

**DETERMINATION OF QUATERNARY AMMONIUM COMPOUNDS FROM BAYER
EXTRACTS BY ELECTROSPRAY MASS SPECTROMETRY**

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A method for the determination of quaternary ammonium surfactant compounds extracted from Bayer liquors using electrospray mass spectrometry in flow injection mode. Compounds analysed included dodecyltrimethylammonium bromide, tetradecyltrimethylammonium bromide, hexadecyltrimethylammonium bromide, octadecyltrimethylammonium bromide and neostigmine bromide. Samples were prepared in methanol with an appropriate internal standards and injected into a stream of carrier solvent comprising acetonitrile (99%) and methanol (1%). Detection was by selected ion monitoring of the positively charged quaternary ammonium ion in each case.

Using this technique, significant increases in sensitivity have been obtained over the conventional GC-MS analytical techniques and solution concentrations of 50 ppb were readily obtained with linear correlations over the range 50 to 300 ppb for the alkylammonium compounds and 50 to 200 ppb for neostigmine bromide.