Thermo-Calc Software

SGTE Solutions Database (SSOL9)

Technical Information

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Contents

About the SGTE Solutions Database (SSOL9)

The SSOL9 SGTE Solutions Database is a thermodynamic database which contains critical assessments for many binary and ternary, and some higher order systems.

This general alloy solutions database is designed for various applications related to alloy design, coatings, joining, heat treatment and inorganic materials. As many as 79 elements have been included in this database.

The current version of the database is SSOL9. See the link for any subversion release details: SSOL: SGTE Solutions Database Revision History.

Go to the General Alloys and Pure Substances page on our website where you can access PDFs of the SGTE technical information documents and learn about the compatible kinetic database.

Included Elements (79)

Ag	Al	Am	As	Au	B	Ba	Be	Bi	C
Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu
Fe	Ga	Gd	Ge	H	Hf	Hg	Ho	In	Ir
K	La	Li	Lu	Mg	Mn	Mo	N	Na	Nb
Nd	Ni	Np	O	Os	P	Pa	Pb	Pd	Pr
Pt	Pu	Rb	Re	Rh	Ru	S	Sb	Sc	Se
Si	Sm	Sn	Sr	Ta	Tb	Tc	Te	Th	Ti
Tl	Tm	U	V	W	Y	Yb	Zn	Zr	

Developed using the CALPHAD approach, SSOL9 is based on the critical evaluation of binary, ternary and in some cases higher order systems. A total of 1053 critically assessed systems (879 binary, 154 ternary, 19 quaternary and 1 quinary) are included in the SSOL9 database in this 79 element framework. The complete list of all these critically assessed systems is given in the next section of this document. The ASSESSED_SYSTEMS command is in the database for all the assessed systems, which enables you to calculate phase diagrams of these systems using the BINARY and TERNARY modules in Console Mode.

A large number of phases (2352), including various multicomponent solution phases and many important intermetallic compounds, are included in SSOL9. The complete list of the phases and their models are attached at the end of this document. It should be noted that the GAS phase is rejected by default in the database and one should restore it if it is relevant to a calculation.

Order-disorder models, which describe a pair of ordered and disordered phases with a single Gibbs energy function, are able to able to describe a possible 2nd-order transition between the pair of phases and are used in some systems. Examples of this are the BCC_A2/ BCC_B2 transition in the Al-Fe system and the FCC_A1/ FCC_L12 transition in the Al-Ni system.

Some B2-type phases are modeled as stoichiometric phases and a separate phase name (B2_BCC) is created in addition to the BCC_B2 phase in the order-disorder model.

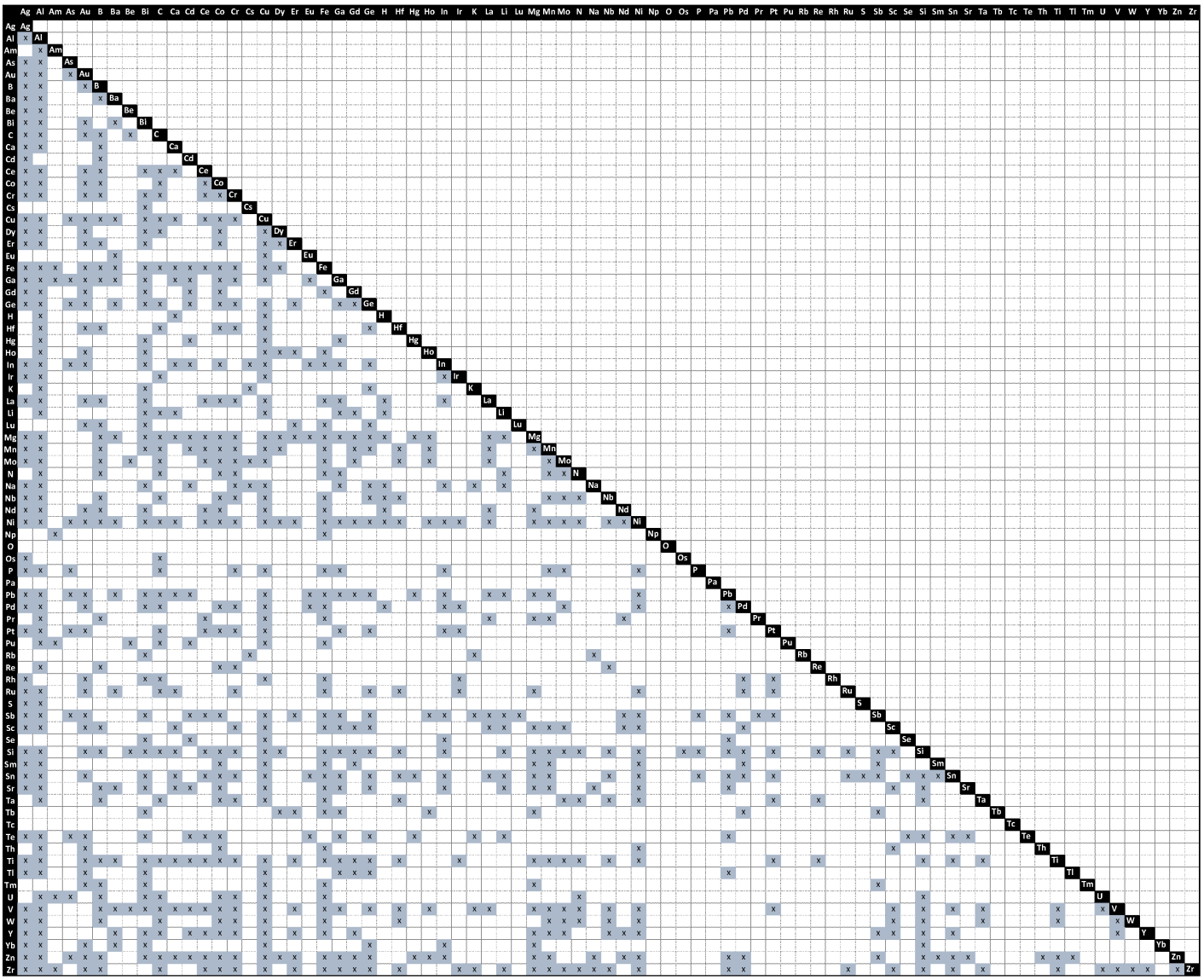
The SSOL9 database enables predictions (such as multicomponent phase equilibria and Scheil solidification simulations of industrial alloys) to be made for multicomponent systems and alloys of industrial importance. This means that the SSOL9 database may be utilized to extrapolate to higher-order systems by combining several critically assessed systems. However, such extrapolations require experiences in CALPHAD and a good understanding of the involved systems. And the producer or vendor should be contacted if problems occur.

SSOL9 Assessed Binary Systems

There are 879 assessed binary systems in this database.

Table

Zoom into the PDF to view the table. There is a list of the binaries on the following pages.



List

Assessed Binary Systems									
Ag-Al	Ag-As	Ag-Au	Ag-B	Ag-Ba	Ag-Be	Ag-Bi	Ag-C	Ag-Ca	Ag-Cd
Ag-Ce	Ag-Co	Ag-Cr	Ag-Cu	Ag-Dy	Ag-Er	Ag-Fe	Ag-Ga	Ag-Gd	Ag-Ge
Ag-In	Ag-Ir	Ag-La	Ag-Mg	Ag-Mn	Ag-Mo	Ag-Na	Ag-Nb	Ag-Nd	Ag-Ni
Ag-Os	Ag-P	Ag-Pb	Ag-Pd	Ag-Pt	Ag-Rh	Ag-Ru	Ag-S	Ag-Sb	Ag-Sc
Ag-Si	Ag-Sm	Ag-Sn	Ag-Sr	Ag-Te	Ag-Ti	Ag-Tl	Ag-V	Ag-W	Ag-Y
Ag-Yb	Ag-Zn	Ag-Zr	Al-Am	Al-As	Al-Au	Al-B	Al-Ba	Al-Be	Al-Bi
Al-C	Al-Ca	Al-Ce	Al-Co	Al-Cr	Al-Cu	Al-Dy	Al-Er	Al-Fe	Al-Ga
Al-Gd	Al-Ge	Al-H	Al-Hf	Al-Hg	Al-Ho	Al-In	Al-Ir	Al-K	Al-La
Al-Li	Al-Mg	Al-Mn	Al-Mo	Al-N	Al-Na	Al-Nb	Al-Nd	Al-Ni	Al-P
Al-Pb	Al-Pd	Al-Pr	Al-Pt	Al-Pu	Al-Re	Al-Ru	Al-S	Al-Sb	Al-Sc
Al-Si	Al-Sm	Al-Sn	Al-Sr	Al-Ta	Al-Te	Al-Th	Al-Ti	Al-Tl	Al-U
Al-V	Al-W	Al-Y	Al-Yb	Al-Zn	Al-Zr	Am-Fe	Am-Ga	Am-Np	Am-Pu
Am-U	Am-Zr	As-Au	As-Cu	As-Ga	As-Ge	As-In	As-Ni	As-P	As-Pb
As-Pt	As-Sb	As-Te	As-U	As-Zn	Au-B	Au-Bi	Au-C	Au-Ce	Au-Co
Au-Cr	Au-Cu	Au-Dy	Au-Er	Au-Fe	Au-Ga	Au-Gd	Au-Ge	Au-Hf	Au-Ho
Au-In	Au-La	Au-Lu	Au-Nd	Au-Ni	Au-Pb	Au-Pd	Au-Pt	Au-Rh	Au-Ru
Au-Sb	Au-Sc	Au-Si	Au-Sn	Au-Te	Au-Th	Au-Ti	Au-Tl	Au-Tm	Au-Yb
Au-Zn	Au-Zr	B-Ba	B-C	B-Ca	B-Cd	B-Ce	B-Co	B-Cr	B-Cu
B-Er	B-Fe	B-Ga	B-Hf	B-La	B-Lu	B-Mg	B-Mn	B-Mo	B-N
B-Nb	B-Nd	B-Ni	B-Pr	B-Re	B-Sc	B-Si	B-Sr	B-Ta	B-Ti
B-Tm	B-U	B-V	B-W	B-Zn	B-Zr	Ba-Bi	Ba-Cu	Ba-Eu	Ba-Fe

Assessed Binary Systems									
Ba-Ga	Ba-Ge	Ba-Mg	Ba-Ni	Ba-Pb	Ba-Ru	Ba-Sr	Ba-Ti	Ba-V	Ba-Y
Ba-Yb	Be-C	Be-Mo	Be-Pu	Be-Si	Be-V	Bi-Ce	Bi-Cr	Bi-Cs	Bi-Cu
Bi-Dy	Bi-Er	Bi-Fe	Bi-Ga	Bi-Gd	Bi-Ge	Bi-Hg	Bi-Ho	Bi-In	Bi-K
Bi-La	Bi-Li	Bi-Lu	Bi-Mg	Bi-Mn	Bi-Na	Bi-Nd	Bi-Ni	Bi-Pb	Bi-Pd
Bi-Rb	Bi-Rh	Bi-Sb	Bi-Se	Bi-Si	Bi-Sn	Bi-Sr	Bi-Tb	Bi-Te	Bi-Ti
Bi-Tl	Bi-Tm	Bi-U	Bi-V	Bi-Y	Bi-Yb	Bi-Zn	C-Ce	C-Co	C-Cr
C-Cu	C-Dy	C-Fe	C-Ge	C-Hf	C-Ir	C-Li	C-Mg	C-Mn	C-Mo
C-N	C-Nb	C-Ni	C-Os	C-P	C-Pb	C-Pd	C-Pt	C-Pu	C-Rh
C-Ru	C-Si	C-Ta	C-Ti	C-U	C-V	C-W	C-Y	C-Zn	C-Zr
Ca-Ce	Ca-Cu	Ca-Fe	Ca-Ga	Ca-H	Ca-In	Ca-Li	Ca-Mg	Ca-Ni	Ca-Pb
Ca-Ru	Ca-Sc	Ca-Si	Ca-Sn	Ca-Sr	Ca-Ti	Ca-V	Ca-Zn	Cd-Fe	Cd-Ga
Cd-Gd	Cd-Ge	Cd-Hg	Cd-In	Cd-Mg	Cd-Mn	Cd-Na	Cd-Pb	Cd-Pu	Cd-Sb
Cd-Se	Cd-Sr	Cd-Te	Cd-Ti	Cd-V	Cd-Y	Cd-Zn	Ce-Co	Ce-Cr	Ce-Cu
Ce-Fe	Ce-La	Ce-Mg	Ce-Mn	Ce-Mo	Ce-Nd	Ce-Ni	Ce-Pr	Ce-Pt	Ce-Sb
Ce-Si	Ce-Sn	Ce-Te	Ce-Ti	Ce-V	Ce-Y	Ce-Zn	Ce-Zr	Co-Cr	Co-Cu
Co-Dy	Co-Er	Co-Fe	Co-Ga	Co-Gd	Co-Ge	Co-Hf	Co-In	Co-La	Co-Mg
Co-Mn	Co-Mo	Co-N	Co-Nb	Co-Nd	Co-Ni	Co-Pd	Co-Pt	Co-Re	Co-Sb
Co-Si	Co-Sm	Co-Sn	Co-Sr	Co-Ta	Co-Te	Co-Th	Co-Ti	Co-U	Co-V
Co-W	Co-Y	Co-Zn	Co-Zr	Cr-Cu	Cr-Fe	Cr-Ga	Cr-Ge	Cr-Hf	Cr-La
Cr-Mg	Cr-Mn	Cr-Mo	Cr-N	Cr-Na	Cr-Nb	Cr-Ni	Cr-P	Cr-Pd	Cr-Pt
Cr-Re	Cr-Ru	Cr-Sc	Cr-Si	Cr-Sn	Cr-Ta	Cr-Ti	Cr-U	Cr-V	Cr-W
Cr-Y	Cr-Zn	Cr-Zr	Cs-In	Cs-K	Cs-Mo	Cs-Na	Cs-Rb	Cu-Dy	Cu-Er

Assessed Binary Systems									
Cu-Eu	Cu-Fe	Cu-Ga	Cu-Ge	Cu-H	Cu-Hf	Cu-Hg	Cu-Ho	Cu-In	Cu-Ir
Cu-La	Cu-Li	Cu-Mg	Cu-Mn	Cu-Mo	Cu-Na	Cu-Nb	Cu-Nd	Cu-Ni	Cu-P
Cu-Pb	Cu-Pd	Cu-Pr	Cu-Pt	Cu-Pu	Cu-Rh	Cu-Sb	Cu-Sc	Cu-Se	Cu-Si
Cu-Sm	Cu-Sn	Cu-Sr	Cu-Ta	Cu-Ti	Cu-Tl	Cu-Tm	Cu-U	Cu-V	Cu-W
Cu-Y	Cu-Yb	Cu-Zn	Cu-Zr	Dy-Er	Dy-Fe	Dy-Ho	Dy-Mg	Dy-Mn	Dy-Ni
Dy-Si	Dy-Tb	Dy-Zn	Er-Ge	Er-Ho	Er-Lu	Er-Mg	Er-Ni	Er-Sb	Er-Tb
Er-Ti	Er-V	Er-Y	Er-Zn	Er-Zr	Eu-Ga	Eu-In	Eu-Mg	Eu-Pb	Eu-Pd
Eu-Sn	Eu-Te	Fe-Gd	Fe-Ho	Fe-In	Fe-La	Fe-Lu	Fe-Mg	Fe-Mn	Fe-Mo
Fe-N	Fe-Nb	Fe-Nd	Fe-Ni	Fe-Np	Fe-P	Fe-Pb	Fe-Pd	Fe-Pr	Fe-Pu
Fe-Rh	Fe-Ru	Fe-Sb	Fe-Sc	Fe-Si	Fe-Sm	Fe-Sn	Fe-Sr	Fe-Ta	Fe-Tb
Fe-Th	Fe-Tm	Fe-Ti	Fe-U	Fe-V	Fe-W	Fe-Y	Fe-Zn	Fe-Zr	Ga-Ge
Ga-Hg	Ga-In	Ga-La	Ga-Li	Ga-Mg	Ga-N	Ga-Na	Ga-Ni	Ga-P	Ga-Pb
Ga-Pt	Ga-Sb	Ga-Sc	Ga-Si	Ga-Sn	Ga-Sr	Ga-Tb	Ga-Te	Ga-Ti	Ga-Tl
Ga-V	Ga-Zn	Ga-Zr	Gd-Ge	Gd-Li	Gd-Mg	Gd-Mn	Gd-Mo	Gd-Ni	Gd-Pb
Gd-Sc	Gd-Si	Gd-Sm	Gd-Ti	Gd-Tl	Gd-Y	Gd-Zn	Gd-Zr	Ge-Hf	Ge-In
Ge-K	Ge-Lu	Ge-Mg	Ge-Mn	Ge-Na	Ge-Nb	Ge-Ni	Ge-Pb	Ge-Pt	Ge-Ru
Ge-Sb	Ge-Sc	Ge-Si	Ge-Sn	Ge-Sr	Ge-Te	Ge-Ti	Ge-Tl	Ge-V	Ge-Yb
Ge-Zn	Ge-Zr	H-La	H-Li	H-Mg	H-Na	H-Nb	H-Nd	H-Ni	H-Pd
Hf-Mn	Hf-Mo	Hf-Nb	Hf-Ni	Hf-Ru	Hf-Si	Hf-Sn	Hf-Ta	Hg-Te	Hf-Ti
Hf-V	Hf-W	Hf-Zr	Hg-Mg	Hg-Pb	Hg-Sn	Hg-Zn	Ho-Mg	Ho-Mn	Ho-Mo
Ho-Ni	Ho-Sb	Ho-Tb	Ho-V	Ho-Zn	In-Ir	In-La	In-Na	In-Ni	In-P
In-Pb	In-Pd	In-Pt	In-Sb	In-Se	In-Si	In-Sn	In-Sr	In-Yb	In-Zn

Assessed Binary Systems									
Ir-Ni	Ir-Pd	Ir-Pt	Ir-Rh	Ir-Ru	Ir-Ti	Ir-Zr	K-Na	K-Rb	K-Sb
K-Te	K-V	K-Zr	La-Mg	La-Mn	La-Mo	La-Nd	La-Ni	La-Pb	La-Pr
La-Sb	La-Sc	La-Sn	La-V	Li-Mg	Li-N	Li-Na	Li-Pb	Li-Sb	Li-Sc
Li-Si	Li-Sn	Li-Sr	Li-Te	Li-Zr	Lu-Sb	Mg-Mn	Mg-Nd	Mg-Pb	Mg-Ni
Mg-Pr	Mg-Ru	Mg-Sc	Mg-Si	Mg-Sm	Mg-Sn	Mg-Sr	Mg-Tb	Mg-Ti	Mg-Tm
Mg-V	Mg-Y	Mg-Yb	Mg-Zn	Mg-Zr	Mn-Mo	Mn-N	Mn-Nb	Mn-Ni	Mn-P
Mn-Pb	Mn-Pr	Mn-Sc	Mn-Si	Mn-Sm	Mn-Sn	Mn-Sr	Mn-Ti	Mn-V	Mn-W
Mn-Y	Mn-Zn	Mn-Zr	Mo-N	Mo-Nb	Mo-Ni	Mo-P	Mo-Pd	Mo-Sc	Mo-Si
Mo-Ta	Mo-Ti	Mo-V	Mo-W	Mo-Y	Mo-Zr	N-Nb	N-Ni	N-Si	N-Ta
N-Ti	N-U	N-V	N-W	N-Zr	Na-Rb	Na-Sr	Na-Zn	Na-Zr	Nb-Ni
Nb-Re	Nb-Si	Nb-Sn	Nb-Ta	Nb-Ti	Nb-V	Nb-W	Nb-Y	Nb-Zr	Nd-Ni
Nd-Pr	Nd-Sb	Nd-Sc	Nd-Y	Nd-Zn	Ni-P	Ni-Pb	Ni-Pd	Ni-Ru	Ni-Sb
Ni-Sc	Ni-Si	Ni-Sm	Ni-Sn	Ni-Sr	Ni-Ta	Ni-Th	Ni-Ti	Ni-V	Ni-W
Ni-Y	Ni-Zn	Ni-Zr	Os-Si	P-Sb	P-Si	P-Sn	Pb-Pd	Pb-Pt	Pb-Sb
Pb-Se	Pb-Si	Pb-Sn	Pb-Sr	Pb-Te	Pb-Tl	Pb-Zn	Pb-Zr	Pd-Rh	Pd-Ru
Pd-Sc	Pd-Si	Pd-Sm	Pd-Sn	Pd-Tb	Pd-Zn	Pd-Zr	Pr-Sb	Pt-Rh	Pt-Ru
Pt-Sb	Pt-Si	Pt-Sn	Pt-Ta	Pt-Ti	Pt-V	Re-Si	Re-Ta	Re-Ti	Ru-Si
Ru-Sn	Ru-Zr	S-Sn	Sb-Si	Sb-Sm	Sb-Sn	Sb-Tb	Sb-Tm	Sb-Y	Sb-Zn
Sc-Si	Sc-Sr	Sc-Th	Sc-V	Sc-W	Sc-Y	Sc-Zr	Se-Sn	Se-Te	Si-Sn
Si-Sr	Si-Ta	Si-Te	Si-Ti	Si-U	Si-V	Si-W	Si-Y	Si-Yb	Si-Zn
Si-Zr	Sm-Sn	Sm-Zn	Sn-Te	Sn-Ti	Sn-V	Sn-Y	Sn-Zn	Sn-Zr	Sr-Te
Sr-Zn	Ta-Ti	Ta-V	Ta-W	Ta-Zr	Th-Zn	Ti-V	Ti-W	Ti-Zn	Ti-Zr

Assessed Binary Systems									
Tl-Zn	U-V	U-Zr	V-W	V-Y	V-Zr	W-Zr	Y-Zr	Zn-Zr	

SSOL9 Assessed Ternary Systems

There are 154 assessed ternary systems in this database.

