	Substance isolated	Authentic specimen	Mixture
Dibenziminazole Dihydrochloride	m.p. 243°	m.p. 240-2°	m.p. 240°
tetrahydrate	m.p. 265° [a] $p = +52.3^{\circ}$	m.p. 267° [a] $D = +52.3^{\circ}$	m.p. 265-6
Dipicrate tri- hydrate	Change of form 145°; m.p. 211°	Change of form 145°; m.p. 211°	Change of form 140°; m.p. 211

All melting points corrected. Decomposition before or at m.p. in

The experiment was repeated using only 300 units of enzyme, but continuing incubation for 48 hours. The residue from the hydrolysis appeared to contain 195 mgm. glucuronic acid, and gave 105 mgm. of the iminazole, m.p. 235-36°. This was combined with the product of the first experiment and put through one stage of purification, giving a final yield of 130 mgm. The hydrochloride and picrate were prepared, and as shown by the data in the table the identity of the iminazole with an authentic specimen prepared from d-glucosaccharic acid was proved.

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Assay of Cation-Active Antiseptics

THE agar-plate or the cylinder-plate method of testing the effectiveness of antiseptics and antibiotics is now a well-known laboratory technique; and it is the basis of quantitative estimations of penicillin and of other antiseptics. There is little doubt that the degree of 'zoning' obtained is an excellent criterion of a good chemotherapeutic agent, and Fleming1 considers that this test should be so applied. However, recent experiences in my laboratory indicate that this test is not necessarily a good criterion for cation-active antiseptics of the class of quaternary ammonium salts, such as cetyl trimethyl ammonium bromide ('Cetavlon') and cetyl pyridinium ehloride ('Ceepryn').

Solutions of 1/1,000 of the latter compound and of the corresponding bromide, which have been shown to be bactericidal to many organisms (such as Staph. aureus) in dilutions of 1/50,000 in vitro give very little zoning by the agar cylinder-plate method, and, in the form of creams, by the agar-plate method. Creams containing other antiseptics (such as potassium hydroxy quinoline sulphate) give, in the correct concentrations, large zones; but there seems to be no great advantage in the use of these creams clinically as compared with creams made from cetyl pyridinium bromide.

A possible explanation of this may be found in the different chemical constitution of the cation-active antiseptic and the quinoline compound, although both are sufficiently water-soluble. It is possible that the ionic aggregates of the cetyl pyridinium ion are physically too large to pass through the agar network, and that this does not apply to the physically

smaller molecules of the hydroxy quinoline compound. Since wound exudate or the surface moisture of the skin is not a network, the cation-active antiseptic is able to penetrate it as freely as is necessary to exert its bactericidal activity.

It seems from this that although the agar methods are suitable for testing many ointments and creams. it may not be the most suitable for testing creams (or solutions) based on cation-active materials; for such creams, the inoculation tests would appear to be preferable. Indeed, preliminary tests by this method with creams containing cetyl pyridinium chloride and bromide are much closer parallels to the clinical findings than those tests performed by the agar methods.

I have been informed by Sir Alexander Fleming (private communication) that he found some years ago that antiseptics of the quaternary ammonium salt type did not diffuse into agar, which is a property he considers to be very important; but it seems that these observations, confirmed in my laboratory in the case of cetyl pyridinium bromide and chloride, have not hitherto been published.

The pharmacological and clinical results will be published as soon as complete.

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7 Harley Street, London, W.1. April 17.

¹ Chem. and Indust., Jan. 20, 1945, p. 18.

Silicic Acid

WE have investigated the conductivity of very dilute (N/200-N/500) solutions of sodium normal silicate during neutralization by hydrochloric acid, and the neutralization of freshly formed silicic acid by caustic soda, at 15° C. and 100° C. Hagg found in approximately N/10 solutions inflexions in the pH curves corresponding to Na₂O.SiO₂ and Na₂O.2SiO₂ approximately.

