✦ ✦ ✦ ✦

THE USE OF ETHYL SULFONE-BIS-ACETATE IN THE IDENTIFICATION OF ALIPHATIC AMINES

John P. Alden and Bruce Houston
University of Oklahoma

(Abstract)

Arnold Alberts in 1930 found this ester to condense easily with ammonia to form a diamide which melted at 226°C. With the hope of forming substitute diamides having melting points of wide variance, easily obtained and easily purified, work was begun upon condensation of the ester with various aliphatic Amines.

Ethyl Sulfone-bis-Acetate is a clear viscous liquid with the formula $H_5C_2O_2C\text{-}CH_2\text{-}SO_2\text{-}CH_2\text{-}CO_2C_2H_5$. It is non-irritating to the skin, non-volatile, and does not take up water.

The following condensations of the ester with various Amines gave these melting points: N-Amyl diamide, 170°C; Isoamyl, 152°C; n-Butyl, 192°C; isobutyl, 130°C; n-Heptyl, 180°C; n-propyl, 174°C.

As yet an Amine group on a secondary carbon atom and secondary Amines do not condense, but further research may find methods of condensing them.

This new reagent for the identification of Aliphatic Amines is superior to Acetyl Chloride and Benzene Sulfonyl chloride because it does not irritate the skin and gives pure diamides quickly.

✦ ✦ ✦ ✦