Developing silicones that are friendlier toward health and the environment

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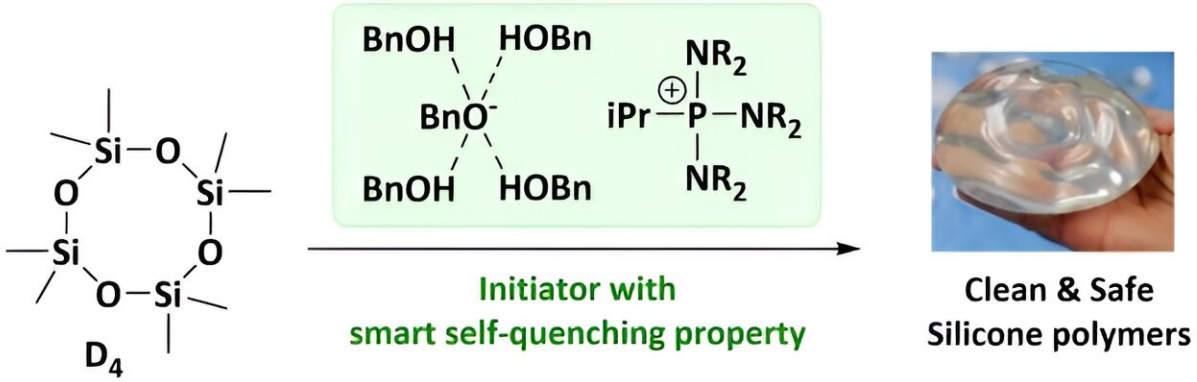

Silicone synthesis equation developed by the research team (ECOIH/LHFA). Credit: © Tsuyoshi Kato/CNRS

Polysiloxanes, the scientific name for silicones, possess exceptional properties, and are used in numerous fields ranging from cosmetics to aerospace. They are absolutely everywhere.

However, they have a major flaw, as small, cyclic oligosolixanes—toxic for the environment and identified as an endocrine disruptor—form during their synthesis.

To correct this drawback, a team of scientists led by a CNRS researcher recently developed a new process for synthesizing silicones in a cleaner

and more environmentally-friendly manner by preventing the formation of these small cyclic oligosolixanes.

The results are published in *Science* and could have a considerable impact on the industrial sector.

More information: Limiao Shi et al, Ring-opening polymerization of cyclic oligosiloxanes without producing cyclic oligomers, *Science* (2023). DOI: 10.1126/science.adi1342

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