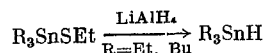


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Trialkyltin halides react with complex hydrides of alkali metals to form the corresponding trialkylstannanes [1]. Trialkyltin mercaptides have not been studied in these reactions.

We are first to report that trialkyltin ethylmercaptides are converted by lithium aluminum hydride in ether to the corresponding trialkyltin hydrides



The reduction of trialkyltin mercaptides is also readily accomplished by lithium aluminum hydride under phase transfer catalysis conditions using dibenzo-18-crown-6 in benzene.

A sample of 17.22 g triethyltin ethylmercaptide in 30 ml ether was added with stirring to a suspension of 2.5 g $LiAlH_4$ in 120 ml ether. The reaction mixture was heated at reflux for 3 h. After cooling, 10 ml water and 150 ml 10% sodium potassium tartrate were added. The ethereal layer was separated and dried over $CaCl_2$. Ether was evaporated using a water pump and the residue was fractionated to give 8.90 g (67%) triethyltin hydride, bp $35^\circ C$ (10 mm), n_D^{20} 1.4712, which is in accord with the data of Kocheshkov et al [1].

A sample of 38.90 g tributyltin ethylmercaptide in 20 ml benzene was added with stirring to a suspension of 4.0 g $LiAlH_4$ and 0.5 g dibenzo-18-crown-6 in 130 ml benzene. The reaction mixture was heated at reflux for 2 h. After cooling, 15 ml water and 300 ml 10% sodium potassium tartrate were added. The benzene layer was separated and benzene was evaporated using a water pump. Distillation of the residue gave 21.43 g (66.5%) tributyltin hydride, bp $63^\circ C$ (0.04 mm), n_D^{20} 1.4728 [2].

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