Assessed Ternary Systems								
Ag-Au-Bi	Ag-Au-Sb	Ag-Bi-Sn	Ag-Cu-Ni	Ag-Cu-Pb	Ag-Cu-Sn	Ag-In-Sn	Ag-Ni-Sn	Ag-Sn-Te
Al-C-Si	Al-C-V	Al-Ca-Si	Al-Cu-Li	Al-Cu-Mg	Al-Cu-Si	Al-Cu-Zn	Al-Er-Mg	Al-Fe-Mn
Al-Fe-Si	Al-Ga-In	Al-Ga-Sn	Al-Mg-Mn	Al-Mg-Si	Al-Mg-Zn	Al-Mn-Si	Al-Si-Sr	Al-Si-Zn
Al-Sn-Zn	As-Cu-Ni	As-Ga-In	As-Ga-Zn	Au-Bi-Sb	Au-In-Pb	Au-In-Sb	Au-In-Sn	Au-Ni-Sn
B-Fe-Nd	B-Mo-Ti	B-Ti-Zr	Be-C-Si	Bi-Cu-Ga	Bi-Ga-Zn	Bi-In-Pb	Bi-In-Sn	Bi-Sb-Sn
Bi-Sn-Zn	C-Co-Cr	C-Co-Fe	C-Co-Ni	C-Co-W	C-Cr-Fe	C-Cr-Mn	C-Cr-Mo	C-Cr-N
C-Cr-Ni	C-Cr-Si	C-Cr-Ti	C-Cr-V	C-Cr-W	C-Cu-Fe	C-Dy-Si	C-Fe-Mn	C-Fe-Mo
C-Fe-N	C-Fe-Nb	C-Fe-Ni	C-Fe-Si	C-Fe-Ti	C-Fe-V	C-Fe-W	C-Mn-Si	C-Mn-V
C-Mo-N	C-Mo-Ti	C-Mo-V	C-Mo-W	C-N-Nb	C-N-Ti	C-Ni-Si	C-Ni-Ti	C-Ni-W
C-Si-Ti	C-Si-Y	C-Ti-W	C-V-W	Ca-Ce-Mg	Ca-Mg-Sn	Cd-Ga-In	Co-Cr-W	Co-Fe-N
Co-Fe-W	Co-Ni-W	Cr-Fe-Mn	Cr-Fe-Mo	Cr-Fe-N	Cr-Fe-Ni	Cr-Fe-P	Cr-Fe-Ti	Cr-Fe-V
Cr-Fe-W	Cr-Mn-N	Cr-Mn-Ti	Cr-Mo-N	Cr-Mo-Ni	Cr-Mo-W	Cr-N-Ni	Cr-N-Ti	Cr-N-V
Cr-N-W	Cr-Ni-Ta	Cr-Ni-W	Cr-Si-Ti	Cr-Ti-V	Cu-Fe-Ni	Cu-In-Sn	Cu-Fe-P	Cu-H-Pd
Cu-Mg-Si	Cu-Mg-Zn	Cu-Ni-Pb	Cu-Ni-Sn	Dy-Fe-Tb	Fe-Mn-N	Fe-Mn-Nb	Fe-Mn-Ni	Fe-Mn-Si
Fe-Mn-V	Fe-Mo-N	Fe-Mo-Ni	Fe-Mo-P	Fe-Mo-V	Fe-Mo-W	Fe-N-Nb	Fe-N-Ni	Fe-N-Ti
Fe-N-V	Fe-N-W	Fe-Ni-P	Fe-Ni-W	Fe-Si-Zn	Fe-Ti-W	Fe-U-Zr	Ga-Hg-Mg	Ga-In-Sb
Ge-Ru-Si	Ge-Ru-Sn	H-Nd-Ni	In-Sb-Sn	In-Sn-Zn	Mo-N-Ni	Mo-Ni-W	N-Si-Ti	Pb-Pd-Sn
Pb-Se-Sn								

SSOL9 Assessed Quaternary and Quinary Systems

There is one assessed quinary system and 19 assessed quaternary systems in this database.

Assessed Quaternary and Quinary Systems		
C-Co-Cr-W	C-Co-Fe-Ni	C-Co-Fe-Ni-W
C-Co-Fe-W	C-Co-Ni-W	C-Cr-Fe-Mn
C-Cr-Fe-Mo	C-Cr-Fe-Ni	C-Cr-Fe-Si
C-Cr-Fe-V	C-Cr-Fe-W	C-Fe-Mn-V
C-Fe-Mo-V	C-Fe-Mo-W	C-Fe-Ni-W
C-Fe-V-W	C-Cr-Mo-V	Co-Fe-Ni-W
Cr-Fe-Mn-N	Cr-Fe-N-Ni	

SSOL9 Phase Models

Name	*Sublattices*	*Formula Unit*
GAS	1	(AL1, AL2, ALH, ALH2, ALH3, AS, AS2, AS4, ASTE, B, B2, C, C2, C3, C4, C5, C60, CA, CA2, CAH, CD, CO, CO2, COTE, CU, CU2, CUH, GA, GA2, GAAS, H, H2, HLI, LA, LI, LI2, MG, MG2, MGH, N1, N2, N3, NA, NA2, NAH, ND, NI1, NI2, O2, P1, P2, P3, P4, S, S2, S3, S4, S5, S6, S7, S8, SI, SI2, SI3, SN, SN2, SN2S2, SNS, SNS2, TE, TE2, TE3, TE4, TE5, TE6, TE7, ZN)1
LIQUID	1	(AG, AG2S, AG2TE, AL, AL2S3, AL2TE3, AL2U, AM, AS, AU, B, BA, BA4BI3, BABI3, BAPB, BE, BI, BI2MG3, BI2SE3, BI3YB4, BICS, BICS3, BILI3, BINA3, BIRB, BIRB3, C, CA, CA2PB, CA2SN, CD, CDSE, CDTE, CE, CETE, CO, CR, CR3GE1, CS, CU, CU2SE, DY, ER, EU, FE, GA, GA2TE3, GD, GE, GE3MN5_F, GETE, H, HF, HG, HGTE, HO, IN, IN2SE3, IR, K, K2TE, K2TE3, K3SB, LA, LAB6, LASN, LI, LI2C2, LI2TE1, LI3SB, LI4PB, LIH, LU, MG, MG2PB, MG2SN, MN, MO, N, N1U, NA, NAH, NB, ND, NI, NP, O, OS, P, PA, PB, PBSE, PBTE, PD, PR, PT, PTSN, PU, RB, RE, RH, RU, S, SB, SC, SE, SI, SI2TE3, SM, SN, SNS, SNSE, SNTE, SR, TA, TB, TC, TE, TH, TI, TL, TM, U, V, W, Y, YB, ZN, ZN3AS2, ZR)1
FCC_A1	2	(AG, AL, AM, AS, AU, BA, BE, BI, CA, CD, CE, CO, CR, CS, CU, DY, ER, EU, FE, GA, GD, GE, HF, HG, HO, IN, IR, K, LA, LI, LU, MG, MN, MO, NA, NB, ND, NI, NP, O, OS, P, PB, PD, PR, PT, PU, RB, RE, RH, RU, S, SB, SC, SI, SM, SN, SR, TA, TB, TC, TH, TI, TL, TM, U, V, W, Y, YB, ZN, ZR)1(B, C, H, N, VA)1
FCC_L12	3	(AG, AL, AM, AS, AU, BA, BE, BI, CA, CD, CE, CO, CR, CS, CU, DY, ER, FE, GA, GD, GE, HF, HG, HO, IN, IR, K, LA, LI, MG, MN, MO, NA, NB, ND, NI, O, OS, P, PB, PD, PR, PT, PU, RB, RE, RH, RU, S, SB, SC, SI, SN, SR, TA, TC, TH, TI, TL, U, V, W, Y, YB, ZN, ZR)0.75(AG, AL, AM, AS, AU, BA, BE, BI, CA, CD, CE, CO, CR, CS, CU, DY, ER, FE, GA, GD, GE, HF, HG, HO, IN, IR, K, LA, LI, MG, MN, MO, NA, NB, ND, NI, O, OS, P, PB, PD, PR, PT, PU, RB, RE, RH, RU, S, SB, SC, SI, SN, SR, TA, TC, TH, TI, TL, U, V, W, Y, YB, ZN, ZR)0.25(B, C, N, VA)1
FCC_L10	2	(MN, NI)0.5(MN, NI)0.5
FCC_4SL	5	(AL, AU, CO, CU, IR, PT, V)0.25(AL, AU, CO, CU, IR, PT, V)0.25(AL, AU, CO, CU, IR, PT, V)0.25(AL, AU, CO, CU, IR, PT, V)0.25(VA)1
BCC_A2	2	(AG, AL, AM, AS, AU, BA, BE, BI, CA, CD, CE, CO, CR, CS, CU, DY, ER, EU, FE, GA, GD, GE, HF, HO, IN, IR, K, LA, LI, MG, MN, MO, NA, NB, ND, NI, NP, O, OS, P, PA, PB, PD, PR, PT, PU, RB, RE, RH, RU, S, SB, SC, SI, SM, SN, SR, TA, TB, TC, TH, TI, TL, TM, U, V, W, Y, YB, ZN, ZR)1(B, C, H, N, VA)3
BCC_B2	3	(AG, AL, AM, AS, AU, BA, BE, BI, CA, CD, CE, CO, CR, CS, CU, DY, ER, EU, FE, GA, GD, GE, HF, HO, IN, IR, K, LA, LI, MG, MN, MO, NA, NB, ND, NI, NP, O, OS, P, PA, PB, PD, PR, PT, PU, RB, RE, RH, RU, S, SB, SC, SI, SM, SN, SR, TA, TB, TC, TH, TI, TL, TM, U, V, W, Y, YB, ZN, ZR)0.5(AG, AL, AM, AS, AU, BA, BE, BI, CA, CD, CE, CO, CR, CS, CU, DY, ER, EU, FE, GA, GD, GE, HF, HO, IN, IR, K, LA, LI, MG, MN, MO, NA, NB, ND, NI, NP, O, OS, P, PA, PB, PD, PR, PT, PU, RB, RE, RH, RU, S, SB, SC, SI, SM, SN, SR, TA, TB, TC, TH, TI, TL, TM, U, V, W, Y, YB, ZN, ZR)0.5(B, C, H, N, VA)3
B2	2	(AL, CO, IN, NI, PD)1(CO, NI, PD, VA)1
A2_BCC	2	(AL, CO, HF, IR, VA)1(VA)3
B2_BCC	3	(AL, CO, HF, IR, VA)0.5(AL, CO, HF, IR, VA)0.5(VA)3
HCP_A3	2	(AG, AL, AM, AS, AU, BA, BE, BI, CA, CD, CE, CO, CR, CS, CU, DY, ER, FE, GA, GD, GE, HF, HG, HO, IN, IR, K, LA, LI, LU, MG, MN, MO, NA, NB, ND, NI, NP, OS, PB, PD, PR, PT, RB, RE, RH, RU, SB, SC, SI, SM, SN, SR, TA, TB, TC, TE, TH, TI, TL, TM, U, V, W, Y, YB, ZN, ZR)1(B, C, H, N, VA)0.5

Name	Sublattices	Formula Unit
HCP_4SL	5	(CD, CO, MG, V)0.25(CD, CO, MG, V)0.25(CD, CO, MG, V)0.25(CD, CO, MG, V)0.25(VA)0.5
HCP_ZN	2	(AG, AL, AS, AU, BI, CD, CR, CU, DY, ER, FE, GA, HG, IN, MG, PB, PD, SI, SN, ZN)1(VA)0.5
DHCP	2	(AG, AL, AM, AU, BI, CE, CO, FE, GA, IN, LA, MG, MN, ND, NI, NP, PR, PU, SC, SN, Y, ZR)1(H, VA)2
DIAMOND_A4	1	(AL, B, BI, C, GA, GE, NB, P, PD, RU, S, SI, SN, SR, TI, ZN)1
BCT_A5	1	(AG, AL, BI, CA, CD, GA, GE, IN, NI, PB, PD, S, SB, SN, TI, ZN)1
TETRAGONAL_A6	1	(BI, CD, CU, EU, GA, HG, IN, NA, PB, PU, SN, YB, ZN)1
TET_ALPHA1	1	(BI, IN, PB, SN)1
TETRAGONAL_U	1	(AS, CR, CU, FE, NI, SI, U, V, ZR)1
RHOMBOHEDRAL_A7	1	(AS, BA, BI, FE, GE, IN, ND, P, PB, PD, SB, SN, TB, TM, U, Y, ZN)1
HEXAGONAL_A8	1	(SE, TE)1
RHOMBO_A10	1	(CD, HG, PB, ZN)1
ALPHA_RHOMBO_B	1	(B)1
BETA_RHOMBO_B105	2	(B)93(B, C, CU, MN, MO, NB, SI, ZR)12
CHI_A12	3	(CR, FE, RE)24(CR, MO, NB, RE, TA, TI, W)10(CR, FE, MO, NB, RE, TA, W)24
CBCC_A12	2	(AL, CO, CR, DY, FE, HO, MG, MN, MO, NB, NI, SI, SM, SN, TI, V, ZN, ZR)1(B, C, N, VA)1
CUB_A13	2	(AG, AL, CE, CO, CR, DY, FE, GE, HF, HO, MG, MN, MO, NB, NI, SI, SM, SN, TI, V, ZN, ZR)1(B, C, N, VA)1
CUB_A15	2	(MO, TI)3(AL)1
ORTHORHOMBIC_A20	1	(AS, CU, FE, NI, SI, U, ZR)1
SIGMA	3	(AL, CO, FE, MN, NI, RE)8(CR, MO, TI, V, W)4(AL, CO, CR, FE, MN, MO, NI, RE, SI, TI, V, W)18

Name	*Sublattices*	*Formula Unit*
SIGMA_D8B	3	(AL, CO, RE, TA, V)10(NB, TA, V)4(AL, CO, NB, RE, TA, V)16
SIGMA_10_20	2	(CR, RE, TA)10(CR, RE, TA)20
HIGH_SIGMA	3	(FE, MN)8(CR, MO)4(CR, FE, MN, MO, TI)18
MU_PHASE	3	(CO, CR, FE, MN, MO, NI, TA)7(MO, NB, TA, TI, W)2(CO, CR, FE, MO, NB, NI, TA, TI, W)4
MU_D85	4	(FE, MN, NB)1(NB)4(FE, NB)2(FE, MN, NB)6
P_PHASE	3	(CR, FE, NI)24(CR, FE, MO, NI)20(MO)12
R_PHASE	3	(CO, CR, FE, MN, NI)27(MO, W)14(CO, CR, FE, MN, MO, NI, W)12
ZINCBLENDE_B3	2	(AL, CD, GA, HG, IN)0.5(AS, P, SB, TE)0.5
GRAPHITE	1	(B, C)1
RED_P	1	(AS, P)1
WHITE_P	1	(P)1
MONOCLINIC	1	(S)1
ORTHORHOMBIC_A16	1	(S, SN)1
ORTHORHOMBIC_GA	1	(GA)1
ORTHORHOMBIC_AC	1	(AM, FE, NP)1
TETRAG_AD	1	(AM, FE, NP)1
BCT_AA	1	(PA)1
ALPHA_PU	1	(AL, CU, PU)1
BETA_PU	1	(CU, PU)1

Name	Sublattices	Formula Unit
GAMMA_PU	1	(AL, CU, PU)1
RHOMB_C19	1	(AL, GD, MG, MN, PD, SM, ZN)1
OMEGA_ZR	1	(ZR)1
LAVES_C14	2	(AL, CO, CR, CU, DY, ER, FE, HO, MG, MN, MO, NB, NI, SR, TA, TI, V, W, ZN, ZR)2(AL, CO, CR, CU, DY, ER, FE, HO, MG, MN, MO, NB, NI, SR, TA, TI, V, W, ZN, ZR)1
C14_LAVES	2	(FE, MN, NB)2(FE, MN, NB)1
LAVES_C15	2	(AL, CO, CR, CU, DY, ER, FE, GD, HF, HO, MG, MN, MO, NB, NI, SC, SI, TA, TI, V, W, Y, ZN, ZR)2(AL, CO, CR, CU, DY, ER, FE, GD, HF, HO, MG, MN, MO, NB, ND, NI, SC, SI, TA, TI, V, W, Y, ZN, ZR)1
LAVES_C36	2	(AL, CO, CR, CU, HF, MG, MN, MO, NI, SI, TA, TI, V, ZN, ZR)2(AL, CO, CR, CU, HF, MG, MN, MO, NI, TA, TI, V, ZN, ZR)1
CEMENTITE	2	(CO, CR, FE, MN, MO, NB, NI, V, W)3(C, N)1
KSI_CARBIDE	2	(CR, FE, MO, W)3(C)1
M23C6	3	(CO, CR, FE, MN, NI, V)20(CO, CR, FE, MN, MO, NI, V, W)3(C)6
M7C3	2	(CO, CR, FE, MN, MO, NI, V, W)7(C)3
M6C	4	(CO, FE, NI)2(MO, W)2(CO, CR, FE, MO, NI, V, W)2(C)1
M3C2	2	(CR, FE, MN, MO, V, W)3(C)2
V3C2	2	(FE, MN, V)3(C)2
M5C2	2	(FE, MN, V)5(C)2
M12C	3	(CO)6(W)6(C)1
MC_SHP	2	(MO, W)1(C, N)1
MC_ETA	2	(MO, V, W)1(C, VA)1

Name	Sublattices	Formula Unit
AL4C3	2	(AL, SI)4(C)3
AL8SIC7	3	(AL)8(SI)1(C)7
AL4SIC4	3	(AL)4(SI)1(C)4
CR2VC2	3	(CR)2(V)1(C)2
FE8SI2C	3	(FE)8(SI)2(C)1
SIC	2	(SI)1(C)1
ALN	2	(AL)1(N)1
M4N	2	(CO, CR, FE, MN, NI)4(C, N, VA)1
FECN_CHI	2	(FE)5(C, N)2
PI_PHASE	3	(CR)12.8(FE, NI)7.2(N)4
TI2N	2	(TI)2(C, N)1
B4C	2	(B11C1, B12)1(B1C2, B2, B2C1, C1B2, C2B)1
BN_HP4	2	(B)1(N)1
MN6N4	2	(MN)6(N)4
MN6N5	2	(MN)6(N)5
EPSILON_TAN	1	(TA1N)1
TI3N2	1	(TI.71N.29)1
TI4N3	1	(TI.685N.315)1
ALB2	2	(AL)1(B)2

Name	*Sublattices*	*Formula Unit*
ALB12_ALPHA	2	(AL)1(B)12
BAB6	2	(BA)1(B)6
CAB6	2	(CA)1(B)6
SRB6	2	(SR)1(B)6
CR2B_ORTH	2	(CR)0.667(B)0.333
CR3B4	2	(CR)0.429(B)0.571
CR5B3	2	(CR)0.625(B)0.375
CRB	2	(CR)0.5(B)0.5
CRB2	2	(CR)0.333(B)0.667
CRB4	2	(CR)0.2(B)0.8
FE2B	1	(FE2B)1
FEB	1	(FE1B)1
FENDB_T1	1	(FE14ND2B1)1
FENDB_T2	1	(ND1.11FE4B4)1
FENDB_T3	1	(FE2ND5B6)1
BM	2	(B)1(HF)1
B2M	2	(B)2(HF)1
B4M3	2	(B)4(HF)3
M2B_TETR	2	(NI)0.667(B)0.333

Name	Sublattices	Formula Unit
MB2_C32	2	(B, MO, TI, ZR)1(B, MO, TI, ZR)2
MB_B33	2	(MO, TI, VA)0.5(B, TI, VA)0.5
MO2B	2	(MO, TI, VA)0.667(B, VA)0.333
MO2B5	2	(MO, TI, VA)0.32(B, VA)0.68
MOB4	2	(MO, TI, VA)0.2(B, VA)0.8
MOB_A	2	(MO, TI, VA)0.5(B, VA)0.5
NB3B2_D5A	2	(NB)3(B)2
NBB_B33	2	(NB)1(B, NB)1
NB5B6	2	(NB)5(B)6
NB3B4_D7B	2	(NB)3(B)4
NB2B3	2	(NB)2(B)3
NBB2_C32	2	(B, NB)1(B, NB)2
NDB4	1	(ND1B4)1
NDB6	1	(ND1B6)1
NDB66	1	(ND1B66)1
ND2B5	1	(ND2B5)1
ND2Y_C19	2	(ND, Y)2(ND, Y)1
NI3B	2	(NI)0.75(B)0.25
NI4B3_O	2	(NI)0.586(B)0.414

Name	Sublattices	Formula Unit
NI4B3_M	2	(NI)0.564(B)0.436
NIB	2	(NI)0.5(B)0.5
SIB3	3	(B)6(SI)2(B, SI)6
SIB6	3	(B)210(SI)23(B, SI)48
TI3B4	2	(MO, TI)3(B)4
TIB_B27	2	(MO, TI, ZR)1(B, MO, TI)1
B_NSI	3	(B)61(SI)1(B, SI)8
VB	2	(V)0.5(B)0.5
VB2	2	(V)0.333(B)0.667
V2B3	2	(V)0.4(B)0.6
V3B2	2	(V)0.6(B)0.4
V3B4	2	(V)0.4286(B)0.5714
WB_ALPHA	2	(W)1(B, VA)1
WB_BETA	2	(W)1(B, VA)1
WB3	1	(W2B9)1
W2B	1	(W2B1)1
W2B5	2	(W)2(B, VA)5
ASP	1	(AS, P)1
CU3P	2	(CU, FE)3(P)1

Name	Sublattices	Formula Unit
FEP	2	(FE)1(P)1
M2P	2	(CR, FE, MO, NI)2(P)1
M3P	2	(CR, CU, FE, MO, NI)3(P)1
MNP	1	(MN1P)1
MNP3	1	(MN1P3)1
MN3P	1	(MN3P)1
MN2P	1	(MN2P)1
MOP	2	(MO)1(P)1
NI5P2_H	2	(NI)5(P)2
NI5P2_L	2	(CU, NI)5(P)2
NI6P5	2	(NI)6(P)5
NI12P5	2	(NI)12(P)5
PSI	2	(P)1(SI)1
AGBA	2	(AG)1(BA)1
AG2BA	2	(AG)2(BA)1
AG2BA3	2	(AG)2(BA)3
AG5BA	2	(AG)5(BA)1
AG3BE8	2	(AG)2.97(BE)8.03
AGCA	2	(AG)1(CA)1

