sub> O	7789-53-9	95.0%-99.0%
Tantalum Bromide	TaBr <sub>5</sub>	13451-11-1	99.9%-99.99 %
Tellurium Bromide	TeBr <sub>4</sub>	10031-27-3	99.999%
Titanium Bromide	TiBr <sub>4</sub>	7789-68-6	99.99%
Vanadium Bromide	VBr <sub>3</sub>	13470-26-3	99.5%
Zinc Bromide	ZnBr <sub>2</sub>	7699-45-8	99.999%
Zinc Bromide Hydrate	ZnBr <sub>2</sub> •xH <sub>2</sub> O	299465-28-4	99.999%
Zinc Bromide Hydrate	ZnBr <sub>2</sub> •xH <sub>2</sub> O	299465-28-4	99.9%-99.999%
Zirconium Bromide	ZrBr <sub>4</sub>	13777-25-8	99.9%



## Iodide Powder

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Aluminum Iodide	AlI <sub>3</sub>	7784-23-8	99.999%
Ammonium Iodide	NH <sub>4</sub> I	12027-06-4	99.0%-99.995%
Antimony Iodide	SbI <sub>3</sub>	7790-44-5	99.9%-99.999%
Barium Iodide	BaI <sub>2</sub>	13718-50-8	99.995 %-99.999 %
Barium Iodide	TaI <sub>5</sub>	14693-81-3	99.99%
Barium Iodide	PbI <sub>2</sub>	10101-63-0	99.99%-99.999%
Barium Iodide	BiI <sub>3</sub>	7787-64-6	99.99%-99.999%
Barium Iodide Hydrate	BaI <sub>2</sub> •xH <sub>2</sub> O	13718-50-8	95.0%
Cadmium Iodide	CdI <sub>2</sub>	7790-80-9	99.9%-99.999 %
Calcium Barium Iodide	CaBaI <sub>3</sub>		99.9%
Calcium Iodide	CaI <sub>2</sub>	10102-68-8	99.5%-99.999 %
Calcium Iodide Hydrate	CaI <sub>2</sub> •xH <sub>2</sub> O	71626-98-7	99.9%
Calcium Iodide Hydrate	CaI <sub>2</sub> •xH <sub>2</sub> O (x≈6)	71626-98-7	99.997%
Cesium Barium Iodide	CsBa <sub>2</sub> I <sub>5</sub>		99.9%
Cesium Calcium Iodide	CsCa <sub>2</sub> I <sub>5</sub>		99.9%
Cesium Europium Iodide	CsEuI <sub>3</sub>		99.99%
Cesium Iodide	CsI	7789-17-5	99.9%-99.999 %
Cesium Samarium Iodide	CsSmI <sub>3</sub>		99.99%
Cesium Strontium Iodide	CsSr <sub>2</sub> I <sub>5</sub>		99.9%
Cesium Tin Iodide	CsSnI <sub>3</sub>		99.999%
Cesium Triiodide	CsI <sub>3</sub>	20202-54-4	98.0%
Cesium Ytterbium Iodide	CsYbI <sub>3</sub>		99.99%
Cobalt Iodide	CoI <sub>2</sub>	15238-00-3	99.5%-99.999%
Copper Iodide	CuI	7681-65-4	99.9%-99.999%
Gallium Iodide	Gal <sub>3</sub>	13450-91-4	99.99%-99.999%
Germanium(II) Iodide	GeI <sub>2</sub>	13573-08-5	99.99%-99.999%
Germanium(IV) Iodide	GeI <sub>4</sub>	13450-95-8	99.999 %-99.9999 %
Hafnium Iodide	HfI <sub>4</sub>	13777-23-6	99.5%- 99.9 %
Indium Iodide	InI	13465-10-6	99.99%-99.999%
Indium(III) Iodide	InI <sub>3</sub>	13510-35-5	99.99%-99.9999 %
Iron Iodide	FeI <sub>2</sub>	7783-86-0	99.99%
Lithium Iodide	LiI	10377-51-2	99.9%-99.999%
Lithium Iodide Hydrate	LiI•xH <sub>2</sub> O	85017-80-7	99.995%
Lithium Iodide Hydrate	LiI•xH <sub>2</sub> O	85017-80-7	99.9%
Lithium Phosphorus Sulfur Iodide	Li <sub>6</sub> PS <sub>5</sub> I		99.9%
Magnesium Iodide	MgI <sub>2</sub>	10377-58-9	99.99 %-99.999 %

CHEMICAL NAME	FORMULA	CAS No.	PURITY
Manganese Iodide	MnI <sub>2</sub>	7790-33-2	99.99%
Nickel Iodide	NiI <sub>2</sub>	13462-90-3	99.5%-99.998%
Niobium Iodide	NbI <sub>5</sub>	13779-92-5	99.99%
Potassium Iodide	KI	7681-11-0	99.5 %-99.998%
Rubidium Iodide	RbI	7790-29-6	99.8%-99.99%
Silicon Iodide	SiI <sub>4</sub>	13465-84-4	99%-99.999%
Sodium Iodide	NaI	7681-82-5	99.98 %-99.999 %
Strontium Iodide	SrI <sub>2</sub>	10476-86-5	99.0%-99.99%
Tellurium Iodide	TeI <sub>4</sub>	7790-48-9	99.9%-99.99%
Tin(II) Iodide	SnI <sub>2</sub>	10294-70-9	99.99%-99.999%
Tin(IV) Iodide	SnI <sub>4</sub>	7790-47-8	99.9%-99.999 %
Titanium Iodide	TiI <sub>4</sub>	7720-83-4	99.9%-99.999%
Zinc Iodide	ZnI <sub>2</sub>	10139-47-6	98.0%-99.995%
Zirconium Iodide	ZrI <sub>4</sub>	13986-26-0	99.9%



## Rare Earth Materials

VI HALBLEITERMATERIAL provides a series of high purity, nano rare earth metal and compound powder materials. Rare earth elements are known as the "vitamin of industry" and have excellent magnetic, optical and electrical properties that cannot be replaced, which play a great role in improving product performance, increasing product variety and improving production efficiency, and are widely used in metallurgy, military, petrochemical, glass and ceramics, agriculture and new materials.

Ce

Cerium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Cerium	Ce	7440-45-1	3N	-100Mesh
Cerium Hydroxide	Ce(OH) <sub>4</sub>	12014-56-1	3N5	
Cerium Sulfide	Ce <sub>2</sub> S <sub>3</sub>	12014-93-6	3N	60Mesh D50<10 μ m
Cerium Boride	CeB <sub>6</sub>	12008-02-5	2N5	-325Mesh
Cerium Bromide	CeBr <sub>3</sub>	14457-87-5	3N-4N	-20Mesh
Cerium Bromide Heptahydrate	CeBr <sub>3</sub> ·7H <sub>2</sub> O	7789-56-2	4N	
Cerium Chloride	CeCl <sub>3</sub>	7790-86-5	4N	100Mesh
Cerium Chloride Heptahydrate	CeCl <sub>3</sub> · 7H <sub>2</sub> O	18618-55-8	3N5	
Cerium Fluoride	CeF <sub>3</sub>	7758-88-5	4N5	100Mesh
Cerium Oxide	CeO <sub>2</sub>	1306-38-3	3N-4N	D50<20 μ m/6-15 μ m
Cerium Oxide - Zirconium Oxide	CeO <sub>2</sub> -ZrO <sub>2</sub>		2N5	-325Mesh
Cerium Palladium Alloy	CePd		3N-4N	-200Mesh
Cerium Acetate	CeC <sub>6</sub> H <sub>9</sub> O <sub>6</sub>	206996-60-3	3N	
Cerium Nitrate	Ce(NO <sub>3</sub> ) <sub>3</sub>	10108-73-3	3N	-200Mesh
Cerium Nitrate Hexahydrate	Ce(NO <sub>3</sub> ) <sub>3</sub> ·6H <sub>2</sub> O	10294-41-4	2N5	
Cerium sulfate	Ce(SO <sub>4</sub> ) <sub>2</sub>	13590-82-4	97%	-325Mesh
Cerium Sulfate	Ce <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	13454-94-9	3N	-200Mesh
Cerium sulfate octahydrate	Ce <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> ·8H <sub>2</sub> O	10450-59-6	4N	
Zirconium Scandium Cerium Oxide	ZrO <sub>2</sub> :Sc <sub>2</sub> O <sub>3</sub> :CeO <sub>2</sub>		3N	-325Mesh
Cerium Silicide	CeSi <sub>2</sub>	12014-85-6	2N5	-20Mesh
Cerium Phosphate	CePO <sub>4</sub>	13454-71-2	2N	-100Mesh
Cerium Vanadium Oxide	CeVO <sub>4</sub>	13597-19-8	3N	-200Mesh
Cerium Carbonate	Ce <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub>	5853-16-7	3N	-200Mesh

