

ABSTRACTS

Soaps

Edited by M. L. SHEELY

Glycerol viscosity tables. By MADISON L. SHEELY. *Industrial and Engineering Chemistry*, September, 1932.—Glycerol and its aqueous solutions have come into common use as standard calibrating liquids for technical viscometers. The principal points in favor of their use are ready availability in pure form, wide range of viscosities, and ease of standardization as to glycerol content. The principal objections against them are their properties of absorbing moisture in 85% solutions and over, and of giving off moisture in weaker solutions. If these properties are recognized and allowed for, however, they do not offer serious difficulty.

The purpose of this paper was to determine actually the concentration-viscosity curve of solutions of commercial C. P. glycerol of highest purity at room temperature, and to determine sufficient data in the higher concentration range to make possible the actual valuation of the percentage glycerol concentration from the viscosity value. An accurate temperature-correction table by which viscosity values at room temperature could be corrected to the nearest determined curve, and the corresponding glycerol concentration read should be of considerable practical value. Concentrations of 93 to 99.5% are commonest in the glycerol refinery and the viscosity in this range changes very rapidly with concentration.

Cleaning compositions. *The Industrial Chemist*, August, 1932.—British Patent No. 371,176. Solutions of sodium hypochlorite are solidified by the addition of a small proportion (about 2-3 per cent) of saturated fatty acids (from caprylic to lauric acid).

The Specification as open to inspection under Section 91 (3) (a) comprises also the addition of potassium hypochlorite to the mixture before, during or after its preparation. In this case the acids may be replaced by the corresponding soaps.

Comparison of the author's data with that of previously published figures by Archbutt and Deeley and Herz and Wegner is given. The final table shows the absolute viscosities of all concentrations of C. P. glycerol from 0 to 90% for each 1% glycerol. From 90 to 100% the data show viscosity values for each 0.5% glycerol. In this range the change of viscosity with concentration is very rapid. The data includes values for 20° C., 22.5° C., 25° C., 27.5° C., and 30° C.

Preservatives for Toilet Soaps. *Soap Gazette and Perfumer*, October, 1932.—Bergel showed that 1% of rosin prevented 2 to 5% of unsaponified tallow in soap going rancid in 65 days; 2% prevented rancidity in obstinate oils. Apparently the rosin acts as a protective colloid for the liberated fatty acids and hinders their oxidation.

For toilet soaps zinc oxide is extensively employed as a preservative. For neutralizing, either benzoic, cinnamic, or salicylic acid may be used. For cold process soaps, Hagen considers additions of borax 2.5 to 3%, sodium thiosulphate 3%, sodium sulphite 2%, sodium hydrosulphite, salicylic and benzoic acids.

The experiments of Smith and Wood showed that absence of moisture prevented oxidation. Marked inhibiting action was produced by formaldehyde, sodium stannate, stannous chloride, thymol, alum, carvacrol, sodium thiosulphate, and hexamethylenetetramine.

Synopsis of Information: Glycerol, Refined and Crude. *Special Report. Department of Commerce*, 1932.—The first of a series of synopses of information, treated from a domestic point of view, covering a number of chemicals, mostly of organic derivation. The synopsis gives statistics on production and imports, and data on grades, containers, tariffs, prices and trade journals.

Historical Note on Glycerol. *Chemical Abstracts*, October 10, 1932.—Joseph W. England. *Am. J. Pharm.* 104, 489-94 (1932).—A historical review.

PATENTS

Seed Disinfectants. *Chemical Abstracts*, October 10, 1932.—Saccharin-Fabrik A.—G. Vorm. Fahlberg, List and Company. German 555,064, March 22, 1930. Dry disinfectants for seeds are mixed with a soap or soap mixture of the known kind containing a hydroaromatic compound. Mixing is effected with the aid of a fat or like material. Products of enhanced fungicidal action are obtained. Examples are given.