Name	Sublattices	Formula Unit
AGCA3	2	(AG)1(CA)3
AG2CA	2	(AG)2(CA)1
AG3CA5	2	(AG)3(CA)5
AG7CA2	2	(AG)7(CA)2
AG9CA2	2	(AG)9(CA)2
AGCD	2	(AG)1(CD)1
AG2CD3	2	(AG)2(CD)3
AGCD_ETA	1	(AG, CD)1
AGCE	2	(AG)1(CE)1
AG2CE	2	(AG)2(CE)1
AG4CE	2	(AG)4(CE)1
AG51CE14	2	(AG)51(CE)14
AG51DY14	2	(AG)0.7846(DY)0.2154
AG2DY	2	(AG)0.6667(DY)0.3333
AGDY	2	(AG)0.5(DY)0.5
AG51ER14	2	(AG)0.7846(ER)0.2154
AG2ER	2	(AG)0.6667(ER)0.3333
AGER	2	(AG)0.5(ER)0.5
AG2GA	2	(AG)2(AG, GA, VA)1

Name	Sublattices	Formula Unit
AG3GA2_B2	2	(AG)3(GA)2
AG51GD14	2	(AG)51(GD)14
AG2GD_C11B	2	(AG)2(GD)1
AGGD_B2	2	(AG)1(GD)1
AGIN2	2	(AG)0.33(IN)0.67
AG5LA_C14	2	(AG)5(LA)1
AG51LA14	2	(AG)51(LA)14
AG2LA	2	(AG)2(LA)1
AGLA_B2	2	(AG)1(LA)1
AGMG3	2	(AG)0.25(MG)0.75
AG3MG	2	(AG)0.75(MG)0.25
AGND	2	(AG)0.5(ND)0.5
AG2NA_C15	2	(AG)2(NA)1
AG2ND_BETA	2	(AG)0.667(ND)0.333
AG2ND_ALPHA	2	(AG)0.667(ND)0.333
AG51ND14	2	(AG)0.785(ND)0.215
AGP2	2	(AG)1(P)2
AG3P11	2	(AG)3(P)11
AG2S_ALPHA	2	(AG)2(S)1

Name	Sublattices	Formula Unit
AG2S_BETA	2	(AG, S)2(S)1
AG2S_GAMMA	2	(AG, S)2(S)1
AGSB_ORTHO	2	(AG, AU, SB)0.75(AG, AU, BI, SB, SN, TE)0.25
AGSC	2	(AG)1(SC)1
AG2SC	2	(AG)2(SC)1
AG4SC	2	(AG)4(SC)1
AG51SM14	2	(AG)51(SM)14
AG2SM_ALPHA	2	(AG)2(SM)1
AG2SM_BETA	2	(AG)2(SM)1
AGSM_B2	2	(AG)1(SM)1
AGSNTE2	2	(AG, SN)0.5(TE)0.5
AGSR	2	(AG)1(SR)1
AG2SR	2	(AG)2(SR)1
AG2SR3	2	(AG)2(SR)3
AG4SR	2	(AG)4(SR)1
AG5SR	2	(AG)5(SR)1
AG16TE_LT	2	(AG, SN)0.62(TE)0.38
AG19TE_LT	2	(AG)0.655(TE)0.345
AG2TE_LT	2	(AG, SN)0.667(TE)0.333

Name	Sublattices	Formula Unit
AG16TE_HT	2	(AG, SN)0.62(TE)0.38
AG19TE_HT	2	(AG, SN)0.655(TE)0.345
AG2TE_HT1	2	(AG, SN)0.667(TE)0.333
AG2TE_HT2	2	(AG, SN)0.666(TE)0.334
AGTI2	2	(AG)1(TI)2
AGTI	2	(AG, TI)1(AG, TI)1
AG51Y14	2	(AG)51(Y)14
AG2Y_C11B	2	(AG)2(Y)1
AGY_B2	2	(AG)1(Y)1
AG9YB2	2	(AG)9(YB)2
AG7YB2	2	(AG)7(YB)2
AG2YB	2	(AG)2(YB)1
AGYB_B27	2	(AG)1(YB)1
AGYB_B2	2	(AG)1(YB)1
AG2YB3_D5A	2	(AG)2(YB)3
AG3YB5_D8L	2	(AG)3(YB)5
AGZN_GAMMA	4	(AG, ZN)2(AG, ZN)2(AG)3(ZN)6
AGZN_ZETA	2	(ZN)1(AG, ZN)2
AGZR2	2	(AG)0.33333(ZR)0.66667

Name	Sublattices	Formula Unit
AGZR	2	(AG)0.5(ZR)0.5
ALM_D019	2	(AL, MO, NB, TA, TI, V, W)3(AL, MO, NB, TA, TI, V, W)1
AL3M_D022	2	(AL, MO, TI)3(MO, NB, TA, TI, V)1
AL4AM_D1B	2	(AL)4(AM)1
AL3AM_L12	2	(AL)3(AM)1
AL2AM_C15	2	(AL)2(AM)1
ALAM	2	(AL)1(AM)1
ALAM3	2	(AL)1(AM)3
ALAU	1	(AL1AU)1
ALAU2	1	(AL1AU2)1
ALAU4	1	(AL1AU4)1
AL2AU	1	(AL2AU)1
AL2AU5	1	(AL2AU5)1
AL4BA_D13	2	(AL)4(BA)1
AL13BA7	2	(AL)13(BA)7
AL5BA4	2	(AL)5(BA)4
AL4CA_D13	2	(AL)4(CA)1
AL2CA_C15	2	(AL)2(CA)1
ALCA	2	(AL)1(CA)1

Name	Sublattices	Formula Unit
AL3CA8	2	(AL)3(CA)8
AL2CASI2	3	(AL)2(CA)1(SI)2
ALCE_AMORPHOUS	1	(AL, CE)1
AL_CEND	2	(AL)1(CE, ND)1
AL_CEND3_H	2	(AL)1(CE)3
AL_CEND3_L	2	(AL)1(CE, ND)3
AL2_CEND	2	(AL)2(CE)1
AL3_CEND	2	(AL)3(CE, ND)1
AL11_CEND3_H	2	(AL)11(CE, ND)3
AL11_CEND3_L	2	(AL)11(CE, ND)3
AL5CO2	2	(AL)5(CO)2
AL3CO	2	(AL)3(CO)1
AL13CO4	2	(AL)13(CO)4
AL9CO2	2	(AL)9(CO)2
AL45CR7	2	(AL)45(CR)7
AL5CR	2	(AL)5(CR)1
AL4CR	2	(AL, VA)4(CR)1
AL8CR5_ALPHA	4	(AL)12(CR)5(AL, CR)5(AL, CR)4
AL8CR5_BETA	4	(AL, CR)2(AL, CR)3(CR)2(AL)6

Name	Sublattices	Formula Unit
ALCR2_C11B	2	(AL, CR)1(AL, CR)2
ALCU_ETA	2	(AL, CU)1(CU, ZN)1
ALCU_EPSILON	2	(AL, CU, ZN)1(CU)1
ALCU_THETA	2	(AL)2(AL, CU)1
ALCU_DELTA	2	(AL, ZN)2(CU)3
ALCU_ZETA	2	(AL, ZN)9(CU)11
ALCULI_R	3	(AL)0.55(CU)0.117(LI)0.333
ALCULI_T1	3	(AL)0.5(CU)0.25(LI)0.25
ALCULI_T2	3	(AL)0.57(CU)0.11(LI)0.32
ALCULI_TB	3	(AL)0.6(CU)0.32(LI)0.08
ALCUMG_QPHASE	3	(AL)7(CU)3(MG)6
ALCUMG_SPHASE	3	(AL)2(CU)1(MG)1
ALCUMG_VPHASE	3	(AL)5(CU)6(MG)2
ALCUZN_GAMMA_H	4	(CU)2(AL, CU)2(CU)3(AL, CU)6
ALCUZN_TAU	4	(AL, CU)1(AL)4(CU)4(ZN)1
AL3DY_D024	2	(AL)3(DY)1
ALDY	2	(AL)1(DY)1
AL2DY3	2	(AL)2(DY)3
ALDY2	2	(AL)1(DY)2

Name	Sublattices	Formula Unit
ALER	2	(AL, MG)1(ER)1
ALER2	2	(AL)1(ER)2
AL2ER3	2	(AL)2(ER)3
ALERMG_T	3	(AL)0.6667(ER)0.1(MG)0.2333
AL2FE	2	(AL)2(FE, MN)1
AL5FE2	2	(AL)5(FE, MN)2
AL5FE4	1	(AL, FE, MN)1
AL13FE4	3	(AL)0.6275(FE, MN)0.235(AL, SI, VA)0.1375
ALFESI_ALPHA	4	(AL)0.6612(FE)0.19(SI)0.0496(AL, SI)0.0992
ALFESI_BETA	3	(AL)14(FE)3(SI)3
ALFESI_GAMMA	3	(AL)3(FE)1(SI)1
ALFESI_DELTA	3	(AL)0.55(FE)0.15(SI)0.3
ALFESI_TAU1	3	(AL)2(FE)2(SI)1
ALFESI_TAU3	3	(AL)2(FE)1(SI)1
AL3GD	2	(AL)3(GD)1
ALGD	2	(AL)1(GD)1
AL2GD3	2	(AL)2(GD)3
ALGD2	2	(AL)1(GD)2
ALH3	2	(AL)1(H)3

Name	Sublattices	Formula Unit
AL3HF_D023	2	(AL)3(HF)1
AL3HF_D022	2	(AL)3(HF)1
AL2HF_C14	2	(AL)2(HF)1
AL3HF2	2	(AL)3(HF)2
ALHF_B33	2	(AL)1(HF)1
AL3HF4	2	(AL)3(HF)4
AL2HF3	2	(AL)2(HF)3
ALHF2_C16	2	(AL)1(HF)2
HOAL3	2	(AL)3(DY, HO)1
ALHO	2	(AL)1(HO)1
AL2HO3	2	(AL)2(HO)3
ALHO2	2	(AL)1(HO)2
AL9IR2	2	(AL)9(IR)2
AL45IR13	2	(AL)45(IR)13
AL13IR4	2	(AL)13(IR)4
AL28IR9	2	(AL)28(IR)9
AL3IR_D018	2	(AL)3(IR)1
AL5IR2	2	(AL)2.7(IR)1
ALLA	1	(AL1LA)1

Name	Sublattices	Formula Unit
ALLA3	1	(AL1LA3)1
AL2LA	1	(AL2LA)1
AL3LA	1	(AL3LA)1
AL11LA3D	1	(AL11LA3)1
AL11LA3F	1	(AL11LA3)1
AL53LA22	1	(AL53LA22)1
ALLI	2	(AL, LI, MG)1(LI, MG, VA)1
AL2LI3	2	(AL)2(LI)3
AL4LI9	2	(AL)4(LI)9
ALMG_BETA	2	(MG)89(AL, ZN)140
GAMMA_A12	3	(ER, MG)5(AL, MG, ZN)12(AL, MG, ZN)12
ALMG_GAMMA1	3	(DY, HO, MG)5(MG)12(MG)12
ALMG_EPSILON	2	(MG)23(AL, ZN)30
ALMGMN_T	3	(AL)18(MG)3(MN)2
ALMGZN_PHI	2	(MG)6(AL, ZN)5
ALMGZN_TAU	4	(MG)26(AL, MG)6(AL, CU, MG, ZN)48(AL)1
AL4MN	2	(AL)4(FE, MN)1
AL6MN	2	(AL)6(FE, MN)1
AL8MN5_D810	3	(AL, SI)12(MN)4(AL, FE, MN)10

Name	Sublattices	Formula Unit
AL11MN4	2	(AL)11(FE, MN)4
AL12MN	2	(AL)12(FE, MN)1
ALMNSI_ALPHA	4	(AL)16(MN)4(SI)1(AL, SI)2
ALMNSI_DELTA	3	(AL)2(MN)1(SI)3
ALMNSI_BETA	4	(AL)15(SI)1(AL, SI)4(MN)6
AL4MO	2	(AL)4(MO)1
AL5MO	2	(AL)5(MO)1
AL8MO3	2	(AL)8(MO)3
AL12MO	2	(AL)12(MO)1
AL63MO37	2	(AL)63(MO)37
ALNB2	3	(AL, NB)0.533(AL, NB)0.333(NB)0.134
ALNB3	2	(AL, NB)0.75(AL, NB)0.25
AL3NB	2	(AL, NB)0.25(AL, NB)0.75
ALND2	2	(AL)1(ND)2
AL3NI	2	(AL)3(NI)1
AL3NI2	3	(AL)3(AL, NI)2(NI, VA)1
AL3NI5	2	(AL)3(NI)5
AL4PD	2	(AL)4(PD)1
AL3PD	2	(AL)3(PD)1

Name	Sublattices	Formula Unit
AL21PD8	2	(AL)21(PD)8
AL3PD2_D513	2	(AL, PD)3(AL, PD)2
ALPD_B2	2	(AL, PD)1(PD, VA)1
AL3PD5	2	(AL)3(PD)5
AL2PD5	2	(AL)2(AL, PD)5
ALPD2_C37	2	(AL, PD)1(AL, PD)2
ALPR	2	(AL)1(PR)1
AL11PR3	2	(AL)11(PR)3
ALPR2	2	(AL)1(PR)2
ALPR3	2	(AL)1(PR)3
AL2PR	2	(AL)2(PR)1
AL3PR	2	(AL)3(PR)1
ALPT3	2	(AL, PT)0.25(AL, PT)0.75
AL21PT5	2	(AL)21(PT)5
AL21PT8	2	(AL)21(PT)8
AL2PT	2	(AL)2(PT)1
AL3PT2	2	(AL)3(PT)2
ALPT	2	(AL)1(PT)1
AL3PT5	2	(AL)3(PT)5

Name	Sublattices	Formula Unit
AL4PU_D1B	2	(AL)4(PU)1
AL3PU_9HA	2	(AL)3(PU)1
AL3PU_9HB	2	(AL)3(PU)1
AL3PU_6H	2	(AL)3(PU)1
AL3PU_L12	2	(AL)3(PU)1
AL2PU_C15	2	(AL)2(PU)1
ALPU_A12	2	(AL)1(PU)1
ALPU3	2	(AL)1(PU)3
AL12RE	2	(AL)12(RE)1
AL6RE_D2H	2	(AL)6(RE)1
AL4RE_LT	2	(AL, RE)4(AL, RE)1
AL4RE_HT	2	(AL, RE)4(RE)1
AL3RE	2	(AL)3(RE)1
AL11RE4	2	(AL)11(RE)4
ALRE_B11	2	(AL)1(RE)1
ALRE2_C11B	2	(AL)1(AL, RE)2
ALRU	2	(AL)1(RU)1
AL13RU4	2	(AL)13(RU)4
AL2RU	2	(AL)2(RU)1

Name	Sublattices	Formula Unit
AL3RU2	2	(AL)3(RU)2
AL6RU	2	(AL)6(RU)1
ALS	2	(AL)1(S)1
AL2S3_ALPHA	2	(AL)2(S)3
AL2S3_D51	2	(AL)2(S)3
AL3SC	2	(AL)3(SC)1
AL2SC	2	(AL)2(SC)1
ALSC	2	(AL)1(SC)1
ALSC2	2	(AL)1(SC)2
ALSISR	2	(AL, SI)2(SR)1
AL2SI2SR	3	(AL)2(SI)2(SR)1
AL11SM3_HT	2	(AL)11(SM)3
AL11SM3_LT	2	(AL)11(SM)3
ALSM	2	(AL)1(SM)1
ALSM2	2	(AL)1(SM)2
AL2SM	2	(AL)2(SM)1
AL3SM	2	(AL)3(SM)1
AL4SR_D13	2	(AL, SI)4(SR)1
AL2SR	2	(AL)2(SR)1

Name	Sublattices	Formula Unit
AL7SR8	2	(AL)7(SR)8
AL3SR8	2	(AL)3(SR)8
AL3TA_D022	2	(AL)3(AL, TA)1
AL69TA39	2	(AL, TA)69(AL, TA)39
AL38TA48	2	(AL, TA)38(AL, TA)48
ALTE	2	(AL)1(TE)1
AL2TE3_ALPHA	2	(AL)2(TE)3
AL2TE3_BETA	2	(AL)2(TE)3
AL2TE5	2	(AL)2(TE)5
AL7TH2	2	(AL)7(TH)2
AL3TH_D019	2	(AL)3(TH)1
AL2TH_C32	2	(AL)2(TH)1
AL3TH2	2	(AL)3(TH)2
ALTH_BF	2	(AL)1(TH)1
AL2TH3_D5A	2	(AL)2(TH)3
ALTH2_C16	2	(AL)1(TH)2
ALTI	2	(AL, MO, NB, TA, TI, V, W)1(AL, MO, NB, TA, TI, V, W)1
AL2TI	2	(AL)2(TI)1
AL11TI5	2	(AL)17(TI)8

Name	Sublattices	Formula Unit
AL4U_D1B	2	(AL)4(U)1
AL3U_L12	2	(AL)3(U)1
AL2U_C15	2	(AL)2(U)1
AL45V7	2	(AL)45(V)7
AL8V5	4	(AL)6(AL, V)2(AL, V)3(V)2
AL21V2	2	(AL)21(V)2
AL23V4	2	(AL)23(V)4
AL2W	2	(AL)2(W)1
AL4W	2	(AL)4(W)1
AL5W	2	(AL)5(W)1
AL7W3	2	(AL)7(W)3
AL12W	2	(AL)12(W)1
AL77W23	2	(AL)77(W)23
ALY_BF	2	(AL)1(Y)1
ALY2_C23	2	(AL)1(Y)2
AL2Y3	2	(AL)2(Y)3
AL3Y_BETA	2	(AL)3(Y)1
AL3Y_D019	2	(AL)3(Y)1
AL3YB_L12	2	(AL)3(YB)1

Name	Sublattices	Formula Unit
AL2YB_C15	2	(AL)2(YB)1
ALZR	2	(AL)1(ZR)1
ALZR2	2	(AL)1(ZR)2
ALZR3	2	(AL)1(ZR)3
AL2ZR	2	(AL)2(ZR)1
AL2ZR3	2	(AL)2(ZR)3
AL3ZR	2	(AL)3(ZR)1
AL3ZR2	2	(AL)3(ZR)2
AL3ZR5	2	(AL)3(ZR)5
AL4ZR5	2	(AL)4(ZR)5
AM6FE_D2C	2	(AM)6(FE)1
AMFE2_C15	2	(AM)1(FE)2
AM3GA_ALPHA	2	(AM)3(GA)1
AM3GA_L12	2	(AM)3(GA)1
AM5GA3	2	(AM)5(GA)3
AMGA_ALPHA	2	(AM)1(GA)1
AMGA_BETA	2	(AM)1(GA)1
AM2GA3	2	(AM)2(GA)3
AMGA2_C32	2	(AM)1(GA)2

Name	Sublattices	Formula Unit
AMGA3_ALPHA	2	(AM)1(GA)3
AMGA3_BETA	2	(AM)1(GA)3
AMGA3_GAMMA	2	(AM)1(GA)3
AM2GA7	2	(AM)2(GA)7
AM3GA11	2	(AM)3(GA)11
AMGA4_D1B	2	(AM)1(GA)4
AMGA6	2	(AM)1(GA)6
AM2GA15	2	(AM)2(GA)15
ASCUNI	3	(AS)0.334(CU)0.333(NI)0.333
AS2GE	2	(AS)0.6666(GE)0.3333
ASGE	2	(AS)0.5(GE)0.5
ASNI	2	(AS)1(NI)1
AS2NI	2	(AS)2(NI)1
AS2NI5	2	(AS)2(NI)5
AS8NI11	2	(AS)8(NI)11
AS2PT	2	(AS)2(PT)1
AS2TE3	2	(AS)2(TE)3
ZN3AS2_RT	2	(ZN)3(AS)2
ZN3AS2_D59	2	(ZN)3(AS)2

Name	Sublattices	Formula Unit
ZN3AS2_C1	2	(ZN)3(AS)2
ZNAS2	2	(AS, ZN)1(AS)2
UAS_B1	2	(U)1(AS)1
U3AS4_D73	2	(U)3(AS)4
UAS2	2	(U)1(AS)2
AU2BI_C15	2	(AG, AU)2(BI)1
AU6CE	2	(AU)6(CE)1
AU51CE14	2	(AU)51(CE)14
AU2CE	2	(AU)2(CE)1
AU4CE3	2	(AU)4(CE)3
AUCE_B27	2	(AU)1(CE)1
AUCE_B33	2	(AU)1(CE)1
AUCE2_C37	2	(AU)1(CE)2
AU6DY	2	(AU)6(DY)1
AU51DY14	2	(AU)51(DY)14
AU3DY_D0A	2	(AU)3(DY)1
AU2DY_C11B	2	(AU)2(DY)1
AUDY_B33	2	(AU)1(DY)1
AUDY_B2	2	(AU)1(DY)1

Name	Sublattices	Formula Unit
AUDY2_C37	2	(AU)1(DY)2
AU4ER_D1A	2	(AU)4(ER)1
AU3ER_D0A	2	(AU)3(ER)1
AU2ER_C11B	2	(AU)2(ER)1
AU10ER7	2	(AU)10(ER)7
AUER_B33	2	(AU)1(ER)1
AUER_B2	2	(AU)1(ER)1
AUER2_C37	2	(AU)1(ER)2
AU7GA2_HT	2	(AU)0.7895(GA)0.2105
AU7GA2_LT	2	(AU)7(GA)2
AU7GA3	2	(AU)7(GA)3
AUGA_B31	2	(AU)1(GA)1
AUGA2_C1	2	(AU)1(GA)2
AU6GD	2	(AU)6(GD)1
AU51GD14	2	(AU)51(GD)14
AU3GD_D0A	2	(AU)3(GD)1
AU2GD_C11B	2	(AU)2(GD)1
AU10GD7	2	(AU)10(GD)7
AU4GD3	2	(AU)4(GD)3

