ABSTRACTS

David Wesson, *Abstract Editor*

It is said that by treatment of a small drop of oil with a drop of potassium hydroxide in alcoholic solution, the saponification which proceeds will result in characteristic crystals, which, when viewed under the microscope, often serve to identify the original oil used. *Mikrochemie* 8,72-4 (1930), *Chemical Abstracts,* 24, 1755, (1930).

Fatty acids of drying oils of the linseed oil type may be treated with a sulfonating agent such as sulfuric acid at a temperature of approximately 55° C., the excess sulfonating agent being removed by washing. The product is claimed to have uses similar to those of Turkey-red oils. U. S. Pat. No. 1,745,221.

A proposed new method for the recovery of vegetable oils and fats involves the action of *Bacillus delbrucki,* which is said to produce an enzyme which will attack proteins, changing them into water soluble amino acids at 50° C. If a culture of the *Bacillus delbrucki* is mixed with copra, limestone and water to form a mush, then incubated with the exclusion of air, the oil can be recovered by filtration after about six days. *Ind. Eng. Chem.* 22, 117-8 (1930).

A method suggested for standardization of color measurements of oils involves referring the color to milligrams of iodine in potassium iodide solution, measured in a layer of definite thickness. *Chem. Umschau Fette, Oele, Wachse Harze* 37, 21-2 (1930).

It is asserted that the poisonous gossypol in cottonseed oil cake may be removed by heating with water. If the oil has been removed by pressing, the cake is ground 40 to 50 per cent of water is added, the mass heated for two hours at 1½ to 2 atmospheres pressures and then dried. The product is said to be free from gossypol. If the oil has been removed by solvent extraction, the last traces of solvent are removed by heating in vacuo, 40 to 50 percent of water is added and the whole evaporated under 2 atmospheres pressure. After drying finally in vacuo, the resultant residue is said to be gossypol-free. *Seifensieder-Ztg.* 52-3, (1930).

Animal and vegetable oils and fats may be bleached by treatment with sulfuric acid and a bleaching earth (the earth being added at least as soon as the acid). The mixture is agitated, the sludge formed allowed to settle, and the supernatant oil is filtered through a layer of diatomaceous earth. U. S. Pat. No. 1,744,843.

When oleic, linoleic and linolenic acids are subjected to the silent electric discharge in an atmosphere of hydrogen there is rapid hydrogenation and polymerization. In nitrogen, the two reactions take place much more slowly and the rate of polymerization is greater than that of hydrogenation. The hydrogen required in the latter case must come from decomposition of the fatty acids. In carbon monoxide or sulfur dioxide, there is neither hydrogenation nor polymerization. *J. Soc. Chem. Ind. Japan* 32, Suppl. Bind. 359-60 (1929).

It is stated that the abietic acid soap of triethanolamine is almost completely hydrolyzed in water solution. Oil-water emulsions in which triethenolamine oleate serves as the emulsifying agent may be prepared by mixing the oil solution of oleic acid with the water solution of triethanolamine; for example five parts by weight of oleic acid are dissolved in ninety-three parts of palm oil and the resulting solution mixed with one hundred parts of water containing two parts of triethanolamine. A mixture of turpentine, kerosene and orthodichlorbenzene has been successfully emulsified in water with triethanolamine and oleic acid in the presence of dyes, oils and abrasives to give a satisfactory polishing compound. *Ind. Eng. Chem.* 22, 143-6 (1930).

According to *Malayan Agr. J.* 17, 335-40 (1929), the average moisture content of Malayan estate copra is 7% and the loss of moisture during transit will vary from 2% to 3%. The average oil content, disregarding seasonal variations, is 66%.

The true iodine number of a fat or fatty acid denotes the amount of iodine absorbed to give a saturated halogen compound without any substitution. The iodine number of the constants is not necessarily the true iodine number since it represents a chemical equilibrium, where the iodine is divided between several fatty acids. The Wijs method for the determination of iodine numbers gives the true value. *Chem. Umschau Fette, Oele, Wachse u. Harze* 37,85-7 (1930).

The antioxidizing power of alpha-naphthol on linseed oil is stronger than that of beta-naphthol and the higher the temperature the greater the activity of the former. Because of volatility, it is difficult to make either naphthol hold its antioxygenic activity for a long time at elevated temperatures. *J. Soc. Chem. Ind. Jap.* Suppl. Bind. 33, 107-9 (1930).

Minute quantities of nitrous oxide and ammonia are said to act as negative catalysts in the hydrogenation of oils when nickel is used as the active catalyst. Prior treatment of the nickel catalyst with various anesthetics, such as urethan, barbital, brucine, cocaine hydrochloride and the like, retard the catalytic activity of the nickel. *J. Soc. Chem. Ind. Jap.* Suppl. Bind. 32, 318-23 (1930).

A qualitative test recommended for the detection of free caustic soda in toilet and grained soaps is as follows: add a few drops of phenolphthalein to 25 cubic centimeters of 96 per cent alcohol, then neutralize to a light rose tint; dissolve two grams of the finely divided sample in this alcohol with heat and exclusion of air. Cool, and if free caustic soda is present, the solidified mass will retain a distinct red color for at least one hour. *Seifensieder-Ztg.* 56, 402-3 (1929).

The potassium soaps of most oils and fats split off approximately one-half of their alkali content on hydrolysis, except the potassium soaps of castor oil, coconut oil or rosin, which split off from 6.1 to 26.3 per cent. Sodium soaps hydrolyze somewhat less than the corresponding potassium soaps. *Seifensieder-Ztg.* 56, 386-8 (1929).

According to Herbert G. French, vice-president of Procter & Gamble Company, business has been very much above average in all departments during the past three weeks. It is reported that an additional disbursement in the form of a stock dividend of possibly 2 or 3 per cent is likely to be forthcoming during the latter part of this year, in view of the company's excellent earnings prospects.

El Dorado Oil Co., which crushes copra, with mills at San Francisco, has been taken over by the Colgate-Palmolive-Peet Co., according to recent announcements. The acquisition of El Dorado by Colgate-Palmolive-Peet, negotiations for which were reported a month ago, gives the soap company a source of coconut oil independent of Philippine imports.

Sulphonated Oils

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time needed for the analysis is so long and the care and patience required so great that many sources of error can creep in while the final figure is not an exact one. The modification using petroleum ether gives results much too low and should not be recommended as a standard method. Hart's method is a quick accurate method and appears to have behind it the weight of research work now being done overseas. It is evident that we are going to be obliged to change our ideas about the amount of neutral oil in a pure sulyhonated castor oil and to recognize that there is about 26 per cent of a fatty matter unsulphonated but saponifiable. I recommend that the committee make a study of this method for the coming year after Hart has published his paper.

The association is indebted to The Griess-Pfleger Tanning Company for its permission to allow its laboratory to give so much time to this work in spite of the fact that it uses practically no sulphonated castor oil. I am indebted to John W. Harnly, research chemist, of the above firm for the amount of work which he did and Kenneth Matzinger. Ralph Hart has met me in a spirit of rare cooperation and I am glad that it has fallen to his lot to help out the tanning laboratories once more, and to strengthen a seemingly weak spot in the A.L.C.A. method.

Referee Applicant

W. M. Black, of Augusta, Georgia, has applied for certification as Referee Chemist of the American Oil Chemists' Society. (*Second publication.*)