CHELAB

Determination of preservatives in cosmetic products

Test aim: to determine the presence of the 12 preservatives in matrices of cosmetic origin (i.e.: make up, body and tooth care products, sun products, skin creams and emulsions, etc...).

Procedure: the extraction of the preservative agent is performed in acid environment through an ethanol/water mixture. The substance is heated at 60°C for 5 minutes and cooled (4-5 °C) in fridge for an hour in order to facilitate the precipitation of possibly present fatty acids. After filtration, preservatives will be determined through HPLC with UV-VIS detector at variable wave length (Diode Array). The following table shows the various preservatives according to their elution and corresponding detection limit and range.

Preservative	*Detection limit (mg/kg)*	*Range (mg/kg)*
4-Hydroxybenzoic acid	*10*	*10-5000*
Salicylic acid	*50*	*50-20000*
Benzoic acid	*100*	*100-20000*
2-phenoxyethanol	*100*	*100-20000*
Sorbic acid	*10*	*10-5000*
Methyl Paraben	*10*	*10-5000*
Dehydroacetic Acid	*20*	*20-5000*
1-phenoxypropan-2-ol	*50*	*50-20000*
Ethyl-Paraben	*10*	*10-5000*
Propyl-Paraben	*10*	*10-5000*
Butyl-Paraben	*10*	*10-5000*
Benzyl-Paraben	*10*	*10-2500*

Instruments: HPLC - DAD

Method: MP–0806 R2 internal standard