

ABSTRACTS

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Theories of Oil Drying

IN A study and discussion of recent theories of the drying of oils the conclusion has been reached that oxidation is followed by polymerization and gelation. Pure beta-eleostearin was oxidized in the solid state and in solution in benzol and in carbon tetrachloride. The results of oxidation in the solid state were not satisfactory. Oxidation in solution resulted in an insoluble gel and a soluble portion. The insoluble gel is a monoperoxydihydroxy-beta-eleostearic glyceride, while the soluble form contains two constituents, one of which is insoluble in petroleum ether and the other soluble in that medium. In the latter component the hydroxyl groups of the insoluble gel have passed into the keto form and the peroxy group has disappeared. The insoluble gel yields a polymerized methyl ester, insoluble in petroleum ether, and a simple methoxy methyl ester, soluble in petroleum ether. The soluble portion yields corresponding products. *J. Oil & Colour Chem. Assoc.* 12, 183-205 (1929).

The thiocyanogen numbers of thirty-two different animal and vegetable oils have been determined by a Japanese research worker and the differences between this number and the iodine value discussed. The selective action of free thiocyanogen on unsaturated fatty acids was also studied. One molecule of thiocyanogen is taken up by oleic elaidic and linoleic acids while linolenic acid takes up between one and two molecules. This suggests the existence of isomers which have different thiocyanogen numbers. *J. Soc. Ind. Japan* 32, 451-61 (1929); *Supplementary Binding*, 32,138-41B (1929).

Decrease in the volume of fatty oils on drying is said to be due to the coagulation of the colloidal solution of the oxidation products of the glycerides of the fatty acids. Oxidation and coagulation processes are of the autocatalytic nature. Physical properties of the oily film are greatly affected by the presence of foreign substances such as driers. *Maslob. Zhirov. Delo* 1928, No. 10, 35-41; No. 11, 28-32; No. 12, 26-32.

When cod-liver oil was subjected to the action of a silent electric discharge in an atmosphere of hydrogen under normal pressure, the oil was said to be perfectly deodorized after one and one-half to three hours treatment, the applied electric pressure being between 1000 and 2000 volts. It is claimed that Vitamin A was not destroyed by the process and that the oil retained its original nutritive value. *J. Soc. Chem. Ind. Japan* 32, 308-12 (1929) *Supplemental Binding*, 32 93-4B (1929).

It has been demonstrated by the example of linseed oil and its iodine number, which varies with the climate in which the seed is raised, that creation of international standards for vegetable oils is not possible in all cases. The oils of tropical plants, which contain mainly saturated fatty acids and fatty acids with one double bond, possess uniform properties on account of their formation in a uniform climate. The properties of oils containing 2 or 3 double bonds, however, depend upon the location in which these oils originated. *Vestnik Stand.* 1928, No. 3, 20-2; *Chem. Zentr.* 1928, II, 2417.

Organic compounds may be dehydrogenated by passing their vapors at elevated temperatures over a catalyst comprising a compound of a metal with a metalloid alone selected from the fifth or sixth group of the periodic system, having an atomic weight between 31 and 209. Such catalysts are the phosphides, antimonides, arsenides, bismuthides, sulfides, selenides and tellurides of zinc, cadmium, nickel, cobalt, iron, aluminum, calcium, magnesium, etc. For example, a 20% yield of para-cymene is obtained when turpentine is passed over massive zinc phosphide at 600°. The yield of para-cymene is increased to 60% if the turpentine is passed over zinc sulfide precipitated on pumice stone at 540°. U. S. Pat. No. 1,684,634.

Emulsions formed in refining castor oil with caustic soda solution may be avoided by diluting the oil with benzene, which is later distilled off from the refined oil. *Maslob. Zhirov. Delo* 1928, No. 7, 12-4.

