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ABSTRACT

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The invention is polyurethane compositions useful in high temperature service environments comprising

- 5 A) i) one or more polyols having hydroxyl functionality of 3.0 or greater and a weight average molecular weight of 2000 to 6000 wherein the polyols are the reaction product of an initiator or mixture of initiators having an average functionality of 4 or greater and one or more alkylene oxides; or
- ii) a) one or more polyols having hydroxyl functionality of 3.0 or greater and weight average molecular weight of greater than 6000 wherein the polyols are
- 10 the reaction product of an initiator or mixture of initiators having an average functionality of 4 or greater and one or more alkylene oxides, and b) one or more crosslinkers having an equivalent weight of 200 or less;
- B) an organic isocyanate; and
- C) a catalyst for the reaction of an isocyanate with an active hydrogen
- 15 containing compound;
- wherein the ratio of isocyanate moieties to active hydrogen containing moieties is from 0.9:1.0 to 1.5:1.0.

The compositions of the invention can be processed at relatively low temperatures to form high heat service temperature compositions useful as adhesives,

20 sealants, encapsulants, gaskets or elastomers. Such formulations have relatively low viscosities at low and ambient temperatures. Further, the cured compositions of the invention demonstrate the ability to withstand temperatures of 140°C or greater and more preferably 155°C or greater without significant deterioration in properties.

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