

ICP-MS determination of metals in cosmetic and detergent products

Test aim: this method allows the determination of metals through ICP-MS (Inductively Coupled Plasma Mass Spectrometry) equipped with DRC (Dynamic Reaction Cell), applied to cosmetic and detergent products.

Procedure: the sample is conveniently mineralized, diluted and analyzed through ICP-MS. After mineralization, the sample acid solution is ionized by plasma and subsequently nickel is detected through mass spectrometer (quadripole). The potentially detectable mass range varies from 5 to 270 atomic mass units. Differently from optical emission ICP spectrometry, this method has the advantage of offering and ensuring selectivity as well, since elements are recognized on the basis of their ion mass and not of the electron binding transition energy.

Detection limit: average limit: 0.01 mg/kg (10 µg/kg)

Instruments: ICP-MS (Inductively Coupled Plasma Mass Spectrometry)

Method: MP-1287-R0/04 internal standard

The main metals detected in cosmetic matrices are: nickel, chrome, cobalt, arsenic, cadmium and lead.