# United States Patent [19]

**Arkles**

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[54] **CURABLE SILICONE SEMI-INTERPENETRATING POLYMER NETWORKS AND METHODS OF MAKING SAME**


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[21] Appl. No.: **577,113**

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**Related U.S. Application Data**

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[30] **Foreign Application Priority Data**

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[52] **U.S. Cl.** ..... **525/92**; 525/101; 525/105; 525/106; 525/342; 525/453; 525/455

[58] **Field of Search** ..... 525/101, 105, 106, 92, 525/342, 453



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[57] **ABSTRACT**

Melt processable pseudointerpenetrating polymer networks (pseudo- or semi-IPNs) of silicones in thermoplastic matrices and methods of producing same are provided by vulcanizing the silicones within the matrices. The silicone component of the network is preferably the reaction product of a polymeric hydride group - containing silicone and a polymer containing at least one unsaturated group, preferably a vinyl group. The polymer containing unsaturated groups may be a silicone polymer also, or may be a non-silicone polymer such as a styrene, butadiene or urethane polymer or copolymer. Depending on certain parameters chain-extended (thermoplastic) or cross-linked (thermosetting) compositions are produced.


**29 Claims, No Drawings**