

Chlorine-36

Solids

A sub sample is leached in sodium hydroxide in a closed system that leads to a sodium hydroxide trap. The solution is heated while air is bubbled through. Nitric acid solution is then added followed by potassium permanganate and chlorine is collected in a sodium hydroxide trap. Silver chloride is then precipitated and the solid filtered off. The precipitate is then redissolved, an aliquot is removed for stable chloride analysis to determine the yield and from the remainder the Cl-36 content is determined by liquid scintillation counting using the standard addition technique.

The solutions used to treat the sample are sodium hydroxide and nitric acid. Only some materials are soluble in these solutions therefore some analyses would have to be treated as a "leach" rather than a dissolution.

Liquids

Stable chloride and nitric acid are added to the sample contained within a closed system. The solution is heated while air is bubbled through, potassium permanganate is added and chlorine collected in a sodium hydroxide trap. Silver chloride is then precipitated and the solid filtered off. The precipitate is then redissolved, an aliquot is removed for stable chloride analysis to determine the yield and from the remainder the Cl-36 content is determined by liquid scintillation counting using the standard addition technique.