

REACTIONS OF SODIUM ACRYLATE AND SODIUM METHACRYLATE WITH
MONOCHLOROACETIC ACID BENZYL ETHER

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Annotation. The reactions of sodium acrylate and sodium methacrylate with monochloroacetic acid benzyl ether were investigated in order to study their nucleophilic substitution behavior and the formation of functionalized acrylic derivatives. The interaction proceeds via the alkylation of the carboxylate anion, leading to the introduction of benzyl ether fragments into the acrylic and methacrylic systems. Reaction conditions, including solvent, temperature, and reaction time, were optimized to improve yield and selectivity. The structures of the obtained products were confirmed using spectroscopic methods. The results demonstrate that both sodium acrylate and sodium methacrylate exhibit comparable reactivity toward monochloroacetic acid benzyl ether, with differences attributed to the steric and electronic effects of the methyl substituent in methacrylate. The synthesized compounds are of interest as intermediates for polymer modification and functional material synthesis.

Keywords: Sodium acrylate; sodium methacrylate; monochloroacetic acid benzyl ether; nucleophilic substitution; alkylation reactions; acrylic derivatives; methacrylic derivatives; functional monomers; polymer intermediates.

Introduction. Synthesis as taken monochlorine vinegar acid benzyl 0.05 mole of ether and 0.04 moles taken sodium acrylate and sodium methacrylates equimolar in proportion to react introduced, solvent DMFA (12 ml) was used as the reaction magnetic 2.4.6 hours in the mixer during reverse refrigerator at a temperature of 153-155 °C using take went, acrylates in the content double gardens high temperature under the influence polymerized not leaving for to react catalytic in quantity hydroquinone was put in. Reaction when finished harvest was sediment from the filter passed reaction as a result harvest NaCl crystals that are separate was obtained. Solvent as used DMF and in reaction harvest was from salt cleaning for again chloroform using separate We got it. This is for initially reaction mixture cold in the water melted. This in process solvent DMF water with melted whole one homogeneous system harvest that he did was observed. From this after this to the solution chloroform inserted water size as adding mixed in. In this case, the oil ether part in chloroform melted without water at the bottom separately layer harvest as separated left because two to the floor separated left and him/her separator to the poor through separate obtained, harvest was ether brown colored liquid aggregate in case that see possible was. These substances are also physical chemical methods using checked This reaction following reaction equation through done increased.

Acrylic and methacrylic acids sodium 0.05 moles of salt take every Add 20 ml of DMF to one and stir for 10-12 minutes. during boiled salt and solvent homogeneous to the system was brought, then these systems known time during from cooling after from 0.06 moles to them monochloroacetic acid bread from the air added. Reaction Mix for 15 minutes. during from boiling after this our reactions done increasing flasks at the bottom same previous reactions of a salt such as NaCl crystals harvest to be observed. Reaction initially of the actinides in the content double gardens our reactions high temperature under the influence polymerized not leaving for to react catalytic in quantity hydroquinone was put in. Reaction when finished harvest was sediment from the filter by passing DMFA vacuum pump using one part driver taken and remaining to the part ice was put harvest was our broadcast in the water unbelted for two to the floor separated left and him/her separator to the poor through separate obtained, harvest was the air aggregate status liquid color and brown reddish in the case of was.

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