Thermo-Calc makes phase equilibria, thermodynamic, and property predictions easy and accessible, so you don’t need to be an expert in thermodynamics to use it. Yet, the software offers sophisticated and flexible functions, so it’s applicable for even the most advanced users.

**CALCULATE**

- Stable and meta-stable heterogeneous phase equilibria
- Amounts of phases and their compositions as a function of temperature and chemistry
- Phase transformation temperatures, such as liquidus, solidus, and solvus
- Phase diagrams, binary, ternary, and isoplethal and isothermal sections for higher order systems
- Thermochemical data such as enthalpies, heat capacity, and activities
- Driving force for phase transformations
- Solidification applying the Scheil-Gulliver model
- Thermodynamic properties of chemical reactions
- Pourbaix diagrams and other calculations involving aqueous solutions

**EASY TO USE**

Thermo-Calc has been consistently updated and improved over its nearly 40 years to satisfy the evolving needs of our user-base. Thermo-Calc is now on a two-times-per-year release cycle and customers with a maintenance and support subscription receive these updates for free.

**PLATFORM**

Windows, Linux and Mac OS

**LICENSES**

- Single machine or network install
- Annual or perpetual options
- License fees depend on several factors, e.g., database selection

**Evolution**

Originally developed at the Royal Institute of Technology in Stockholm, Sweden, in the early 1980s, Thermo-Calc has been a trusted resource for customers around the world in industry, government, and academia for nearly 40 years. Today Thermo-Calc is used by more than 1600 organizations in over 60 countries. With more than 18,000 journal citations and cited in over 1000 patents, Thermo-Calc has consistently been one of the most widely used software products in the field of computational materials science and engineering and is a leader in the field.

**Technical Support and Training**

Thermo-Calc is backed by a dedicated customer technical support team. We also have agents around the world and subsidiaries in the USA and South Korea who provide local customer support. We offer live online training several times throughout the year, as well as a comprehensive on-demand Learning Hub. Some agents offer in-person courses, and we have training videos available on our website.

**High Quality Thermodynamic Databases**

- Steel/Fe alloys
- Minerals
- Semi-conductors
- TBC, SOFC
- Ti-Based alloys
- Mg-based alloys
- Nuclear materials
- Super-conductors
- Gases
- Zr-based alloys
- Molten salts
- Al-based alloys
- Aqueous solutions
- Ni-based superalloys
- Noble metals
- Ceramics
- and many more...
Thermo-Calc can be used to understand many different phases in the life-cycle of a material, such as:

- Alloy and materials development
- Metallurgical extraction and refining
- Additive Manufacturing
- Casting
- Forging/Hot rolling
- Heat treatment
- Joining/Welding/Soldering
- Quality control
- Materials selection
- Corrosion
- Underlying causes of failure
- Waste and recycling

**BENEFITS**

Reduce costly, time-consuming experiments and testing

Increase the value of experiments through better pre-screening and interpretation of the results

Optimise and define safe processing windows

Base decisions on scientifically supported data and models

Shorten development time and bring products to market faster

Build and safeguard intellectual knowledge

Improve the quality and consistency of products through deeper understanding

Make predictions that are difficult or even impossible with an experimental approach