

MATERIALS INDEX

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Binary compounds and alloys

AgBr	70	Cr ₂ O ₃	15, 76
AgCl	70	Cs ₃ C ₆₀	234
AgMn	79	CsCl	5
Al _{1-x} Cu _x	383–384	CuAl ₂	383–385
AlMg	276	CuBe	383
Al ₃ Mg ₂	383	CuCl	13, 409
AlMn	80	CuFe	83
Al ₆ Mn _{1-x}	387	CuMn	79, 83
AlN	20, 26, 158, 205–206, 380	Cu _{1-x} Ni _x	85
Al ₂ O ₃	20, 70, 76–77, 94, 157–158, 203, 205, 292, 342, 369, 383, 396, 398	CuO	13, 22, 116, 214–215, 394
AlP	112	CuO ₂	116
AlSi	383	Cu ₂ O	13, 22, 116
AsH ₃	359	CuS	214–215
As ₂ S ₃	70, 116	CuSn	383
Au _{0.495} Cd _{0.505}	160	Cu ₆ Sn ₅	166
AuMn	78–79, 83–84	DyFe ₂	282
Au _x Si _{1-x}	162–163, 171	Fe _x Al _{1-x}	85
BF ₃	367	FeB	389
B ₂ H ₆	360	FeB (compound)	271
BN	20, 112, 120, 158, 205, 393–394	Fe ₂ B	389
B ₂ O ₃	292, 367	Fe ₃ C (cementite)	271, 278, 324–328, 411
BeO	21, 112, 205	Fe _{1-x} C _x (steel),	100, 157–158, 374–382, 390
Bi ₂ Te ₃	145	Fe ₆₅ Co ₃₅	280
CCl ₄	370	FeCr	255
CF ₄	370	FeF ₆	75
a-C:H	360, 432–433	Fe ₂ N	389
(CH) _n	116	Fe ₃ N	389
CH ₄	9, 15–16, 389–392, 397	Fe ₄ N	278, 389
C ₂ H ₂	391–392	Fe _x Ni _{1-x} (Permalloy)	253, 264, 278–279, 281–282, 376
C ₃ H ₈	397	FeNi ₃	279
CO	309	Fe ₆₀ Ni ₄₀	280
CO ₂	309	Fe ₆₅ Ni ₃₅	264, 279
CaF ₂	356–357	FeO	22, 89, 278
CaO	89, 179	Fe ₂ O ₃	22, 157, 264, 272–273, 443
CdS	284	Fe ₃ O ₄	22, 34, 86, 273
CdTe	112, 117, 284	FeS	214–215, 278
CeH ₃	164	FeS ₂	13
CoCr	158, 264, 276	Fe _{1-x} Si _x	264, 278, 280–281
Co _x Ni _{1-x}	158, 276	Fe ₇ W ₆	3
Cr ₇ C ₃	158	GaAs	26, 111–112, 118–119, 122, 126, 129–130, 132, 147, 158, 205, 331, 343, 356–359, 428, 512
CrN	158	GaP	118–119, 122
CrO ₂	264, 273	GaSb	439
		Ge _x Ag _y	456
		GeO ₂	20
		Ge _x Si _{1-x}	324
		HF	22, 352, 370
		H ₂ O	17–19, 23, 215–216, 329, 360
		H ₂ O ₂	23, 352
		HfV ₂	223
		HgS	26, 284
		HgTe	116, 284