Lubricating Oil. *Chemical Abstracts*, October 10, 1932.—Theodore W. Doell (to Standard Oil Company of California).

U. S. 1,867,695, July 19. Pb salts of unsaturated fatty and sulfonic acids such as oleic and sulfuricinoic acids are used with mineral lubricating oil (suitably in the proportion of about 0.1-3.0%) in order to produce a "chatterless" oil for automobile engines and transmissions with fabric-lined bands.

Fatty Alcohol Patents. *Chemical Markets*, October, 1932.—Nelson Littell, senior member, Hammond and Littell, patent attorneys, arrived September 9 on the "Berlin" with patents valued at \$2,000,000 for newly formed American Hyalsol Corporation covering production of higher fatty alcohols. American Hyalsol licenses P. and G., du Pont, and National Aniline to produce in U. S. Dr. Lewis H. Marks, Alcohol Institute Secretary, is president of American Hyalsol, and Mr. Littell, secretary-treasurer.

Wetting Agents. *Chemical Abstracts*, October 10, 1932.—A. T. Bohme Chemische Fabrik. British 351,911, December 24, 1928. Wetting agents stable to acids, alkalis and MgSO₄ are formed by sulfonating oils, fats or fatty acids (such as castor oil, soya-bean oil or oleic acid) in the presence of products obtained by sulfonating compounds such as butyl alcohol, propionic ether, methyl glycol or ethylglycolacetate. Several examples are given.

Glycerol. *Chemical Abstracts*, October 10, 1932.—Siemens-Electro-Osmose G. M. B. H. French 727,331, December 2, 1931. Glycerol is electroosmotically purified after a chemical purification by introducing the solution of glycerol into the cathodic compartments of apparatus of 2 compartments and afterward treating the glycerol in the central compartments of apparatus of 3 compartments. The solution is preferably led in a continuous manner through the 2 apparatus.

Soaps in the New British Pharmacopoeia. *Perfumery and Essential Oil Record*, September, 1932.—In the new British Pharmacopoeia, there are three official soaps, as in the present edition, Sapo Animalis (curd soap), Sapo Durus (hard soap), and Sapo Mollis (soft soap).

In each case the monographs have undergone considerable change. Sapo Animalis and Sapo Durus are both required to contain 20-30% of water as compared with the present standard of not more than 30%, and in each case the limits for free caustic alkali and carbonated alkali are fixed at 0.02% and 0.25% of Na₂O respectively, while for free fatty acids the maximum permissible is 0.2%, and for free fat (unsaponified plus unsaponifiable) 0.5%. The fatty acids from Sapo Animalis are required to have a titer of not less than 42°C., and those from Sapo Durus are required to comply with the usual tests for olive oil and for freedom from cottonseed, sesame and arachis oils. In addition, Sapo Durus is to contain not more than 1% of impurities insoluble in hot alcohol (chloride, etc.).

Sapo Mollis is now required to yield a minimum of 44% fatty acids, which shall comply with the tests for olive oil, to contain not more than 3% of alcohol-insoluble substances, not more than 0.047% free caustic alkali, as K₂O, and the free fat must not exceed 0.5%.

NEW CANADIAN TARIFFS

Following are the new Canadian tariffs on soap and allied products which became effective October 13th:

	General Rates		British Preferential	
	New	Old	New	Old
Soap, common or laundry, per 100 lb.	\$1.50	\$1.00	\$0.50	\$0.65
Castile soap, per lb.	0.02	0.02	Free	0.01
Perfumery, including toilet preparations, non-alcoholic, viz.: hair, oils, tooth and other powders and washes, pomatums, pastes, and all other perfumed preparations n.o.p. for hair, mouth, and skin (per cent.)	40	32½	20	25
Cottonseed and crude cottonseed oil	10%	Free	Free	Free
Stearic Acid, n.o.p. (pct.)	No chg.	20	Free	12½
Ethylene glycol, for manufacture of anti-freeze compounds	15%	Free	Free	Free