



On an improved method of detecting alumina

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ON AN IMPROVED METHOD OF DETECTING ALUMINA.

BY MR. J. C. NESBITT.

THE process depends on the insolubility of the phosphate of alumina in acetic acid, and the two following experiments will show the advantages of this test :—

1st. Two grs. of alum were dissolved in 1000 grs. of water, and a single drop of this solution was mixed with a little solution of phosphate of soda, to which acetate of ammonia and acetic acid had been added; in a few minutes a precipitate of phosphate of alumina was produced.

Another drop was mixed with ammonia, and the usual tests were employed to detect alumina, but no precipitate was produced.

Some ordinary solution of potash was mixed with a strong solution of muriate of ammonia. The mixture showed no change after the lapse of two days.

Another portion of the same solution of potash was mixed with a solution of muriate of ammonia, containing a few drops of solution of phosphate of soda. A precipitate was produced in the course of twenty minutes or half an hour.

In order to detect alumina in the ashes of plants, or in substances containing similar ingredients, it is merely necessary to precipitate the oxide of iron (if any be present) and the alumina as phosphates, by the addition, if necessary, of phosphate of soda, acetate of ammonia and acetic acid. This precipitate is to be boiled with a solution of pure caustic potash; the phosphate of alumina will be dissolved, and may be again precipitated by muriate or acetate of ammonia and acetic acid.—*Proceedings of the Chemical Society*, part xvii.

ON A NEW SUBSTANCE FROM COCHINEAL.

At the Meeting of the Chemical Society for March 16, 1846, Mr. Warren De la Rue described a new body which he had obtained from cochineal, a subject he has been for some time past investigating, and which bears a remarkable similarity to a substance which Liebig has lately produced by the action of potassa on caseine, to which he assigns the composition C_{16}, N, H_9, O_5 , at the same time stating that the formula requires confirmation. Though the analyses of the new substance differ somewhat from this formula (its composition appearing to be C_{18}, N, H_{11}, O_6), yet the agreement of its properties with those assigned by Liebig to the substance described by him, leaves but little doubt as to the identity of the two bodies. A specimen of Liebig's substance, furnished by Dr. Hofmann, agrees perfectly in its physical characters.

The new body is obtained from cochineal by the following means :—The colouring principle being first separated from an infusion of cochineal, the mother-liquor is to be carefully evaporated in a water-bath to the consistence of a syrup, when there appears floating in it a small quantity of granular chalky-like masses, which being collected on a filter is kept warm, and, when drained, well-

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