



---

<b>Database name:</b>	Semiconductors Database	<b>Database version:</b>	2.1
<b>Database acronym:</b>	SEMC2		
<b>Database owner:</b>	PDG USTB		
<b>Database segment:</b>	Semiconductors		

---

**Brief description**

SEMC2 is a database suitable for semiconductor engineering.

**Applications**

Semiconductors design and engineering, electronic components processing and utility.

**Included Elements**

Al As C Ga H In P Pb Sb Sn

**Included Phases**

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	

It is compatible with the PURE (SGTE pure elements database), SSUB (SGTE substances database) and SSOL (SGTE solutions database).

**Assessed Systems**

SEMC2 contains evaluated thermodynamic data for:

15 binary subsystems in Al-As-Ga-In-P-Sb:

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 and P-Sb.

18 ternary subsystems in Al-As-Ga-In-P-Sb:

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 and In-Sb-P.

135 gas species in Al-As-Ga-In-P-Pb-Sb-Sn-C-H:

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**

Combinations of several critically-assessed systems can calculate and extrapolate higher-order multicomponent systems. Such extrapolations require experience and understanding and the producer or vendor should be contacted if problems occur. Critical calculations must always be verified by equilibrium experimental data; it is the user's responsibility to verify the calculations but Thermo-Calc Software 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>