InAs	89, 118	Pb ₂ O	22
In ₂ O ₃	116	PbO ₂	22
InP	122, 126	PbS	17
InSb	112	PbSn	53
InTl	376	PbTe	145
IrO ₂	204, 210	PdD	223
KC ₈	234	PdH	165, 223
K ₃ C ₆₀	234	Pd _{0.8} Si _{0.2}	162
KCN	332–333	RhZr ₂	223
KCl	70, 292	RuO ₂	204
LaB ₆	445	Ru ₂ O	210
LiBr	214	SiC	20, 26, 53, 116, 122, 131–132, 158, 205, 372, 397, 419
LiCl	214	SiCl ₄	396
LiI	214	a-SiF _x	371
MgAl	383	SiF ₄	25, 367, 370
Mg ₂ Cu	3	SiGe	127, 142, 145, 350, 354–355
MgF ₂	295	a-Si:H	362
MgO	68, 70–71, 89, 158, 210, 342, 396	SiH ₄	353, 360, 362, 370, 396–397
MgS	112	Si ₂ H ₆	353
MnF ₂	262	Si ₃ N ₄	20, 158, 203, 205, 395–396, 474
MnFe	281	SiO	53
MnO	22, 34, 82	SiO ₂	19–20, 23, 25, 33–34, 70, 94, 122, 131, 203, 205, 210–212, 217, 289, 292, 295, 341, 352, 364–370, 372–373, 396–397, 411, 443, 452, 468, 502
MnO ₂	22, 214–215	SmCo ₅	264, 266, 268–269, 271
Mn ₂ O ₃	22	Sm ₂ Co ₁₇	264, 268–269
Mn ₃ O ₄	22	SmFe ₂	282–283
MoC	223, 381	SnO ₂	116
Mo ₂ C	381	Ta ₂ H	164
MoS ₂	214–215, 311, 342	Ta ₂ O ₅	203
NH ₃	16, 309, 360–361, 389, 396	Tb _{1-x} Dy _x	253–254, 282–283
NO	17, 309	TbFe ₂	264, 282–283
NaCl	21, 26, 34, 70, 292, 342, 397, 512	Th ₄ H ₁₅	164–165
Nb ₃ Al	223	TiB ₂	158
Nb ₃ Ga	222–223	TiC	158
Nb ₃ Ge	223, 249	TiN	157–158, 369–370, 390
NbMo	221	Ti ₂ N	390
NbN	223	TiO ₂	70, 203, 205, 292, 295–296
Nb ₃ Sn	3, 222–223, 236, 239, 241, 246	Ti ₂ O ₃	378
NbTa	237–238	Ti _x Si _y	370
NbTi	222, 236, 239, 241	UPt ₃	234
NbZr	221	VC	380–381
NiAl	159–161	V ₃ Ga	593
Ni ₃ Al	383	V ₂ O ₅	214–215
NiCr	158	V ₃ Si	25, 34, 223
Ni ₅₀ Fe ₅₀	278	WC	158, 381
NiMn	282	W ₂ C	158, 381
Ni ₃ Mo	381	WF ₆	370
NiO	89, 282	Y ₂ O ₃	158, 216, 394, 396
Ni _{0.76} P _{0.24}	21		
Ni ₃ Ti	159, 381, 383		
PH ₃	360		
P ₂ O ₅	367		
PbBi	220		
PbIn	220		
PbO	17, 22		

ZnMn	79, 83–84
ZnO	116, 461
ZnS	21, 26, 117, 284, 295
ZnSe	70, 111–112, 284, 292
ZnTe	498
ZrC	158
Zr ₃ N ₄	158
ZrO ₂	158, 216, 445
ZrZn ₂	630

Ternary compounds and alloys

Al _{1-x} B _x As	147
Al ₆₂ Cu ₂₆ Fe ₁₂	387
Al ₆ Fe _{1-x} Mo _x	387
Al ₆ Mn _{1-x} Fe _x	387
B ₃ N ₃ H ₆	360
a-BNH	360
BaBiO ₃	223–224
BaCO ₃	394
BaFe ₁₂ O ₁₉	264, 266, 271, 274–275
BaPbO ₃	223
BaTiO ₃	203–204
BeSiN ₂	396
CH ₂ Cl ₂	402
(CH) ₃ Ga	359
CH ₃ SiH ₃	397
(CH ₃) ₄ Si	486
CaCO ₃	70, 496–497
Cd _{1-x} Mn _x Te	284
Cd ₂ SnO ₄	116
CeCu ₂ Si ₂	234
CuNiZn	91
CuSO ₄	155
a-DyFeCo	277
a-Fe ₈₀ B ₁₁ Si ₉	162, 278, 281
Fe(CN) ₆	75
FeCoV	280
Fe ₈₃ P ₁₀ C ₇	162
Fe ₈₅ Si ₁₀ Al ₅ (Sendust)	264, 281
Ga _{1-x} Al _x As	129–130, 132, 343
Ga _{1-x} Mn _x As	284
a-GdTbFe	277–278
H ₃ PO ₄	216
Hg _{1-x} Mn _x Te	284
InAs _{1-x} Sb _x	439
In _x Ga _{1-x} As	126
In _x Sn _y O ₂ (ITO)	116, 331, 406
KOH	372
La ₂ CuO ₄	116, 224
LaMo ₆ Se ₈	223
LiAsF ₆	214–215
LiNbO ₃	332
LiTaO ₃	332
LiTi ₂ O ₄	223
Mg ₃ (OH) ₆ (brucite)	177