Dy

## Dysprosium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Dysprosium	Dy	7429-91-6	3N	-200Mesh
Dysprosium Oxide	Dy <sub>2</sub> O <sub>3</sub>	1308-87-8	3N	D50:10 μ m
Dysprosium Chloride	DyCl <sub>3</sub>	10025-74-8	4N	10Mesh
Dysprosium Chloride Hexahydrate	DyCl <sub>3</sub> .6H <sub>2</sub> O	15059-52-6	3N	
Dysprosium Boride	DyB <sub>6</sub>	12008-04-7	2N5	-325Mesh
Dysprosium Bromide	DyBr <sub>3</sub>	14456-48-5	4N	-325Mesh
Dysprosium oxalate decahydrate	Dy <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> •10H <sub>2</sub> O	24670-07-3	3N	
Dysprosium Nitrate Pentahydrate	Dy(NO <sub>3</sub> ) <sub>3</sub> •5H <sub>2</sub> O	10031-49-9	3N-4N	
Dysprosium Iodide	DyI <sub>3</sub>	15474-63-2	98%	
Dysprosium Acetate tetrahydrate	Dy(OOCCH <sub>3</sub> ) <sub>3</sub> •4H <sub>2</sub> O	15280-55-4	3N-4N	
Dysprosium Nitride	DyN	12019-88-4	3N	-325Mesh
Dysprosium Phosphate	DyPO <sub>4</sub>	13863-49-5	4N	-100Mesh
Dysprosium Sulfate	Dy <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	10031-50-2	3N	-325Mesh
Dysprosium Carbonate tetrahydrate	Dy <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub> •4H <sub>2</sub> O	38245-35-1	3N	
Dysprosium Nitrate	Dy(NO <sub>3</sub> ) <sub>3</sub>	10143-38-1	3N	-325Mesh
Dysprosium Fluoride	DyF <sub>3</sub>	13569-80-7	3N-4N	-325Mesh

Er

## Erbium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Erbium	Er	7440-52-0	3N	-300Mesh
Erbium Boride	ErB <sub>4</sub>	12310-44-0	2N5	
Erbium Bromide	ErBr <sub>3</sub>	13536-73-7	4N	-100-325Mesh
Erbium Bromide Hydrate	ErBr <sub>3</sub> . xH <sub>2</sub> O	29843-93-4	5N	
Erbium(III) Chloride Hexahydrate	ErCl <sub>3</sub> .6H <sub>2</sub> O	10025-75-9	3N-5N	
Erbium Acetate	ErC <sub>6</sub> H <sub>17</sub> O <sub>10</sub>	15280-57-6	3N/3N5	
Erbium Carbonate Hydrate	Er <sub>2</sub> (CO <sub>3</sub> ) <sub>2</sub> •xH <sub>2</sub> O	22992-83-2	4N	
Erbium Nitride	ErN	12020-21-2	3N	-60Mesh
Erbium Silicide	ErSi <sub>2</sub>	12434-16-1	3N	
Erbium Phosphate Hydrate	ErPO <sub>4</sub> •xH <sub>2</sub> O	14242-01-4	3N	
Erbium Phosphate	ErPO <sub>4</sub>	14298-38-5	4N	-100-325Mesh
Erbium Sulfate	Er <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	10031-52-4	3N5	-100-325Mesh
Erbium Nitrate	Er(NO <sub>3</sub> ) <sub>3</sub>	10031-51-3	3N	-100-325Mesh

Erbium Nitrate Hexahydrate	$\text{Er}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$	13476-05-6	4N	
Erbium Iodide	$\text{ErI}_3$	13813-42-8	4N	-100-325Mesh
Erbium Fluoride	$\text{ErF}_3$	13760-83-3	3N	D50:10 $\mu\text{m}$
Erbium Chloride	$\text{ErCl}_3$	10138-41-7	2N5	-20Mesh
Erbium Oxide	$\text{Er}_2\text{O}_3$	12061-16-4	2N5/3N	-325Mesh D50:10 $\mu\text{m}$

Eu

## Europium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Europium Bromide	$\text{EuBr}_3$	13759-88-1	3N	-100-325Mesh
Europium Iodide	$\text{EuI}_2$	22015-35-6	4N-5N	-100-325Mesh
Europium Acetate Hydrate	$\text{Eu}(\text{OOCCH}_3)_3 \cdot x\text{H}_2\text{O}$	62667-64-5	3N-4N	
Europium nitrate hexahydrate	$\text{Eu}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$	10031-53-5	4N	-325Mesh
Europium Oxalate Hydrate	$\text{Eu}_2(\text{C}_2\text{O}_4)_3 \cdot x\text{H}_2\text{O}$	304675-55-6		
Europium Oxide	$\text{Eu}_2\text{O}_3$	1308-96-9	2N5-5N	-325Mesh D50:3-16 $\mu\text{m}$
Europium Phosphate	$\text{EuPO}_4$	13537-10-5	3N	-100-325Mesh
Europium Sulfate	$\text{Eu}_2(\text{SO}_4)_3$	13537-15-0	5N	-100-325Mesh
Europium Sulfate octahydrate	$\text{Eu}_2(\text{SO}_4)_3 \cdot 8\text{H}_2\text{O}$	10031-52-4	5N	
Europium Carbonate	$\text{Eu}_2(\text{CO}_3)_3$	86546-99-8	3N	-100-325Mesh
Europium Nitrate	$\text{Eu}(\text{NO}_3)_3$	10031-53-5	3N	-100-325Mesh
Europium Fluoride	$\text{EuF}_3$	13765-25-8	3N-4N8	-100-325Mesh
Europium Chloride	$\text{EuCl}_3$	10025-76-0	4N	-100-325Mesh
Europium Chloride hexahydrate	$\text{EuCl}_3 \cdot 6\text{H}_2\text{O}$	13759-92-7	5N	
Europium Telluride	$\text{EuTe}$	12020-69-8	2N5	-100-325Mesh
Europium Selenide	$\text{EuSe}$	12020-66-5	3N	-100-325Mesh
Europium Sulfide	$\text{EuS}$	12020-65-4	4N	-100-325Mesh
Europium Boride	$\text{EuB}_6$	12008-05-8	2N5	-325Mesh





Gd

## Gadolinium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Gadolinium	Gd	7440-54-2	3N	-200Mesh
Gadolinium oxalate hydrate	$Gd_2(C_2O_4)_3 \cdot xH_2O$	100655-00-3	3N	
Gadolinium Nitrate Hydrate	$Gd(NO_3)_3 \cdot xH_2O$	94219-55-3	4N	
Gadolinium acetate hydrate	$Gd(OOCCH_3)_3 \cdot xH_2O$	100587-93-7	3N	
Gadolinium Chloride Hexahydrate	$GdCl_3 \cdot 6H_2O$	13450-84-5	3N-5N	
Gadolinium Oxide	$Gd_2O_3$	12064-62-9	4N	-325Mesh
Gadolinium Nitride	GdN	25764-15-2	2N5/3N	-60Mesh
Gadolinium Silicide	$GdSi_2$	12134-75-7	3N	-325Mesh
Gadolinium Phosphate	$GdPO_4$	12064-62-9	4N	-325Mesh
Gadolinium Titanate	$Gd_2Ti_2O_7$	12024-89-4	3N	-200Mesh
Gadolinium Carbonate	$Gd_2(CO_3)_3 \cdot xH_2O$	38245-36-2	3N	
Gadolinium Iron Alloy	GdFe		3N	-10Mesh
Gadolinium Nickel Alloy	GdNi	12024-73-6	3N	-200Mesh
Gadolinium Iodide	$GdI_3$	13572-98-0	4N	-325Mesh
Gadolinium Fluoride	$GdF_3$	13765-26-9	3N	-200Mesh
Gadolinium Chloride	$GdCl_3$	10138-52-0	4N	-10Mesh
Gadolinium Bromide	$GdBr_3$	13818-75-2	3N-4N	-325Mesh
Gadolinium Boride	$GdB_6$	12008-06-9	2N5	-325Mesh



