

## **EU thermodynamic database on molten salt reactor systems goes public**

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JRCMSD (Joint Research Centre Molten Salt Database) is an extensive thermodynamic database describing the key fuel and coolant systems considered nowadays for Molten Salt Reactor technology. The database is being continuously validated and expanded by novel experimental data and thermodynamic assessments. It provides strong and reliable tool to estimate thermodynamic properties of fresh fuel (and/or coolant) salts, but as well it provides insight into properties change influenced by accumulation of fission products during operational lifetime of the molten salt reactor. The same is true for prediction of corrosion effects of the salt towards the structural materials.

The database has been developed since 2002 at the European Commission's Joint Research Centre in Karlsruhe, and in recent years became very demanded by various research groups that perform studies on molten salt reactor systems. Today it is co-developed through an international collaboration, chaired by JRC Karlsruhe, with the following partners involved (in alphabetic order): CEA, JRC Karlsruhe, Ontario Tech., Orano and Delft University of Technology. The development of the database is open for any interested organization.

In 2022, JRCMSD will become open source to provide universities, research organizations, reactor designers, regulators or e.g. licensing authorities access to the database. In the presented paper, a brief description of the database will be given, highlighting selected practical examples of the past use of the database.