Mg ₂ SiO ₄	13
Mg ₃ TeO ₆	498
MnFe ₂ O ₄	281
Mn ₇₅ P ₁₅ C ₁₀	162
NH ₄ Cl	396
Na ₃ AlF ₆	70
Nd ₂ Fe ₁₂ B	264, 266, 270–271
Ni ₇₇ Fe ₁₈ Cu ₅ (Mumetal)	264, 278–279
Ni ₇₉ Fe ₁₆ Mo ₅ (Supermalloy)	264, 278–279
PbTiO ₃	443
Pd ₆₈ Co ₁₂ Si ₂₀	162
Pd ₇₈ Si ₁₆ Cu ₆	162
RM ₄ Sb ₁₄ (R = La, Ce, etc., M = Fe, Os, Ru)	145
a-SiCH	360
SiCl ₂ H ₂	396
SiHCl ₃	353
a-SiNH	360–361
Si(NH) ₂	360, 396
SiO _{2-x} H _{2x}	360
Si ₂ ON ₂	271
Sm ₂ Fe ₁₇ N ₃	268
SrFe ₁₂ O ₁₉	271
SrTiO ₃	70, 204, 292, 394, 443
Tb ₂ Al ₅ O ₁₂	292
Tb _{0.3} Dy _{0.7} Fe ₂	264, 282–284
a-TbFeCo	277–278
Ti ₂ AlN	390
URu ₂ Si ₂	234
Y ₃ Al ₂ (AlO ₄) ₃ (YAG)	175, 297
Y ₃ Fe ₅ O ₁₂	264
YRh ₄ B ₄	223
Y ₂ SiO ₅	696
Zn _{25.75} Al _{4.01} Cu _{70.24}	160
ZnFe ₂ O ₄	281
Zn _{1-x} Mn _x S	117, 284
ZnSO ₄	155

Quaternary compounds and alloys

Al ₂ Si ₂ O ₅ (OH) ₄ (kaolinite)	178
Ba _{0.6} K _{0.4} BiO ₃	224, 249
BaPb _{1-x} Bi _x O ₃	223
Be ₃ Al ₂ Si ₆ O ₆ (beryl)	175
Cu ₂ CO ₃ (OH) ₂	70
CuIn _{1-x} Ga _x Se	140
DyBa ₂ Cu ₃ O ₇	231
a-FeBSiC (metglas)	264, 284
FeWMnC (tungsten steel)	266–267
KH ₂ PO ₄ (KDP)	70, 292
La _{1-x} Ca _x MnO ₃	256–257
La _{2-x} Sr _x CuO ₄	116, 224, 229–230, 351, 459
Mn _{1-x} Zn _x Fe ₂ O ₄	264, 281
Nd _{2-x} Ce _x CuO ₄	224
Pb(Mg _{1/3} Nb _{2/3})O ₃	204

$\text{Pb}_x\text{Zr}_y\text{Ti}_z\text{O}_3$ (PZT)	209–210
$\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$ (PZN)	204
$\text{RNi}_2\text{B}_2\text{C}$ (R = Y, Dy, Ho, Er, Tm, Lu)	223
$\text{Sm}_2\text{Fe}_{15}\text{Ga}_2\text{C}_3$	269
$\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$	34, 224–228, 230, 232, 235–237, 240–241, 246–248, 394, 470

Larger compounds, alloys, and some minerals

$\text{Bi}_v\text{Sr}_w\text{Ca}_x\text{Cu}_y\text{O}_z$	236, 240–241
Cordeirite	205
FeCoCrWC (cobalt steel)	266–267
FeNiAlCoCu (Alnico)	264, 266–267
$\text{Hg}_v\text{Ba}_w\text{Ca}_x\text{Cu}_y\text{O}_z$	227, 233, 249
Mica	177–178, 203, 342
Mullite	205
$\text{Ni}_{36}\text{Fe}_{32}\text{Cr}_{14}\text{P}_{12}\text{B}_6$	162
$\text{Pb}_{1-x}\text{La}_x(\text{Zr}_y\text{Ti}_{1-y})_{1-x/4}\text{O}_3$ (PLZT)	204
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Polypropylene (PP)	196
Polypyrrole	116, 196, 404
Polystyrene (PS)	70, 194, 403
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Polyurethane (PUR)	194
Polyvinylene	289
Poly(N-vinylcarbazole) (PVK)	202, 406
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$\text{Ba}(\text{THD})_2$	395
Bisphenol-A	402
$\text{Cu}(\text{THD})_2$	395
DNA	17
Tetraethylorthosilicate (TEOS)	360, 369
Tetramethylammonium (TMA) bromide	398
Tetrapropylammonium (TPA) bromide	398
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3-phenyl-5-isoxazolone	201
poly(2-methoxy-5-(2'-ethyl-hexyloxy)- 1,4-phenylene vinylene) (MEH-PPP)	404
Tetrathiafulvalene-tetracyanoquino- dimethane (TTF-TCNQ)	196
$\text{Y}(\text{THD})_3$	395