(1965). It has long been known that the rate of flow of water through an orifice can be increased by the presence of an electric field and that also the trajectory of a liquid jet can be deflected by electric fields. These experiments, however, do not in themselves lend quantitative support to the theory of a possible effect of electric energy on interfacial tension. A technique is now introduced for photographically observing changes in surface and interfacial tension of liquid droplets on solid bodies having low surface tension (paraffins, plastics) or in immiscible liquids. By measuring the solid/liquid angle of contact it is possible to determine quantitatively the surface tension of the electrically charged liquids, assuming that the liquid surface tension and the contact angle are variable quantities and that the surface tension of the solid body is not appreciably changed by the applied electrical charges. The surface tensions of the liquids examined (water, formamide and some glycols) are lower (by 5–35%) than those of liquids that have not been electrically charged. The relationship between surface tension lowering and electrical charge is discussed and it is shown that larger drops require higher charges to attain the same effect.

THE MANUFACTURE OF HIGHER MOLECULAR WEIGHT ALKYL BENZENES. AN ATTEMPT TO DISCOVER THE REACTION MECHANISMS, I. A. Metzger, R. Buxbaum, C. H. Uhlig and M. Gennert (Kempen/Ndrh., Germany). *Tenside* 2, 36–40 (1965). Phenyl-n-alkanes-(1) sulfonated in the para position should be extremely biodegradable, however they are too sparingly soluble in water to be useful as detergent raw materials. Starting from the consideration that the sulfonates of position isomeric phenyl-n-alkanes-(2) and -(3) are more easily water soluble with only a very slight loss in washing power, experiments were carried out to steer the alkylation of benzenes with alpha-n-alkenes preferentially into the (2)- and (3)- position. When aluminum chloride or bromide were used as catalysts, it was noted that under certain conditions n-alkanes were obtained in varying amounts besides alkyl benzenes, presumably formed by a side reaction, not so far understood, involving the hydration of the alpha-n-alkene used. When sulphuric acid was used as the catalyst, no alkane formation was observed. The boiling ranges and the refractive indices of the reaction products indicate that the distribution of the expected position isomeric alkyl benzenes depends largely upon the parameters of time and temperature.

THE POSSIBILITY OF PREPARING SURFACTANT INTERMEDIATES WITH THE HELP OF ALKYL ALUMINUM COMPOUNDS. H. Reinheckel and D. Jahnke (Germ. Acad. of Sci., Berlin, Germany). *Tenside* 2, 249–53 (1965). Various reactions between organo-aluminum compounds and other types of organic substances, such as reduction of fatty acids, formation of ketones, etc., are discussed, as well as the possibility of using the reaction products as intermediates in surfactant manufacture. Straight chain primary fatty alcohols are obtained by reducing fatty acid esters with dialkyl aluminum hydrides, non-terminal double bonds remaining intact in the reaction. Fatty acid chlorides and dicarboxylic acid semi-ester chlorides or dichlorides, when reacted with ethyl aluminum sesquichloride, for the corresponding ethyl ketones, ketocarboxylic esters or diketones. The different uses of various solvents in these reactions are indicated. Triethyl aluminum and nitriles also produce ethyl ketones. Isocyanates and isothiocyanates, when reacted with triethyl aluminum or ethyl aluminum sesquichloride, produce the corresponding N-substituted carboxylic and thiocarboxylic amides, respectively.

THE EFFECT OF ALKYL SULPHATES ON THE SORPTION OF PIGMENTS ON COTTON. E. F. Wagner (Wash Res. Inst. Krefeld, Germany). *Tenside* 2, 173–80 (1965). The sorption on cotton of carbon black, as a prototype of spherical dirt particles, was examined by varying the chain length of the alkyl sulphates. According to the results, the course of the sorption isotherm is influenced only gradually by the presence of carbon black, since alkyl sulphates themselves adsorb according to the same type of curve on the fibre surface. The rate and absolute value of carbon black desorption from the cotton fabric increase with

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• *New Literature*

UNIVERSAL OIL PRODUCTS COMPANY has available the pamphlet, "UOP Processing Guide," containing brief descriptions of a number of the principal UOP refining processes and products. (30 Algonquin Road, Des Plaines, Ill. 60016.)

CHROMATOGRAPHY CORPORATION OF AMERICA has two new bulletins available: 1) A new 6 page bulletin describes a system of flow connectors, chromatographic columns, reservoirs, needle valves and tubing for column chromatography. 2) A 4-page bulletin describes two new instruments for liquid chromatography: the Auto-Gradient, for creating predictable gradients, and the Model R forced air Refrigerated Fraction Collector. (60B East Main St., Carpentersville, Ill. 60110.)

OZONE RESEARCH AND EQUIPMENT CORPORATION has issued brochures 102 and 103 describing their expanded line of Laboratory and Process Ozonators. (3840 North 40th Ave., Phoenix, Arizona.)

THE PERMUTIT COMPANY, Division of Ritter Pfaudler Corporation, has released information on their new FAVAIR Flotation System, which makes it possible for oil, grease and suspended matter to be separated and reclaimed from plant process waters more efficiently and at lower cost. The name FAVAIR is short for Floc Adjustment, Variable Aeration and Ideal Air Release, which are the major improvements of the new system. (Box 41, Paramus, N. J.)

SKEIST LABORATORIES, INC., has compiled a bulletin called "Coatings, Prospectus for a Multiple-Client Study," which includes names of companies in the coatings and ink industries, developments abroad, raw materials, and many other aspects of market study on this topic. (89 Lincoln Park, Newark, N. J. 07102.)

ALOE SCIENTIFIC is distributing, free of charge, a colorful 12-page bulletin issued monthly to describe their newest laboratory equipment and supplies. (Department RK-11, 1831 Olive Street, St. Louis, Mo. 63103.)

GALLARD-SCHLESINGER CHEMICAL MANUFACTURING CORP. has published a bulletin on furoic acid, covering its properties, uses, complete bibliography and related data. (580 Mineola Avenue, Carle Place, Long Island, New York, 11514.)

UPJOHN COMPANY has available for distribution new technical literature describing their carbodiimides, including di-orthoOtolyl, bis (2,6-diethylphenyl) and dicyclohexyl, and a complete bibliography of this group of chemicals. (North Haven, Conn. 06473.)

CONSOLIDATED ELECTRODYNAMICS CORP., subsidiary of Bell & Howell Co., has an 8-page bulletin (21703) describing an advanced isotope-assay and atomic-research mass spectrometer, the Type 21-703A. (360 Sierra Madre Villa, Pasadena, Calif.)

E. H. SARGENT & Co., in Bulletin SR-GC-2, describes their basic line of SR Sargent Recorders to complement any and all leading chromatographs. (4647 West Foster Ave., Chicago, Ill. 60630.)

PERKIN-ELMER, in a new 8-page booklet, describes the low-cost, compact Model F11 gas chromatograph, designed to place precision gas chromatography results within the reach of every laboratory. (Main Avenue, Norwalk, Conn.)

PENNSALT CHEMICALS CORPORATION, Equipment Division, has a 6-page bulletin (No. 2010) describing the 13 basic Sharples centrifuges for virtually every area of separation. (Three Penn Center, Philalelphia, Pa. 19102.)

LACHAT CHEMICALS INCORPORATED has a 2-page supplement for their Catalog No. 6, listing their stock of chemicals for research and gas chromatography. (10540 S. Western Ave., Chicago, Ill. 60643.)