La

## Lanthanum

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Lanthanum Hexaborid	LaB <sub>6</sub>	12008-21-8	2N	50nm
Lanthanum Bromide	LaBr <sub>3</sub>	13536-79-3	3N-4N	
Lanthanum nickel alloy	LaNi <sub>5</sub>	12196-72-4	2N5	-100Mesh
Lanthanum Titanate	La <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub>	12031-47-9	3N	-60Mesh
Lanthanum Zirconate	La <sub>2</sub> Zr <sub>2</sub> O <sub>7</sub>	12031-48-0	3N	-60Mesh
Lanthanum Manganese Oxide	LaMnO <sub>3</sub>		3N	-325Mesh
Lanthanum Lithium Titanate	Li <sub>3x</sub> La <sub>2/3-x</sub> TiO <sub>3</sub>		3N	-325Mesh
Lanthanum Metvanadate	LaVO <sub>3</sub>	12142-65-3	3N	-60Mesh
Lanthanum Vanadate	LaVO <sub>4</sub>	13939-40-7	3N	-60Mesh
Lanthanum nitrate Hexahydrate	La(NO <sub>3</sub> ) <sub>3</sub> •6H <sub>2</sub> O	10277-43-7	4N	
Lanthanum oxalate hydrate	La <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> •xH <sub>2</sub> O	79079-18-8	3N	
Molybdenum Lanthanum Alloy	MoLa		3N-4N	-100Mesh
Lanthanum Carbonate	La <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub>	54451-24-0	3N	-325Mesh
Lanthanum Acetate	LaC <sub>6</sub> H <sub>11</sub> O <sub>7</sub>	100587-90-4	2N5	-325Mesh
Lanthanum Fluoride	LaF <sub>3</sub>	13709-38-1	4N	
Lanthanum Bromide Hydrate	LaBr <sub>3</sub> •xH <sub>2</sub> O	224183-16-8	4N	
Lanthanum chloride heptahydrate	LaCl <sub>3</sub> •7H <sub>2</sub> O	10025-84-0	4N	
Lanthanum Oxide	La <sub>2</sub> O <sub>3</sub>	1312-81-8	3N-5N	D50:10 μ m
Lanthanum Iodide	LaI <sub>3</sub>	13813-22-4	4N	-325Mesh
Lanthanum Barium Tin Oxide	La <sub>(x)</sub> Ba <sub>(1-x)</sub> SnO <sub>3</sub>		3N	-325Mesh
Lanthanum Strontiam Iron Oxide	(La <sub>0,8</sub> Sr <sub>0,2</sub> )FeO <sub>3</sub>		3N	-325Mesh
Lanthanum Iron Nickel Oxide	LaFe <sub>0,25</sub> Ni <sub>0,75</sub> O <sub>3</sub>		3N	-325Mesh
Lanthanum Strontiam Manganese Oxide	La <sub>(1-x)</sub> Sr <sub>(x)</sub> MnO <sub>3</sub>		2N5/3N	D50<10 μ m
Lanthanum Nickel Oxide	LaNiO <sub>3</sub>	12031-41-3	3N	-60Mesh
Lanthanum Iron Oxide	LaFeO <sub>3</sub>	12022-43-4	3N	-325Mesh
Lanthanum Cobalt Oxide	LaCoO <sub>3</sub>		3N	-325Mesh
Lanthanum Chromite	LaCrO <sub>3</sub>	12017-94-6	2N5	-40Mesh
Lanthanum Aluminum Oxide	LaAlO <sub>3</sub>	71496-78-1	3N	-50Mesh
Lanthanum	La	7439-91-0	3N	-60Mesh
Lanthanum Silicide	LaSi <sub>2</sub>	12056-90-5	2N5	-200Mesh
Lanthanum Nitrate	La(NO <sub>3</sub> ) <sub>3</sub>	10099-59-9	3N	-325Mesh
Lanthanum Sulfate	La <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	10099-60-2	4N	-100Mesh
Lanthanum carbonate hydrate	La <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub> •xH <sub>2</sub> O	54451-24-0	3N-4N	-325Mesh
Lanthanum Titanate	LaTiO <sub>3</sub>	12201-04-6	3N	-100Mesh
Lanthanum Chloride	LaCl <sub>3</sub>	10099-58-8	4N	-100Mesh
Lanthanum Telluride	La <sub>2</sub> Te <sub>3</sub>	12031-53-7	3N	-100Mesh
Lanthanum Sulfide	La <sub>2</sub> S <sub>3</sub>	12031-49-1	3N	-200Mesh
Lanthanum Boride	LaB <sub>6</sub>	12008-21-8	2N5/3N	-325Mesh

## Lu

## Lutetium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Lutetium carbonate hydrate	$\text{Lu}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$	64360-99-2	3N	-100Mesh
Lutetium Oxide	$\text{Lu}_2\text{O}_3$	12032-20-1	3N5-4N5	-325Mesh
Lutetium Nitride	$\text{LuN}$	12125-25-6	3N	-60Mesh
Lutetium Nitrate	$\text{Lu}(\text{NO}_3)_3$	100641-16-5	3N	-100Mesh
Lutetium Sulfate	$\text{Lu}_2(\text{SO}_4)_3$	13473-77-3	4N	-100Mesh
Lutetium Iodide	$\text{LuI}_3$	13813-45-1	4N	-100Mesh
Lutetium Fluoride	$\text{LuF}_3$	13760-81-1	4N	-325Mesh
Lutetium Chloride	$\text{LuCl}_3$	10099-66-8	4N	-100Mesh
Lutetium Chloride Hexahydrate	$\text{LuCl}_3 \cdot 6\text{H}_2\text{O}$	15230-79-2	4N	
Lutetium Telluride	$\text{Lu}_2\text{Te}_3$	12163-22-3	5N	-60Mesh
Lutetium Sulfide	$\text{Lu}_2\text{S}_3$	12163-20-1	4N5	-200Mesh
Lutetium acetate tetrahydrate	$\text{Lu}(\text{AC})_3 \cdot 4\text{H}_2\text{O}$	207500-05-8	4N	

## Pr

## Praseodymium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Praseodymium Oxide	$\text{Pr}_6\text{O}_{11}$	12037-29-5	2N5	-325Mesh
Praseodymium chloride hydrate	$\text{PrCl}_3 \cdot 6\text{H}_2\text{O}$	17272-46-7	3N	
Praseodymium Acetate	$\text{PrC}_6\text{H}_9\text{O}_6$	17829-83-3	3N	
Praseodymium iodide	$\text{PrI}_3$	13813-23-5	3N	-100Mesh
Praseodymium Nitrate Hexahydrate	$\text{Pr}(\text{NO}_3)_3 \cdot x\text{H}_2\text{O}$	15878-77-0	2N	
Praseodymium sulfate octahydrate	$\text{Pr}_2(\text{SO}_4)_3 \cdot 8\text{H}_2\text{O}$	13510-41-3	4N	
Praseodymium Oxide	$\text{Pr}_2\text{O}_3$	12036-32-7	3N-5N	-325Mesh
Praseodymium Fluoride	$\text{PrF}_3$	13709-46-1	4N	-325Mesh
Praseodymium Nitride	$\text{PrN}$	25764-09-4	3N	-200Mesh
Praseodymium Silicide	$\text{PrSi}_2$	12066-83-0	3N	-100Mesh
Praseodymium Phosphate	$\text{PrPO}_4$	14298-31-8	2N	-100Mesh
Praseodymium Sulfate	$\text{Pr}_2(\text{SO}_4)_3$	10277-44-8	3N5	-325Mesh
Praseodymium Carbonate	$\text{Pr}_2(\text{CO}_3)_3$	14948-62-0	3N	-200Mesh
Praseodymium Chloride	$\text{PrCl}_3$	10361-79-2	3N5	-100Mesh

## Sc

## Scandium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Scandium	Sc	7440-20-2	3N-4N	-200Mesh
Scandium nitrate hydrate	Sc(NO <sub>3</sub> ) <sub>3</sub> •xH <sub>2</sub> O	107552-14-7	4N	
Scandium Boride	ScB <sub>12</sub>		95%	-20Mesh
Scandium Oxide	Sc <sub>2</sub> O <sub>3</sub>	12060-08-1	4N-5N	-325Mesh
Scandium chloride hexahydrate	ScCl <sub>3</sub> •6H <sub>2</sub> O	20662-14-0	4N	
Scandium Chloride	ScCl <sub>3</sub>	10361-84-9	3N	-20Mesh
Scandium Iodide	ScI <sub>3</sub>	14474-33-0	5N	-325Mesh
Scandium Nitride	ScN	664347-12-0	3N	-60Mesh
Scandium Nitrate	Sc(NO <sub>3</sub> ) <sub>3</sub>	13465-60-6	4N	-100Mesh
Scandium Fluoride	ScF <sub>3</sub>	13709-47-2	3N	-100Mesh
Scandium Bromide	ScBr <sub>3</sub>	13465-59-3	4N	-100Mesh
Scandium Sulfide	Sc <sub>2</sub> S <sub>3</sub>	12166-29-9	3N	-200Mesh

