

below 70° Fahr., but a portion, together with some resin, remains intimately combined in the clear liquid and it is this which is not removed previously to adding the ammonia, in the process of Headland. Further, aconitic acid is soluble in ether, and aconitate of ammonia, may be slightly so, in which case it also would tend to contaminate the aconitia in that process.

Take of Aconite root, in fine powder, five pounds.

Alcohol, '835.

Ether.

Stronger solution of ammonia, each a sufficient quantity.

Moisten the aconite root with two pints of alcohol, and let it stand twenty-four hours in a covered vessel, then, having packed it closely in a cylindrical percolator, pour on alcohol until three gallons have slowly passed, or until the root is so far exhausted that the passing liquid has little, if any taste of aconite. To the tincture thus formed add an ounce of lime, previously hydrated and in powder and agitate them together; separate the precipitate which forms by straining through a close cloth, and saturate the liquid with diluted sulphuric acid till slightly acid. Filter the liquid through a close filter and distil off the alcohol, until the remaining liquid measures about a pint and a half. Remove any fixed oil which may separate on standing, and having continued the evaporation to a syrupy consistence, agitate it well with four fluid liquid ounces of ether in a suitable bottle, and decant the ether when it has separated. Then add the solution of ammonia in excess, agitate thoroughly, wash the mixture with repeated portions of ether, by agitation and decantation, and having mixed these last ethereal liquids, allow the ether to evaporate spontaneously from a capsule, until the aconitia remains as a dry amorphous shining residue which should be removed from the capsule, powdered, and preserved, for use in a stopped vial.

As thus obtained, aconitia is a powder of greenish or brownish white colour, uncrystallized, very soluble in alcohol, ether and chloroform, saturates acids, and has a strong alkaline reaction. It irritates the nose powerfully when a minute particle is inhaled, but does not excite sneezing.

Modes of using Aconitia.—When aconitia is to be employed in the form of an ointment, its activity may be much increased by adding to it a sufficiency of acetic acid to salify it, which renders it more readily absorbable in contact with the skin. The powder should first be triturated with a few drops of alcohol, and the acid added to this in the proportion of a drop of acetic acid to each grain of the alkaloid.

Glycerole.—When aconitia is mixed with a slight excess of acetic acid it readily dissolves in glycerin, and in this state may be applied by friction to the surface requiring its anæsthetic action. The proportion of the alkaloid to each preparation must be regulated by the prescriber; two or three grains to the drachm of prepared lard is a maximum strength for the ointment, and from this down to one grain.

SUBSTITUTES FOR ACONITIA.

Tinctura Aconiti Radicis, U.S.P.—This preparation is of such strength, that two pints of the tincture is intended to represent twelve ounces troy of aconite root. Owing to the hard and resistant structure of this root, and from the annoyance arising from the dust in effecting its pulverization, I believe this tincture to be, oftentimes, an imperfect representative of the amount of aconite used. It is suggested to those who have not a suitable mill for grinding this root, that it may be exhausted by bruising it well in a metallic mortar, with the addition of just sufficient alcohol to prevent dust arising, until fine enough for percolation. Then having added sufficient alcohol to completely saturate the powder, let it stand two days, and pack it firmly in a percolator. Pour on alcohol (which should pass slowly) until the root is nearly exhausted (about three pints for each pound troy of the root. Then evaporate the tincture in a water bath to two pints, and filter. This plan ensures the exhaustion of the root if due care is taken. When the aconite root can be obtained in fine powder, as through a sieve 60 meshes to