

**REACTIVE HOT MELT ADHESIVE COMPOSITIONS CONTAINING
MULTI-FUNCTIONAL POLYOLS AND POLYMERIC ISOCYANATE COMPOUNDS,
AND METHOD OF MANUFACTURE THEREOF**

ABSTRACT

A reactive hot melt (RHM) adhesive composition includes: a di-functional polyol compound; a tri-functional polyol compound; an isocyanate compound; a polymeric isocyanate compound; and optionally a number of reactive, non-reactive, functional or nonfunctional polymer compounds (e.g., a thermoplastic compound). In the RHM adhesive composition, the mass fraction of the polymeric isocyanate compound is between 10 – 20%, and the mass fraction of the tri-functional polyol compound plus the mass fraction of the polymeric isocyanate compound is up to 46%. A tri-functional polyol compound having a molecular weight between 1,000 – 3,600 (e.g., 3,000) g/mol gives rise to a surprisingly wide domain of pot stability, and good mechanical strength. A sequenced RHM composition production process can involve limiting free % NCO to 2.5 in a first process portion; and limiting free % NCO to 3.5 in a second process portion during which the polymer isocyanate compound is added or further added to a melt.

Figure 1A