

Solvent Extraction

ANSTO's Minerals business unit has a wealth of experience in the application of solvent extraction for the purification of metals such as uranium, rare earths, base metals and zirconium / niobium / hafnium.

The breadth of the projects we deliver includes conceptual desktop studies, bench scale process development programs, continuous pilot plant trials, technical support for operating plants and research studies. Our clients and projects span six continents over almost 4 decades.

We have contributed heavily to the development of solvent extraction technologies for our clients in the following areas:

- Zirconium from niobium and hafnium
- Uranium extraction from saline leach liquors
- Separation of base metals – copper, cobalt/nickel and zinc
- Control of radioactivity in copper anode slimes – gold SX process
- Rare earths separations – chloride and sulphate media.

Minerals' facilities include well equipped laboratories plus a purpose built, state of the art facility that houses mini-pilot plants comprising banks of dozens of mixer-settlers that can be specifically configured to test any solvent extraction process.

We have a proven track record in the design and validation of challenging separations such as those required for producing high purity rare earths and the separation of zirconium and hafnium. Supporting our practical expertise is our computer modelling, used to design and fully predict the performance of counter-current circuits, especially for rare earth separation circuits. This model has been fully validated by continuous mini-plants, and has been used to provide input to PFS level engineering studies as well as to set conditions for pilot plants.



About ANSTO's minerals experience

ANSTO has a 40-year track record of providing practical solutions and innovative technology to the mining and minerals processing industries. We have a team of 60+ dedicated professionals and technicians with expertise covering chemical engineering, metallurgy, mineralogy, chemistry, geology and radiation safety working within the Minerals business unit.

We provide process development services, technical review and consulting services, as well as collaborative and contract research on uranium, rare earth and specialty metals processing, radioactivity control and management, novel flowsheet design and modelling, and scoping level engineering / cost estimates.

Contact

Dr Karin Soldenhoff

Technology Lead – Solvent Extraction

karin.soldenhoff@ansto.gov.au

T: +61 2 9717 3862

M: +61 407 704 296