• *New Products*

CENTRICO, INC., Englewood, N. J., has prepared the first centrifugal separator-extractor combining an integral mixing head, "liquid-seal" design and high capacity (up to 2500 gal/hr). Designated model OEP-10006, the stainless steel centrifuge is ideal for processing corrosive fluids and separating viscous liquids.

PACKARD INSTRUMENT COMPANY, INC., Downers Grove, Ill., has added Model 3365 to the 3000 Series Tri-Carb Liquid Scintillation Spectrometers.

THE EQUIPMENT DIVISION OF PENNSALT CHEMICALS CORPORATION, Philadelphia, Pa., has a new horizontal bowl Sharples Super-D-Hylradtor centrifuge, designed primarily for laboratory and pilot plant use. Designated Model C-1200, the unit can be automated for production use where small quantities are to be processed.

PENNSALT also offers the first two models, CAB-2400 and CAB-3000, in a new line of centrifuges with constant angle conical bowls custome tailored for dewatering specific crystalline and fibrous materials.

NAMETRE COMPANY, Highland Park, N. J., has developed the Acoustic Spectrometer, Model VII, which measures elastic and anelastic properties in 1/10th of the usual time.

MONSANTO COMPANY, St. Louis, Mo., has available a digital volt-meter with more than 85% of the instrument circuitry composed of integrated circuits.

C. W. BRABENDER INSTRUMENTS, INC., South Hackensack, N. J., has introduced the "Prep-Center," an interchangable laboratory sample preparation center for small batch mixing and extruding in the laboratory or plant.

DISTILLATION PRODUCTS INDUSTRIES, Rochester, N. Y., announces a sandwich-type developing chamber, designed expressly for Eastman Chromatogram Sheet for thin-layer chromatography. The new chamber enhances reproducibility of results by ensuring repeatable solvent vapor saturation for developing chromatograms.

GYRA ELECTRONICS CORPORATION, LaGrange, Ill., has in production their newest and most sensitive current source, the CS-58, for use in calibrating the electrometers used in gas chromatography and other precision applications.

MICRO-TEK reports that the Ultrasonic Detector recently described by Able et al. at the National Institute of Health has been made commerically available.

F & M has introduced Model 776, Prepmaster Jr., as an economical alternative to Model 775 Prepmaster, which is designed for automated, high-capacity preparative gas chromatography. Model 776 has been simplified to offer economic manual operation.

• *Names in the News*

J. H. Kelly has been appointed General Sales Manager of the new division. Reporting to him will be H. O. Stark, Assistant to the General Sales Manager; E. L. MacDonald, Sales Manager of Fine Chemicals to the structure. Barstow Bates will lead the New Products Division as Vice-President, Corporate Marketing and New Products Division is one of the outlined moves in a current program of decentralizing the company's corporate service customers in all areas and better utilize total corporate facilities." C. A. Scott, Director of Sales, Agricultural and Animal Health Products; pharmaceutical and food industries; and F. R. Rusterholz, Sales Manager, Products.

The Hewitt Soap Company has announced that A. L. Iams has been elected Vice President and General Manager of the company. He succeeds W. F. McKay, who has resigned from the company to return to Procter & Gamble, Hewitt's parent organization in Cincinnati. He will retire from Procter & Gamble June 30.

J. R. O'Roark (1955) has been elected to the newly created position of Vice President, Manufacturing.

The Cudahy Packing Company has announced the creation of a New Products Division with divisional headquarters in New York City. The New Aromatics.

Instrumental Techniques . . .

(Continued from page 12A)

due to air which marks the sample introduction reference point. Sample size must be adjusted so that the major peak is not attenuated more than eight times, preferably less.

4. Watch the recorder pen to see that peaks do not go off scale. Change the setting of the attenuator as necessary to keep the peaks on the chart paper. Mark setting on the chart.
5. After all the peaks have been traced and the pen has returned to base line remove the chart for calculation.

