



Database name:	NPL Oxide Solution Database	Database version:	2.0
Database acronym:	NOX2		
Database owner:	National Physical Laboratory		
Database segment:	Oxides and Silicates		

Brief description

NOX2 is suitable for oxides and silicates calculations.

Applications

Ceramics, metal/alloy processing, mineral processing, materials corrosion, etc.

Included Elements

Al Ca Fe Mg O Si

Included Phases

AL2FE2O6	CAAF12O19_CA6	CMF2SiO4_C2S:I	HATRURITE	PROTOPYROXENE:I
AL4CA3MGO10	CAAF2O4_CF	CORDIERITE	LIQUID_OXIDE:L	PSEUDO_WOLLASTONITE
BREDIGITE	CAAF4O7_CA2	CORUNDUM:I	LOWCLINOPYROXENE:I	QUARTZ
CA12AF14O33_C12A7	CAAF6O10_CAF2	CRISTOBALITE	MELILITE	RANKINITE
CA2AF2O5_C2F	CAFE3O5	FE_BCC	MERWINITE	SPINEL:I
CA3AF2O6_C3A	CAFE4O	FE_FCC	MULLITE:I	TRIDYMITE
CA3AF6O12_CA	CAFE5O7	FE_HCP	OLIVINE:I	WOLLASTONITE:I
CA4FE17O29	CLINOPYROXENE:I	FE_LIQUID:L	ORTHOPYROXENE:I	
CA4FE9O17	CM2SiO4_C2S:I	HALITE:I	PLAGIOCLASE_H:I	

For various applications in materials processing, the NOX2 database can be appended to multicomponent systems which are primarily defined using SSOL, SSUB, TCFE, TTAL, TTMG and/or other appropriate databases.

Assessed Systems

The NOX2 database contains critically-assessed and recently updated thermodynamic data for many multicomponent oxide/silicate solution phases in a wide range of temperature and composition. Thermodynamic data for the liquid oxide phase and oxide/silicate solid phases in the Al₂O₃-CaO-FeO-Fe₂O₃-MgO-SiO₂ system were critically assessed by NPL, using the generalized CEF (Compound-Energy-Formulism) model that treats both neutral and charged species.

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/DOWNLOAD_AREA/References.html