Name	Sublattices	Formula Unit
AUGD_B33	2	(AU)1(GD)1
AUGD_B2	2	(AU)1(GD)1
AUGD2_C37	2	(AU)1(GD)2
AU5HF	2	(AU)5(AU, HF)1
AU4HF	2	(AU)4(HF)1
AU3HF	2	(AU)3(HF)1
AU2HF	2	(AU)2(AU, HF)1
AU10HF7	2	(AU)10(HF)7
AUHF_ALPHA	2	(AU)1(AU, HF)1
AUHF_BETA	2	(AU)1(AU, HF)1
AUHF2	2	(AU)1(HF)2
AU6HO	2	(AU)6(HO)1
AU4HO_D1A	2	(AU)4(HO)1
AU51HO14	2	(AU)51(HO)14
AU3HO_D0A	2	(AU)3(HO)1
AU2HO_C11B	2	(AU)2(HO)1
AU10HO7	2	(AU)10(HO)7
AUHO_B33	2	(AU)1(HO)1
AUHO_B2	2	(AU)1(HO)1

Name	Sublattices	Formula Unit
AUHO2_C37	2	(AU)1(HO)2
AUIN	2	(AU)0.5(IN, SB, SN)0.5
AUIN2	2	(AU)0.3333(IN, SB, SN)0.6667
AU3IN	2	(AU)3(IN)1
AU7IN3	2	(AU)7(IN)3
AUIN_BETA	2	(AU)7.065(IN)1.935
AUIN_GAMMA	3	(AU)0.69231(AU, IN)0.23077(IN)0.07692
AUIN_PSI	3	(AU)0.5(AU, IN)0.33333(IN)0.16667
AUIN_BETAP	2	(AU)14(IN)4
AU4IN3SN3	3	(AU)0.4(IN, SN)0.3(IN, SN)0.3
AU6LA	2	(AU)6(LA)1
AU51LA14	2	(AU)51(LA)14
AU2LA	2	(AU)2(LA)1
AULA_B27	2	(AU)1(LA)1
AULA_B33	2	(AU)1(LA)1
AULA2_C37	2	(AU)1(LA)2
AU4LU_D1A	2	(AU)4(LU)1
AU3LU_D0A	2	(AU)3(LU)1
AU2LU_C11B	2	(AU)2(LU)1

Name	Sublattices	Formula Unit
AULU_B2	2	(AU)1(LU)1
AULU2_C37	2	(AU)1(LU)2
AUNI2SN4	3	(AU)0.143(NI)0.286(SN)0.571
AU6ND	2	(AU)6(ND)1
AU51ND14	2	(AU)51(AU, ND)14
AU36ND17	2	(AU)36(ND)17
AU4ND3	2	(AU)4(ND)3
AUND_B27	2	(AU)1(ND)1
AUND_B33	2	(AU)1(ND)1
AUND_B2	2	(AU)1(ND)1
AUND2_C37	2	(AU)1(ND)2
AUPB2	2	(AU)1(PB)2
AUPB3	2	(AU)1(PB)3
AU2PB	2	(AU)2(PB)1
AU6PR	2	(AU)6(PR)1
AU51PR14	2	(AU)51(PR)14
AU36PR17	2	(AU)36(PR)17
AU2PR	2	(AU)2(PR)1
AU4PR3	2	(AU)4(PR)3

Name	Sublattices	Formula Unit
AUPR_ALPHA	2	(AU)1(PR)1
AUPR_BETA	2	(AU)1(PR)1
AUPR_GAMMA	2	(AU)1(PR)1
AUPR2	2	(AU)1(PR)2
AUSB2	2	(AG, AU)0.333333(BI, IN, SB)0.666667
AU4SC_D1A	2	(AU)4(SC)1
AU3SC_D0A	2	(AU)3(SC)1
AU2SC_C11B	2	(AU)2(SC)1
AUSC_B2	2	(AU)1(SC)1
AUSC2_C37	2	(AU)1(SC)2
AU2SC7	2	(AU)2(SC)7
AUSN	2	(AU, NI)0.5(IN, SN)0.5
AUSN2	2	(AU)0.333333(SN)0.666667
AUSN4	2	(AU, NI)0.2(IN, SN)0.8
AU5SN	2	(AU)0.84(SN)0.16
AUTE2	2	(AU)1(TE)2
AU51TH14	2	(AU)51(TH)14
AU2TH	2	(AU)2(TH)1
AU4TH3	2	(AU)4(TH)3

Name	Sublattices	Formula Unit
AUTH_B33	2	(AU)1(TH)1
AU2TH3	2	(AU)2(TH)3
AUTH2_C16	2	(AU)1(TH)2
TI3AU	2	(TI)3(AU)1
TIAU	2	(TI, VA)0.5(AU, TI)0.5
TIAU2	2	(TI)1(AU)2
TIAU4	2	(AU, TI)0.2(AU)0.8
AU4TM_D1A	2	(AU)4(TM)1
AU3TM_D0A	2	(AU)3(TM)1
AU2TM_C11B	2	(AU)2(TM)1
AU10TM7	2	(AU)10(TM)7
AUTM_B33	2	(AU)1(TM)1
AUTM_B2	2	(AU)1(TM)1
AUTM2_C37	2	(AU)1(TM)2
AU4YB_D1A	2	(AU)4(YB)1
AU3YB_D0A	2	(AU)3(YB)1
AU2YB_C11B	2	(AU)2(YB)1
AUYB_B27	2	(AU)1(YB)1
AUYB_B2	2	(AU)1(AU, YB)1

Name	Sublattices	Formula Unit
AU4YB5	2	(AU)4(YB)5
AU3YB5_D8L	2	(AU)3(YB)5
AUYB2_C37	2	(AU)1(YB)2
AU3YB7_D102	2	(AU)3(YB)7
AU10ZR7	2	(AU)10(ZR)7
AUZR	2	(AU)1(ZR)1
AUZR2	2	(AU)1(ZR)2
AUZR3	2	(AU)1(ZR)3
AU2ZR	2	(AU)2(ZR)1
AU2ZR3	2	(AU)2(ZR)3
AU3ZR	2	(AU)3(ZR)1
AU4ZR	2	(AU)4(ZR)1
AUZN_A3	3	(AU)0.64286(AU, ZN)0.25(ZN)0.10714
AUZN_A1	3	(AU)0.6(AU, ZN)0.2(ZN)0.2
AUZN_A2	2	(AU)0.75(ZN)0.25
AUZN_BETA	2	(AU, ZN)0.5(AU, ZN)0.5
AUZN_DELTA	2	(AU)0.44(ZN)0.56
AUZN_G2	2	(AU)0.25(ZN)0.75
AUZN_G3	3	(AU)0.12(AU, ZN)0.16(ZN)0.72

Name	*Sublattices*	*Formula Unit*
AUZN_E1	2	(AU)0.15(ZN)0.85
AU5ZN3	2	(AU)0.625(ZN)0.375
AUZN_BRASS	4	(AU, ZN)2(AU)2(AU, ZN)3(ZN)6
B2_INYB	2	(IN, YB)0.5(IN, YB)0.5
CEB4_D1E	2	(CE)1(B)4
CEB6_D21	2	(CE)1(B)6
B27_COB	2	(CO)1(B)1
CO3B	2	(CO)3(B)1
C16_CO2B	2	(CO)2(B)1
ERB2_C32	2	(ER)1(B)2
ERB4_D1E	2	(ER)1(B)4
ERB12_D2F	2	(ER)1(B)12
ERB66	2	(ER)1(B)66
LAB4_D1E	2	(LA)1(B)4
LAB6_D21	2	(LA)1(B)6
LAB9	2	(LA)1(B)9
LUB2_C32	2	(LU)1(B)2
LUB4_D1E	2	(LU)1(B)4
LUB12_D2F	2	(LU)1(B)12

Name	Sublattices	Formula Unit
LUB66	2	(LU)1(B)66
B2MG	2	(B)2(MG)1
B4MG	2	(B)4(MG)1
B7MG	2	(B)7(MG)1
D2B_B12SC1	2	(B)12(SC)1
C32_B2SC1	2	(B)2(SC)1
MNB4	2	(MN)1(B)4
MNB2	2	(MN)1(B)2
MN3B4	2	(MN)3(B)4
MNB	2	(MN)1(B)1
MN2B_TET	2	(MN)2(B)1
MN2B_ORTHO	2	(MN)0.670691(B)0.329309
PR2B5	2	(PR)2(B)5
PRB4_D1E	2	(PR)1(B)4
PRB6_D21	2	(B, PR)1(B)6
RE3B_E1A	2	(RE)3(B)1
RE7B3_D102	2	(RE)7(B)3
REB2	2	(B, RE)1(B)2
TA2B_C16	2	(TA)2(B, VA)1

Name	Sublattices	Formula Unit
TA3B2_D5A	2	(TA)3(B)2
TAB_B33	2	(TA)1(B)1
TAB_B27	2	(TA)1(B, VA)1
TA5B6	2	(TA)5(B)6
TA3B4_D7B	2	(TA)3(B)4
TAB2_C32	2	(TA, VA)1(B, VA)2
TMB2_C32	2	(TM)1(B)2
TMB4_D1E	2	(TM)1(B)4
TMB12_D2F	2	(TM)1(B)12
TMB66	2	(TM)1(B)66
B12U	2	(B)0.923(U)0.077
B4U	2	(B)0.8(U)0.2
B2U	2	(B)0.667(U)0.333
ZRB_B1	2	(ZR)1(B)1
ZRB12	2	(TI, ZR)1(B)12
BA2BI	2	(BA)2(BI)1
BA5BI3_D88	2	(BA)5(BI)3
BA4BI3_D73	2	(BA)4(BI)3
BA11BI10	2	(BA)11(BI)10

Name	Sublattices	Formula Unit
BABI3	2	(BA)1(BI)3
BACU	1	(BA1CU)1
BACU13	1	(BA1CU13)1
BA10GA	2	(BA)10(GA)1
BA8GA7	2	(BA)8(GA)7
BA5GA6	2	(BA)5(GA)6
BAGA2_C32	2	(BA)1(GA)2
BAGA4_D13	2	(BA)1(GA)4
BA2GE_C37	2	(BA)2(GE)1
BA5GE3	2	(BA)5(GE)3
BAGE_B33	2	(BA)1(GE)1
BA3GE4_ALPHA	2	(BA)3(GE)4
BA3GE4_BETA	2	(BA)3(GE)4
BAGE2	2	(BA)1(GE)2
BA6GE25	2	(BA)6(GE)25
BA8GE43	2	(BA)8(GE)43
BAMG2_C14	2	(BA)0.333(MG)0.667
BA6MG23_D8A	2	(BA)0.207(MG)0.793
BA2MG17	2	(BA)0.105(MG)0.895

Name	Sublattices	Formula Unit
BA2PB_C37	2	(BA)2(PB)1
BA5PB3_D8L	2	(BA)5(PB)3
BAPB_B33	2	(BA)1(PB)1
BA17PB23	2	(BA)17(PB)23
BA3PB5_LT	2	(BA)3(PB)5
BA3PB5_HT	2	(BA)3(PB)5
BAPB3	2	(BA)1(PB)3
BE2C_C1	2	(BE)2(C)1
BE22MO	2	(BE)22(MO)1
BE12MO_D2B	2	(BE)12(MO)1
BE2MO_C14	2	(BE)2(MO)1
BEMO3_A15	2	(BE)1(MO)3
BE13PU_D23	2	(BE)13(PU)1
BE12V_D2B	2	(BE)12(V)1
BE17V2	2	(BE)17(V)2
BE2V_C14	2	(BE)2(V)1
BI2CE	2	(BI)2(CE)1
BICE_B1	2	(BI)1(CE)1
BI3CE4_D73	2	(BI)3(CE)4

Name	Sublattices	Formula Unit
BI3CE5_D88	2	(BI)3(CE)5
BICE2	2	(BI)1(CE)2
BI2CS_C15	2	(BI)2(CS)1
BI4CS5	2	(BI)4(CS)5
BI2CS3	2	(BI)2(CS)3
BICS3_D03	2	(BI)1(CS)3
BIDY_B1	2	(BI)1(DY)1
BI3DY5	2	(BI)3(DY)5
BIER_B1	2	(BI)1(ER)1
BI3ER5	2	(BI)3(ER)5
BI2GD	2	(BI)2(GD)1
BIGD_B1	2	(BI)1(GD)1
BI3GD4_D73	2	(BI)3(GD)4
BI3GD5	2	(BI)3(GD)5
BIHO_B1	2	(BI)1(HO)1
BI3HO5	2	(BI)3(HO)5
BIIN	2	(BI)0.5(IN)0.5
BIIN_EPSILON	1	(BI, IN)1
BIIN_BRASS	2	(BI)0.333333(IN)0.666667

Name	Sublattices	Formula Unit
BI3IN5	2	(BI)0.375(IN)0.625
BIK3A	2	(BI)0.25(K)0.75
BIK3B	2	(BI)0.25(K)0.75
BI2K	2	(BI)0.666667(K)0.333333
BI2K3	2	(BI)0.4(K)0.6
BI4K5	2	(BI)0.444444(K)0.555556
BI2LA	2	(BI)2(LA)1
BILA_B1	2	(BI)1(LA)1
BI3LA4_D73	2	(BI)3(LA)4
BI3LA5_D88	2	(BI)3(LA)5
BILA2	2	(BI)1(LA)2
BILI_L10	2	(BI)1(LI)1
BILI_HT	2	(BI)1(LI)1
BILI3_D03	2	(BI)1(LI)3
BI2LU	2	(BI)2(LU)1
BILU_B1	2	(BI)1(LU)1
BI3LU5	2	(BI)3(LU)5
BI2MG3_D52	2	(BI, VA)2(MG)3
BI2MG3_BETA	2	(BI, VA)2(MG)3

Name	Sublattices	Formula Unit
BIMN_B81	2	(BI)1(MN)1
BIMN_B82	2	(BI)1(MN)1.08
BINA_L10	2	(BI)1(NA)1
BINA3_D018	2	(BI)1(NA)3
BI2ND	2	(BI)2(ND)1
BIND_B1	2	(BI)1(ND)1
BI3ND4_D73	2	(BI)3(ND)4
BI3ND5_D88	2	(BI)3(ND)5
BIND2	2	(BI)1(ND)2
BINI	3	(NI, VA)1(VA)1(BI)1
BI3NI	2	(BI)0.75(NI)0.25
BI2PD	2	(BI)2(PD)1
BIPD	2	(BI)1(PD)1
BI3PD5	1	(BI, PD)1
BIPD3	2	(BI)1(PD)3
BI2RB_C15	2	(BI)2(RB)1
BI4RB5	2	(BI)4(RB)5
BI2RB3	2	(BI)2(RB)3
BIRB3_D018	2	(BI)1(RB)3

Name	Sublattices	Formula Unit
BIRB3_D03	2	(BI)1(RB)3
BI4RH	2	(BI)4(RH)1
BI2RH_LT	2	(BI)2(RH)1
BI2RH_HT	2	(BI)2(RH)1
BI55RH45_B31	2	(BI)0.55(RH)0.45
BIRH_B81	2	(BI)1(BI, RH)1
BI3SE2	2	(BI)3(SE)2
BISE	3	(BI)2(BI, SE)1(SE)2
BI2SE3_C33	2	(BI)2(SE)3
BI3SR_L12	2	(BI)3(SR)1
BI10SR11	2	(BI)10(SR)11
BI3SR5_D88	2	(BI)3(SR)5
BI3SR5_HT	2	(BI)3(SR)5
BISR2	2	(BI)1(SR)2
BITB	2	(BI)1(TB)1
BI3TB4	2	(BI)3(TB)4
BI3TB5_ALPHA	2	(BI)3(TB)5
BI3TB5_BETA	2	(BI)3(TB)5
BI2TE	2	(BI)2(TE)1

Name	Sublattices	Formula Unit
BI4TE3	2	(BI)4(TE)3
BITE	2	(BI)2(BI, TE)3
BI2TE3_C33	2	(BI)2(TE)3
BI2TI	2	(BI)2(TI)1
BI3TI2	2	(BI)3(TI)2
BI9TI8	2	(BI)9(TI)8
BITI2	2	(BI)1(TI)2
BITI3	2	(BI)1(TI)3
BITL_EPSILON	1	(BI, TL)1
BITM	2	(BI)1(TM)1
BI3TM5	2	(BI)3(TM)5
BI2U	2	(BI)2(U)1
BI4U3_D73	2	(BI)4(U)3
BIU_B1	2	(BI)1(U)1
BIY	2	(BI)1(Y)1
BI3Y5	2	(BI)3(Y)5
BI2YB_C49	2	(BI)2(YB)1
BI10YB11	2	(BI)10(YB)11
BI3YB4_D73	2	(BI)3(YB)4

Name	Sublattices	Formula Unit
BI3YB5	2	(BI)3(YB)5
BIYB2	2	(BI)1(YB)2
FCC_B1	2	(U)1(C, C2, N, VA)1
BCT_U	2	(U)1(C, C2, VA)1
DY2C3_D5C	2	(DY)2(C)3
DYC2_C11A	2	(DY)1(C)2
DYC2_C1	2	(DY)1(C)2
CE2C3_D5C	2	(CE)2(C)3
CEC2_C11A	2	(CE)1(C)2
CEC2_BETA	2	(CE)1(C)2
LI2C2_ALPHA	2	(LI)1(C)1
LI2C2_C1	2	(LI)1(C)1
LIC6	2	(LI)1(C)6
MG2C3	2	(MG)2(C)3
MGC2	2	(MG)1(C)2
C3U2	2	(U)2(C)3
YC_B1	2	(Y)1(C, C2, VA)1
Y15C19_ALPHA	2	(Y)15(C, VA)19
Y15C19_BETA	2	(Y)15(C, VA)19

Name	Sublattices	Formula Unit
Y2C3_D5C	3	(VA, Y)2(C)2(C, VA)1
Y2C3_BETA	3	(VA, Y)2(C)2(C, VA)1
YC2_C11A	2	(Y)1(C)2
Y3SI2C2	3	(Y)3(SI)2(C)2
CACU	1	(CA1CU)1
CACU5	1	(CA1CU5)1
CA2CU	1	(CA2CU)1
CAGA	2	(CA)1(GA)1
CA11GA7	2	(CA)11(GA)7
CAGA2	2	(CA)1(GA)2
CAGA4	2	(CA)1(GA)4
CA25GA59	2	(CA)25(GA)59
CA28GA11	2	(CA)28(GA)11
CA3GA5	2	(CA)3(GA)5
CA3GA8	2	(CA)3(GA)8
CA5GA3	2	(CA)5(GA)3
CA3IN	2	(CA)3(IN)1
CAIN	2	(CA)1(IN)1
CAIN2	2	(CA)1(IN)2

Name	Sublattices	Formula Unit
CA2SN_C37	3	(CA)1(SN)1(CA, MG)1
CA5SN3_D8L	2	(CA)5(SN)3
CA36SN23	2	(CA)36(SN)23
CA31SN20	2	(CA)31(SN)20
CA7SN6	2	(CA)7(SN)6
CASN_B33	2	(CA)1(SN)1
CASN3_L12	2	(CA)1(SN)3
CD6GD	2	(CD)6(GD)1
CD58GD13	2	(CD)58(GD)13
CD45GD11	2	(CD)45(GD)11
CD3GD_D019	2	(CD)3(GD)1
CD2GD	2	(CD)2(GD)1
CDGD_B2	2	(CD)1(GD)1
CAH_GAMMA	2	(CA)1(H, VA)0.5
CAH2_ALPHA	2	(CA)1(H)2
CAH2_BETA	2	(CA)1(H)2
CALI2	2	(CA)1(LI)2
CAMG2_C14	2	(CA)1(MG)2
CAMGSN_TAU	3	(CA)6.24(MG)3.76(SN)7

Name	Sublattices	Formula Unit
CANI2_C15	2	(CA)1(NI)2
CANI3	2	(CA)1(NI)3
CA2NI7	2	(CA)2(NI)7
CANI5_D2D	2	(CA)1(NI)5
CA2PB_C37	2	(CA)2(PB)1
CA5PB3	2	(CA)5(PB)3
CAPB_L10	2	(CA)1(PB)1
CAPB3_L12	2	(CA)1(PB)3
CASI	2	(CA)1(SI)1
CASI2	2	(CA)1(SI)2
CA2SI	2	(CA)2(SI)1
CA3SI4	2	(CA)3(SI)4
CA5SI3	2	(CA)5(SI)3
CA14SI19	2	(CA)14(SI)19
D23_CAZN13	2	(CA)1(ZN)13
D2D_CAZN5	2	(CA)1(ZN)5
CA3ZN	2	(CA)3(ZN)1
CA5ZN3	2	(CA)5(ZN)3
CAZN	2	(CA)1(ZN)1

Name	Sublattices	Formula Unit
CAZN11	2	(CA)1(ZN)11
CAZN2	2	(CA)1(ZN)2
CAZN3	2	(CA)1(ZN)3
CD3IN	2	(CD)3(IN)1
CDIN_ALPHA	1	(CD, IN)1
CD11NA2_D8C	2	(CD)11(NA)2
CD2NA	2	(CD)2(NA)1
CD11PU_D2E	2	(CD)11(PU)1
CD6PU	2	(CD)6(PU)1
CD4PU	2	(CD)4(PU)1
CD2PU	2	(CD)2(PU)1
CDSB_OMEGA	2	(CD, ZN)1(SB)1
CDSE_B4	2	(CD)1(SE)1
CD11SR	2	(CD)11(SR)1
CD6SR	2	(CD)6(SR)1
CD58SR13	2	(CD)58(SR)13
CD2SR	2	(CD)2(SR)1
CDSR_B2	2	(CD)1(SR)1
CD3SR5_D8L	2	(CD)3(SR)5

