



Technology 371: Process to Polymerize Silicon Compounds

Summary

This technology is a simple chemical process which introduces a common, inexpensive chemical into the silicone (siloxane) chain, producing very high quality polysiloxanes. This technology can also be applied to modify the properties of polysiloxanes which are impure, and convert these impure polysiloxanes into pure, usable forms. This new polymerization technology utilizes a common chemical to form an active site on the siloxane which acts as an equilibration catalyst and also as a receptor for other functional organic groups, while leaving the Silicon-Hydrogen bonds intact. This allows greater flexibility in adding different organic compounds to the siloxane backbone and, because the silicon-hydrogen bond is not broken, it leaves less chances of impurities to bind to the polysiloxane.

This new chemical process is designed to replace existing methods of polysiloxane production, operating as a stand-alone process. This technology can also be used as a secondary process to current polymerization production methods, as it is capable of polymerizing less stable siloxanes and also polysiloxanes produced as byproducts of primary processes, which would otherwise end up as unusable waste.

Value Proposition

As compared to current processes, this new technique:

- requires no heat input to drive the process
- occurs at ambient temperatures
- reduces environmental and material handling hazards
- produces a more pure end product and
- is capable of processing unstable or previously unusable silicones.

Development Status

This technology is fully developed, tested, and is currently used in production.

IP Status

The intellectual property for this technology belongs to Bimal Pillai in the U.S. and to Nouveaw Exports Pvt. Ltd. in the rest of the world. Indian and WIPO patents applications have been filed. Initial phase entry has been performed in Europe, India, China and the United States.

Partner Opportunities

Nouveaw Exports Pvt. Ltd. is seeking licensing agreements with United States partners.

Innovator

Mr. Bimal Pillai, Nouveaw Exports Pvt. Ltd.

For more information, please contact Earle Hager, IC² Institute, Global Commercialization Group at 512-475-7789 (office), 512-431-3940 (mobile) or ehager@ic2.utexas.edu.

