

SOCOTRINE ALOES.\*

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The U. S. P. description of aloes includes the inspissated juices of *Aloe vera* (Linne) Webb, the common type of curacao aloes, *Aloe Perryii* or typical socotrine aloes, and other species such as Natal and Cape aloes under one general heading.

It states that aloes should be "in yellowish brown to blackish brown opaque masses, translucent in thin fragments; fracture uneven, dull and waxy, somewhat resinous or smooth and glassy, somewhat conchoidal; occasionally exhibiting microscopic crystals of aloin; odor characteristic; taste nauseous, bitter."

This definition, though wide enough to cover all varieties of genuine aloes, fails to describe some samples as imported. Aloes, both socotrine and of other varieties, has often been imported into Britain, and the United States, in barrels and in a pasty condition which renders the U. S. P. description as regards the article as received by the wholesalers or submitted to them for analysis, of no avail. It is then up to the chemist of the wholesale houses either to reject the shipment as abnormal on its physical appearance or being satisfied after testing for chemical identity and purity, to state that if dried the sample would be of proper U. S. P. quality.

The importation, however, of these pasty aloes is not to be encouraged. They nearly all contain about twice the amount of water allowed by the U. S. P., and there is no reason why the product containing excessive moisture should be shipped, as they are pasty and difficult to handle.

The following analyses of socotrine aloes obtained in the laboratory of the Smith, Kline & French Company, are typical of these humid aloes:

<i>Socotrine Aloes</i>	No. 50.	"Caled"	No. 52	No. 54	"M"
Physical Appearance.....	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal
Odor and Taste.....	Normal	Normal	Normal	Normal	Normal
Reaction with Nitric Acid....	Normal	Normal	Normal	Normal	Normal
Reaction with NaOH.....	Normal	Normal	Normal	Normal	Normal
Moisture .....	23.48	19.58	12.08	20.48	19.00
Reaction with Sodium Borate	Normal	Normal	Normal	Normal	Normal
Amount from 5 gms. insoluble in 60 cc. of water on cooling	1.914	1.990	2.278	1.954	1.998
Alcohol test for gums, dex- trins and impurities.....	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal
Ash .....	4.5	3.64	16.22	4.12	5.5
Nitric and sulphuric acid test for absence of Barbadoes and natal aloes, N. S. D..	Negative	Negative	Negative	Negative	Negative

As the above samples were submitted for an U. S. P. examination, all were rejected, as they contained about twice the amount of water allowed by the

\* Read before the Pennsylvania Pharmaceutical Association, June, 1913.

U. S. P., besides which they failed to pass the alcohol test for the limit of gums, dextrans and impurities.

Even if the samples were dried until they had the prescribed water content of 10 percent, the amount of water insoluble substance would then be above the limit allowed by the Pharmacopoeia.

For instance, sample marked No. 50 would then have 2.251 grams of water insoluble substance; sample marked "Caled," 2.227; sample No. 52, 2.472; sample No. 54, 2.221, and sample "M," 2.222.

While the U. S. P. contains no standard for the ash of socotrine aloes, both Kraemer and Parry state that it should not yield more than 4 percent, while Squire's Companion to the British Pharmacopoeia, 1908 edition, places the ash limit of socotrine aloes at 3 percent.

Though the ash of all these samples was slightly high and in conjunction with the alcohol and water soluble tests afforded corroborative evidence of impurity, yet in only one case was it considered sufficiently high to cause the rejection of the sample.

This sample which is marked "Caled," also contained a considerable quantity of hair, probably due to its having been packed in skins, in which, according to Squire, it is sometimes imported into Britain.

An interesting fact is emphasized in an article on the products of the Island of Socotra by Dr. Miller, *JOURNAL A. PH. A.*, August, 1912. He does not mention socotrine aloes as one of these products, but draws special attention to the statement in Brockhaus' Conversations Lexicon, 1908, that at present no aloes whatever is obtained from Socotra. He also states that almost all the aloes then sold as socotrine was probably from Zanzibar, Moka, and other countries.

In this connection it is of interest to note that Dr. Rusby, in his report on the Drug Market for 1911, stated that Moka aloes had been supplied for socotrine to American manufacturers and dealers. "Though geographically classed with socotrine aloes, it was from every other point of view entirely distinct and as inferior as it was distinct. The substance is black and soft like thin tar and is exceedingly disgusting in odor and taste. It contains a much larger percent of albuminous matter than official aloes."

The rejection of moka aloes by the Federal authorities led at the time (1911) to vehement protests from the European shippers. The latest report on the Drug Market in 1912 *JOURNAL A. PH. A.*, June, 1913, stated that Moka aloes had practically disappeared from the market. The sample "M," rejected by our laboratory, which containing a decided amount of substance soluble in cold alcohol and being in a pasty condition, was not very different in odor from normal samples.

Internally, it presented the appearance of a brown paste, covered where exposed to air by a brown to jet black shining surface, but when dried in thin laminae on a watch glass, the color was normal.

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