## Sm

## Samarium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Samarium Oxide	Sm <sub>2</sub> O <sub>3</sub>	12060-58-1	2N5-3N	D50:5-10 μ m
Samarium Cobalt	SmCo <sub>5</sub>	12017-68-4	2N	-100Mesh
Samarium Chloride Hexahydrate	SmCl <sub>3</sub> • 6H <sub>2</sub> O	13465-55-9	3N	
Samarium oxalate hydrate	Sm <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> •10H <sub>2</sub> O	14175-03-2	3N7	
Samarium Sulfide	SmS		3N	
Samarium Telluride	SmTe	12040-00-5	3N-4N5	-200Mesh
Samarium Chloride	SmCl <sub>3</sub>	10361-82-7	3N-4N	-100Mesh
Samarium Sulfide	Sm <sub>2</sub> S <sub>3</sub>	12067-22-0	3N	-325Mesh
Samarium	Sm	7440-19-9	3N	-325Mesh
Samarium Nitride	SmN	25764-14-1	3N	-100Mesh
Samarium sulfate	Sm <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	15123-65-6	3N5	-100Mesh
Samarium carbonate hydrate	Sm <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub> •xH <sub>2</sub> O	38245-37-3	4N	
Samarium Nitrate	Sm(NO <sub>3</sub> ) <sub>3</sub>	10361-83-8	3N5	-100Mesh
Samarium Iodide	SmI <sub>2</sub>	32248-43-4	4N	-100Mesh
Samarium Fluoride	SmF <sub>3</sub>	13765-24-7	3N	-200Mesh
Samarium Boride	SmB <sub>6</sub>	12008-30-9	2N5	-100Mesh

**Tb****Terbium**

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Terbium	Tb	7440-27-9	3N	-200Mesh
Terbium chloride hexahydrate	TbCl <sub>3</sub> •6H <sub>2</sub> O	13798-24-8	4N	
Terbium Oxide	Tb <sub>4</sub> O <sub>7</sub>	12037-01-3	2N5-4N	-100Mesh
Terbium carbonate hydrate	Tb <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub> •xH <sub>2</sub> O	100587-96-0	3N	
Terbium Iron Alloy	TbFe		3N	-100Mesh
Terbium oxalate decahydrate	Tb <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> •10H <sub>2</sub> O	51373-66-1	3N	-100Mesh
Terbium iodide	TbI <sub>3</sub>	13813-40-6	4N	-60Mesh
Terbium Acetate	TbC <sub>6</sub> H <sub>11</sub> O <sub>7</sub>	100587-92-6	3N	-60Mesh
Terbium nitrate hydrate	Tb(NO <sub>3</sub> ) <sub>3</sub> •xH <sub>2</sub> O	10043-27-3	4N	
Terbium Nitride	TbN	12033-64-6	3N	-60Mesh
Terbium Boride	TbB <sub>6</sub>	12008-31-0	3N5	-100Mesh
Terbium vanadium oxide	TbVO <sub>4</sub>	13566-09-1	2N8	-100Mesh
Terbium Phosphate	TbPO <sub>4</sub>	13863-48-4	4N	-200Mesh
Terbium Sulfate	Tb <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	13842-67-6	4N	-325Mesh
Terbium Nitrate	Tb(NO <sub>3</sub> ) <sub>3</sub>	57584-27-7	4N	-325Mesh
Terbium Fluoride	TbF <sub>3</sub>	13708-63-9	4N	-325Mesh
Terbium Chloride	TbCl <sub>3</sub>	10042-88-3	3N-4N	-325Mesh
Terbium Bromide	TbBr <sub>3</sub>	14456-47-4	4N	-100Mesh
Terbium Sulfide	Tb <sub>2</sub> S <sub>3</sub>	12138-11-3	3N5	-100Mesh

**Tm****Thulium**

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Thulium	Tm	7440-30-4	3N	-40Mesh
Thulium Oxide	Tm <sub>2</sub> O <sub>3</sub>	12036-44-1	3N-5N	-100Mesh
Thulium Fluoride	TmF <sub>3</sub>	13760-79-7	3N	-100Mesh
Thulium Acetate	TmC <sub>6</sub> H <sub>11</sub> O <sub>7</sub>	314041-04-8	2N5-4N	
Thulium Chloride	TmCl <sub>3</sub>	13537-18-3	4N	-10Mesh
Thulium Chloride Hydrate	TmCl <sub>3</sub> •xH <sub>2</sub> O	19423-86-0	3N-4N	
Thulium nitrate hydrate	Tm(NO <sub>3</sub> ) <sub>3</sub> •xH <sub>2</sub> O	36548-87-5	3N-4N	
Thulium Oxalate Hydrate	Tm <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> •xH <sub>2</sub> O	58176-73-1	3N	
Thulium Nitride	TmN	12033-68-0	2N5	-60Mesh
Thulium Sulfate octahydrate	Tm <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> *8H <sub>2</sub> O	13778-40-0	3N	

Thulium Nitrate Hexahydrate	$\text{Tm}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$	36548-87-5	3N	
Thulium Iodide	$\text{TmI}_3$	13813-43-9	3N	-100Mesh
Thulium Bromide	$\text{TmBr}_3$	14456-51-0	4N	-100Mesh
Thulium Sulfide	$\text{Tm}_2\text{S}_3$	12166-30-2	3N	-325Mesh
Thulium Boride	$\text{TmB}_6$	12046-55-8	2N5	-325Mesh

## Y

## Yttrium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
yttrium	Y	7440-65-5	2N-3N	-200Mesh
Yttrium Chloride	$\text{YCl}_3$	10361-92-9	3N-4N	-10Mesh
Yttrium Oxide	$\text{Y}_2\text{O}_3$	1314-36-9	3N-5N	-200Mesh D50<15 $\mu\text{m}$
Yttrium chloride hydrate	$\text{YCl}_3 \cdot 6\text{H}_2\text{O}$	10025-94-2	5N	
Yttrium Bromide	$\text{YBr}_3$	13469-98-2	3N-4N	-100Mesh
Yttrium sulfide	$\text{Y}_2\text{S}_3$	12039-19-9	3N	-100Mesh
Yttrium oxalate nonahydrate	$\text{Y}_2(\text{C}_2\text{O}_4)_3 \cdot 9\text{H}_2\text{O}$	13266-82-5	3N	
Yttrium carbonate hydrate	$\text{Y}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$	38245-39-5	3N-4N	
Yttrium sulfate octahydrate	$\text{Y}_2(\text{SO}_4)_3 \cdot 8\text{H}_2\text{O}$	7446-33-5	4N	
Yttrium phosphate	$\text{YPO}_4$	13990-54-0	4N	-100Mesh
Yttrium barium copper oxide	$\text{YBa}_2\text{Cu}_3\text{O}_7$	107539-20-8	2N5	-100-325Mesh
Yttrium Tantalum oxide	$\text{YTaO}_4$		3N	-325Mesh
Yttrium Manganese Oxide	$\text{YMnO}_3$		3N	-325Mesh
Yttrium Ferrite	$\text{Y}_3\text{Fe}_5\text{O}_{12}$	12063-56-8	3N	-100Mesh
Yttrium Aluminate(YAG)	$\text{Y}_3\text{Al}_5\text{O}_{12}$	12005-21-9	3N-4N	-200Mesh
Yttrium Sulfate	$\text{Y}_2(\text{SO}_4)_3$	7446-33-5	3N5	-200Mesh
Yttrium Silicate	$\text{Y}_2\text{SiO}_5$	39318-36-0	3N	-325Mesh
Yttrium Carbonate	$\text{Y}_2(\text{CO}_3)_3$	5970-44-5	5N	-200Mesh
Yttrium Vanadate	$\text{YVO}_4$	13566-12-6	4N	-325Mesh
Yttrium Nitrate	$\text{Y}(\text{NO}_3)_3$	13494-98-9	2N-5N	
Yttrium Nitrate Hexahydrate	$\text{Y}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$	13494-98-9	2N-5N	
Yttrium Fluoride	$\text{YF}_3$	13709-49-4	3N	D50:15-20 $\mu\text{m}$
Yttrium Telluride	$\text{Y}_2\text{Te}_3$	12166-71-1	4N5	-40Mesh
Yttrium Oxide Stabilized Zirconium Oxide(YSZ)	$\text{Y}_2\text{O}_3\text{-Zr}_2\text{O}_3$	308076-80-4	2N5/3N	D50<15 $\mu\text{m}$
Yttrium Diboride	$\text{YB}_2$		95%	-20Mesh
Yttrium Hexaboride	$\text{YB}_6$	12008-32-1	3N	-20Mesh

