

SEMC2: TCS Semiconductors Database

SEMC2 is a database suitable for semiconductor engineering. It is used in applications such as semiconductor design and engineering, electronic components processing and utility.

Database name:	TCS Semiconductors Database
Database acronym:	SEMC
Database owner:	PDG USTB
Database version:	2.0

Included Elements (10)

Al	As	C	Ga	H	In	P	Pb	Sb	Sn
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Included Phases (18)

AL4C3_S	C_S	ORTHORH_CMCA	RHOMBO_A7	Y_GA
ASP	FCC_A1	PB_L	SN_L	ZINCBLLENDE
BCTA6	GAS:G	PB_S	SN_S	
C_L	LIQUID:L	RED	WHITE	

Assessed Systems

SEMC2 contains evaluated thermodynamic data for the following.

Binary Subsystems in Al-As-Ga-In-P-Sb (15)

Al-As	Al-Ga	Al-In	Al-P
Al-Sb	As-Ga	As-In	As-P
As-Sb	Ga-In	Ga-P	Ga-Sb
In-P	In-Sb	P-Sb	

Ternary Subsystems in Al-As-Ga-In-P-Sb (18)

Al-Ga-P	Al-In-P	Al-P-As	Al-P-Sb
Al-As-Sb	Al-Ga-As	Al-Ga-Sb	Al-In-As
Al-In-Sb	Ga-In-P	Ga-In-As	Ga-In-Sb
Ga-As-Sb	In-As-Sb	Ga-As-P	In-As-P
Ga-Sb-P	In-Sb-P		

Gas Species in Al-As-Ga-In-P-Pb-Sb-Sn-C-H (135)

- 40 (in Al-As-Ga-In-P-Sb).
- 59 (in Al-As-Ga-In-P-Sb-Pb-Sn-C-H).
- 36 from the SGTE SSUB database: in C-H-B-P-Al-As.

Limits

As in the spirit of the CALPHAD method, 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 Bibliography

See the Thermo-Calc Software scientific bibliography on our [website](#).