

Oil Technologists' Symposium in Hyderabad

A Symposium and Convention of the Oil Technologists' Association of India is being organized for Feb. 9-11, 1968 by the Southern Zonal Branch of the Association at its headquarters in Hyderabad. Covering the areas of sources and utilization of oils and fats, the symposium is planned to cover the currently important areas in the field such as sources of oil, detergents, hydrogenation, detection of adulteration of fats, and current researches in various areas. In addition to the usual research papers, a vast amount of factual material in each area, together with projections for the future, is being collected by the organizers from expert bodies, companies and individuals in the field. This will be predistributed to the participants to form the basis for informal discussion during the actual symposium.

The symposium is being sponsored by the Oil Technologists' Association of India, the Council of Scientific and Industrial Research, the Soybean Council of America and various organizations connected with vegetable oils and oilseeds. The Convener of the Symposium can be addressed at the Regional Research Laboratory, Hyderabad-9, for further particulars.

• Industry Items

The HARSHAW CHEMICAL COMPANY, Division of Kewanee Oil Company, has broken ground on a new three million dollar addition to its Elyria, Ohio plant. The new facility, scheduled for completion in 1968, will provide additional capacity and flexibility for the manufacture of a variety of catalysts for use in the petroleum, petrochemical, and synthetic organic chemical industries. The new unit will add significantly to Harshaw's multipurpose catalyst manufacturing operations in Elyria. The Harshaw Chemical Company, Division of Kewanee Oil Company, 1945 East 97th Street, Cleveland, Ohio 44106.

THE GLIDDEN COMPANY, of which DURKEE FAMOUS FOODS is a part, last week became the GLIDDEN-DURKEE DIVISION OF SCM CORPORATION. The new name combines the two major trade names under which the Glidden Company has operated for many years. The new association with SCM joins together many additional trade names, including Smith-Corona, Marchant, Procter Silex and others.

While corporate headquarters will be at SCM Corporation in New York, the division headquarters will remain in Cleveland.

Chromatography Lipids

A Message from Supelco . . . We introduce you to CHROMATOGRAPHY/LIPIDS—a regular publication that will report significant advances in the lipid and chromatography fields. Principally, we wish to report pertinent information that will help you open new doors. We invite your comments and reports of results, so that others might share new developments in the field.

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A GUIDE TO COLUMN SELECTION

Several important papers have appeared in the literature which have been overlooked by many chromatographers. The proper utilization of the principles will in many cases allow one to choose the proper column for a particular separation by performing a few simple calculations. Just think of the time we have all spent trying columns that would not do the job! We also will discuss here a method for classifying columns in an orderly manner.

The criterion is based on the use of Kovats Indices described by Wehrli and Kovats, *Helv. Chim. Acta.* 42, 2709 (1959) and by Etue, *Anal. Chem.* 36, 8 (1964). The Kovats Index for a compound will indicate where that compound will appear on a chromatogram with respect to the series on n-paraffins. (By definition, the Kovats Index for heptane is 600, for heptane—700, octane—800, etc., regardless of the column used.)

To determine the Kovats Index for benzene on a squalane column, analyze benzene and two n-paraffins, choosing them so that one elutes before benzene and one afterward. Suppose that on this column we found the retention times for benzene, hexane and octane to be 17, 15 and 25 minutes, respectively. We can plot the retention times of the paraffins versus their Kovats Indices as shown in Figure 1.

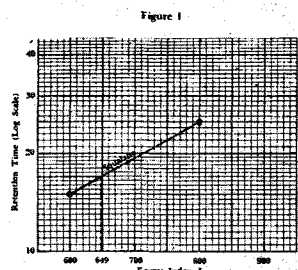
Now, since benzene has a retention time of 17 we can read from the graph a Kovats Index of 619 for benzene. Note that this value applies to a squalane column at a given temperature! Well, we now know the Kovats Index for benzene on squalane, a nonpolar column.

The Kovats Index for benzene on Reoplex 400 at the same temperature would be a measure of the polarity of Reoplex 400. To determine this we would again analyze benzene along with two n-paraffins, plot a graph and read off the Kovats Index of 1007 for benzene.

If the Kovats Indices for a compound are determined on both a polar and a nonpolar phase the difference can be calculated: $\Delta I = I_{\text{polar}} - I_{\text{nonpolar}}$. This difference ΔI is proportional to the column polarity "x", $\Delta I = ax$.



WALTER R. SUPINA



One should be able to characterize a column by comparing the Kovats Index of a compound analyzed on a polar phase to the Kovats Index of the same compound on a nonpolar phase. Rohrschneider, *J. Chromatog.* 22, 6-22 (1965), suggested that the polarity of a column really is dependent upon the substance being analyzed. Therefore it would be desirable to determine the Kovats difference (ΔI) for several different types of compounds. For example, benzene, ethanol, MEK, nitromethane and pyridine were chosen and ΔI values calculated for each compound on a number of different phases. The ΔI term was then redefined as $\Delta I = ax + by + cz + du + es$ where (x) is the polarity of a column when benzene is analyzed and is equal to $\frac{\Delta I}{100}$ for benzene.

Similarly, (y) is $\frac{\Delta I}{100}$ for ethanol and (z) is $\frac{\Delta I}{100}$ for MEK. (u) is $\frac{\Delta I}{100}$ for nitromethane and (s) is $\frac{\Delta I}{100}$ for pyridine.

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P.O. BOX 628/146 S. WATER ST./BELLEFONTE
PA. 16823/PHONE: 814-355-5518