Yb

Ytterbium

CHEMICAL NAME	FORMULA	CAS No.	PURITY	SIZE
Ytterbium	Yb	7440-64-4	3N	-60Mesh
Ytterbium Chloride	YbCl <sub>3</sub>	10361-91-8	4N	-10Mesh
Ytterbium Oxalate Hydrate	Yb <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> •xH <sub>2</sub> O	58176-74-2	3N	
Ytterbium Sulfate	Yb <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	13469-97-1	4N	-325Mesh
Ytterbium Bromide	YbBr <sub>3</sub>	13759-89-2	3N	-100Mesh
Ytterbium Chloride Hexahydrate	YbCl <sub>3</sub> •6H <sub>2</sub> O	10035-01-5	5N	
Ytterbium Fluoride	YbF <sub>3</sub>	13760-80-0	3N-4N	-100Mesh
Ytterbium Oxide	Yb <sub>2</sub> O <sub>3</sub>	1314-37-0	3N-4N5	-325Mesh
Ytterbium Silicide	YbSi <sub>2</sub>	12039-89-3	2N5	-200Mesh
Ytterbium Nitride	YbN	24600-77-9	3N	-60Mesh
Ytterbium Carbonate	Yb <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub>	5895-52-3	4N	-100Mesh
Ytterbium Iodide	YbI <sub>2</sub>	19357-86-9	3N	-100Mesh
Ytterbium Phosphate	YbPO <sub>4</sub>	13759-80-3	3N	-325Mesh



# Carbides/Nitrides/Borides/Silicides

C

## Carbides

CHEMICAL NAME	FORMULA	CAS No.	PURITY	PARTICLE SIZE
Aluminum Carbide	Al <sub>4</sub> C <sub>3</sub>	1299-86-1	2N/2N8	-325Mesh
Boron Carbide	B <sub>4</sub> C	12069-32-8	2N-3N	D50<15μm
Carbon	C	7440-44-0	4N	D50<20μm
Chromium Carbide	Cr <sub>3</sub> C <sub>2</sub>	12012-35-0	2N-3N5	-325Mesh
Hafnium Carbide	HfC	12069-85-1	2N5	1-3μm
Iron Carbide	Fe <sub>3</sub> C	12011-67-5	2N	-325Mesh
Magnesium carbide	Mg <sub>2</sub> C <sub>3</sub>	12151-74-5	2N5	-325Mesh
Manganese Carbide	Mn <sub>23</sub> C <sub>6</sub>		2N	-325Mesh
Molybdenum Carbide	Mo <sub>2</sub> C	12069-89-5	2N5	-325Mesh
Molybdenum Carbide	MoC		2N5	-325Mesh
Niobium Carbide	NbC	12069-94-2	2N5	-325Mesh D90<10μm
Silicon Carbide	SiC	409-21-2	2N5-4N	-325Mesh D90<10μm
Tantalum Carbide	TaC	12070-06-3	2N5/3N	-325Mesh
Tantalum Hafnium Carbide	Ta <sub>4</sub> HfC <sub>5</sub>	71243-79-3	2N-3N	-325Mesh
Tantalum Niobium Carbide (TaNbC(60/40))	TaNbC(50/50)		2N5	FSSS≈2μm
Tantalum Niobium Carbide (TaNbC(80/20))	TaNbC(80/20)		2N5	FSSS≈2μm
Titanium Aluminum Carbide	Ti <sub>3</sub> AlC <sub>2</sub>		2N/2N5	-200Mesh
Titanium Carbide	TiC		2N-3N	-325Mesh 5-50μm
Titanium Carbonitride	TiC/TiN (50/50%)	196506-01-1	2N5	-325Mesh
Tungsten Carbide	WC	12070-08-5	2N5	-325Mesh
Tungsten carbide Cobalt	WC:Co; 94:6 wt%		2N5/3N	-200Mesh
Vanadium Carbide	VC	12070-12-1	2N5	-325Mesh
Zirconium Carbide	ZrC	12774-15-1	2N/2N5	-325Mesh D50: 30-50μm



## N

## Nitrides

CHEMICAL NAME	FORMULA	CAS No.	PURITY	PARTICLE SIZE
Aluminum Nitride	AlN	24304-00-5	2N5-3N5	-325Mesh D90<5µm
Aluminum Nitride-Titanium Nitride	AlN-TiN		2N5	-325Mesh
Aluminum Oxynitride	AlON		3N	D50:20µm
Barium Nitride	Ba <sub>3</sub> N <sub>2</sub>	12047-79-9	2N5	-325Mesh
Boron Nitride	BN	10043-11-5	2N-3N	D50:20µm/15-100µm
Calcium Nitride	Ca <sub>3</sub> N <sub>2</sub>	12013-82-0	2N/2N5	-200Mesh
Chromium Nitride	CrN	12053-27-9	2N-3N	-325Mesh
Copper Nitride	Cu <sub>3</sub> N	1308-80-1	3N	-325Mesh
Gallium Nitride	GaN	25617-97-4	4N-6N	-100Mesh
Hafnium Nitride	HfN	25817-87-2	2N8	-325Mesh
Indium Nitride	InN	25617-98-5	3N	-100Mesh
Iron nitride	FeN	12023-20-0	3N	D50: 5-10µm
Magnesium Nitride	Mg <sub>3</sub> N <sub>2</sub>	12057-71-5	2N5	-325Mesh
Manganese Nitride	Mn <sub>4</sub> N	12033-07-7	2N5	-325Mesh
Nickel Nitride	Ni <sub>3</sub> N	12033-45-3	2N5	-325Mesh
Niobium Nitride	NbN	24621-21-4	2N-3N	-325Mesh
Silicon Nitride	Si <sub>3</sub> N <sub>4</sub>	12033-89-5	2N5-4N	D50<2µm/D90<10µm
Tantalum Nitride	TaN	12033-62-4	3N	-325Mesh
Titanium Nitride	TiN	25583-20-4	2N5-3N5	-325Mesh D90<30µm
Vanadium Nitride	VN	24646-85-3	2N5	-325Mesh
Zirconium Nitride	ZrN	25658-42-8	2N5	-325Mesh 22-45µm/45-75µm

## B

## Borides

CHEMICAL NAME	FORMULA	CAS No.	PURITY	PARTICLE SIZE
Aluminium Boride	AlB <sub>2</sub>	12041-50-8	2N5	-200Mesh
Barium Boride	BaB <sub>6</sub>	12046-08-1	2N	-325Mesh
Boron	B	7440-42-8	2N-4N	-300Mesh
Calcium Boride	CaB <sub>6</sub>	12007-99-7	2N	-20-100Mesh
Cerium Boride	CeB <sub>6</sub>	12008-02-5	2N5	-325Mesh
Chromium Diboride	CrB <sub>2</sub>	12007-16-8	2N	-325Mesh
Hafnium Boride	HfB <sub>2</sub>	12007-23-7	2N5	D50<5µm
Iron (II) Boride	FeB	12006-84-7	2N	-325Mesh
Lanthanum hexaborid	LaB <sub>6</sub>	12008-21-8	2N5	-325Mesh
Magnesium Boride	MgB <sub>2</sub>	12007-25-9	2N	-325Mesh D90<20µm
Manganese Boride	MnB	63412-06-6	2N5	-100Mesh
Molybdenum boride (MoB)	MoB	12006-98-3	2N/2N5	-325Mesh
Niobium Boride	NbB	12045-19-1	2N	-100Mesh
Silicon boride	SiB <sub>6</sub>	12008-29-6	2N/2N5	D50:2~5µm
Tantalum Diboride	TaB <sub>2</sub>	12007-35-1	2N	-325Mesh
Titanium Boride	TiB <sub>2</sub>	12045-63-5	2N-3N5	-400Mesh D90:1-2µm
Tungsten pentameboride	W <sub>2</sub> B	12007-10-2	2N5	-325Mesh
Vanadium Boride	VB <sub>2</sub>	12007-37-3	2N	-325Mesh
Zirconium Boride	ZrB <sub>2</sub>	12045-64-6	2N5	-325Mesh



Si

## Silicides

CHEMICAL NAME	FORMULA	CAS No.	PURITY	PARTICLE SIZE
Calcium Silicide	CaSi <sub>2</sub>	12013-56-8	2N	-325Mesh
Chromium Silicide	CrSi <sub>2</sub>	12018-09-6	2N5	D50<10µm
Cobalt Silicon	CoSi <sub>2</sub>	12017-12-8	2N5	-325Mesh
Copper silicide	Cu <sub>5</sub> Si	12159-07-8	2N5	-325Mesh
Hafnium Silicide	HfSi <sub>2</sub>	12401-56-8	2N	-325Mesh
Iron Silicide	FeSi <sub>2</sub>	12022-95-6	2N	-325Mesh
Magnesium Silicide	Mg <sub>2</sub> Si	22831-39-6	2N	-200Mesh
Molybdenum Silicide	MoSi <sub>2</sub>	12136-78-6	2N/2N5	-325Mesh D90<12µm
Niobium Silicide	NbSi <sub>2</sub>	12034-80-9	2N5	-325Mesh
Silicon	Si	7440-21-3	2N-4N	-325Mesh D90<5µm
Tantalum disilicide	TaSi <sub>2</sub>	12039-79-1	2N5	D50:30~50µm
Tantalum Silicide	TaSi	12039-79-1	2N5	-325Mesh
Titanium Silicide	TiSi <sub>2</sub>	12039-83-7	2N5	-325Mesh
Titanium silicide	Ti <sub>5</sub> Si <sub>3</sub>	12067-57-1	2N5	-325Mesh
Tungsten Silicide	WSi <sub>2</sub>	12039-88-2	2N5	-325Mesh
Vanadium Silicide	VSi <sub>2</sub>	12039-87-1	2N	-200Mesh
Zirconium Silicide	ZrSi <sub>2</sub>	12039-90-6	2N5	-325Mesh



## Nano Powders

Nanomaterials are materials that have at least one dimension of nanometer size (1-100 nm) in three-dimensional space or are composed of them as basic units, and are widely used in biomedical, optical and electronic fields.

