



Database name: SGTE Solutions Database
Database acronym: SSOL5
Database owner: Scientific Group Thermodata Europe
Database segment: General Alloys

Database version: 5.0

Brief description

The SSOL5 Solutions Database is a thermodynamic database which contains critical assessments for many binary and ternary, and some higher order systems. SSOL5 can be used with Thermo-Calc Classic, Thermo-Calc for Windows, DICTRA, TC-PRISMA and the TC Programming Interfaces.

Applications

Various applications related to alloy design, coatings, joining, heat treatment and inorganic materials.

Included Elements

Ag	Al	Am	As	Au	B	Ba	Be	Bi	C	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	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							

Included Phases

LIQUID	FCC_A1	FCC_L12	FCC_L10	BCC_A2
BCC_B2	HCP_A3	DIAMOND_A4	CBCC_A12	CUB_A13
LAVES_C14	LAVES_C15	LAVES_C36	AL4C3	M23C6
M7C3	M6C	M3C2	M5C2	M12C
SIC	V3C2	AL8SIC7	AL4SIC4	CR2VC2
FE8SI2C	AGBA	AG2BA	AG2BA3	AG5BA
AG3BE8	AGCA	AGCA3	AG2CA	AG3CA5
AG7CA2	AG9CA2	ALAU	ALAU2	ALAU4
AL2AU	AL2AU5	AL2CA	AL4CA	ALCR2
AL4CR	AL8CR5_H	AL8CR5_L	AL9CR4_L	AL9CR4_H
AL11CR2	AL13CR2	AL2FE	AL5FE2	AL5FE4
AL13FE4	ALMG_BETA	ALMG_GAMMA	ALMG_GAMMA1	ALMG_EPSILON
ALMG_DZETA	AL12MG17	GA6PT	GA7PT3	GA2PT
GA3PT2	GAPT	GA3PT5	GAPT2	GAPT3
GATI3	GATI2	GA3TI5	GA4TI5	GATI
GA3TI2	GA2TI	GA3TI	ZN22ZR	ZN39ZR5
ZN3ZR_LT	ZN3ZR	ZN2ZR	ZNZR	ZN2ZR3
ZNZR2	AL_CEND	AL_CEND3_H	AL_CEND3_L	AL2_CEND
AL3_CEND	AL11_CEND3_H	AL11_CEND3_L	ALCULI_R	ALCULI_T1
ALCULI_T2	ALCULI_TB	ALFESI_ALPHA	ALFESI_BETA	ALFESI_GAMMA
ALFESI_DELTA	ALFESI_TAU1	ALFESI_TAU3	ALMGZN_PHI	ALMGMN_T
ALMGZN_TAU	ALMNSI_ALPH	ALMNSI_DELTA	ALMNSI_BETA	CU2IN3SN
CU77INSN23	CU3NI27SN10	CUMGSI_SIGMA	CUMGSI_TAU	FEUZR_EPSILON
FEUZR_DELTA	FEUZR_LAMBDA	FEUZR_KAPPA	FE6W6C	FEW3C

The total number of solution phases and intermetallic compound phases are many more than listed above, and today the SSOL5 SGTE Solutions Database includes 1261 different phases.

Assessed Systems

Included thermodynamic data that have been critically assessed are available for many binary, ternary and higher-order subsystems in various multicomponent solution phases, as well as for many important intermetallic compound phases within a chemical framework of 78 elements.

Limits

As in the spirit of the CALPHAD approach, predictions can be made for multicomponent systems by extrapolation into multicomponent space of data critically evaluated and assessed based on binary, ternary and in some cases higher order systems. However, critical calculations must always be verified by equilibrium experimental data; it is the user's responsibility to verify the calculations but Thermo-Calc Software AB is interested to know about any significant deviations in order to improve any future release.

Scientific Models & References

See the Thermo-Calc Software reference list available at: <http://www.thermocalc.com/Library.htm>