ABSTRACT

The development of reliable predictive methods for estimating flash points would reduce significantly the amount of experimental data required for a complete flammability characterization. In addition, it is necessary to know the flammability characteristics under the working conditions, i.e., at process temperature and pressure, to evaluate the hazards involved in a process and to ensure safe and optimal operation of processes. This study addresses the need for a comprehensive mathematical model for estimating flash points under different temperature and pressure conditions. This paper will discuss some properties, such as flash point and flammability limits, that are needed for the flammability characterization of liquid mixtures. Methods available to calculate the flash points and lower flammability limits of mixtures will be described together with the assumptions made and the conditions under which they are valid.