### Pure Metal Powder

Product Name	Formula	Purity (%)	Particle Size (nm)	BET (m <sup>2</sup> /g)	Volume Density (g/cm <sup>3</sup> )	Form	Color
Aluminum Powder	Al	>99.0	50	20	0.23	spherical	Black
Bismuth Powder	Bi	>99.0	40	39.6	0.9	spherical	Black
Chromium Powder	Cr	>99.0	60	24.8	1.03	spherical	Black
Cobalt Powder	Co	>99.0	30	40.3	0.19	spherical	Black
Copper Powder	Cu	>99.0	60	18	0.3	spherical	Black-Brown
Indium Powder	In	99	80	16.8	1.19	square	Black
Iron Powder	Fe	>99.0	50	20	2.3	spherical	Black
Molybdenum Powder	Mo	>99.0	40	16	1.2	spherical	Black
Nickel Powder	Ni	>99.0	50	23.2	0.22	spherical	Black
Silicon Powder	Si	>99.0	30	42.4	0.19	spherical	Yellow
Silver Powder	Ag	>99.0	20	42	0.5	spherical	Ash Black
Tantalum Powder	Ta	99	60	24.4	1.05	spherical	Black
Tin Powder	Sn	>99.0	50	45.3	0.42	spherical	Black
Titanium Powder	Ti	>99.0	40	38.3	0.19	spherical	Black
Tungsten Powder	W	>99.0	50	12	2	spherical	Black
Zinc Powder	Zn	99	80	12.3	0.62	spherical	Black-Purple

### Metal Alloy Powder

Product Name	Formula	Purity(%)	Particle Size (nm)	BET (m <sup>2</sup> /g)	Volume Density (g/cm <sup>3</sup> )	Form	Color
Aluminum Silicon Alloy Powder	AlSi	>99.0	80	8.14	0.24	spherical	Black
Copper Nickel Alloy Powder	CuNi	>99.0	55	12.3	0.15	spherical	Dark-Black
Copper Tin Alloy Powder	CuSn	>99.0	80	7.39	0.19	spherical	Black
Copper Zinc Alloy Powder	CuZn	>99.0	60	10.2	0.18	spherical	Black
Iron Nickel Alloy Powder	FeNi	>99.0	80	7.12	0.22	spherical	Black
Tin Bismuth Alloy Powder	SnBi	99	50	13.46	0.64	spherical	Black

### Sulfide Powder

Product Name	Formula	Purity (%)	Particle Size (nm)	BET (m <sup>2</sup> /g)	Volume Density (g/cm <sup>3</sup> )	Form	Color
Molybdenum Disulfide Powder	MoS <sub>2</sub>	99	50	35.46	0.912	subsphaeroidal	Black
Tungsten Sulfide Powder	WS <sub>2</sub>	99	50	34.21	1.102	subsphaeroidal	Black

### Silicide Powder

Product Name	Formula	Purity(%)	Particle Size (nm)	BET (m <sup>2</sup> /g)	Volume Density (g/cm <sup>3</sup> )	Form	Color
Hafnium Silicide Powder	HfSi <sub>2</sub>	99	<1.0µm	12.47	5.12	Cubic	Black
Molybdenum Silicide Powder	MoSi <sub>2</sub>	99	<1.0µm	24.24	4.21	Cubic	Black
Tantalum Silicide Powder	TaSi <sub>2</sub>	99	50	36.23	5.16	Cubic	Grey Black
Zirconium Silicide Powder	ZrSi <sub>2</sub>	99	<1.0µm	14.24	2.262	Square	Black

## Oxide Powder

Product Name	Formula	Purity (%)	Particle Size (nm)	BET (m <sup>2</sup> /g)	Volume Density (g/cm <sup>3</sup> )	Form	Color
Aluminum Oxide Powder	Al <sub>2</sub> O <sub>3</sub>	99	10-20	85-65	0.25	γ	Black
Bismuth Oxide Powder	Bi <sub>2</sub> O <sub>3</sub>	99	50	8.6	0.65	spherical	Yellow
Cerium Oxide Powder	CeO <sub>2</sub>	>99.0	30-60	22		subsphaeroidal	Off-White
Cobalt Oxide Powder	CoO	99	30	40	0.7	spherical	Black
Copper Oxide Powder	CuO	99	40	38	0.7	subsphaeroidal	Black
Copper Oxide Powder	CuO	99	100	20	1.2	subsphaeroidal	Black
Ferrosoferric oxide Powder	Fe <sub>3</sub> O <sub>4</sub>	99	50	32	0.77	spherical	Black
Hafnium Oxide Powder	HfO <sub>2</sub>	99.5	100	20.43	1.28	subsphaeroidal	White
Indium Oxide Powder	In <sub>2</sub> O <sub>3</sub>	>99.9	50	15	1.304	Cubic, subsphaeroidal	Yellow
Indium Oxide-Tin Oxide Powder	ITO	99.99	30	82	0.6	subsphaeroidal	Yellow/Blue
Iron Oxide Powder	Fe <sub>2</sub> O <sub>3</sub>	99	30	41	0.69	α	Red
Iron Oxide Powder	Fe <sub>2</sub> O <sub>3</sub>	99	50	31	0.78	γ	Red-Brown
Magnesium Oxide Powder	MgO	99	50	30	0.8	subsphaeroidal	White
Molybdenum Dioxide Powder	MoO <sub>2</sub>	>99.9	50	55	0.96	Cubic	Dark-Purple
Molybdenum Oxide Powder	MoO <sub>3</sub>	>99.0	50	31	0.78	subsphaeroidal	Baby-Blue
Nickel Oxide Powder	NiO	99	50	32	0.76	spherical	Black
Niobium Oxide Powder	Nb <sub>2</sub> O <sub>5</sub>	99	100	19.84	1.34	Monoclinic	White
Silicon Oxide Powder	SiO <sub>2</sub>	99	20	80	0.23	subsphaeroidal	White
Tantalum pentoxide Powder	Ta <sub>2</sub> O <sub>5</sub>	99	100	20.45	1.29	Monoclinic	White
Tin Oxide Powder	SnO <sub>2</sub>	99.9	30	80	0.63	subsphaeroidal	Off-White
Tin Oxide-Antimony Oxide Powder	ATO	99.5	40	70	0.85	subsphaeroidal	Baby-Blue
Titanium Oxide Powder	TiO <sub>2</sub>	99	20	65	0.45	Anatase	White
Titanium Oxide Powder	TiO <sub>2</sub>	99	30	60	0.55	Rutile	White
Tungsten Oxide Powder	WO <sub>3</sub>	99.95	50-300	2.8-15	1.645	subsphaeroidal	Yellow
Yttrium Oxide Powder	Y <sub>2</sub> O <sub>3</sub>	>99.0	30-50, 50-80				
Zinc Oxide Powder	ZnO	99	30	63	0.58	subsphaeroidal	White
Zirconium Oxide Powder	ZrO <sub>2</sub>	99	40	40	0.71	Monoclinic	White
Zirconium Oxide Powder	ZrO <sub>2</sub>	99	50	38	0.78	3γ square	White
Zirconium Oxide Powder	ZrO <sub>2</sub>	99	50	38	0.78	5γ square	White
Zirconium Oxide Powder	ZrO <sub>2</sub>	99	50	37	0.8	8γ square	White

