

SSOL6: SGTE Solutions Database

<i>Database name:</i>	SGTE Solutions Database	<i>Database acronym:</i>	SSOL
<i>Database owner:</i>	Scientific Group Thermodata Europe (SGTE)	<i>Database version:</i>	6.0
<i>Database segment:</i>	General Alloys		

Brief Description

The SSOL6 Solutions Database is a thermodynamic database which contains critical assessments for many binary and ternary, and some higher-order systems. SSOL6 can be used with Thermo-Calc and the add-on Diffusion Module (DICTRA) and/or Precipitation Module (TC-PRISMA), as well as the TC Programming Interfaces.

Applications

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

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						

Assessed Systems

The SSOL6 Solutions Database includes 729 alloy systems (575 binary systems, 133 ternary systems and 20 higher-order 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. A complete list of assessed systems is available in the *extended info* document.

Included Phases

SSOL6 incorporates a total number of 1331 phases. One may find a complete list of the phases and their models and constituents in the *extended info* document.

It is worth noting that some of these phases may be crystallographically the same but have been treated as different phases where modelling between different datasets may not be compatible.

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 and References

See the Thermo-Calc Software reference list and reference library at: <http://www.thermocalc.com/resources/>