Report on Expert Session

Applications of Shin-Etsu Polymers in Pharmaceutical Formulations

Organized on : 29 January, 2026

GUJARAT TECHNOLOGICAL UNIVERSITY

SCHOOL OF PHARMACY

Coordinator

Dr. Dignesh Khunt

GTU-School of Pharmacy

Convener

Prof. Dr. Sanjay Chauhan

GTU-School of Pharmacy

SUMMARY :

Type of Event	Research and innovation club GSP GTU
Resource Person	Ms. Sonam Singh Ms. Karishma Patil
Affiliation	Shin-Etsu Chemical Co., Ltd.
Title of Session	Applications of Shin-Etsu Polymers in Pharmaceutical Formulations
Date of Event	29/01/2026
Number of Participants	17 (16 students + 01 Faculty)
Coordinator	Dr. Dignesh Khunt
Convener	Prof. Dr. Sanjay Chauhan

Preamble:

On **29 January 2026**, the **Research and Innovation Club, School of Pharmacy, Gujarat Technological University**, successfully organized an expert session on **"Applications of Shin-Etsu Polymers in Pharmaceutical Formulations"** in collaboration with **Shin-Etsu Chemical Co., Ltd.**

The session served as an effective platform for academia–industry interaction, providing comprehensive insights into the application of functional cellulosic polymers in advanced pharmaceutical dosage forms.

Objective of Activity :

The primary objective of the session was to enhance the understanding of students, researchers, and faculty members regarding **Shin-Etsu functional polymers** and their role in **enteric coating, solid dispersion, and sustained-release drug delivery systems**. The activity aimed to bridge theoretical pharmaceutics concepts with **industrial formulation practices and real-world case studies**.

Activity Details :

The expert session commenced with a **general introduction to Shin-Etsu Chemical Co., Ltd.** and its extensive portfolio of pharmaceutical-grade polymers by **Ms. Sonam Singh**, who explained the versatility of cellulose-based functional polymers and their industrial relevance. The session further covered detailed discussions on **hypromellose (HPMC), hypromellose acetate succinate (HPMCAS), AQOAT, HP-55, HPC, and methylcellulose**, including their grades, physicochemical properties, dissolution behavior, and selection criteria for different dosage forms.

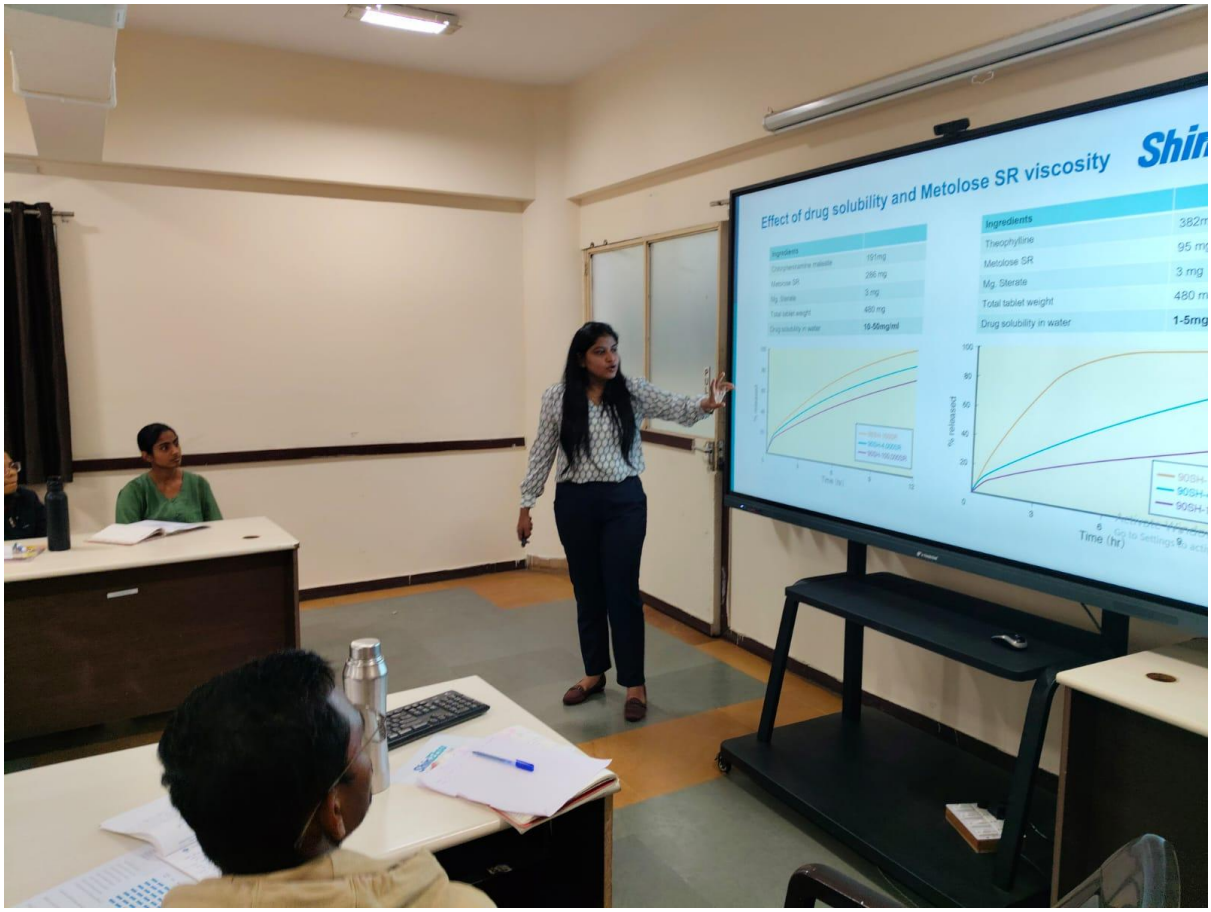
Ms. Karishma Patil delivered an in-depth technical session on **enteric coating using Shin-Etsu polymers**, highlighting coating mechanisms, process parameters, dispersion preparation, and industrial case studies such as **lansoprazole and esomeprazole pellets**. The session also addressed site-specific drug delivery and strong film formation using appropriate polymer grades.