Name	Sublattices	Formula Unit
CDTI_B11	2	(CD)1(TI)1
CDTI2	2	(CD)1(TI)2
CD6Y	2	(CD)6(Y)1
CD58Y13	2	(CD)58(Y)13
CD45Y11	2	(CD)45(Y)11
CD3Y	2	(CD)3(Y)1
CD2Y	2	(CD)2(Y)1
CDY_B2	2	(CD)1(Y)1
CEFE2_C15	2	(CE)1(FE)2
CE2FE17	2	(CE)2(FE)17
CEMG	2	(CE)1(MG)1
CEMG2	2	(CE)1(MG)2
CEMG3	2	(CE)1(MG)3
CEMG12	2	(CE)1(MG)12
CE2MG17	2	(CE)2(MG)17
CE5MG41	2	(CE)5(MG)41
CE7NI3	2	(CE)7(NI)3
CENI	2	(CE)1(NI)1
CENI2	2	(CE)1(NI)2

Name	Sublattices	Formula Unit
CENI3	2	(CE)1(NI)3
CE2NI7	2	(CE)2(NI)7
CENI5	2	(CE)1(NI)5
CE7PT3_D102	2	(CE)7(PT)3
CE5PT3	2	(CE, PT)0.615(CE, PT)0.385
CE3PT2	2	(CE)3(PT)2
CE5PT4	2	(CE)5(PT)4
CEPT_B33	2	(CE)1(PT)1
CE3PT4	2	(CE)3(PT)4
CEPT2_C15	2	(CE, PT)0.325(CE, PT)0.675
CE18PT82	2	(CE)0.18(PT)0.82
CEPT5_D2D	2	(CE)1(PT)5
CE2SB	2	(CE)2(SB)1
CE4SB3_D73	2	(CE)4(SB)3
CESB_B1	2	(CE)1(SB)1
CESB2	2	(CE)1(SB)2
CE5SI3_D8L	2	(CE)5(SI)3
CE3SI2_D5A	2	(CE)3(SI)2
CE5SI4	2	(CE)5(SI)4

Name	Sublattices	Formula Unit
CESI_B27	2	(CE)1(SI)1
CE3SI5	2	(CE)3(SI)5
CESI2_CC	2	(CE)1(SI)2
CE3SN_L12	2	(CE)3(SN)1
CE5SN3	2	(CE)5(SN)3
CE5SN4	2	(CE)5(SN)4
CE11SN10	2	(CE)11(SN)10
CE3SN5	2	(CE)3(SN)5
CE3SN7	2	(CE)3(SN)7
CE2SN5	2	(CE)2(SN)5
CESN3_L12	2	(CE)1(SN)3
CETE_B1	2	(CE)1(TE)1
CE3TE4_D73	2	(CE, VA)3(TE)4
CE4TE7	2	(CE)4(TE)7
CETE2	2	(CE)1(TE)2
CE2TE5	2	(CE)2(TE)5
CETE3	2	(CE)1(TE)3
CEZN_B2	2	(CE)1(ZN)1
CEZN2	2	(CE)1(ZN)2

Name	Sublattices	Formula Unit
CEZN3	2	(CE)1(ZN)3
CE3ZN11	2	(CE)3(ZN)11
CE13ZN58	2	(CE)13(ZN)58
CEZN5_D2D	2	(CE)1(ZN)5
CE3ZN22	2	(CE)3(ZN)22
CE2ZN17	2	(CE)2(ZN)17
CEZN11	2	(CE)1(ZN)11
CO2CE	1	(CO2CE)1
CO3CE	1	(CO3CE)1
CO5CE	1	(CO5CE)1
CO7CE2	1	(CO7CE2)1
CO11CE24	1	(CO11CE24)1
CO17CE2	1	(CO17CE2)1
CO19CE5	1	(CO19CE5)1
CODY3	2	(CO)1(DY)3
CO7DY12	2	(CO)7(DY)12
CO2DY	2	(CO)2(DY)1
CO3DY	2	(CO)3(DY)1
CO7DY2	2	(CO)7(DY)2

Name	Sublattices	Formula Unit
CO5DY	2	(CO)5(DY)1
CO17DY2	2	(CO)17(DY)2
CO17ER2	2	(CO)17(ER)2
CO5ER_D2D	2	(CO)5(ER)1
CO7ER2	2	(CO)7(ER)2
CO3ER	2	(CO)3(ER)1
CO2ER_C15	2	(CO)2(ER)1
CO7ER12	2	(CO)7(ER)12
COER3_D011	2	(CO)1(ER)3
COGA	2	(CO, VA)0.5(CO, GA)0.5
COGA3	2	(CO)1(GA)3
CO17GD2	2	(CO)17(GD)2
CO5GD	2	(CO)5(GD)1
CO7GD2	2	(CO)7(GD)2
CO3GD	2	(CO)3(GD)1
CO2GD	2	(CO)2(GD)1
CO3GD4	2	(CO)3(GD)4
COGD3	2	(CO)1(GD)3
CO23GD6	2	(CO)23(GD)6

Name	Sublattices	Formula Unit
COGE	2	(CO)1(GE)1
CO3GE	2	(CO)3(GE)1
COGE2	2	(CO)1(GE)2
CO5GE2	2	(CO)5(GE)2
CO5GE3	2	(CO)5(GE)3
CO5GE7	2	(CO)5(GE)7
CO11HF2	2	(CO)11(HF)2
CO23HF6_D8A	2	(CO)23(HF)6
COHF2	2	(CO, HF)1(CO, HF)2
COIN2	2	(CO)1(IN)2
COIN3	2	(CO)1(IN)3
CO13LA_D23	2	(CO)13(LA)1
CO5LA_D2D	2	(CO)5(LA)1
CO19LA5	2	(CO)19(LA)5
CO7LA2	2	(CO)7(LA)2
CO3LA2	2	(CO)3(LA)2
CO23LA27	2	(CO)23(LA)27
COLA3_D011	2	(CO)1(LA)3
CO2MG_C14	2	(CO)2(MG)1

Name	Sublattices	Formula Unit
CO3MO	2	(CO)3(MO)1
CONB_MU	4	(CO, NB)1(CO, NB)2(NB)4(CO)6
CONB_LAMBDA	2	(CO, NB)2(CO, NB)1
CO3NB	1	(CO3NB)1
CO7NB2	1	(CO7NB2)1
CO16NB9	1	(CO16NB9)1
CO17ND2	2	(CO)17(ND)2
CO5ND_D2D	2	(CO)5(ND)1
CO19ND5	2	(CO)19(ND)5
CO7ND2	2	(CO)7(ND)2
CO3ND	2	(CO)3(ND)1
CO2ND_C15	2	(CO)2(ND)1
CO3ND2_LT	2	(CO)3(ND)2
CO3ND2_HT	2	(CO)3(ND)2
CO3ND4	2	(CO)3(ND)4
CO2ND5	2	(CO)2(ND)5
COND3_D011	2	(CO)1(ND)3
COPT	1	(CO, PT)1
COPT3	1	(CO, PT)1

Name	Sublattices	Formula Unit
COSB_B81	3	(CO, VA)0.3333(CO, VA)0.3333(SB)0.3333
COSB2_C18	2	(CO)0.3333(SB)0.6667
COSB3_D02	2	(CO)0.25(SB)0.75
COSI2	2	(CO)1(SI)2
COSI	2	(CO, SI)0.5(CO, SI)0.5
CO2SI_ALPHA	2	(CO, SI)2(CO, SI)1
CO2SI_BETA	2	(CO, SI)2(CO, SI)1
CO3SI	2	(CO)3(SI)1
COSM3	1	(CO1SM3)1
CO2SM	1	(CO2SM)1
CO3SM	1	(CO3SM)1
CO4SM9	1	(CO4SM9)1
CO5SM	1	(CO5SM)1
CO7SM2	1	(CO7SM2)1
CO17SM2	1	(CO17SM2)1
CO19SM5	1	(CO19SM5)1
CO3SN2_B82	4	(CO)1(SN)1(CO, VA)0.5(CO, VA)0.5
COSN_B35	2	(CO)1(SN)1
COSN2_C16	2	(CO)1(SN)2

Name	Sublattices	Formula Unit
COSN3	2	(CO)1(SN)3
COTA2	1	(CO1TA2)1
CO7TA2	1	(CO7TA2)1
CO17TH2	2	(CO)17(TH)2
CO5TH_D2D	2	(CO)5(TH)1
CO7TH2_ALPHA	2	(CO)7(TH)2
CO7TH2_BETA	2	(CO)7(TH)2
COTH_B33	2	(CO)1(TH)1
CO3TH7_D102	2	(CO)3(TH)7
COTI2	2	(CO)1(TI)2
CO11U2	2	(CO)11(U)2
CO4U	2	(CO)4(U)1
CO3U	2	(CO)3(U)1
CO2U_C15	2	(CO, U)2(CO, U)1
COU_BA	2	(CO)1(U)1
COU6_D2C	2	(CO)1(U)6
COV3_A15	2	(CO)1(V)3
COZN	1	(CO, ZN)1
CO4ZN	1	(CO, ZN)1

Name	Sublattices	Formula Unit
CO2ZN15	2	(CO)0.117647(ZN)0.882353
COZN7	2	(CO)0.125(ZN)0.875
COZN14	2	(CO)0.0714286(ZN)0.928571
CO3W	2	(CO, NI)3(W)1
CO7Y2	2	(CO)7(Y)2
CO3Y	2	(CO)3(Y)1
CO2Y	2	(CO)2(Y)1
CO3Y2	2	(CO)3(Y)2
CO7Y6	2	(CO)7(Y)6
COY	2	(CO)1(Y)1
CO3Y4	2	(CO)3(Y)4
CO5Y8	2	(CO)5(Y)8
COY3	2	(CO)1(Y)3
CO17Y2	3	(CO2, Y)1(CO2, Y)2(CO)15
CO5Y	3	(CO2, Y)1(CO)4(CO, VA)1
CO11ZR2	2	(CO)0.846(ZR)0.154
CO4ZR	2	(CO)0.8(ZR)0.2
CO2ZR	2	(CO)0.68(ZR)0.32
COZR	2	(CO)0.5(ZR)0.5

Name	Sublattices	Formula Unit
COZR2	2	(CO)0.333(ZR)0.667
COZR3	2	(CO)0.25(ZR)0.75
CR3GA	2	(CR)3(GA)1
CRGA	2	(CR)1(GA)1
CR5GA6	2	(CR)5(GA)6
CRGA4	2	(CR)1(GA)4
CR3GE	2	(CR, GE)0.75(CR, GE)0.25
CR5GE3	2	(CR, GE)0.625(CR, GE)0.375
LCR5GE3	2	(CR, GE)0.625(CR, GE)0.375
CR11GE8	2	(CR)0.579(GE)0.421
CRGE	2	(CR)0.5(GE)0.5
CR11GE19	2	(CR)0.367(GE)0.633
CRHF_C14	2	(CR, HF)2(CR, HF)1
CRHF_C15	2	(CR, HF)2(CR, HF)1
CR3MN5	2	(CR)3(MN, TI)5
CRNI2	2	(CR, MO, W)1(MO, NI, W)2
CRPD	2	(CR)0.5(PD)0.5
CR2PD3	2	(CR)0.4(PD)0.6
A15_CR3PT	2	(CR)0.8(PT)0.2

Name	Sublattices	Formula Unit
L12_CRPT2	1	(CR, PT)1
CR2RU	2	(CR)2(RU)1
CR3RU	2	(CR)3(RU)1
CRSI2	2	(CR, SI, TI)1(CR, SI)2
CR3SI_A15	3	(CR, FE, SI, TI)3(AL, CR, NB, SI)1(C, VA)3
CR5SI3	2	(CR, FE, TI)5(SI)3
CRZN13	2	(CR)1(ZN)13
CRZN17	2	(CR)1(ZN)17
CS2IN3	2	(CS)2(IN)3
CSIN3	2	(CS)1(IN)3
CSNA_S	2	(CS)1(NA)2
COTE_B81	3	(CO, VA)1(CO, VA)1(TE)1
COTE2_C18	2	(CO, TE)1(TE)2
CU7AS3	2	(CU)7(AS)3
CU3AS	2	(CU)3(AS, CU)1.15
CU7AS	2	(CU)7(AS)1
CUCE	1	(CU1CE)1
CU2CE	1	(CU2CE)1
CU4CE	1	(CU4CE)1

Name	Sublattices	Formula Unit
CU5CE	1	(CU5CE)1
CU6CE	1	(CU6CE)1
CU7DY	2	(CU)7(DY)1
CU5DY	2	(CU)5(DY)1
CU9DY2	2	(CU)9(DY)2
CU7DY2	2	(CU)7(DY)2
CU2DY	2	(CU)2(DY)1
CUDY_B2	2	(CU)1(DY)1
CUER	2	(CU)1(ER)1
CU2ER	2	(CU)2(ER)1
CU5ER	2	(CU)5(ER)1
CU7ER2	2	(CU)7(ER)2
CU9ER2	2	(CU)9(ER)2
CU5EU	2	(CU)5(EU)1
CU2EU	2	(CU)2(EU)1
CUEU	2	(CU)1(EU)1
CUEU2	2	(CU)1(EU)2
CUGA_ZETAP	2	(CU)0.778(GA)0.222
CUGA2	2	(CU)1(GA)2

Name	Sublattices	Formula Unit
CU9GA4_GAMMA1	4	(CU)6(CU, GA)3(CU, GA)3(GA)1
CU9GA4_GAMMA2	4	(CU)3(CU, VA)3(CU, GA)3(GA)4
CU9GA4_GAMMA3	3	(CU, VA)6(CU, GA)3(GA)4
CU3GE_D018	2	(CU)0.765(GE)0.235
CU3GE_D0A	2	(CU)0.75(GE)0.25
CU3GE_D03	2	(CU)0.735(GE)0.265
CUIN_ETA	3	(CU, NI)0.545(CU, IN, SN)0.122(IN, SN)0.333
CUIN_ETAP	2	(CU)0.64(IN)0.36
CUIN_DELTA	2	(CU)0.7(IN, SN)0.3
CUIN_GAMMA	3	(AG, CU)0.654(AG, CU, IN)0.115(IN, SN)0.231
CUIN_THETA	2	(CU)0.55(IN)0.45
CU2IN3SN	3	(CU)0.333(IN)0.5(SN)0.167
CU77INSN23	2	(CU)0.77(IN, SN)0.23
CU3NI27SN10	3	(CU)0.075(NI)0.675(SN)0.25
CU10HF7	2	(CU)10(HF)7
CUHF2	2	(CU)1(HF)2
CU5HF1	2	(CU)5(HF)1
CU51HF14	2	(CU)51(HF)14
CU8HF3	2	(CU)8(HF)3

Name	Sublattices	Formula Unit
CU7HG6_D810	2	(CU)7(HG)6
CU5HO_C15B	2	(CU)5(HO)1
CU5HO_D2D	2	(CU)5(HO)1
CU9HO2	2	(CU)9(HO)2
CU7HO2	2	(CU)7(HO)2
CU2HO	2	(CU)2(HO)1
CUHO_B2	2	(CU)1(HO)1
CU37LA3	2	(CU)37(LA)3
CU6LA_ALPHA	2	(CU)6(LA)1
CU6LA_BETA	2	(CU)6(LA)1
CU5LA	2	(CU)5(LA)1
CU4LA	2	(CU)4(LA)1
CU2LA	2	(CU)2(LA)1
CULA	2	(CU)1(LA)1
CUMG2	2	(CU)1(MG)2
CUMGSI_SIGMA	3	(CU)16(MG)6(SI)7
CUMGSI_TAU	2	(CU, SI)2(MG)1
CUND	1	(CU1ND)1
CU2ND	1	(CU2ND)1

Name	Sublattices	Formula Unit
CU4ND	1	(CU4ND)1
CU5ND	1	(CU5ND)1
CU6ND	1	(CU6ND)1
CUPD_B2	3	(CU, PD)0.5(CU, PD)0.5(H, VA)1
CUPR	1	(CU1PR)1
CU2PR	1	(CU2PR)1
CU4PR	1	(CU4PR)1
CU5PR	1	(CU5PR)1
CU6PR	1	(CU6PR)1
CUPT_L11	2	(CU, PT)0.5(CU, PT)0.5
CUSB_ZETA	2	(CU)0.77(SB)0.23
CUSB_GAMMA	2	(CU)0.85(SB)0.15
CUSB_ETA	2	(CU)0.67(SB)0.33
CUSB_EPSILON	2	(CU)0.75(SB)0.25
CUSB_DELTA	2	(CU)0.8(SB)0.2
CU4SC_D1A	2	(CU)4(SC)1
CU2SC_C11B	2	(CU)2(SC)1
CUSC_B2	2	(CU)1(SC)1
CU2SE_ALPHA	2	(CU, SE)2(SE)1

Name	Sublattices	Formula Unit
CU2SE_BETA	2	(CU, SE)2(SE)1
CU3SE2	2	(CU)3(SE)2
CUSE_ALPHA	2	(CU)1(SE)1
CUSE_BETA	2	(CU)1(SE)1
CUSE_B18	2	(CU)1(SE)1
CUSE2_C18	2	(CU)1(SE)2
CU15SI4_EPSILON	2	(CU)15(SI)4
CU19SI6_ETA	2	(CU)19(SI)6
CU33SI7_GAMMA	2	(CU)33(SI)7
CU9SI2_DELTA	2	(CU)9(SI)2
CUSM	1	(CU1SM)1
CU2SM	1	(CU2SM)1
CU4SM	1	(CU4SM)1
CU5SM	1	(CU5SM)1
CU6SM	1	(CU6SM)1
CU3SN	2	(CU, NI)0.75(IN, SN)0.25
CU6SN5_P	2	(CU)0.545(SN)0.455
CU41SN11	2	(CU)0.788(IN, SN)0.212
CU10SN3	2	(CU)0.769(SN)0.231

Name	Sublattices	Formula Unit
CU6PU	2	(CU)6(PU)1
CU17PU4	2	(CU)17(PU)4
CU4PU	2	(CU)4(PU)1
CU2PU	2	(CU)2(PU)1
CUTI	2	(CU, TI)1(CU, TI)1
CUTI2	2	(CU)1(TI)2
CU2TI	2	(CU)2(TI)1
CU3TI2	2	(CU)3(TI)2
CU4TI	2	(CU, TI)4(CU, TI)1
CU4TI3	2	(CU)4(TI)3
CU5TM_C15B	2	(CU)5(TM)1
CU9TM2	2	(CU)9(TM)2
CU7TM2	2	(CU)7(TM)2
CU2TM	2	(CU)2(TM)1
CUTM_B2	2	(CU)1(TM)1
CU5U_C15B	2	(CU)5(U)1
CUY	1	(CU1Y)1
CU2YR	1	(CU2Y)1
CU7Y2	1	(CU7Y2)1

Name	Sublattices	Formula Unit
CU4Y	1	(CU4Y)1
CU2YH	1	(CU2Y)1
CU6Y	2	(CU)5(CU2, Y)1
CU5YB_D2D	2	(CU)5(YB)1
CU9YB2	2	(CU)9(YB)2
CU7YB2	2	(CU)7(YB)2
CU2YB	2	(CU)2(YB)1
CUYB_B27	2	(CU)1(YB)1
CUZN_GAMMA	4	(CU, ZN)2(AL, CU, SI, ZN)2(CU, ZN)3(AL, CU, MG, SI, ZN)6
CUZR	2	(CU)1(ZR)1
CUZR2	2	(CU)1(ZR)2
CU5ZR	2	(CU)5(ZR)1
CU8ZR3	2	(CU)8(ZR)3
CU10ZR7	2	(CU)10(ZR)7
CU51ZR14	2	(CU)51(ZR)14
D_GAMMA	1	(AL, CU, SI, ZN)1
DYMN2_C15	2	(DY)1(MN)2
DY6MN23_D8A	2	(DY)6(MN)23
DYMN12_D2B	2	(DY)1(MN)12

Name	Sublattices	Formula Unit
DY3NI_D011	2	(DY)3(NI)1
DY3NI2	2	(DY)3(NI)2
DYNI_B27	2	(DY)1(NI)1
DYNI2_C15	2	(DY)1(NI)2
DYNI3	2	(DY)1(NI)3
DY2NI7	2	(DY)2(NI)7
DYNI4	2	(DY)1(NI)4
DY4NI17	2	(DY)4(NI)17
DYNI5_D2D	2	(DY)1(NI)5
DY2NI17	2	(DY)2(NI)17
DY5SI3_D88	2	(DY)5(SI)3
DY5SI4	2	(DY)5(SI)4
DYSI_B33	2	(DY)1(SI)1
DY3SI4	2	(DY)3(SI)4
DY3SI5_C32	2	(DY)3(SI)5
DY3SI5_BETA	2	(DY)3(SI)5
DYSI2_ALPHA	2	(DY)1(SI)2
DYSI2_CC	2	(DY)1(SI)2
DY3SI2C2	3	(DY)3(SI)2(C)2

Name	Sublattices	Formula Unit
DYZN_B2	2	(DY)1(ZN)1
DYZN2	2	(DY)1(ZN)2
DYZN3	2	(DY)1(ZN)3
DY3ZN11	2	(DY)3(ZN)11
DY13ZN58	2	(DY)13(ZN)58
DY2ZN17_LT	2	(DY)2(ZN)17
DY2ZN17_HT	2	(DY)2(ZN)17
DYZN12_D2B	2	(DY)1(ZN)12
ER5GE3_D88	2	(ER, GE)5(GE)3
ER5GE4	2	(ER)5(GE)4
ER11GE10	2	(ER)11(GE)10
ERGE_B33	2	(ER)1(GE)1
ER3GE4	2	(ER)3(GE)4
ER2GE3_LT	2	(ER)2(GE)3
ER2GE3_C32	2	(ER)2(GE)3
ERGE2_LT	2	(ER)1(GE)2
ERGE2_MT	2	(ER)1(GE)2
ERGE2_HT	2	(ER)1(GE)2
ER2GE5	2	(ER)2(GE)5

