

Department of Chemical Engineering, IIT Hyderabad
CH5036-Industry Lecture Series
Jan-April 2026



Date: 21-01-2026

Time: 04:00 PM (IST)

Speaker: **Dr. Bilson Shukla**

Affiliation: VP-Business Development, Specialty Chemicals

Title: **Silicones recycling – A sustainable way to manufacture silicone polymers**

Venue: **LHC-10**

Abstract

Silicones are synthetic material composed of the element silicon, oxygen, and other components. These are elastomeric polymers that has very low toxicity levels and can withstand high temperatures. Its unique properties have made it popular in many industries and household's applications like cookware, medical equipment, construction materials, automotive parts, adhesives, sealants, personal care products etc.

Silicones can be used over an extended period, while supporting high performance applications, and contributing to waste and maintenance reduction. Most silicones are recyclable by origin. By producing more recycled siloxane, we reduce the higher energy needed for the equivalent amount of virgin silicone/siloxanes.

For the environmental and economic benefits, silicones recycling is essential. On the environmental side, it helps reduce waste, conserve resources, and prevent pollution from entering our ecosystem. It also decreases the dependence on natural resources like petroleum which are limited. It leads to cost savings as companies don't need to purchase as much new material for production purposes. It also creates new jobs in the recycling industry.

Key benefits that recycling silicone offers:

- Improved sustainability
- Reduced production costs (particularly raw material costs),
- Increased profitability,
- Enhanced customer satisfaction
- Reduced environmental impact, and more.

Recycling silicone is important in ensuring environmental sustainability and economic gain for organizations. Through proper sorting, shredding, and melting down of materials, we can ensure that these materials get reused and do not end up in landfills or pollute our environment. There are various methods for silicones recycling, and we will discuss these in this presentation.

Biography

Dr. Bilson Shukla , completed doctorate in Applied Chemistry - Polymers from HBTI, Kanpur and also worked with IIT Kanpur as Nanoscience research team member. Presently working as Vice President - Business Development with a speciality chemicals company in Hyderabad. Worked as Head of Business Development and NPDI with India Glycols Limited. Worked as GM-Technical Marketing with Elkay Chemicals, Pune and as Staff Scientist with Pall Corporation, Mumbai. (<https://www.linkedin.com/in/bilson-shukla-14955a48/>)