Some New Reactions and Properties of Xanthane Hydride (5-Amino-1,2,4-dithiazole-3-thione)

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Abstract—Aminomethylation of xanthane hydride (5-amino-1,2,4-dithiazole-3-thione) with the RNH_2–HCHO system has resulted in the formation of the derivatives of new heterocyclic system (3,7-dihydro-5*H*-[1,2,4]-dithiazolo[4,3-*a*][1,3,5]triazine) in low yields. The reaction of xanthane hydride with dicyandiamide has led to thioammeline [4,6-diamino-1,3,5-triazine-2(5*H*)-thione]. Some practically important properties of xanthane hydride and its derivatives have been investigated. Xanthane hydride has efficiently exhibited carbon steel corrosion in neutral aqueous media. The prepared compounds have not exhibited growth-regulating or antidote activity to herbicide 2,4-D.

Keywords: xanthane hydride, 5*H*-[1,2,4]dithiazolo[4,3-*a*][1,3,5]triazin-3-thione, dicyandiamide, thioammeline, Mannich reaction

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