Name	Sublattices	Formula Unit
ER3NI	2	(ER)3(NI)1
ER3NI2	2	(ER)3(NI)2
ERNI	2	(ER)1(NI)1
ERNI2	2	(ER)1(NI)2
ERNI3	2	(ER)1(NI)3
ER2NI7	2	(ER)2(NI)7
ER4NI17	2	(ER)4(NI)17
ERNI4	2	(ER)1(NI)4
ER5NI22	2	(ER)5(NI)22
ERNI5	2	(ER)1(NI)5
ER2NI17	2	(ER)2(NI)17
ER5SB3	2	(ER)5(SB)3
ERSB_B1	2	(ER)1(SB)1
ERSB_BETA	2	(ER)1(SB)1
ERSB2	2	(ER)1(SB)2
ERZN_B2	2	(ER)1(ZN)1
ERZN2	2	(ER)1(ZN)2
ERZN3	2	(ER)1(ZN)3
ER13ZN58	2	(ER)13(ZN)58

Name	Sublattices	Formula Unit
ERZN5	2	(ER)1(ZN)5
ER2ZN17_LT	2	(ER)2(ZN)17
ER2ZN17_HT	2	(ER)2(ZN)17
ERZN12_D2B	2	(ER)1(ZN)12
EU5GA3	2	(EU)5(GA)3
EUGA	2	(EU)1(GA)1
EU2GA3	2	(EU)2(GA)3
EUGA2	2	(EU)1(GA)2
EU2GA5	2	(EU)2(GA)5
EUGA4_D13	2	(EU)1(GA)4
EUMG_B2	2	(EU)1(MG)1
EUMG2_C14	2	(EU)1(MG)2
EUMG4	2	(EU)1(MG)4
EUMG5	2	(EU)1(MG)5
EU2MG17	2	(EU)2(MG)17
EU2PB_C37	2	(EU)2(EU, PB)1
EU5PB3_D8M	2	(EU)5(PB)3
EUPB_L10	2	(EU)1(EU, PB)1
EUPB_HT	2	(EU)1(EU, PB)1

Name	Sublattices	Formula Unit
EUPB3_L12	2	(EU)1(PB)3
EU5PD2	2	(EU)5(PD)2
EU3PD2	2	(EU)3(PD)2
EUPD	2	(EU)1(PD)1
EUPD2	2	(EU)1(PD)2
EUPD3	2	(EU)1(PD)3
EUPD5	2	(EU)1(PD)5
EUPD7	2	(EU)1(PD)7
EU2SN	2	(EU)2(SN)1
EU5SN3	2	(EU)5(SN)3
EUSN	2	(EU)1(SN)1
EU3SN5	2	(EU)3(SN)5
EUSN3	2	(EU)1(SN)3
EUTE_B1	2	(EU, TE)1(TE)1
EU4TE7	2	(EU)4(TE)7
EU3TE7	2	(EU)3(TE)7
FE2R	2	(FE)2(DY, TB)1
FE3R	2	(FE)3(DY, TB)1
FE17R2	2	(FE)17(DY, TB)2

Name	Sublattices	Formula Unit
FE23R6	2	(FE)23(DY, TB)6
FE2GD	1	(FE2GD)1
FE3GD	1	(FE3GD)1
FE17GD2	1	(FE17GD2)1
FE23GD6	1	(FE23GD6)1
FE17HO2	2	(FE)17(HO)2
FE23HO6_D8A	2	(FE)23(HO)6
FE3HO	2	(FE)3(HO)1
FE2HO_C15	2	(FE)2(HO)1
FE17LU2_LT	2	(FE)17(FE, LU)2
FE17LU2_HT	2	(FE)17(FE, LU)2
FE23LU6_D8A	2	(FE)23(LU)6
FE3LU	2	(FE)3(LU)1
FE2LU_C15	2	(FE)2(LU)1
FE17ND2	2	(FE)0.89474(ND)0.10526
FE17ND5	2	(FE)0.77273(ND)0.22727
FE2NP_C15	2	(FE)2(NP)1
FENP6_D2C	2	(FE)1(NP)6
FEPD	2	(FE, PD)0.5(FE, PD)0.5

Name	Sublattices	Formula Unit
FEPD3	2	(FE, PD)0.25(FE, PD)0.75
FE17PR2	2	(FE)17(PR)2
FE2PR	2	(FE)2(PR)1
FE2PU_C15	2	(FE)2(PU)1
FEPU6_D2C	2	(FE)1(PU)6
FESB	2	(FE)1(FE, SB)1
FESB2	1	(FE1SB2)1
FE2SC	2	(FE)2(SC)1
FESC7	2	(FE)1(SC)7
FE17TM2	2	(FE)17(TM)2
FE23TM6_D8A	2	(FE)23(TM)6
FE3TM	2	(FE)3(TM)1
FE2TM_C15	2	(FE)2(TM)1
MSI	2	(CR, FE, MN, NI)1(SI)1
FESI2_H	2	(FE)3(SI)7
FESI2_L	2	(FE)1(SI)2
FE2SI	2	(FE)2(SI)1
M3SI	2	(FE, MN)3(SI)1
M5SI3	2	(CR, FE, MN)5(SI)3

Name	Sublattices	Formula Unit
FE17SM2	2	(FE)17(SM)2
FE3SM	2	(FE)3(SM)1
FE2SM	2	(FE)2(SM)1
FESN	1	(FE1SN)1
FESN2	1	(FE1SN2)1
FE3SN2	1	(FE3SN2)1
FE5SN3	1	(FE5SN3)1
FE17TH2	2	(FE)17(TH)2
FE5TH_D2D	2	(FE)5(TH)1
FE7TH2_ALPHA	2	(FE)7(TH)2
FE7TH2_BETA	2	(FE)7(TH)2
FE3TH	2	(FE)3(TH)1
FE3TH7_D102	2	(FE)3(TH)7
FE7TA6_MU	2	(FE)7(TA)6
FE2TA_LAVES_C14	2	(FE)2(TA)1
FEU6	2	(FE, U)1(FE, U)6
FE2U	2	(FE, U)2(FE, U)1
FE17Y2	2	(FE)17(Y)2
FE23Y6	2	(FE, Y)23(FE, Y)6

Name	Sublattices	Formula Unit
FE3Y	2	(FE)3(Y)1
FE2Y	2	(FE, Y)2(FE, Y)1
FEZN_GAMMA_D82	4	(FE, ZN)0.154(FE, ZN)0.154(FE, SI, ZN)0.231(ZN)0.461
FEZN_GAMMA_D81	3	(FE)0.137(FE, SI, ZN)0.118(ZN)0.745
FEZN_DELTA	4	(FE)0.058(FE, SI, ZN)0.18(ZN)0.525(ZN)0.237
FEZN_ZETA	3	(FE, VA)0.072(ZN)0.856(SI, VA, ZN)0.072
FEUZR_EPSILON	3	(FE)30(U)30(ZR)40
FEUZR_DELTA	2	(FE, U, ZR)1(FE, U, ZR)2
FEUZR_LAMBDA	3	(FE)6(U)71(ZR)23
FEUZR_KAPPA	3	(FE)48(U)20(ZR)32
FE6W6C	3	(FE)6(W)6(C)1
FEW3C	3	(FE)1(W)3(C)1
FEZR2	2	(FE, ZR)1(FE, ZR)2
FEZR3	2	(FE, ZR)1(FE, ZR)3
FE23ZR6	1	(FE23ZR6)1
MG21GA5HG3	2	(GA, HG)8(MG)21
GA6LA	2	(GA)6(LA)1
GA4LA	2	(GA)4(LA)1
GA2LA_C32	2	(GA)2(GA, LA)1

Name	Sublattices	Formula Unit
GALA_B33	2	(GA)1(LA)1
GA3LA5	2	(GA)3(LA)5
GALA3_L12	2	(GA)1(LA)3
GA14LI3	2	(GA)14(LI)3
GA7LI2	2	(GA)7(LI)2
GA9LI5	2	(GA)9(LI)5
GALI_B32	2	(GA, LI)1(LI, VA)1
GA4LI5	2	(GA)4(LI)5
GA2LI3	2	(GA)2(LI)3
GALI2	2	(GA)1(LI)2
MG5GA2	2	(HG, MG)5(GA)2
MG2GA	2	(HG, MG)2(GA)1
MGGA	2	(HG, MG)1(GA)1
MGGA2	2	(HG, MG)1(GA)2
MG2GA5	2	(HG, MG)2(GA)5
GAN	2	(GA)1(N)1
GA4NA_D13	2	(GA)4(NA)1
GA39NA22	2	(GA)39(NA)22
NI5GA3	2	(NI)0.63(GA)0.37

Name	Sublattices	Formula Unit
NI3GA2	2	(NI)0.6(GA)0.4
NI3GA4	2	(NI)0.43(GA)0.57
NI2GA3	2	(NI)0.4(GA)0.6
NIGA4	2	(NI)0.2(GA)0.8
GANI_B2	2	(GA, NI)0.5(NI, VA)0.5
GA6PT	2	(GA)0.857(PT)0.143
GA7PT3	2	(GA)0.7(PT)0.3
GA2PT	2	(GA)0.667(PT)0.333
GA3PT2	2	(GA)0.6(PT)0.4
GAPT	2	(GA)0.5(PT)0.5
GA3PT5	2	(GA)0.375(PT)0.625
GAPT2	2	(GA)0.333(PT)0.667
GAPT3	2	(GA, PT)0.25(GA, PT)0.75
GA3SC_L12	2	(GA)3(SC)1
GA2SC	2	(GA)2(SC)1
SCGA_B33	2	(GA)1(SC)1
GA4SC5	2	(GA)4(SC)5
GA3SC5	2	(GA)3(SC)5
GA4SR_D13	2	(GA)4(SR)1

Name	Sublattices	Formula Unit
GA2SR_C32	2	(GA)2(SR)1
GA7SR8	2	(GA)7(SR)8
GA6TB	2	(GA)6(TB)1
GA3TB	2	(GA)3(TB)1
GA2TB_C32	2	(GA)2(TB)1
GATB_B33	2	(GA)1(TB)1
GA3TB5_D8L	2	(GA)3(TB)5
GA2TE3	2	(GA)0.4(TE)0.6
GA2TE5	2	(GA)0.285714(TE)0.714286
GA3TE4	2	(GA)0.428571(TE)0.571429
GATE	2	(GA)0.5(TE)0.5
GATI3	2	(GA, TI)1(GA, TI)3
GATI2	2	(GA)1(TI)2
GA3TI5	2	(GA)3(TI)5
GA4TI5	2	(GA, TI)4(GA, TI)5
GATI	2	(GA, TI)1(GA, TI)1
GA3TI2	2	(GA)3(TI)2
GA2TI	2	(GA)2(TI)1
GA3TI	2	(GA)3(TI)1

Name	Sublattices	Formula Unit
GA41V8	2	(GA)41(V)8
GA5V2	2	(GA)5(V)2
GA7V6_D82	4	(V)2(V)3(GA, V)2(GA, V)6
GA5V6	2	(GA, V)5(GA, V)6
GAV3_A15	2	(GA, V)1(GA, V)3
GA3ZR_D023	2	(GA)3(ZR)1
GA2ZR	2	(GA)2(ZR)1
GA5ZR3	2	(GA)5(ZR)3
GA3ZR2	2	(GA)3(ZR)2
GAZR_BG	2	(GA)1(ZR)1
GAZR_BETA	2	(GA)1(ZR)1
GA4ZR5	2	(GA)4(ZR)5
GA2ZR3_D5A	2	(GA)2(ZR)3
GA3ZR5_D88	2	(GA)3(ZR)5
GAZR2_C16	2	(GA)1(ZR)2
GDGE	2	(GD)1(GE)1
GD5GE3	2	(GD)5(GE)3
GD5GE4	2	(GD)5(GE)4
GD3GE5_A	2	(GD)3(GE)5

Name	Sublattices	Formula Unit
GD41GE59_A	2	(GD)41(GE)59
GD14GE36	2	(GD)1(GE)2.57
GD3GE5_B	2	(GD)3(GE)5
GD41GE59_B	2	(GD)41(GE)59
GD2GE3	2	(GD)2(GE)3
GDMG	1	(GD1MG)1
GDMG2	1	(GD1MG2)1
GDMG3	1	(GD1MG3)1
GDMG5	1	(GD1MG5)1
M12R	2	(MN)12(GD)1
M23R6	2	(MN)23(GD)6
M2R	2	(MN)2(GD)1
GD3NI	2	(GD)3(NI)1
GD3NI2	2	(GD)3(NI)2
GDNI	2	(GD)1(NI)1
GDNI2	2	(GD)1(NI)2
GDNI3	2	(GD)1(NI)3
GD2NI7	2	(GD)2(NI)7
GDNI4	2	(GD)1(NI)4

Name	Sublattices	Formula Unit
GDNI5	2	(GD)1(NI)5
GD2NI17	2	(GD)2(NI)17
GD5PB3_D88	2	(GD, PB)5(PB)3
GD5PB4_LT	2	(GD)5(PB)4
GD5PB4_HT	2	(GD)5(PB)4
GD11PB10	2	(GD)11(PB)10
GD6PB7	2	(GD)6(PB)7
GDPB2	2	(GD)1(PB)2
GDPB3_L12	2	(GD)1(PB)3
GDSI	2	(GD)1(SI)1
GDSI2	2	(GD)1(SI)2
GD3SI5	2	(GD)3(SI)5
GD5SI3	2	(GD)5(SI)3
GD5SI4	2	(GD)5(SI)4
GD2TL_B82	2	(GD)2(TL)1
GD5TL3_D88	2	(GD, TL)5(TL)3
GD3TL5	2	(GD)3(TL)5
GDTL3_L12	2	(GD)1(TL)3
GDZN_B2	2	(GD)1(ZN)1

Name	Sublattices	Formula Unit
GDZN2	2	(GD)1(ZN)2
GDZN3	2	(GD)1(ZN)3
GD3ZN11	2	(GD)3(ZN)11
GD13ZN58	2	(GD)13(ZN)58
GD3ZN22	2	(GD)3(ZN)22
GD2ZN17	2	(GD)2(ZN)17
GDZN12_D2B	2	(GD)1(ZN)12
GE2HF_C49	2	(GE)2(HF)1
GE4HF5	2	(GE)4(HF)5
GE2HF3_D5A	2	(GE)2(HF)3
GE3HF5_D88	2	(GE)3(HF)5
GEHF2_C16	2	(GE)1(HF)2
GEHF3	2	(GE)1(HF)3
GE4K	2	(GE)4(K)1
GEK	2	(GE)1(K)1
GEK3	2	(GE)1(K)3
GE2LU_C49	2	(GE)0.642(LU)0.358
GE3LU2_ALPHA	2	(GE)3(LU)2
GE3LU2_C32	2	(GE)3(LU)2

Name	Sublattices	Formula Unit
GE5LU4	2	(GE)5(LU)4
GE10LU11	2	(GE)10(LU)11
GE4LU5	2	(GE)4(LU)5
GE3LU5_D88	2	(GE)3(LU)5
GEMG2	2	(GE)1(MG)2
GE8MN11	2	(MN)11(GE)8
GE3MN5_D88	2	(MN)5(GE)3
GEMN2_B82	2	(GE, MN)2(GE, MN)1
GE2MN5_LT	2	(MN)5(GE)2
GE2MN5_HT	2	(GE, MN)5(GE, MN)2
GEMN3_D022	2	(MN)3(GE)1
GEMN3_D019	2	(MN)3(GE, MN)1
B20_GERU	2	(GE, SI)1(RU)1
ALPHA_GE3RU2	2	(GE)3(RU)2
BETA_GE3RU2	2	(GE, SI, SN)3(RU)2
GE4NA	2	(GE)4(NA)1
GENA	2	(GE)1(NA)1
GENA3	2	(GE)1(NA)3
GE2NB_C40	2	(GE, NB)2(GE, NB)1

Name	Sublattices	Formula Unit
GE3NB5_D8M	3	(NB)4(GE, NB)1(GE, VA)3
GENB3_A15	2	(GE, NB)1(NB)3
GENI_B31	2	(GE)0.5(NI)0.5
GE3NI5_B82	3	(GE)1(NI)1(NI, VA)1
GE3NI5_PRIME	2	(GE)0.375(NI)0.625
GENI2_C37	2	(GE)0.335(NI)0.665
GE2NI5	2	(GE)0.28(NI)0.72
GENI3_B32	2	(GE)0.256(NI)0.744
GE2PT_C18	2	(GE)2(PT)1
GE3PT2	2	(GE)3(PT)2
GEPT_B31	2	(GE)1(PT)1
GE2PT3	2	(GE)2(PT)3
GEPT2_C22	2	(GE)1(PT)2
GEPT3	2	(GE, PT)1(PT)3
GE2SC_C49	2	(GE)2(SC)1
GESC_B33	2	(GE)1(SC)1
GE10SC11	2	(GE)10(SC)11
GE4SC5	2	(GE)4(SC)5
GE3SC5_D88	2	(GE, SC)3(GE, SC)5

Name	Sublattices	Formula Unit
GE2SR	2	(GE)2(SR)1
GESR_BF	2	(GE)1(SR)1
GE3SR5_D8L	2	(GE)3(SR)5
GESR2_C23	2	(GE)1(SR)2
GETE_LOW	2	(GE, VA)1(TE)1
GETE_B1	2	(GE, VA)1(TE)1
GETE_GAMMA	2	(GE)49(TE)51
GE2TI_C54	2	(GE)2(TI)1
GE5TI6	2	(GE)5(TI)6
GE3TI5_D88	2	(GE)3(TI)5
GEV3	2	(GE)1(V)3
GE31V17	2	(GE)31(V)17
GE3V5	2	(GE)3(V)5
GE8V11	2	(GE)8(V)11
GE8YB3	2	(GE)8(YB)3
GE5YB3	2	(GE)5(YB)3
GE10YB11	2	(GE)10(YB)11
GE4YB5	2	(GE)4(YB)5
GE3YB5_D88	2	(GE)3(YB)5

Name	Sublattices	Formula Unit
GEYB2_C37	2	(GE)1(YB)2
GE2ZR_C49	2	(GE)2(ZR)1
GEZR_B27	2	(GE)1(ZR)1
GE4ZR5	2	(GE)4(ZR)5
GE3ZR5_D88	2	(GE)3(ZR)5
GEZR3	2	(GE)1(ZR)3
NAH_B1	2	(NA)1(H)1
NBH	2	(NB)1(H, VA)1
NBH2_C1	2	(NB)1(H, VA)2
NDNI5H3	4	(ND)1(NI)5(H)3(H, VA)6
NDNI5H6	4	(ND)1(NI)5(H)3(H, VA)6
HFMN	2	(HF)1(MN)1
HFMN2_C14	2	(HF, MN)1(HF, MN)2
HFNIA	2	(HF)1(NI)1
HFNI3A	2	(HF)1(NI)3
HFNIB	2	(HF)1(NI)1
HFNI3B	2	(HF)1(NI)3
HFNI5	2	(HF)1(NI)5
HF2NI7	2	(HF)2(NI)7

Name	Sublattices	Formula Unit
HF3NI7	2	(HF)3(NI)7
HF7NI10	2	(HF)7(NI)10
HF9NI11	2	(HF)9(NI)11
HF8NI21	2	(HF)8(NI)21
NIHF2	2	(HF)2(NI, VA)1
HF2SI	2	(HF)2(SI)1
HF5SI3	2	(HF)5(SI)3
HF3SI2	2	(HF)3(SI)2
HF5SI4	2	(HF)5(SI)4
HFSI	2	(HF)1(SI)1
HFSI2	2	(HF)1(SI)2
HF5SN3_D88	2	(HF)5(SN)3
HF5SN4	2	(HF)5(SN)4
HFSN2_C40	2	(HF)1(SN)2
HGPB2_L10	2	(HG)1(PB)2
NDH_GAMMA	2	(ND)1(H, VA)2
NDH2	3	(ND)1(H, VA)2(H, VA)1
HG2MG_C11B	2	(GA, HG)2(MG)1
HGMG_B2	2	(GA, HG)1(MG)1

Name	Sublattices	Formula Unit
HG3MG5_D88	2	(GA, HG)3(MG)5
HGMG2_C37	2	(GA, HG)1(MG)2
HG2MG5	2	(GA, HG)2(MG)5
HGMG3	2	(GA, HG)1(MG)3
HGSN38_B	2	(HG)1(SN)38
HGSN12_G	2	(HG, VA)1(SN)6
HGSN4	2	(HG)1(SN)4
HGSN7_D	2	(HG)1(SN)7
HG3ZN	2	(HG)0.75(ZN)0.25
HGZN2	2	(HG)1(ZN)2
HGZN3	2	(HG)1(ZN)3
HOMN2	2	(MN)2(HO)1
MN23M6_D8A	2	(MN)0.793(HO, SM)0.207
HOMN12_D2B	2	(MN)12(HO)1
HO3NI_D011	2	(HO)3(NI)1
HO3NI2_LT	2	(HO)3(NI)2
HO3NI2_HT	2	(HO)3(NI)2
HONI_B27	2	(HO)1(NI)1
HONI2_C15	2	(HO)1(HO, NI)2

Name	Sublattices	Formula Unit
HONI3	2	(HO)1(NI)3
HO2NI7	2	(HO)2(NI)7
HONI5_D2D	2	(HO)1(NI)5
HO2NI17	2	(HO)2(NI)17
HO5SB3_D88	2	(HO)5(SB)3
HO4SB3_D73	2	(HO)4(SB)3
HO4SB3_HT	2	(HO)4(SB)3
HOSB_B1	2	(HO)1(SB)1
HOSB_HT	2	(HO)1(SB)1
HOSB2	2	(HO)1(SB)2
HOZN_B2	2	(HO)1(ZN)1
HOZN2	2	(HO)1(ZN)2
HOZN3	2	(HO)1(ZN)3
HO13ZN58	2	(HO)13(ZN)58
HOZN5	2	(HO)1(ZN)5
HO2ZN17_LT	2	(HO)2(ZN)17
HO2ZN17_HT	2	(HO)2(ZN)17
HOZN12_D2B	2	(HO)1(ZN)12
ALPHA_INEU2	2	(IN)1(EU)2

