In this study, flotation was investigated as a rapid separation technique to dewater powdered clinoptilolite ion-exchange resins by utilising cationic surfactant collectors, for the decontamination of radioactive cesium ions (Cs+) from nuclear waste effluent streams.

The Origin file contains the following data files.

The zeta potential of clinoptilolite with different concentrations of cesium is included in the datafile entitled "Zetapotential".

Adsorption equilibrium and kinetics of cesium on clinoptilolite is given in the datafile entitled "AdsorptionKin".

The particle size distribution of Cs-contaminated clinoptilolite with different surfactant concentrations of EHDa-Br and CPC, is given in the datafile called "Particlesized".

Equilibrium air-water surface tension of EHDA-Br and CPC surfactants is given in the datafile "SurfaceTension". This datafile also contains the surface tension of mixed surfactant-clinoptilolite systems and the resulting adsorption coefficient distribution.

The total amount of remobilised Cs+ in ppm and percentage terms, of a 5 ppm dose from adsorption of surfactant onto clinoptilolite, is given in the datafile "AASsurfactant".

Lastly, in the datafile called "Flotation", is given both the clinoptilolite recovery and water reduction ratio as surfactant concentration is varied for a) EHDA-Br and b) CPC ; including the effect of MIBC concentration and the effect of cesium concentration changes. Overall, this study highlighted the great viability of flotation to separate and concentrate the contaminated powder in the froth phase.