

Producing isoamyl acetate from isoamy



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This was then weighed and computed for the percent yield. The theoretical yield and the weighed value must have close values in order for this experiment to be successful. Keywords: fruit flavors, banana flavor, call stratification, reflux, extraction, washing, drying, drying agents

Introduction

Esters are a group of organic compounds that give out distinct odors. Examples of esters are fruit flavors such as the product of this experiment. Isoamyl acetate or banana flavor is an ester which resulted from an call stratification between Isoamyl alcohol and Acetic anhydride.

Call stratification is a reaction between acid anhydride and call chlorides. Through this experiment, the students that performed it would have learned about reflux, extraction, washing and drying. The reflux technique is the boiling of the reagents while cooling the vapor escaping from it and having it returned in the flask to prevent evaporation. This guarantees that the temperature in the flask is constant. Extraction, washing and drying the resulting chemicals after the reflux technique separates the desired product, in this experiment it was the Isoamyl acetate, from the excess products.

Drying agents are used twice In this experiment, first to remove the water where the undesired reduces was washed into and the last to remove the excess. The objectives of this experiment is as follows: To synthesize Isoamyl acetate from Isoamyl alcohol and Acetic anhydride To calculate percent yield of Isoamyl acetate To learn the reflux technique To learn the technique of extraction, washing and drying

Methodology

First, the reagents were prepared and properly labeled. 5 drops of concentrated H₂SO₄ was added into the acetic anhydride while in an ice bath.

While still in the ice bath, Somali alcohol was slowly added into the acetic anhydride. The reaction was extremely exothermic which explains the use of an ice bath. See Figure 1) The reagents were then transferred into a reaction flask. Three boiling chips were added in order for the chemicals to boil easily. It was then refluxed for 30 minutes making sure that the temperature remains constant at ICC. (See Figure 2) It is necessary to keep the temperature constant in order to avoid explosions. Figure 2.

Reflux Technique It was then poured into a beaker with crushed ice and allowed to melt. After melting, it was transferred into a separating funnel. 15 ml saturated Enhance was added into the solution. This was necessary in order for the organic components to react with it ND become water-soluble. The funnel was then swirled until two layers have separated. (See Figure 3) Figure 3. Swirling the Separating Funnel The lower layer was discarded and 15 ml of saturated NCAA was added. NCAA was a drying agent for the removal of water.