

Nickel-63

Solids

An aliquot of the solid sample is digested in a mixture of mineral acids. Nickel is separated from the resulting sample solution by anion exchange followed by the use of a nickel specific resin. Nickel-63 in the purified fraction is measured by liquid scintillation counting and a Nickel-63 solution of known activity concentration is used to determine the counting efficiency. Stable nickel is used to monitor the chemical recovery.

This method may not be possible in the presence of large quantities of nickel.

Liquids

The sample is preconcentrated by evaporation and the resulting residue is dissolved in a mineral acid. Nickel is separated from the resulting sample solution by anion exchange followed by the use of a nickel specific resin. Nickel-63 in the purified fraction is measured by liquid scintillation counting and a Nickel-63 solution of known activity concentration is used to determine the counting efficiency. Stable nickel is used to monitor the chemical recovery.

This method may not be possible in the presence of large quantities of nickel.