C. Calculations

1. Identify the peaks by relative position on the chart. The esters appear on the chromatogram in order of increasing number of carbon atoms and of increasing unsaturation for the same number of carbon atoms. That is, C_{16} is ahead of C_{18} and the C_{18} esters appear in the order stearate, oleate, linoleate, and linolenate. The C_{20} saturated (arachidic) ester usually appears after $C_{18:3}$ (linolenic) ester but may be reversed on some columns, or the positions may change with column usage. With constant operating conditions, the retention times (or chart distances) from the air peak to various sample component peaks can be used for identification of the peaks. However, relative retentions are more reproducible. Relative retentions are determined by dividing the observed retention time for each peak by the retention time observed for the peak of methyl palmitate (or other peak if some other basis is desired). Compare the observed retention times or relative retention times with those calculated from known mixtures run periodically on the same column under the same conditions.
2. Determine the area of each peak. If the instrument is equipped with an electro-mechanical or electronic integrator, the area is best measured by following the manufacturer's instructions. Otherwise, the area is obtained by drawing lines tangent to the sides of the peak and intersecting the base line.

   Determine the area of the resulting triangle by multiplying the height by one-half the base. For an automatically attenuated peak the outer sides of the peak must be at least ⅔ full chart span and the tangents drawn intersecting the base line obtain the peak width. Determine the area by multiplying the height (corrected for attenuation) by one-half the base. Divide the area of each component by its calibration factor. The percentage of each component is calculated from the ratio of each area to the sum of the areas under all of the component peaks and reported as per cent by weight.
3. Calibration factors should be determined relative to methyl palmitate to correct for nonlinearity of instrument response and for molecular weight differences. Such factors may be determined by analyzing known mixtures preferably having composition similar to that of the unknown sample. Divide the area of each peak by the true weight percentage of that component; then by dividing each value by the value for methyl palmitate the calibration factors are obtained.
4. Instrument and column performance are monitored by noting the separation of the oleate and stearate ester peaks which is expressed as peak resolution.

$$\text{Peak Resolution} = \frac{2Y}{S + O}$$

where: Y is the distance between the peak maxima and oleate esters
S is the base width of the stearate peak
O is the base width of the oleate peak

These values should be determined on a sample containing approximately equal quantities of oleate and stearate esters using a sample size such that the hieght of these peaks are 25–50% of the chart width. If the Peak Resolution is equal to or greater than 1.0, the column and instrument are in satisfactory condition. All columns when used will show a gradual loss in peak resolution; when the value becomes less than 1.0, a new column should be installed.

D. Precision

1. Two single determinations of major components (>5%) performed in one laboratory shall not differ by more than 2.2%.
2. Two single determinations performed in different laboratories shall not differ by more than 6.1%.

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• *New Products*

APPLIED SCIENCE LABORATORIES, INC., State College, Pa., announces the availability of the Di-Sil-Prep reagent. This mixture of tetramethyldisilazane, dimethylchlorosilane and pyridine has been found to be useful for the preparation of dimethylsilyl ether.

STEIN, HALL & CO., INC., has developed a new multi-purpose dextrine adhesive, Cart-N-Seel A-3911 V9, that can be used economically and efficiently in most industrial plant carton and case sealing operations. It is an accepted food packaging adhesive.

EDMUND SCIENTIFIC CO., Barrington, N. J., is offering a new, white foam expanded polystyrene tray, precision-moulded in one piece, as an attractive answer to manufacturing and industrial storage problems involving small parts. The trays come in two types, which fit interchangeably.

LABCONCO, Kansas City, Mo., has developed a new radioisotope glove box, made of corrosion-resistant, chemically inert fiberglass. With no gaskets or corners, it is easy to wash down and decontaminate.

ULTRA-VIOLET PRODUCTS, INC., San Gabriel, Calif., has a new Transilluminator, capable of achieving greater resolution and stronger contrast of both paper and thin-layer chromatograms.

• *New Literature*

TECHNICON CHROMATOGRAPHY CORP., Chauncey, New York, has available the Technicon Integrator Calculator (TIC), that analyzes any chromatogram from any liquid or gas system. Reading out directly in concentration terms, the instrument integrates at the rate of 30 seconds or less per peak.

WILL SCIENTIFIC, INC., Rochester, New York, has designed the Gyratherm II, a combination magnetic stirrer and hot plate, with each function available separately or in unison.

PENNSALT CHEMICALS CORPORATION, Philadelphia, Pa., has developed a water-powered proportioning pump, which will enable users of hypochlorite solutions and other chemicals, disinfectants and liquid fertilizers to dispense with these materials with a pump that can be attached to a garden hose or directly to a water line.