Name	Sublattices	Formula Unit
BETA_INEU2	2	(IN)1(EU)2
INEU	2	(IN)1(EU)1
IN2EU	2	(IN)2(EU)1
IN4EU	2	(IN)4(EU)1
IN3IR_D011	2	(IN)3(IN, IR)1
IN3IR_HT	2	(IN)3(IN, IR)1
IN2IR_CB	2	(IN, IR)2(IN, IR)1
IN3LA	2	(IN)3(LA)1
IN2LA	2	(IN)2(LA)1
IN5LA3	2	(IN)5(LA)3
IN57LA43	2	(IN)57(LA)43
INLA	2	(IN)1(LA)1
INLA2	2	(IN)1(LA)2
INLA3	2	(IN)1(LA)3
IN8NA5	2	(IN)8(NA)5
INNA_B32	2	(IN)1(NA)1
INNA3	2	(IN)1(NA)3
NI2IN3	2	(NI)2(IN)3
NIIN	2	(NI)1(IN)1

Name	Sublattices	Formula Unit
NI3IN7	2	(NI)3(IN)7
NI3IN	2	(NI)3(IN)1
NI2IN	2	(NI)2(IN)1
INNI_ZETA	3	(NI, VA)1(NI)1(IN, NI)1
INNI_ZETA_PRIME	3	(NI, VA)1(NI)1(IN)1
INNI_DELTA	2	(NI, VA)1(IN, NI)1
INPD2_BETA	2	(IN)0.34(PD)0.66
INPD3_BETA	2	(IN)0.26(PD)0.74
INPD2_ALPHA	2	(IN)0.333(PD)0.667
INPD3_ALPHA	2	(IN)0.25(PD)0.75
IN7PD3	2	(IN)0.71(PD)0.29
IN3PD2	2	(IN)0.6(AG, PD)0.4
IN3PD5	2	(IN)0.375(PD)0.625
IN7PT3_D8F	2	(IN)7(PT)3
IN2PT_C1	2	(IN)2(PT)1
IN3PT2_D513	2	(IN)3(PT)2
INPT_HT	2	(IN, PT)1(IN, PT)1
IN5PT6	2	(IN, PT)5(IN, PT)6
IN9PT13	2	(IN)9(IN, PT)13

Name	Sublattices	Formula Unit
IN2PT3_ALPHA	2	(IN)2(PT)3
IN2PT3_B82	2	(IN, PT)2(IN, PT)3
INPT2	2	(IN)1(PT)2
IN4SE3	2	(IN)4(SE)3
INSE	2	(IN)1(SE)1
IN6SE7	2	(IN)6(SE)7
IN9SE11	2	(IN)9(SE)11
IN5SE7	2	(IN)5(SE)7
IN2SE3_C33	2	(IN)2(SE)3
IN2SE3_BETA	2	(IN)2.02(SE)2.98
IN2SE3_GAMMA	2	(IN)2(SE)3
IN2SE3_DELTA	2	(IN)2(SE)3
INSN_GAMMA	1	(IN, SN)1
IN5SR_D2D	2	(IN)5(SR)1
IN3SR_D019	2	(IN)3(SR)1
IN5SR2	2	(IN)5(SR)2
IN2SR	2	(IN)2(SR)1
IN3SR2	2	(IN)3(SR)2
INSR	2	(IN)1(SR)1

Name	Sublattices	Formula Unit
IN3SR5_D8L	2	(IN)3(SR)5
INSR3	2	(IN)1(SR)3
IR3TI_L12	2	(IR, TI)3(IR, TI)1
IRTI_L10	2	(IR, TI)1(IR, TI)1
IRTI_B2	2	(IR, TI)1(IR, TI)1
IRTI3_A15	2	(IR, TI)1(IR, TI)3
IN3YB	2	(IN)3(YB)1
IN2YB	2	(IN)2(YB)1
INYB2	2	(IN)1(YB)2
IN2YB5	2	(IN)2(YB)5
IR3ZR5	2	(IR)3(ZR)5
IR2ZR	2	(IR)2(ZR)1
IRZR2	2	(IR)1(ZR)2
IRZR3	2	(IR)1(ZR)3
IR3ZR	2	(IR, ZR)3(IR, ZR)1
IRZR_ALPHA	2	(IR, ZR)1(ZR)1
IRZR_BETA	2	(IR, ZR)1(IR, ZR)1
KNA2_C14	2	(K)1(NA)2
K3SB_D018	2	(K)3(SB)1

Name	Sublattices	Formula Unit
K5SB4	2	(K)5(SB)4
KSB	2	(K)1(SB)1
KSB2	2	(K)1(SB)2
K2TE_C1	2	(K)2(TE)1
K5TE3	2	(K)5(TE)3
KTE	2	(K)1(TE)1
K2TE3	2	(K)2(TE)3
LAH3	3	(LA)1(H, VA)2(H, VA)1
LAMG3	2	(LA, MG)1(MG)3
LAMG12	2	(LA, MG)1(LA, MG)12
LAMG	2	(LA)1(MG)1
LAMG2	2	(LA)1(MG)2
LA2MG17	2	(LA)2(MG)17
LANI	1	(LA1NI)1
LANI3	1	(LA1NI3)1
LANI5	1	(LA1NI5)1
LA2NI3	1	(LA2NI3)1
LA2NI7_ALPHA	1	(LA2NI7)1
LA2NI7_BETA	1	(LA2NI7)1

Name	Sublattices	Formula Unit
LA3NI	1	(LA3NI)1
LA7NI3	1	(LA7NI3)1
LA7NI16	1	(LA7NI16)1
LA5PB3_D88	2	(LA)5(PB)3
LA4PB3_D73	2	(LA)4(PB)3
LA5PB4	2	(LA)5(PB)4
LA3PB4_LT	2	(LA)3(PB)4
LA3PB4_HT	2	(LA)3(PB)4
LAPB2	2	(LA)1(PB)2
LAPB3_L12	2	(LA)1(PB)3
LA2SB	2	(LA)2(SB)1
LA3SB2	2	(LA)3(SB)2
LASB_B1	2	(LA)1(SB)1
LASB2	2	(LA)1(SB)2
LA5SN3_D8M	2	(LA)0.625(SN)0.375
LA5SN3_D88	2	(LA)0.625(SN)0.375
LA5SN4	2	(LA)0.555(SN)0.445
LA11SN10	2	(LA)0.524(SN)0.476
LASN_B33	2	(LA)0.5(SN)0.5

Name	Sublattices	Formula Unit
LA2SN3	2	(LA)0.4(SN)0.6
LA3SN5	2	(LA)0.375(SN)0.625
LASN3_L12	2	(LA)0.25(SN)0.75
LIH	2	(LI)1(H)1
LI3N	2	(LI)3(N)1
LI4PB	2	(LI)4(PB)1
LI7PB2	2	(LI)7(LI, PB)2
LI3PB_D03	2	(LI)3(PB)1
LI5PB2	2	(LI)5(PB)2
LIPB_ALPHA	2	(LI, PB)1(LI, PB)1
LIPB_B2	2	(LI, PB)1(LI, PB)1
LI3SB_D018	2	(LI)3(SB)1
LI2SB	2	(LI)2(SB)1
LI7SI3	1	(LI7SI3)1
LI12SI7	1	(LI12SI7)1
LI13SI4	1	(LI13SI4)1
LI22SI5	1	(LI22SI5)1
LI22SN5	2	(LI)22(SN)5
LI7SN2	2	(LI)7(SN)2

Name	Sublattices	Formula Unit
LI13SN5	2	(LI)13(SN)5
LI5SN2	2	(LI)5(SN)2
LI7SN3	2	(LI)7(SN)3
LISN	2	(LI)1(SN)1
LI2SN5	2	(LI)2(SN)5
LI23SR6_D8A	2	(LI)23(SR)6
LI2SR3	2	(LI)2(SR)3
LI2TE	2	(LI)0.666667(TE)0.333333
LITE3	2	(LI)0.25(TE)0.75
LU3SB	2	(LU)3(SB)1
LU5SB3	2	(LU)5(SB)3
LUSB_B1	2	(LU)1(SB)1
LUSB_BETA	2	(LU)1(SB)1
LUSB2	2	(LU)1(SB)2
MGH2_C4	2	(MG)1(H)2
MG2NI	2	(MG)2(NI)1
M6SI5	2	(CR, TI)6(SI)5
MG3LN	2	(MG)3(DY)1
MG12PR	2	(MG)12(PR)1

Name	Sublattices	Formula Unit
MG41PR5	2	(MG, PR)41(MG, PR)5
MGPR_B2	2	(MG, PR)1(MG, PR)1
MG2PR	2	(MG)2(PR)1
MG3PR	2	(MG)3(MG, PR)1
MG2RE	2	(MG)2(ND)1
MG41RE5	2	(MG)41(ND)5
MG3RE	2	(MG)3(MG, ND)1
MG5RE	2	(MG)5(ND)1
MGSC	1	(MG1SC)1
MG2SI	2	(MG)2(SI)1
MG41SM5	2	(MG)41(SM)5
MG5SM	2	(MG)5(SM)1
MG3SM_D03	2	(MG)3(SM)1
MG2SM_C15	2	(MG)2(SM)1
MG2SN	1	(MG2SN)1
MG17SR2	2	(MG)17(SR)2
MG38SR9	2	(MG)38(SR)9
MG23SR6	2	(MG)23(SR)6
MG2TB	2	(MG)2(MG, TB)1

Name	Sublattices	Formula Unit
MG3TB	2	(MG)3(MG, TB)1
MG24TB5	2	(MG)24(TB)5
MG5TB	2	(MG)5(TB)1
MG24TM5	2	(MG)24(TM)5
MG2TM	2	(MG)2(TM)1
MGTM_B2	2	(MG, VA)1(MG, TM)1
MG2Y	2	(MG, Y)2(MG, ND, Y)1
MG24Y5	3	(MG)24(MG, Y)4(Y)1
MGYB_LAVES_C14	2	(MG, YB)2(MG, YB)1
MGZN	2	(MG)12(AL, CU, ZN)13
MG2ZN3	2	(MG)2(AL, CU, ZN)3
MG2ZN11	3	(MG)2(CU, ZN)6(AL, ZN)5
MG7ZN3	2	(MG)51(ZN)20
MNMO_LAVES_PHASE	2	(MN)2(MO)1
MN23PR6_D8A	2	(MN)23(PR)6
MN23SC6	2	(MN)23(SC)6
MN2SC	2	(MN)2(SC)1
MNSC4	2	(MN)1(SC)4
MN6SI	2	(MN)0.8571429(SI)0.1428571

Name	Sublattices	Formula Unit
MN9SI2	2	(MN)0.8181818(SI)0.1818182
MN5SI2	2	(MN)0.7142857(SI)0.2857143
MN11SI19	2	(MN)0.3666667(SI)0.6333333
MG2PB_C1	2	(MG)2(PB)1
MN2SM_LAVES_C14	2	(MN)2(SM)1
MN19SN6	2	(MN)19(SN)6
MN2SN	2	(MN)2(SN)1
MNSN2	2	(MN)1(SN)2
MN3TI	2	(CR, MN)3(TI)1
MN4TI	2	(CR, MN)0.815(TI)0.185
TIMN_ALPHA	2	(CR, MN)1(TI)1
TIMN_BETA	2	(CR, MN)0.515(TI)0.485
MN12Y	2	(MN)12(Y)1
MN23Y6	2	(MN)23(Y)6
MN2Y	2	(MN)2(Y)1
MNZN9	2	(MN)1(ZN)9
MN2ZR	2	(MN, ZR)2(MN, ZR)1
MONI4_BETA	2	(MO)1(NI)4
MONI3_GAMMA	2	(MO)1(NI)3

Name	Sublattices	Formula Unit
MONI_DELTA	3	(CR, FE, NI)24(CR, FE, MO, NI)20(MO)12
MO3SI	2	(MO)0.75(SI)0.25
MO5SI3	2	(MO)0.625(SI)0.375
MOSI2	2	(MO)0.333333(SI)0.666667
NAZN13	2	(NA)1(ZN)13
NBNI_MU	2	(NB, NI)7(NB)6
NI3NB	2	(NB, NI)3(NB, NI)1
NB3SI	2	(NB)0.75(SI)0.25
NB5SI3	2	(NB)0.625(SI)0.375
NBSI2	2	(NB)1(SI)2
NBSN2	1	(NB1SN2)1
NB3SN_C15	2	(NB, SN)3(NB, SN)1
NB6SN5	3	(NB)24(SN)16(NB, SN)4
ND3NI_D011	2	(ND)3(NI)1
ND7NI3_D102	2	(ND)7(NI)3
NDNI_B33	2	(ND)1(NI)1
NDNI2_C15	2	(ND)1(NI)2
NDNI3	2	(ND)1(NI)3
ND2NI7	2	(ND)2(NI)7

Name	Sublattices	Formula Unit
NDNI5_D2D	3	(ND)1(NI)5(H, VA)3
ND2NI17	2	(ND)2(NI)17
NDSB	1	(ND1SB)1
NDSB2	1	(ND1SB2)1
ND2SB	1	(ND2SB)1
ND4SB3	1	(ND4SB3)1
ND5SB3	1	(ND5SB3)1
NDZN_B2	2	(ND)1(ZN)1
NDZN2	2	(ND)1(ZN)2
NDZN3	2	(ND)1(ZN)3
ND3ZN11	2	(ND)3(ZN)11
ND13ZN58	2	(ND)13(ZN)58
ND3ZN22	2	(ND)3(ZN)22
ND2ZN17	2	(ND)2(ZN)17
NDZN11	2	(ND)1(ZN)11
NISI2_C1	2	(NI)1(SI)2
NI3SI_MONOCL	2	(NI)3(SI)1
NI3SI_ORTHO	2	(NI)3(SI)1
NI2SI_C37	2	(CR, NI)2(SI)1

Name	Sublattices	Formula Unit
NI3SI2	2	(NI)3(SI)2
NI5SI2	2	(CR, NI)5(SI)2
NISI_B31	2	(NI)1(SI)1
NI2SI_HEX	3	(NI)1(NI, VA)1(SI)1
NISM3	2	(NI)1(SM)3
NISM	2	(NI)1(SM)1
NI2SM	2	(NI)2(SM)1
NI3SM	2	(NI)3(SM)1
NI7SM2	2	(NI)7(SM)2
NI19SM5	2	(NI)19(SM)5
NI5SM	2	(NI)5(SM)1
NI17SM2	2	(NI)17(SM)2
NI3SB_D0A	2	(NI)3(NI, SB)1
NI3SB_D03	3	(NI, VA)2(NI, VA)1(SB)1
NI5SB2_LT	2	(NI)5(NI, SB)2
NISB_B81	3	(NI, VA)1(NI, VA)1(SB)1
NISB2_C18	2	(NI)1(SB)2
NI5SC_D2D	2	(NI)5(SC)1
NI7SC2	2	(NI)7(SC)2

Name	Sublattices	Formula Unit
NISC2	2	(NI)7(SC)18
NI3SN2	3	(NI, SN)0.5(AU, CU, NI)0.25(AU, CU, NI)0.25
NI3SN4	3	(CU, NI)0.25(NI, SN)0.25(SN)0.5
NI3SN_LT	2	(CU, NI)0.75(IN, SN)0.25
NISR	2	(NI)1(SR)1
NI2TA	2	(NI)0.666667(TA)0.333333
NI3MOTA	2	(NI, TA)0.75(NI, TA)0.25
NI8TA	2	(NI)0.888889(TA)0.111111
NITA	4	(NI, TA)0.0769231(TA)0.307692(NI, TA)0.153846(NI)0.461538
NITA2	2	(NI, TA)0.333333(TA)0.666667
NI17TH2	2	(NI)19(TH)2
NI5TH_D2D	2	(NI)5(TH)1
NI7TH2_ALPHA	2	(NI)7(TH)2
NI7TH2_BETA	2	(NI)7(TH)2
NI2TH_C32	2	(NI)2(TH)1
NI7TH4	2	(NI)7(TH)4
NITH	2	(NI)1(TH)1
NI3TH7_D102	2	(NI)3(TH)7
NITI2	3	(NI)1(TI)2(C, VA)0.5

Name	Sublattices	Formula Unit
NI3TI	2	(NI, TI)0.75(NI, SI, TI)0.25
TI3SIC2	3	(TI)3(SI)1(C)2
NI2V	2	(NI)2(V)1
NI3V	2	(NI)3(V)1
NI2V7	2	(NI)2(V)7
NIW	2	(NI)1(W)1
NIW2	2	(NI)1(W)2
NI4W	2	(NI)4(W)1
NI17Y2	2	(NI)17(Y)2
NI5Y	2	(NI)5(Y)1
NI4Y	2	(NI)4(Y)1
NI7Y2	2	(NI)7(Y)2
NI3Y	2	(NI)3(Y)1
NI2Y	2	(NI)2(Y)1
NIY	2	(NI)1(Y)1
NI2Y3	2	(NI)2(Y)3
NIY3	2	(NI)1(Y)3
NIZN_BETA1	1	(NI, ZN)1
NIZN_DELTA	2	(NI)0.111(ZN)0.889

Name	Sublattices	Formula Unit
NIZN_GAMMA	1	(NI, ZN)1
NI10ZR7	2	(NI, ZR)0.575(VA, ZR)0.425
NI11ZR9	2	(NI)0.55(ZR)0.45
NI21ZR8	2	(NI)0.725(ZR)0.275
NI3ZR	2	(NI, ZR)0.75(VA, ZR)0.25
NI5ZR	2	(NI, ZR)0.833(VA, ZR)0.167
NI7ZR2	2	(CR, NI)0.78(ZR)0.22
NIZR	2	(NI)0.5(ZR)0.5
NIZR2	2	(CR, NI)0.333(ZR)0.667
OSSI	2	(OS)0.5(SI)0.5
OS2SI3	2	(OS)0.4(SI)0.6
OSSI2	2	(OS)0.3333333(SI)0.6666667
SI2SR_ALPHA	2	(SI)2(SR)1
SI2SR_BETA	2	(SI, VA)2(SR)1
SISR_B33	2	(SI)1(SR)1
SI3SR5_D8L	2	(SI)3(SR)5
SISR2_C37	2	(SI)1(SR)2
SRPB3	2	(SR)1(PB)3
SR3PB5	2	(SR)3(PB)5

Name	Sublattices	Formula Unit
SR2PB3	2	(SR)2(PB)3
SRPB	2	(SR)1(PB)1
SR5PB4	2	(SR)5(PB)4
SR5PB3	2	(SR)5(PB)3
SR2PB	2	(SR)2(PB)1
SN4P3	2	(SN)4(P)3
PT3PB	2	(PT)3(PB)1
PTPB	2	(PT)1(PB)1
PTPB4	2	(PT)1(PB)4
PBSE_B1	2	(PB, SN)1(SE)1
PBTE	2	(PB)1(TE)1
PDPB	1	(PD1PB)1
PDPB2	1	(PD1PB2)1
PD3PB	2	(PD)0.75(PB, PD)0.25
PD5PB3_ALPHA	1	(PD5PB3)1
PD5PB3_BETA	3	(PD)1(PB)1(PD, VA)1
PD5PB3_GAMMA	3	(PD)1(PB)1(PD, VA)1
PD13PB9	1	(PD0.59PB0.41)1
PD3SC	2	(PD)3(SC)1

Name	Sublattices	Formula Unit
PD2SC	2	(PD)2(SC)1
PDSC2	2	(PD)1(SC)2
PDSC4	2	(PD)1(SC)4
PDSC	2	(PD, VA)1(SC)1
PDSI	2	(PD)1(SI)1
PD19SI10	2	(PD)19(SI)10
PD39SI20	2	(PD)39(SI)20
PD2SI_BETA	2	(PD, SI)2(SI)1
PD2SI_ALPHA	2	(PD, SI)2(SI)1
PD3SI	2	(PD)3(SI)1
PD15SI4	2	(PD)15(SI)4
PD9SI2	2	(PD)9(SI)2
PD14SI3	2	(PD)14(SI)3
PD5SI	2	(PD)5(SI)1
PD21SI4	2	(PD, SI)21(SI)4
MPD3	2	(PD, SM)1(PD)3
MSM_A	2	(PD, SM)1(SM)1
MSM_B	2	(PD, SM)1(SM)1
PD7SM	2	(PD)7(SM)1

Name	Sublattices	Formula Unit
PD5SM	2	(PD)5(SM)1
PD21SM10	2	(PD)21(SM)10
PD4SM3	2	(PD)4(SM)3
PD2SM3	2	(PD)2(SM)3
PD3SM7	2	(PD)3(SM)7
PD2SN_GAMMA	3	(PD)1(SN)1(PD, VA)1
PDSN	2	(PD, VA)0.5(PD, SN)0.5
PDSN2	2	(PD, SN)0.333(SN)0.667
PDSN3	2	(PB, PD)0.25(PD, SN)0.75
PDSN4	2	(PD)0.2(PB, PD, SN)0.8
PD3SN	2	(PD, SN)0.75(PD, SN)0.25
PD3SN2_ALPHA	2	(PD)0.6(SN)0.4
PD3SN2_BETA	2	(PD)0.6(SN)0.4
PD3SN2_DELTA	2	(PD)0.59(SN)0.41
PD2SN	2	(PD)0.667(SN)0.333
PD20SN13	2	(PD, SN)0.6(PD, SN)0.4
PD3TB	2	(PD)3(PD, TB)1
PD7TB	2	(PD)7(TB)1
PDTB_A	2	(PD, TB)1(TB)1

