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**Nucleate boiling heat transfer of binary mixtures at low to moderate heat fluxes****Benjamin R.J.; Balakrishnan A.R.**

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**Abstract**

A model for nucleate pool boiling heat transfer of binary mixtures has been proposed based on an additive mechanism. The contributing modes of heat transfer are (i) the heat transferred by microlayer evaporation, (ii) the heat transferred by transient conduction during the reformation of the thermal boundary layer, and (iii) the heat transferred by turbulent natural convection. The model takes into account the microroughness of the heating surface which has been defined quantitatively. The model compares satisfactorily with data obtained in the present study and in the literature. These data were obtained on a variety of heating surfaces such as a vertical platinum wire, a horizontal stainless steel tube and flat horizontal aluminium, and stainless steel surfaces (with various surface finishes) thereby demonstrating the validity of the model. [Journal Article; 47 Refs; In English; Summary in English]

**Index Terms:** binary mixture; boiling; heat transfer**This Document**▶ **Abstract-FLUIDEX****Actions**

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