Autoignition Temperature of n-Tridecane

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The autoignition temperature (AIT) of a material is the lowest temperature at which the material will spontaneously ignite. The flash point of a liquid is the lowest temperature at which sufficient vapor is evolved to form a flammable mixture in air at standard atmospheric pressure. The AIT are the best known and most widely used flammability property for the evaluation of the flammability hazard of flammable and combustible liquids. The AIT is primary properties used to determine the fire and explosion hazards of a liquid. The regulations for the safe handling, transportation, and storage of such substances are dependent on this classification. This study measured the AITs of acids from ignition delay time by using ASTM E659–78 apparatus which was produced in the year 1994. For the safe handling of n-tridecane, AITs(auto-ignition temperatures) by ignition delay time were experimented. The experiment AITs were a good agreement with the calculated AITs by the proposed equation.