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Spot Test Detection of Hydroxytriazenes

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Abstract: *Hydroxytriazenes serve as useful group of chelaling agents Four methods have been feported by Purohit[63,64,34,30] for the spot test detection of hydroxytriazenes.. The newly synthesized hydroxytriazene 3-Hydroxy-3-propyl-1-p- sulphonato (sodium salt) phenyl triazene was subjected these tests.*

Keywords: Hydroxytriazenes chelating agents..

I. INTRODUCTION

First Method

(α -Naphthylamine test)[63];

In a micro test tube, to a drop of acetic acid solution of 3-Hydroxy-3-propyl-1-p-sulphonato (sodium salt) phenyl triazene, (0.001% W/V) two drops of acetic acid solution (0.01% w/v) α -naphthylamine are added. A pink colour is obtained immediately which intensifies on warming gently. Thus the reagent gives a positive test.

Second Method :

(Picric acid test) [64];

A pinch (1 $\simeq$mg) of 3-Hydroxy-3-propyl-1-p-sulphonato (sodium salt) phenyl triazene in a micro test tube is mixed with 2-5 drops of saturated ethanolic solution of picric acid. The mixture is warmed on a water bath at 50° to 60°c. Orange colour is developed. Thus, the reagent responds positively to the test.

Third Method :

(N,N-dimethylaniline test) [34]

A drop of N,N-dimethylaniline and two drops of concentra ted HCl are added to a pinch of 3-Hydroxy-3-propyl-1-p-sulphonato (sodium salt) phenyl triazene (1 mg) in a micro test tube. The solution is then heated to boiling. Deep red colour is developed indicating that the reagent responds positively to the test.

Fourth Method :

(Sulphuric acid test)[30]:

To a pinch (1 mg) of 3-Hydroxy-3-propyl-1-p-sulphonato (sodium salt) phenyl triazene in a micro test tube 10 - 15 drops of conc. H_2SO_4 are added. The solution is then heated. Reddish brown colour is developed. Thus the compound gives a positive test.

Discussion:

Thus the newly prepared hydroxytriazene i. e. 3-Hydroxy- 3-propyl-1-p-sulphonato (sodium salt) phenyl triazene gives positive test with all the four methods. The α-naphthylamine test has been reported to indicate the presence of hydroxytriazene group, whereas the remaining three tests have been reported to indicate the presence of triazene oxide group (loc. cit.). Thus, a positive test with all the four methods suggests that in the present compound also both the hydroxytriazene form (1) and triazene oxide form (II) are contributing towards the final intramolecular hydrogen bonded form (111).

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