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**Conservation and Renewable
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CONSERVATION AND RENEWABLE ENERGY PROGRAM

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1988 Edition

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PREFACE

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The purpose of this study is to determine the heats of mixing for various liquid-liquid mixtures suitable for use in thermal energy storage systems. The study is divided into two phases. Phase I involves the selection of suitable liquid-liquid mixtures based on their thermodynamic properties, particularly their heats of mixing. Phase II involves the determination of the heats of mixing for the selected mixtures.

The mixtures considered in this study include various combinations of organic liquids, such as alcohols, esters, and hydrocarbons. The heats of mixing are determined using a calorimetric method. The results of the study are presented in the form of a table of heats of mixing for the various mixtures.

The heats of mixing for the various mixtures are found to be in the range of -100 to -200 cal/mol. The most suitable mixtures for use in thermal energy storage systems are those with the largest heats of mixing, as these mixtures will store the most energy per unit volume.

The results of this study will be used to design thermal energy storage systems that are efficient and economical. The study also provides a valuable reference for the heats of mixing of various liquid-liquid mixtures.

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