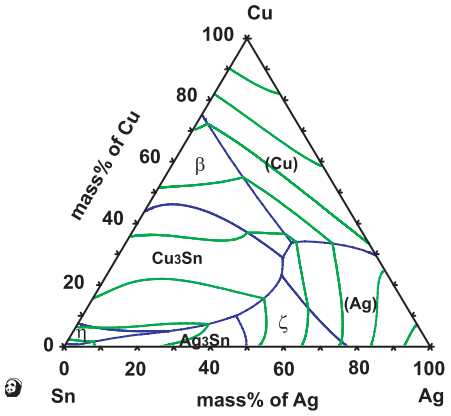
Solder Database

ADAMIS

(Alloy Database for Micro-Solders)

The current version of this database covers 8 elements:

Ag Bi Cu In Pb Sb Sn Zn



Liquidus surface of Ag-Cu-Sn

This solder database was developed for thermodynamic calculations of solder systems (Pb-containing /Pb-free) by Tohoku University, Japan. The various thermodynamic parameters for describing the Gibbs energies have been evaluated by optimizing experimental data on phase boundary compositions and thermochemical properties such as activity, heat of mixing and enthalpy of formation. This solder database can be used to predict various thermodynamic properties, the liquidus surfaces, isothermal and vertical section diagrams, the mole fraction of phase constituents, etc., in multi-component soldering alloys.

This solder database supports all combinations of elements and all composition ranges.

Available binary systems are as follows:

Ag-Bi Ag-Cu Ag-In Ag-Pb Ag-Sb Ag-Sn Ag-Zn Bi-Cu Bi-In Bi-Pb Bi-Sb Bi-Sn Bi-Zn Cu-In
Cu-Pb Cu-Sb Cu-Sn Cu-Zn In-Pb In-Sb In-Sn In-Zn Pb-Sb Pb-Sn Pb-Zn Sb-Sn Sb-Zn Sn-Zn

Available ternary systems are as follows:

Ag-Bi-Cu	Ag-Bi-In	Ag-Bi-Pb	Ag-Bi-Sb	Ag-Bi-Sn	Ag-Bi-Zn
Ag-Cu-In	Ag-Cu-Pb	Ag-Cu-Sb	Ag-Cu-Sn	Ag-Cu-Zn	Ag-In-Pb
Ag-In-Sb	Ag-In-Sn	Ag-In-Zn	Ag-Pb-Sb	Ag-Pb-Sn	Ag-Pb-Zn
Ag-Sb-Sn	Ag-Sb-Zn	Ag-Sn-Zn	Bi-Cu-In	Bi-Cu-Pb	Bi-Cu-Sb
Bi-Cu-Sn	Bi-Cu-Zn	Bi-In-Pb	Bi-In-Sb	Bi-In-Sn	Bi-In-Zn
Bi-Pb-Sb	Bi-Pb-Sn	Bi-Pb-Zn	Bi-Sb-Sn	Bi-Sb-Zn	Bi-Sn-Zn
Cu-In-Pb	Cu-In-Sb	Cu-In-Sn	Cu-In-Zn	Cu-Pb-Sb	Cu-Pb-Sn
Cu-Pb-Zn	Cu-Sb-Sn	Cu-Sb-Zn	Cu-Sn-Zn	In-Pb-Sb	In-Pb-Sn
In-Pb-Zn	In-Sb-Sn	In-Sb-Zn	In-Sn-Zn	Pb-Sb-Sn	Pb-Sb-Zn
Pb-Sn-Zn	Sb-Sn-Zn				

Further updated versions of this database are now under continuous development at Tohoku University and MDT, for the inclusion of other alloying elements, i.e., Al, Au and Ni.

Applications: Thermodynamic calculations of solder systems (Pb-containing and Pb-free).

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