that the presence of water either of the bromine or the oil is apparently of no influence.

The results obtained vary with each calorimeter; hence to make them comparable they must, as in Maumené test, be referred to some standard. Such a standard has been found in sublimed camphor, which can be prepared in sufficient purity; seven and five- tenths gram are dissolved in carbon tetrachloride and brominated, giving an average rise of 4.2°. The rises in temperature obtained with the various oils were divided by this number, giving a specific temperature reaction; if this be multiplied by a factor—found by dividing several of the iodine numbers by this specific temperature— the iodine of value any sample may be quite closely determined; this is shown in the following table, the factor being 17.18.

TABLE SHOWING THE RELATION OF THE BROMINATION AND IODINE VALUES.

Name of oil.	Spec. temp. Reaction.	Iodine. Calculated.	Found.
Neats-foot	3.286	56.5	59.1
Tallow	3.348	57.4	57.2
Prime lard	3.715	63.8	63.8
Sperm	4.191	72.1	73.2
No. 1 lard	4.096	70.3	73.9
Olive	4.762	81.8	82.0
Cottonseed	5.667	97.3	103.0
Corn	6.381	109.5	107.8
Cod	8.002	137.4	135.0
Linseed	9.949	152.6	160.0
25° paraffin	1.643	18.2	10.1
300° lantern	1.190	50.5	0.0

In the case of the hydrocarbon oils the discrepancy may be due to the fact that there is substitution by the dromine and and none with the iodine.

MASS. INSTITUTE OF TECHNOLOGY,
October, 1898.

THE ANALYTICAL CONSTANTS OF AMERICAN LINSEED OIL.

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Received October 5, 1898.

GENUINE samples of linseed oil having been found to yield lower iodine values than were usally excepted, it seemed desirable to determine the constants of some American oils of undoubted purity.

Nearly all the principal brands in the market were represented, being obtained from leading manufacturers in the east and west, whom we here wish to thank for their courtesy. The methods employed were those in common use, described at length in a little book by one of us;[1] it was found necessary in applying the Maumené test to mix the linseed oil thoroughly with a heavy petroleum and allow to stand an hour or two before the treatment with sulphuric acid, correcting for this in the rise obtained.

The results are given in the accompanying table and are the mean of two closely agreeing determinations.

CONSTANTS OF LINSEED OIL.

	Brand.	Specific gravity at 15.5°C.	Valenta test °C.	Maumené test, °C.	Iodine absorption in per cent. in 4 hours.	Iodine absorption in per cent. in 18 hours.	Drying test, hours required.
1.	Western raw	0.933	79	97	174.7	180	72
2.	" "	0.932	70	90	169.7	180	72
3.	" " special	0.934	73	105	178.0	178	72
4.	Old Calcutta	0.931	71.5	106	167.5	178	72
5.	Eastern oil	0.931	73	105	168.0	168	72
6.	Western boiled	0.936	74	100	178.8	178.8	18
7.	Eastern "	0.938	59.5	101	169.5	171	18
8.	Acid bleached	0.934	52.5	103	160.0	160	84
9.	Bleached without acid	0.932	60	105	162.0	162	84
10.	Menhaden oil	0.934	73.5	135	157.0	181	84
	Usual constants	0.931–0.937	57–74	103–126		170–188	
	Average	0.934		111		176	

Samples 1, 6, and 8 are from the same house, as also are 5 and 7; sample 10, menhaden oil, was examined because it is used as a substitute for, and an adulterant of, linseed oil. Its effect would be to raise the Maumené test, lower the iodine value, and retard the drying properties of the oil. It will be noticed that the constants here given differ from those usually accepted in that the Maumené and iodine tests are about ten and four per cent. lower, respectively.

It is to be noted further that, contrary to the experience of Dieterich[2], the iodine value is not, in the majority of cases, perceptibly increased by eighteen hours' standing.

[1] Gill: A Short Handbook of Oil Analysis.

[2] *J. Soc. Chem. Ind.*, **12**, 381.