Prices

Candles, adamantine 6s 16 oz.			Raw, tanks	fb.	.1400	—	
20-set cases	set.	.14½	.15¾	Car lots, bbls.	fb.	.1480	—
40-set cases	set.	.14	.14¾	Less car lots, bbls.	fb.	.1520	—
Candles, paraffin, cs., 14 oz., case of			Less than 5 bbls.	fb.	.1560	—	
40 sets	set.	.10	.10¾	Refined, bbls.	fb.	.1550	.1590
6s 14 oz., case of six cartons containing				Varnish grades, bbls.	fb.	.1570	.1610
36 sets	set.	.11	.11¾	Linseed cake, bags	ton	45.00	—
6s 12 oz., 40 set cases	set.	.09	.09¾	Meal, bags	ton	55.00	—
6s 12 oz. cases of six cartons containing				Menhaden, crude, tanks, Baltimore	gal.	.45	nom.
36 sets	set.	.10	.10¾	Light pressed, bbls.	gal.	.67	.70
Patent ends	set.	.17¾	.18	Yellow bleached, bbls.	gal.	.69	.72
Stearin 6s 16 oz., plain, cases	set.	.16¾	.17	White bleached, bbls.	gal.	.72	.75
Castor, No. 1, bbls.	fb.	.13¾	.13½	Mustard, bbls.	gal.	.85	.90
No. 3, bbls.	fb.	.12¾	.13	Neatsfoot, cold pressed, bbls.	fb.	.18½	—
Chinawood, bbls. or drs.	fb.	.14½	.14¾	Extra, bbls.	fb.	.12½	—
Coast, tanks, spot	fb.	.12¾	.13	No. 1, bbls.	fb.	.12	—
Futures	fb.	.12½	.12¾	Pure, bbls.	fb.	.14½	—
Coconut, Ceylon grade, bbls.	fb.	.08¾	.08¾	Oleo, No. 1, bbls.	fb.	.11¼	—
Coast, Tanks	fb.	.06¾	.06¾	No. 2, bbls.	fb.	.10¾	—
Cochin grade, bbls.	fb.	.08¾	.09	No. 3, bbls.	fb.	.10	—
Manila, bbls.	fb.	.08¾	—	Olive, denatured, bbls. N. Y.	gal.	.92	.95
Tanks, N. Y.	fb.	.07	.07¾	Shipments	gal.	.90	—
Coast, tanks	fb.	.06¾	.06¾	Foots, bbls.	fb.	.08	.08¼
Fatty acids, mill, tanks	fb.	—	.10½	Shipments	fb.	.07¾	—
Cod, Newfoundland, bbls.	gal.	.59	.60	Edible, bbls.	fb.	2.00	2.30
Copra, bags, coast	fb.	.04¾	—	Palm, Lagos, casks, spot	fb.	.07½	—
Corn, tanks, mills	fb.	.08	—	Shipments	fb.	.07¾	—
Bbls., New York	fb.	.10	—	Niger, casks, spot	fb.	.07	—
Refined, bbls.	fb.	.11	—	Shipments	fb.	.06¾	—
Fatty acid	fb.	.08¾	—	Palm Kernel, pkgs.	fb.	.08¾	.08¼
Cottonseed, crude, tanks, mill	fb.	.07¼	.07½	Tank cars	fb.	.07¾	—
P. S. Y.	fb.	.08¾	.09¼	Peanut, crude, bbls.	fb.	.11½	nom.
Fatty acids, mill, bbls.	fb.	.09	—	Mills, tanks	fb.	.08½	nom.
Degras, domestic, bbls.	fb.	.04¼	.05½	Refined, bbls.	fb.	.13¼	nom.
English, bbls.	fb.	.04½	.05	Perilla, bbls.	fb.	.17	nom.
German, bbls.	fb.	.03½	.04	Poppy Seed, bbls.	gal.	1.70	—
Neutral, domestic, bbls.	fb.	.07¾	.09½	Rapeseed, blown, bbls.	gal.	1.00	1.02
English, bbls.	fb.	.08	.09	Refined, bbls.	fb.	.73	.74
German, bbls.	fb.	.07	.07½	Red Oil, distilled, bbls.	fb.	.10½	.11½
Greases, choice white, bbl. N. Y.	fb.	.08	.09	Tanks	fb.	.09¾	—
Yellow	fb.	.06½	.06¾	Saponified, bbls.	fb.	.10½	.11½
Brown	fb.	.06¾	.06½	Tanks	fb.	.09¾	—
House	fb.	.06½	.06¾	Salmon, coast, tanks	gal.	.44	nom.
Bone Naptha	fb.	.06¼	—	Sardine, coast, tanks	gal.	.48	nom.
Herring, coast tanks	gal.	—	—	Sesame, refined, drums	fb.	.12½	.14
Horse, bbls.	fb.	.09½	—	Soya Bean, blown, bbls.	fb.	.13½	.13¾
Lard, city, tierces	fb.	.10½	—	Crude, bbls.	fb.	.12½	.12¾
Compound, tierces	fb.	.10¾	.11	Orient, coast, tanks	fb.	.10½	.10¾
Middle Western, tierces	fb.	.11	—	Sperm, bleached f.o.b., New Bedford,			
Neutral, tierces	fb.	.12¾	—	bbls.	gal.	.84	.85
Prime Western, tierces	fb.	.11	—	Natural, f.o.b., New Bedford, bbls.	gal.	.78	.80
Lard oil, No. 1, bbls.	fb.	.11¾	—	Stearic Acid, Double pressed, bags	fb.	.15¾	.16¾
No. 2, bbls.	fb.	.11½	—	Triple pressed, bags	fb.	.18¼	.18¾
Extra bbls.	fb.	.12½	—	Stearine oleo, bbls.	fb.	.09¾	.10
No. 1, bbls.	fb.	.12	—	Tallow, edible, bbls.	fb.	.08¾	.08¾
Winter strained, bbls.	fb.	.12¾	—	City, extra, works, loose	fb.	.07¾	—
Prime, bbls.	fb.	.15	—	Special, works, loose	fb.	.07¾	—
Linseed Oil, boiled, tanks	fb.	.1440	—	Tallow oil, acidless, bbls.	fb.	.11	—
Car lots, bbls.	fb.	.1520	—	Tanks, N. Y.	fb.	.10¾	—
Less car lots, bbls.	fb.	.1560	—	Vegetable tallow, coast, mats	fb.	.07¾	—
Less than 5 bbls.	fb.	.1600	—	Whale, crude, No. 1, coast, tanks	lb.	.07	—
Double boiled, less than 5 bbls.	fb.	.1630	.1660	No. 2, coast, tanks	fb.	.06½	—
				Refined, winter bleached, bbls.	gal.	.80	—
				Extra, bbls.	gal.	.82	—
				Natural, bbls.	gal.	.78	—