## Carbide Powder

Product Name	Formula	Purity (%)	Particle Size (nm)	BET (m <sup>2</sup> /g)	Volume Density (g/cm <sup>3</sup> )	Form	Color
Boron Carbide Powder	B <sub>4</sub> C	>99.0	60	39	1	Hexagonal	Black
Boron Carbide Powder	B <sub>4</sub> C	>99.0	700	5.2	1.49	Hexagonal	Black
Chromium Carbide Powder	Cr <sub>3</sub> C <sub>2</sub>	>99.0	100	30.2	2.14	Monoclinic	Black
Chromium Carbide Powder	Cr <sub>3</sub> C <sub>2</sub>	>99.0	600	12.3	3.12	Monoclinic	Greyish-green
Hafnium Carbide Powder	HfC	>99.0	800	8.3	4.2	Cubic	Ash Black
Molybdenum Carbide Powder	Mo <sub>2</sub> C	>99.0	100	31.9	3.41	Hexagonal	Ash Black
Molybdenum Carbide Powder	Mo <sub>2</sub> C	>99.2	800	8.24	4.17	Hexagonal	Dark Gray
Niobium Carbide Powder	NbC	>99.0	100	31.7	3.49	Hexagonal	Black Brown
Niobium Carbide Powder	NbC	>99.0	800	8.18	4.8	Hexagonal	Grey Brown
Silicon Carbide Powder	SiC	>99.0	40	39.8	0.11	Cubic	Greyish-green
Silicon Carbide Powder	SiC	>99.0	600~800	3.2	1.52	Cubic	Greyish-green
Tantalum Carbide Powder	TaC	>99.0	100	32.8	3.1	Cubic	Brownish Black
Tantalum Carbide Powder	TaC	>99.0	800	8.38	4.1	Cubic	Brown
Titanium Carbide Powder	TiC	>99.0	50	38.7	0.12	Cubic	Black
Tungsten Carbide Powder	WC	>99.0	60	40	1.12	Hexagonal	Black
Vanadium Carbide Powder	VC	>99.0	80	30.1	2.14	Cubic	Black
Vanadium Carbide Powder	VC	>99.0	700	8.3	2.8	Cubic	Black
Zirconium Carbide Powder	ZrC	>99.0	50	30.2	0.07	Cubic	Black
Zirconium Carbide Powder	ZrC	>99.0	200	9.5	1.19	Cubic	Black



## Nitride Powder

Product Name	Formula	Purity (%)	Particle Size (nm)	BET (m <sup>2</sup> /g)	Volume Density (g/cm <sup>3</sup> )	Form	Color
Aluminum Nitride Powder	AlN	>99.0	50	42	0.15	Hexagonal	White
Aluminum Nitride Powder	AlN	>99.0	500	12.9	1.15	Hexagonal	Offwhite
Boron Nitride Powder	BN	>99.0	50	43.6	0.11	Hexagonal	White
Boron Nitride Powder	BN	>99.0	600	9.16	2.3	Hexagonal	White
Chromium Nitride Powder	CrN	>99.0	100	33.2	3.19	Cubic	Grey Black
Chromium Nitride Powder	CrN	>99.1	800	9.23	4.6	Cubic	Grey Brown
Silicon Nitride Powder	Si <sub>3</sub> N <sub>4</sub>	>99.0	10	59.6	0.09		White
Sub micron Silicon Nitride Powder	Si <sub>3</sub> N <sub>4</sub>	>99.0	800	10.3	1.16	Cubic	Offwhite
High purity Silicon Nitride Powder	Si <sub>3</sub> N <sub>4</sub>	>99.9	1000	9.8	1.2	Cubic	Offwhite
Titanium Nitride Powder	TiN	>99.0	20	60.2	0.12	Cubic	Black
Sub micron Titanium Nitride Powder	TiN	>99.0	700	10	2.3	Cubic	Pale Yellow
N RICH Titanium Nitride Powder	TiN	>99.0	700	10.6	2.3	Cubic	Yellow
Titanium Oxynitride Powder	TiON	>99.0	30	60.13	0.06	subsphaeroidal	White
Vanadium Nitride Powder	VN	>99.0	40	30.2	1.29	Cubic	Black
Zirconium Nitride Powder	ZrN	>99.0	800	9.16	4.78	Cubic	Pale Yellow

## Boride Powder

Product Name	Formula	Purity (%)	Particle Size (nm)	BET (m <sup>2</sup> /g)	Volume Density (g/cm <sup>3</sup> )	Form	Color
Boron Powder	B	>99.0	50-80	35.46	0.09	Amorphous form	Black Brown
Hafnium Boride Powder	HfB <sub>2</sub>	>99.0	50	40.23	0.16	Hexagonal	Black
Lanthanum Hexaborid Powder	LaB <sub>6</sub>	>99.0	50	48.16	0.09	Hexagonal	Black Purple
Titanium Boride Powder	TiB <sub>2</sub>	>99.0	50	45.16	0.09	Hexagonal	Black
Zirconium Boride Powder	ZrB <sub>2</sub>	99	40	48.56	0.08	Hexagonal	Black

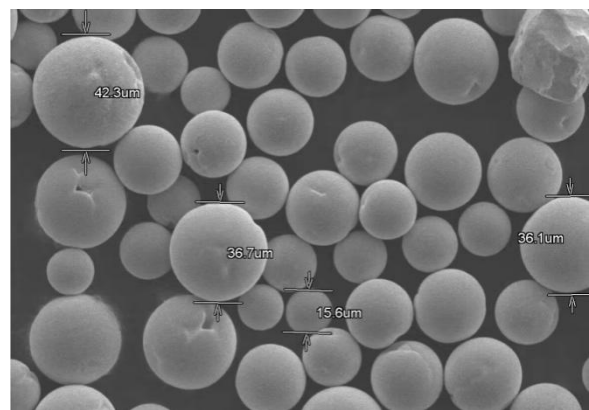
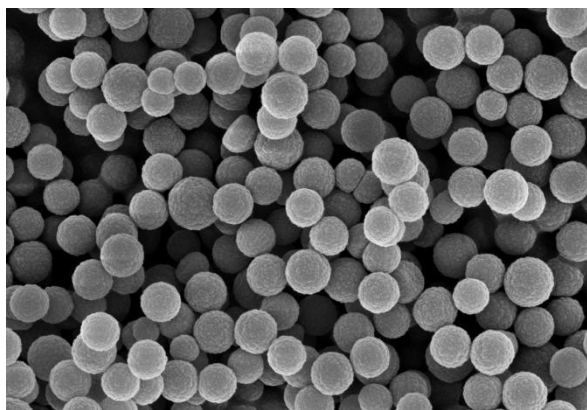


## 3D Printing Spherical Powder

The spherical powder for 3D printing offered by VI HALBLEITERMATERIAL has high purity, high sphericity, low oxygen content, good fluidity, etc.

CHEMICAL NAME	FORMULA	PURITY	PARTICLE SIZE
Titanium Spherical powder	Ti	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
GR5 Titanium Alloy Spherical powder	Ti-6Al-4V	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
GR5(high tenacity) Titanium Alloy Spherical powder	Ti-6Al-4V	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
Titanium Alloy Spherical powder	Ti-6.5Al-3.5Mo-1.5Zr-0.3Si	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
A-1(GR6) Titanium Alloy Spherical powder	Ti-5Al-2.5Sn	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
A-4(Ti-811) Titanium Alloy Spherical powder	Ti-8Al-1Mo-1V	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
Titanium Alloy Spherical powder	Ti-6.5Al-1Mo-1V-2Zr	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
Titanium Aluminum Alloy Spherical powder	Ti47Al2Cr2Nb	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
High Niobium Titanium Aluminum Alloy Spherical powder	TiAlNb	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
HastelloyC276 High temperature alloy Spherical Powder	Ni-Mo-Cr-Fe-W	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
Hastelloy Alloy X Spherical Powder	Ni-Mo-Cr-Fe	99.9%/99.99 %	10-45µm/15-53µm/45-105µm
Hastelloy188 Cobalt-based High temperature alloy Spherical Powder	Co-Ni-Cr-W	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
Inconel 625 Alloy Spherical Powder	0Cr20Ni65Mo10Nb4	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
Inconel718 Alloy Spherical powder	Ni-Cr-Fe-Nb-Mo	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
A14130 Aluminium Alloy Spherical powder	AlSi12	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
AlSi9Cu3 Aluminium Alloy Spherical powder	AlSi9Cu3	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
AlMg4.5Mn0.4 Aluminium Alloy Spherical powder	AlMg4.5Mn0.4	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
A03560 Aluminium Silicon Magnesium Alloy spherical powder	AlSi7Mg	99.9%-99.99 %	10-45µm/15-53µm/45-105µm
A03600 Aluminium Silicon Magnesium Alloy spherical powder	AlSi10Mg	99.95%-99.99 %	0-25µm/15-53µm/45-105µm /75-150µm
2024 Aluminium Base Spherical powder (GB/T 3190-2008)	AlCuMnMgCrZn	99.9%-99.99 %	0-25µm/15-53µm/45-105µm /75-150µm
7075 Aluminium Base Spherical powder (GB/T 3190-2008)	AlZnMgCu1.5	99.9%-99.99 %	0-25µm/15-53µm/45-105µm /75-150µm
17-4PH Stainless steel Spherical powder	Fe-Cr17Ni4Cu4Nb	99.9%-99.99 %	45-105µm/53-150µm
17-7PH Stainless steel Spherical powder	Fe-Base	99.9%-99.99 %	45-105µm/53-150µm
304L Stainless steel Spherical powder	Fe-Cr19Ni10	99.9%-99.99 %	45-105µm/53-150µm
316L Stainless steel Spherical powder	Fe-Cr17Ni14Mo2	99.9%-99.99 %	45-105µm/53-150µm
410 Stainless steel Spherical powder	Fe-Cr13	99.9%-99.99 %	45-105µm/53-150µm
18Ni300 Die steel Spherical powder	Fe-Base	99.9%-99.99 %	45-105µm/53-150µm

