TABLE I

Results of Activated-Sludge Test[a]

Days of degradation	Percentage of active material left			
	DOBS PT	DOBS JN	Improved DOBS JN	Lauryl sulfate
0	100	100	100	100
1	77	69	62	0
2	48	28	21	0
3	29	10	5	0
4	22	6	1	0
7	18	6	0–1	0

[a] Initial detergent concentration 10 ppm, room temp, aeration: 1.0 l/h per 300 cm^3.

The results obtained are tabulated in Table I. (See also Fig. 1.)

The differences of the various detergents as to their biological "softness" can be expressed as the "hard-residue ratio." This ratio is given by 100 a/b, where a represents the percentage of test detergent left after seven days and b the percentage of DOBS PT left after the same period. Table II gives the hard residue ratio for the detergents investigated.

From the figures given in Table I and Table II it can be seen that DOBS JN derived from cracked olefins has a much higher hard-residue ratio than the improved DOBS JN prepared from straight-chain olefins or than lauryl sulfate, which is a primary alkyl sulfate.

TABLE II

Hard-Residue Ratio of Various Detergents

Detergent	Hard-residue ratio after 7 days
DOBS JN	33
Improved DOBS JN	0–6
Lauryl sulfate	0
DOBS PT (ref.)	100

The hard-residue ratio for DOBS JN found in this test agrees with the corresponding ratio in pilot plant experiments (approx 30) thus confirming the validity of the new method.

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• *Letter to the Editor*

A Quick Method of Detecting Castor Oil in Vegetable Oils

IN THE COURSE of other investigations I have found that if a solution of molybdic acid is added to petroleum ether solution of an oil sample, a heavy turbidity immediately develops in the solution if the sample contains castor oil. This possible test may be of interest to detect addition of castor oil to other oils.

In order to carry out the test the following procedure was used.

Reagents Required. (a) Petroleum ether (B.P. 40–60C) acidified with 2% (by volume) analytical grade concd hydrochloric acid. (b) [2]A concentrated sulphuric acid solution of molybdic acid containing 1.25 g of ammonium molybdate/100 ml of analytical reagent (s.p. gr 1.84).

Procedure. Dissolve one ml of the filtered oil sample in 10 ml of the reagent (a)—acidified petroleum ether, in a clean and dry test tube. Shake it vigorously. Add to it a drop of the reagent (b). If castor oil is present in the sample, even up to 2%, a strong turbidity immediately develops. Whereas in the case of other pure oils the addition of the reagent (b) causes no turbidity and the solution remains perfectly clear and transparent.

It is important to notice that turbidity is to be examined immediately after addition of the reagent, preferably against a source of light, because otherwise the oil present in the solution may get charred by sulphuric acid and may become hazy. In addition to this it is also important that the final observation in the test-tube should be seen within 15 sec, as concd sulphuric acid starts charring the oil very quickly.

It was also observed that the addition of hydrochloric acid in petroleum ether is essential, because otherwise certain oils like sesame and mahwa (Bassia) are immediately affected with sulphuric acid and become black. The presence of hydrochloric acid in petroleum ether seems to retard discoloring effects also.

The behavior of various vegetable oils, pure as well as adulterated with 2% castor oil, is as follows:

S. No.	Oils	Observations
1	a) Peanut oil b) With 2% castor oil	Solution remains clear Solution immediately became turbid
2	a) Cottonseed oil b) With 2% castor oil	Slightly brownish but clear Light green turbidity
3	a) Sesame oil b) With 2% castor oil	Darkish green and clear Whitish dirty green turbidity
4	a) Mahwa oil b) With 2% castor oil	Blackish brown and clear Whitish brown turbidity
5	a) Soybean oil b) With 2% castor oil	Light blue and clear Bluish white turbidity
6	a) Corn oil b) With 2% castor oil	Brown and clear. Dark brown turbidity
7	a) Mustard oil b) With 2% castor oil	Clear Gray turbidity
8	a) Linseed oil b) With 2% castor oil	Light brown and clear Light brown turbidity

Note—The only exception in this test is poppy-seed oil, which gives turbidity even in pure state.

RAJNISH KUMAR
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• *Erratum*

JAOCS, *39*, page 454, October, 1962, (also see Errata, JAOCS, *40*, page 40, January, 1963). RHEINECK ET AL.: CHEMISTRY AND TECHNOLOGY OF SOME DRYING OIL FATTY ACID ESTERS OF POLYVINYL ALCOHOL. Under the subheading "Use of Other Solvents:"

For polyvinyl alcohol this is:

M = molecular weight per unit, 44

d = density, 1.21

CH_2 =	133
CH =	28
OH =	170
ΣG =	331