GAS CHROMATOGRAPHY ABSTRACTING SERVICE

INORGANIC SALTS FOR GAS-SOLID CHROMATOGRAPHY

1-18-64(11)

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Anal. Chem. 36, No. 1: 63-65, (January 1964)

Resolutions, as measured by the ability to separate terphenyl isomers, were determined for 44 solid-phase inorganic salts including antimonates, borates, carbonates, hydroxides, metal halides, nitrates, oxides, and phosphates. An F & M Model 500 linear programmed temperature gas chromatography was used. A 2-ft. drying tube packed with molecular sieve was placed in the helium line to dry the carrier gas. The column packings were prepared by placing 25 wt.-% of the salt dissolved in deionized water on 35-50 mesh Chromosorb P. The solvent was evaporated at up to 600° C, depending on the melting point of the salt. A hand vibrator was used to obtain uniform packing. The packed columns were conditioned for 1-2 hours at 400°C. Ten microliters of a blend of 95% tetrahyirofuran and 5% of an equimolar mixture of the three terphenyls was used for each run. Column temperature was programmed at the rate of 15°C/min. over 250° to 400°C. The helium carrier gas had a flow rate of 48 ml./min.Potassium carbonate, borate, antimonate, and phosphate were the best salts tested for separating the terphenyls. The addition of KOH to potassium carbonate improved the resolution of the terphenyls. The respective retention times and resolution data were given in a table on p. 64. Three chromatograms were presented on pp. 64 and 65.

91-89-88-85-54-47-31

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