Name	Sublattices	Formula Unit
PDTB_B	2	(PD, TB)1(TB)1
PD21TB10	2	(PD)21(TB)10
PD3TB2_A	2	(PD)3(TB)2
PD3TB2_B	2	(PD)3(TB)2
PD4TB3	2	(PD)4(TB)3
PD2TB3	2	(PD)2(TB)3
PD2TB5	2	(PD)2(TB)5
PDZN_GAMMA	2	(PD, ZN)2(PD, ZN)9
PDZN_BETA	2	(PD, ZN)1(PD, ZN)1
PDZN_1BETA	2	(PD, ZN)1(PD, ZN)1
PDZN2	2	(PD)1(ZN)2
PD2ZN	2	(PD)2(ZN)1
PDZN_ETA	2	(PD)0.09(ZN)0.91
PD3ZR	2	(PD, ZR)3(PD, ZR)1
PDZRM	3	(PD)1(ZR)1(PD, ZR)1
PD4ZR3	2	(PD)4(ZR)3
PD11ZR9	2	(PD)11(ZR)9
PDZR_ALPHA	2	(PD)1(ZR)1
PDZR_BETA	2	(PD)1(ZR)1

Name	Sublattices	Formula Unit
PDZR_GAMMA	2	(PD, VA)1(PD, ZR)1
PRSB	1	(PR1SB)1
PRSB2	1	(PR1SB2)1
PR2SB	1	(PR2SB)1
PR4SB3	1	(PR4SB3)1
PR5SB3	1	(PR5SB3)1
PT7SB	2	(PT)7(SB)1
PT5SB_L12	2	(PT, SB)5(PT, SB)1
PT3SB_D023	2	(PT)3(SB)1
PT3SB2	2	(PT)3(SB)2
PTSB_B81	2	(PT)1(SB)1
PTSB2_C2	2	(PT)1(SB)2
PTSI	2	(PT)1(SI)1
PT782SI218	2	(PT)0.782(SI)0.218
PT5SI2	2	(PT)0.714(SI)0.286
PT6SI5	2	(PT)6(SI)5
PT17SI8_ALPHA	2	(PT)17(SI)8
PT2SI_ALPHA	2	(PT)2(SI)1
PT3SI_ALPHA	2	(PT)3(SI)1

Name	Sublattices	Formula Unit
PT17SI8_BETA	2	(PT)17(SI)8
PT2SI_BETA	2	(PT)2(SI)1
PT3SI_BETA	2	(PT)3(SI)1
PT3SN_L12	2	(PT)3(SN)1
PTSN_B81	2	(PT)1(SN)1
PT2SN3	2	(PT)2(SN)3
PTSN2_C1	2	(PT)1(SN)2
PTSN4_D1C	2	(PT)1(SN)4
PTTA_SIGMA	1	(PT, TA)1
PT2TA	2	(PT)0.667(TA)0.333
PT3TA	2	(PT)0.75(TA)0.25
PTTA	2	(PT)0.5(TA)0.5
PTTA6	2	(PT)0.143(TA)0.857
PT8TI	2	(PT)8(TI)1
PT3TI	2	(PT, TI)1(PT)3
PTTI_ALPHA	2	(PT, TI)1(PT, TI)1
PTTI_BETA	2	(PT, TI)1(PT, TI)1
PT3TI4	2	(PT)3(TI)4
PTTI3	2	(PT, TI)3(PT, TI)1

Name	Sublattices	Formula Unit
PT3V_D022	2	(PT, V)3(PT, V)1
PT2V	2	(PT, V)2(PT, V)1
PTV_B19	2	(PT, V)1(PT, V)1
PTV3_A15	2	(PT, V)1(PT, V)3
PUC_B1	2	(PU)1(C, VA)1
PU3C2	2	(PU)0.6(C)0.4
PU2C3_D5C	2	(PU)0.4(C)0.6
PUC2_C11A	2	(PU)1(C)2
RE2SI	2	(RE)2(SI)1
RESI_B20	2	(RE)1(SI)1
RESI2	2	(RE)1(SI, VA)2
RE24TI5_A12	2	(RE)24(TI)5
RETI_B2	2	(RE)1(TI)1
RU2SI	2	(RU)2(SI)1
RU4SI3	2	(RU)4(SI)3
RU3SN7	2	(RU)3(GE, SN)7
RU2SN3	2	(RU)2(GE, SN)3
RUZR	2	(RU)1(ZR)1
RU2ZR	2	(RU)2(ZR)1

Name	Sublattices	Formula Unit
SNS_B16	2	(SN)1(S)1
SNS_B33	2	(SN)1(S)1
SN2S3	2	(SN)2(S)3
SNS2_C6	2	(SN)1(S)2
SBSN	2	(BI, IN, PB, SB, SN)1(BI, IN, SB, SN)1
SB2SN3	2	(SB)2(SN)3
SB2TB	2	(SB)2(TB)1
SBTB_B1	2	(SB)1(TB)1
SBTB_BETA	2	(SB)1(TB)1
SB3TB4_D73	2	(SB)3(TB)4
SB3TB4_BETA	2	(SB)3(TB)4
SB3TB5_D88	2	(SB)3(TB)5
SB2TM	2	(SB)2(TM)1
SBTM_B1	2	(SB)1(TM)1
SBTM_BETA	2	(SB)1(TM)1
SB3TM5_ALPHA	2	(SB)3(TM)5
SB3TM5_BETA	2	(SB)3(TM)5
SBY_B1	2	(SB)1(Y)1
SB3Y4_D73	2	(SB)3(Y)4

Name	Sublattices	Formula Unit
SB3Y5_D88	2	(SB)3(Y)5
SBY3	2	(SB)1(Y)3
SBZN_BETA	2	(SB)0.5(ZN)0.5
SBZN_DELTA	2	(SB)0.425(ZN)0.575
SBZN_ZETA	2	(SB)0.4(ZN)0.6
SBZN_EPSILON	2	(SB)0.425(ZN)0.575
SBZN_ETA	2	(SB)0.38(ZN)0.62
SBZN_GAMMA	2	(SB)0.45(ZN)0.55
SCSI	2	(SC)1(SI)1
SC2SI3	2	(SC)2(SI)3
SC5SI3	2	(SC)5(SI)3
SNSE_B16	2	(PB, SN)1(SE)1
SNSE_B33	2	(PB, SN)1(SE)1
SNSE2_C6	2	(PB, SN)1(SE)2
SI3N4	2	(SI)3(N)4
TA2SI	2	(TA)2(SI)1
TA3SI	2	(TA)3(SI)1
TASI2	2	(TA)1(SI)2
TA5SI3	2	(TA)5(SI)3

Name	Sublattices	Formula Unit
SI2TE3_LT	2	(SI)2(TE)3
SI2TE3_HT	2	(SI)2(TE)3
SITE2_C6	2	(SI)1(TE)2
SITE2_HT	2	(SI)1(TE)2
TISI	2	(TI)1(SI)1
TI3SI	2	(TI)3(SI)1
TISI2	2	(CR, TI)1(SI)2
D88_M5SI3	4	(CR, SI, TI)2(CR, SI, TI)3(CR, NI, TI)3(C, N, VA)1
TI5SI4	2	(TI)5(SI)4
B27_SIU	2	(SI)0.511(U)0.489
C32_SI5U3	2	(SI)0.625(U)0.375
L12_SI3U	2	(SI)0.75(U)0.25
L12_SIU3_H	2	(SI)0.25(U)0.75
SIU3_L	2	(SI)0.25(U)0.75
CC_SI2U	2	(SI)0.65277778(U)0.34722222
SI2U3	2	(SI)0.4(U)0.6
SM5SN3	2	(SM)0.625(SN)0.375
SM4SN3	2	(SM)0.571(SN)0.429
SM5SN4	2	(SM)0.556(SN)0.444

Name	Sublattices	Formula Unit
SM11SN10	2	(SM)0.524(SN)0.476
SM2SN3	2	(SM)0.4(SN)0.6
SMSN2	2	(SM)0.333(SN)0.667
SMSN3	2	(SM)0.25(SN)0.75
SMZN_B2	2	(SM)1(ZN)1
SMZN2	2	(SM)1(ZN)2
SMZN3	2	(SM)1(ZN)3
SM3ZN11	2	(SM)3(ZN)11
SM13ZN58	2	(SM)13(ZN)58
SM3ZN22	2	(SM)3(ZN)22
SM2ZN17	2	(SM)2(ZN)17
SMZN11_D2B	2	(SM)1(ZN)11
SNTE	2	(AG, SN, VA)1(TE)1
SRTE	2	(SR)0.5(TE)0.5
SR2TE3	2	(SR)0.4(TE)0.6
SRTE2	2	(SR)0.333333(TE)0.666667
V3SI	2	(SI, V)3(SI, V)1
V5SI3	2	(V)5(SI)3
V6SI5	2	(V)6(SI)5

Name	Sublattices	Formula Unit
VSI2	2	(V)1(SI)2
V2ALC	3	(V)2(AL)1(C)1
V3ALC2	3	(V)3(AL)1(C)2
V4ALC3	4	(V)4(AL)1(C)2(C, VA)1
WSI2	2	(SI)0.666667(W)0.333333
W5SI3	2	(SI)0.375(W)0.625
YSI	2	(SI)1(Y)1
YSI2_H	2	(SI)2(Y)1
YSI2_R	2	(SI)2(Y)1
Y5SI3	2	(SI)3(Y)5
Y5SI4	2	(SI)4(Y)5
Y3SI5_R	2	(SI)5(Y)3
Y3SI5_H	2	(SI)5(Y)3
YBSI174	2	(SI)1.74(YB)1
YB3SI5	2	(SI)5(YB)3
YB8SI11	2	(SI)11(YB)8
YBSI	2	(SI)1(YB)1
YB5SI4	2	(SI)4(YB)5
YB5SI3	2	(SI)3(YB)5

Name	Sublattices	Formula Unit
ZRSI	2	(SI)1(ZR)1
ZR2SI	2	(SI)1(ZR)2
ZR3SI	2	(SI)1(ZR)3
ZRSI2	2	(SI)2(ZR)1
ZR3SI2	2	(SI)2(ZR)3
ZR5SI3	2	(SI)3(ZR)5
ZR5SI4	2	(SI)4(ZR)5
SMSB	1	(SM1SB)1
SMSB2	1	(SM1SB2)1
SM2SB	1	(SM2SB)1
SM4SB3	1	(SM4SB3)1
SM5SB3	1	(SM5SB3)1
SNTI2	2	(SN)1(TI)2
SNTI3	2	(SN, TI)1(SN, TI)3
SN3TI5	2	(SN)3(TI)5
SN5TI6	2	(SN)5(TI)6
SN3V2	2	(SN)3(V)2
SNV3	2	(SN)0.205(V)0.795
SN3Y	2	(SN)3(Y)1

Name	Sublattices	Formula Unit
SN5Y2	2	(SN)5(Y)2
SN2Y	2	(SN)2(Y)1
SN10Y11	2	(SN)10(Y)11
SN4Y5	2	(SN)4(Y)5
SN3Y5	2	(SN)3(Y)5
SNZR4	2	(SN)1(ZR)4
SN2ZR	2	(SN)2(ZR)1
SN3ZR5	2	(SN)3(ZR)5
SRCU	1	(SR1CU)1
SRCU5	1	(SR1CU5)1
SRZN	2	(SR)1(ZN)1
SRZN13	2	(SR)1(ZN)13
SRZN2	2	(SR)1(ZN)2
SRZN5_ALPHA	2	(SR)1(ZN)5
SRZN5_BETA	2	(SR)1(ZN)5
TA4C3	2	(TA)0.62(C)0.38
TH2ZN_C16	2	(TH)2(ZN)1
THZN2	2	(TH)1(ZN)2
THZN4_D13	2	(TH)1(ZN)4

Name	Sublattices	Formula Unit
TH2ZN17	2	(TH)2(ZN)17
TI2ZN	2	(TI)2(ZN)1
TIZN	2	(TI)1(ZN)1
TIZN2	2	(TI)1(ZN)2
TIZN3	2	(TI)1(ZN)3
TIZN5	2	(TI)1(ZN)5
TIZN10	2	(TI)1(ZN)10
TIZN15	2	(TI)1(ZN)15
U2N3_ALPHA	2	(U, VA)2(N)3
U2N3_BETA	2	(U)0.413(N)0.587
V2ZR	2	(V)2(ZR)1
W2ZR	2	(W)2(ZR)1
ZRPB2	1	(ZR1PB2)1
ZR4PB	1	(ZR4PB)1
ZR5PB3	1	(ZR5PB3)1
ZN22ZR	2	(ZN)22(ZR)1
ZN39ZR5	2	(ZN)39(ZR)5
ZN3ZR_LT	2	(ZN)3(ZR)1
ZN3ZR	2	(ZN)3(ZR)1

Name	*Sublattices*	*Formula Unit*
ZN2ZR	2	(ZN)2(ZR)1
ZNZR	2	(ZN)1(ZR)1
ZN2ZR3	2	(ZN)2(ZR)3
ZNZR2	2	(ZN)1(ZR)2

SSOL: SGTE Solutions Database Revision History

Current Database Version

Database name (acronym):	**SGTE Solutions Database (SSOL)**
Database owner:	**Scientific Group Thermodata Europe (SGTE)**
Database version:	**9.0**
First release:	**SSOL1 was originally released in 1993**

Changes in the Most Recent Database Release

SSOL8 to SSOL9

Software release version 2025a (January 2025)

- In this release there are now 1053 assessed systems (879 binary, 154 ternary, and 20 higher-order systems) and 2352 phases.

Binary Systems

- Updated 19 binary systems: Ag-Te, As-Ga, Al-Sr, Al-Ta, Be-Si, Ca-Mg, Ca-Pb, Co-Cu, Co-Sn, Co-Ti, Ga-Hg, Ga-Mg, Mg-Sn, Pb-Sn, Si-Te, Si-Sr, Si-Y, Au-Pr (removed), Mn-Ni (reinstated).

- For some problematic binary systems e.g. with inverse liquid miscibility gap, additional information of maximum recommended temperature of calculation is included in the corresponding reference. This information (i.e. lists of references) are available as follows:

    - Console Mode: After the GET command.
    - Graphical Mode: After performing the System Definer activity it is either listed in the Event Log or available on the Data Sources tab.

- Added 96 new binary systems as listed in the table below.

New Binaries									
Ag-As	Ag-P	Ag-S	Ag-Sm	Ag-Yb	Al-Am	Al-H	Al-K	Al-Na	Al-Tl
As-Te	As-U	As-Zn	Au-Dy	Au-Gd	Au-Lu	Au-Th	Au-Yb	B-Er	B-La
B-Lu	B-Pr	B-Ta	B-Tm	B-Zn	Ba-Fe	Ba-Ga	Ba-Ge	Ba-Yb	Be-C

New Binaries									
Bi-Cr	Bi-Rh	C-Dy	C-Y	Ca-Ce	Ca-Fe	Ca-Ni	Ce-Pr	Ce-Pt	Ce-Te
Co-La	Co-Mg	Co-Nd	Co-Te	Co-Th	Cr-Re	Cr-U	Cs-Mo	Cu-Dy	Cu-Pu
Cu-Ta	Cu-U	Dy-Si	Dy-Zn	Er-Lu	Er-Zn	Eu-Ga	Fe-Ho	Fe-Lu	Fe-Pu
Fe-Rh	Fe-Th	Fe-Tm	Ga-Te	Gd-Sm	Gd-Ti	Gd-Tl	Ge-Lu	H-Mg	H-Na
H-Nb	Hf-Ru	Hg-Te	Ho-Ni	Ho-Sb	Ho-Zn	In-Ir	In-Na	In-Sr	Ir-Ti
K-Sb	K-Te	K-V	La-Mn	La-Mo	La-Nd	La-Pb	La-Pr	Li-Te	Nb-Re
Pb-Se	Re-Ta	S-Sn	Se-Sn	Sn-Te	Sr-Te				

Ternary Systems

- Fe-Mn-Ni reinstated.
- Added 10 new ternary systems as listed in the table below.

New Ternaries				
Ag-Sn-Te	Al-Si-Sr	As-Ga-Zn	Be-C-Si	C-Dy-Si
C-Si-Y	Ca-Ce-Mg	Ca-Mg-Sn	Ga-Hg-Mg	Pb-Se-Sn

Unary Systems

- Update of basic element data to be consistent with Unary 5.1, except that ORTHORHOMBIC_S renamed as ORTHORHOMBIC_A16.
- B solid solution now named as BETA_RHOMBO_B105.

GAS Phase

- Te gas species (Te and Te2) updated.
- Added gas species for Ga, As, and Si.

Other Updates

- G(BCT_A5,PD;0) fixed.
- G(DHCP,BI;0) fixed.
- Eu and Pu removed from HCP_A3 (no unary, not appearing in any system).
- G(FCC_A1,PR:VA;0) updated.
- G(HCP_ZN,HG:VA;0) added.
- Ca removed from LAVES_C14 as it is not appearing in any system.
- G(M4N,CR:VA;0) fixed.
- G(MU_PHASE,MN:MN:MN;0) fixed. MN removed from SL 2 and 3. Not required.
- G(RHOMBOHEDRAL_A7,ND;0) fixed.
- G(RHOMB_C19,MN) fixed.

Previous Releases

SSOL7 to SSOL8

Software release version 2022a (December 2021/January 2022)

New Binary and Ternary Systems

- In total, SSOL8 contains 783 binaries and 144 ternaries.
- 1 new ternary = B-Mo-Ti
- 101 new binary systems as listed in the table:

New Binaries									
Ag-Co	Am-Fe	B-Ce	Be-V	Bi-Rb	Ca-Ti	Ce-Nd	Cu-Na	Ga-Li	Ge-Hf
Si-Te	Ag-La	Am-Ga	B-Ga	Bi-Cs	Bi-Sr	Ca-V	Ce-Sn	Cu-Se	Ga-Na
Ge-K	Ag-Na	Am-Np	Ba-Bi	Bi-Dy	Bi-Te	Cd-Fe	Ce-Ti	Er-Ge	Ga-Sr
Ge-Mn	Al-Ba	Am-Pu	Ba-Ni	Bi-Er	Bi-Ti	Cd-Mg	Ce-Zn	Er-Ti	Ga-Tb
Ge-Nb	Al-Pu	Am-U	Ba-Pb	Bi-Fe	Bi-U	Cd-Mn	Ce-Zr	Er-Zr	Ga-Tl
Ge-Sc	Al-Re	Am-Zr	Ba-Ti	Bi-La	Bi-V	Cd-Pu	Co-Re	Eu-Pb	Ga-V

New Binaries									
Ge-Yb	Al-S	Au-Ce	Ba-V	Bi-Li	Bi-Yb	Cd-Se	Co-Sr	Eu-Te	Ga-Zr
Ge-Zr	Al-Te	Au-Nd	Be-Mo	Bi-Mg	C-Ge	Cd-Sr	Co-U	Fe-In	Gd-Pb
Hf-Mn	Al-U	Au-Sc	Be-Pu	Bi-Mn	Ca-In	Cd-Ti	Cr-Na	Fe-Np	Gd-Y
Li-Sb	Al-Yb	B-Cd	Be-Si	Bi-Na	Ca-Sn	Cd-V	Cu-Hg	Ga-La	Gd-Zn
Mg-Pb									

New Phases Added

- 312 new phases added. See SSOL9 Phase Models for a list.
- Boron (B) has been added to the gas phase.

SSOL6 to SSOL7

Software release 2020a (January 2020)

SSOL7 contains assessed thermodynamic data from the literature and provided by SGTE members for:

- 845 alloy systems (682 binary systems, 143 ternary systems, 20 higher-order systems) incorporating a total of 1711 different phases. Some of these phases may be crystallographically the same but have been treated as different phases where modeling between different datasets may not be compatible. The data have been tested using Thermo-Calc over the temperature range 300 - 6000 K.
- The BCC_B2 FCC_L12 FCC_COV FCC_AUCU and GAS phases are SUSPENDED by default.
- Gas phase data have been included for species involving Al, C, Ca, Cd, Cu, H, La, Li, Mg, Nd, Ni, N, O, P and Te.
- A full list of all assessed systems and phases are included in the documentation, and all binary and ternary systems can be plotted using the BINARY_DIAGRAM and TERNARY_DIAGRAM modules in Thermo-Calc. It should be noted that some of the ternary liquidus surfaces are not reliable. This is because many of the ternary systems are only partially assessed, and others exhibit ternary inverted miscibility gaps that disturb the calculation. It is hoped that future releases by SGTE will address this issue, either by improving the dataset or providing a recommended maximum temperature of calculation such as is provided for some of the binary systems.

SSOL5 to SSOL6

Software release version: 2016a (June 2016)

SSOL6 contains assessed thermodynamic data from the literature and provided by SGTE members. SSOL6 includes 729 alloy systems consisting of: 575 binary systems, 133 ternary systems, 20 higher order systems, and incorporating a total of 1338 phases.

The key changes between SSOL5 and SSOL6 are listed below.

- Hydrogen (H) is added to the database – now 79 elements.

Many binary and ternary systems are added or updated in SSOL6 including the following systems

- Ag-Te, Ce-V, Ge-R, Mg-Pr, Ru-Si, Al-Cr, Co-V, Ge-Si, Mg-Sr, Ru-Sn, Al-Y, Cr-Ge, Ge-Sr, Mg-Zr, Si-Sn, Bi-Tb, Cr-Y, Ge-Te, Mn-Sr, V-Y, Bi-Tm, Cr-Zn, H-Li, Mn-Zn, Bi-Y, Cu-Er, Ho-Mn, Mo-Y, B-Mn Cu-H, Ho-Mo, Nd-Y, Ca-H, Cu-Pd, Ho-V, Ni-Sr, Ca-Sr, Eu-In, H-Pd, Pb-Pt, Ce-Cr, Fe-Sr, In-Yb, Pb-Te, Ce-Mo, Fe-Zn, La-V, Pd-Si.
- Cu-H-Pd, Fe-Si-Zn, Ge-Ru-Si, Ge-Ru-Sn