Vms-12Cr9Ni Die steel Spherical powder	Fe-Base	99.9%-99.99 %	45-105µm/53-150µm
H13 Die steel Spherical powder	Fe-4Cr5MoSiV	99.9%-99.99 %	45-105µm/53-150µm
420 Die steel Spherical powder	Fe-Base	99.9%-99.99 %	45-105µm/53-150µm
S590 Spherical high speed steel powder	CoCrMoVW	99.9%-99.99 %	45-105µm/53-150µm
A30 Spherical high speed steel powder	CoCrMoVW	99.9%-99.99 %	45-105µm/53-150µm
S390 Spherical high speed steel powder	CoCrMoVWMn	99.9%-99.99 %	45-105µm/53-150µm
Stellite21 Cobalt-base Alloy Spherical powder	Co-Cr-Mo	99.9%-99.99 %	45-105µm/53-150µm
Stellite6 Cobalt-base Alloy Spherical powder	Co-Cr-W	99.9%-99.99 %	45-105µm/53-150µm
Stellite12 Cobalt-base Alloy Spherical powder	Co-Cr-W-Fe	99.9%-99.99 %	45-105µm/53-150µm
Cobalt Chromium Tungsten Alloy Spherical powder	CoCrW	99.9%-99.99 %	0-25µm/15-53µm /45-105µm/75-150µm
Cobalt Chromium Molybdenum Alloy Spherical powder	CoCrMo	99.9%-99.99 %	15-300µm
Cobalt Chromium Molybdenum Tungsten Alloy Spherical powder	CoCrMoW	99.9%-99.99 %	15-300µm
6J11 Copper Base alloy Spherical powder	Cu-Base	99.9%-99.99 %	150-325µm
Copper Iron Alloy Spherical powder	CuFe	99.9%	150-325µm
Copper Chromium Alloy Spherical powder	CuCr	99.9%	150-325µm
Copper Chromium Zirconium Alloy Spherical powder	CuCrZr	99.5 %-99.9 %	150-325µm
e.g.FeCoNiCrMn	FeCoNiCrMn	99.9%-99.99 %	10-45µm/15-53µm45-105µm
Nickel Aluminum Alloy Spherical Powder	NiAl	99.9%-99.99 %	10-45µm/15-53µm45-105µm
NiTi50 Alloy Spherical powder	NiTi50		10-45µm/15-53µm45-105µm
Nb521 Spherical powder	Nb521		10-45µm/15-53µm45-105µm



# Thermal Spraying Powder

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Thermal spray technology enables the formation of protective or functional surface coatings on substrate materials or workpieces, which have a wide range of important applications in many industrial fields worldwide.

## Thermal Spray Processes

- Plasma spray
- Flame spray
- High velocity oxy-fuel coating spray (HVOF)
- Electric arc spray
- Cold spray

CHEMICAL NAME	FORMULA	PARTICLE SIZE
Crystalline Tungsten Powder	W	
Macrocrystalline Tungsten Carbide Powder	WC	0.84mm-0.038mm
Chromium Carbide Powder	CrC	-60-325mesh
Cast Tungsten Carbide Powder	WC	5.0mm-0.038mm
Spherical Cast Tungsten Carbide Powder	WC	2.5mm-0.010mm
Cemented Carbide Spray Powder	WC-Co	0.85mm-0.005mm
Atomized nickel Powder	Ni	-200mesh
Aluminum Silicon Alloy Powder	Al12Si	-120+325mesh
Stainless steel Powder	304L	+100Mesh-325Mesh
	316L	+100Mesh-326Mesh
	317L	+100Mesh-327Mesh
	410L	+100Mesh-328Mesh
	430L	+100Mesh-329Mesh
	434L	+100Mesh-330Mesh

Nickel-Base Self-fluxing alloy Powder	Ni5Cr1B2Si5Fe	-140+325mesh
	Ni7Cr1.5B2.8Si5Fe	-140+325mesh
	Ni9Cr2B3Si5Fe	-140+325mesh
	Ni3Cr2.5B3Si10Fe	-140+325mesh
	Ni15Cr3B3Si10Fe	-140+325mesh
	Ni17Cr3.5B4Si3Fe	-140+325mesh
	Ni17Cr3.5B4Si2Fe	-140+325mesh
	Ni17Cr3.5B4Si10Fe	-140+325mesh/-45+151 μ m
	Ni22Al1.5W	-325mesh
	Ni21Cr3W15Mo2Fe2Co	-140+325mesh
	Ni6Co6Cr1Ti3Mo4Al30W3Fe	-140+325mesh
Nickel Chromium Aluminum Yttrium Alloy Powder	Ni22Cr11AlY	-270+400Mesh
	Co32Ni21Cr8Al0.5Y	-270+400Mesh
	CoCrAlYTaSi	-270+400Mesh
Copper-Base Spraying Powder	Cu10Al	-140+325Mesh
	Cu36Ni5In	-140+325Mesh
Cobalt-Base Spraying Powder	Co8Cr28Mo2.6Si	-140+325mesh
	CoCrW	-140+325mesh
	Co31.5Cr12.5W2.5C3Ni1.4Si	-140+325mesh
	Co30Cr8W1.6C3Ni1.4Si	-140+325mesh
	Co30Cr4.5W1C3Ni1.4Si	-60+160mesh
	Co28Cr0.25C3Ni1Si5	-140+325mesh
	Co25.5Cr7.5W0.5C10.5Ni1Si	-140+325mesh
Co21Cr5W0.1C1Ni1.6Si2.4B	-140+325mesh	
Iron-based Spraying Powder	Fe15Cr1B1Si	-140+325mesh
	Fe17Cr12B1Si2.4Mo0.1Mn	-140+325mesh
	Fe17Cr20Ni4Mo1Mn	-140+325mesh
	Fe13Cr1.6B1.2Si0.8Mo	-140+325mesh
	Fe5C1Si1.8B43Cr	-140+325mesh
	Fe21Cr1.5B3.5Si10Ni2Mo0.8Mn0.5V	-140+325mesh
	Fe21Cr1.7B3.5Si10Ni2Mo0.8Mn0.7V	-140+325mesh
	Fe87Cr13	-140+325mesh
	Fe6Ni2W13Cr2.5Mo2.5	-140+325mesh
	Fe5Mn5Si10Ni13Cr	-140+325mesh
	Fe13Mn2Si6Ni13Cr	-140+325mesh
Ceramics Spraying Powder	Y2O3+Zr2O3	-200+325mesh
	Al2O3	-200+400mesh
	40TiO2 60Al2O3	-40+20 μ m
	Cr2O3	-40+20 μ m
	TiO2	-40+20 μ m

Composite Spraying Powder	Ni20Al	-200+400mesh
	Ni5Al	-140+325mesh
	Ni22MoS2	-140+325mesh
	Ni25Cg	-140+325mesh
	Ni50Cg	-140+325mesh
	Ni23Al2O3	-140+325mesh
	WC12Ni	-140+325mesh
	WC12Co	-325+500Mesh
	WC17Co	-325+500Mesh
	WC25Co	-325+500Mesh
	WC10Co4Cr	-325+500Mesh
	20NiCr80Cr3C2	-325+500Mesh
	25NiCr75Cr3C2	-325+500Mesh
	30NiCr70Cr3C2	-325+500Mesh
	Fe28W4Al9Cr5Ni2C	-140+325mesh
	NiCr5Al	-140+325mesh
	NiCoCrAlY	-140+325mesh
	Silver-Base Alloy Powder	Ag18Cu
Ag		-120+325mesh

