

ALIEN PROPERTY CUSTODIAN

METHOD OF CONVERTING HEXYLRESORCINOL INTO AN EASILY WATER SOLUBLE FORM

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Hexylresorcinol, as is well-known, is one of the most powerful antiseptics. However, it has the drawback of being only slightly soluble in water, for which reason its use is out of the question for many purposes.

It has been found that the sulphonic acid of hexylresorcinol, which, as described below, can be prepared in various ways and which forms easily soluble salts with water, far surpasses hexylresorcinol in antiseptic action. Thus, solutions which contain instead of hexylresorcinol, the same quantity of the hexylresorcinol sulphate of potassium are capable of destroying pyocyanus already in 5 minutes instead of 45 minutes. A solution which contains 0.1% of the salt mentioned can immediately destroy pus excitant (staphylococci, streptococci and pyocyanus) and colibacilli. Such an effect was not by any means to be foreseen.

The preparation of the hexylresorcinol sulphonic acid is carried out with almost quantitative yield either by sulphonation of the hexylresorcinol or by reduction of the sulphonic acid formed by treatment of capronyl resorcinol with concentrated sulphuric acid or an other sulphonating agent and will be explained by the following examples:—

Example 1

100 g hexylresorcinol is dissolved in 100 g concentrated sulphuric acid while stirring well. After standing 24 hours, the mass solidified to a crystal paste is dissolved in water and the solution is neutralised with carbonate of lime. By means of potassium carbonate the calcium is precipitated from the liquid filtered from the calcium sulphate, and evaporation to dryness is carried out. The residue constitutes the hexylresorcinol sulphate of potassium.

Example 2

100 g capronyl resorcinol is dissolved in 150 g concentrated sulphuric acid and kept about 8 hours at approximately 60°. After cooling, the crystal mass formed is dissolved in water, the solution is thoroughly treated with ether for the purpose of removing any unchanged capronyl resorcinol, and the aqueous liquid still containing free sulphuric acid is treated at boiling temperature about 6-8 hours with zinc dust while stirring vigorously. After cooling, the major part of the zinc sulphate separates out, and filtering is then carried out. The zinc and the sulphuric acid which is still present are precipitated from the filtrate with a hot solution of caustic baryta and the liquid filtered from the zinc hydroxyde and barium sulphate is treated with a potassium carbonate solution in slight excess for the purpose of removing the barium. The filtrate of barium carbonate is brought to dryness.

Example 3

The aqueous solution of hexylresorcinol sulphonic acid still containing sulphuric acid as obtained according to Example 1 is treated with caustic baryta or barium carbonate at boiling temperature until it hardly contains any sulphuric acid, the filtrate is shaken with ether several times for the purpose of removing small quantities of unchanged starting material and then there is dissolved in same (after determination of the degree of acidity) the equivalent quantity of hexamethylenetetramine (1 mol). The residue obtained after the evaporation of the water *in vacuo* constitutes the hexylresorcinol sulfonic acid hexamethyltetramine, which forms compact crystals which easily dissolve in water and dilute alcohol.

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