Additionally, **solid dispersion techniques** using cellulosic polymers were discussed by **Ms. Sonam Singh**, with emphasis on **spray drying and hot-melt extrusion**, solvent selection, thermal stability, and prevention of drug degradation. The session concluded with insights into **sustained-release systems**, polymer selection strategies, and formulation design considerations using Shin-Etsu polymers.

The sessions were highly interactive, with active participation from students and faculty members, followed by engaging question-and-answer discussions.

Outcome:

Participants gained valuable knowledge about the **selection and application of Shin-Etsu polymers** in enteric coating, solid dispersion, and sustained-release formulations. The expert discussions and industrial case studies significantly enhanced participants' understanding of **practical formulation challenges and solutions**, strengthening their competence in advanced pharmaceutical formulation development and promoting research-oriented thinking.

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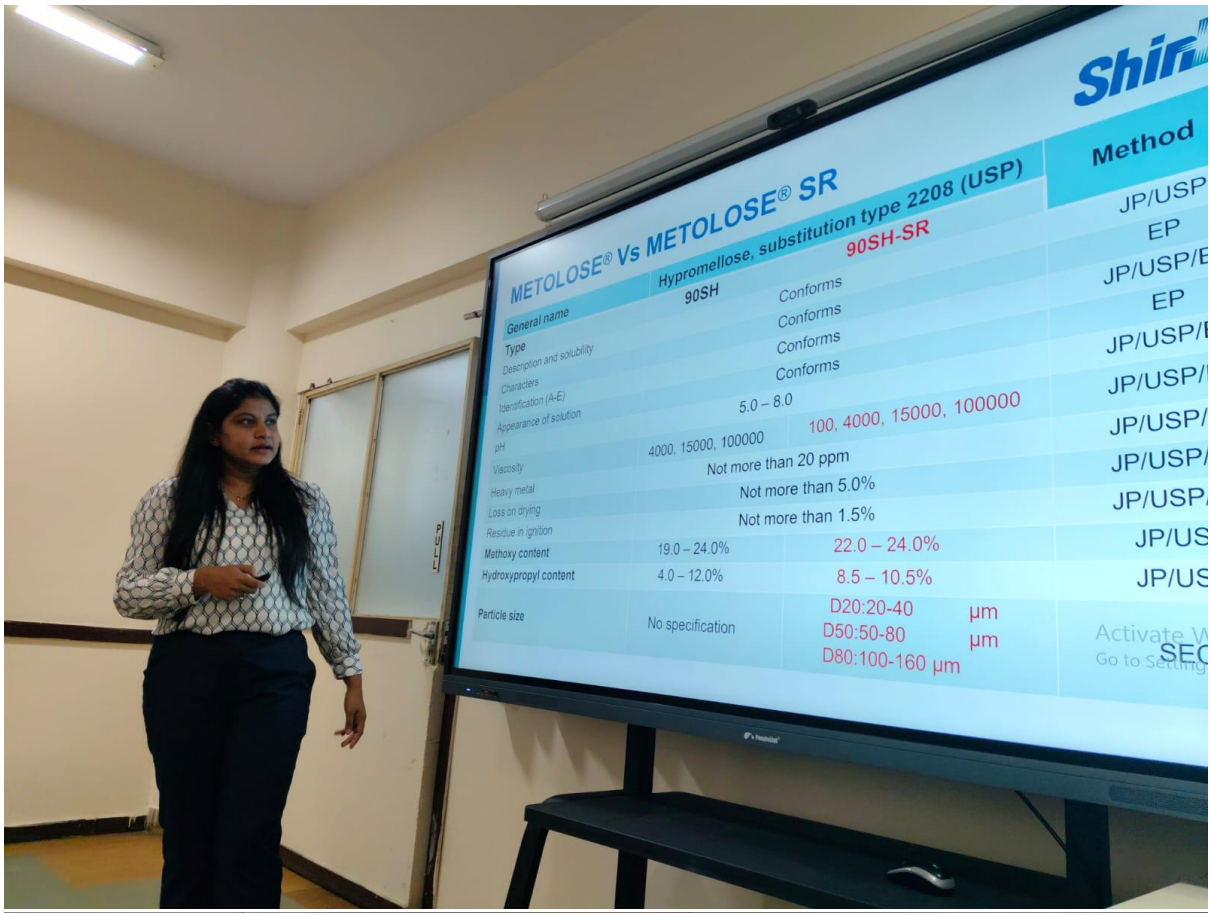
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90SH-SR
Method
General name
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Description and solubility
Characters
Identification (A-E)
Appearance of solution
pH
5.0 – 8.0
Viscosity
4000, 15000, 100000
100, 4000, 15000, 100000
Heavy metal
Not more than 20 ppm
Loss on drying
Not more than 5.0%
Residue on ignition
Not more than 1.5%
Methoxy content
19.0 – 24.0%
22.0 – 24.0%
Hydroxypropyl content
4.0 – 12.0%
8.5 – 10.5%
Particle size
No specification
D20:20-40 µm
D50:50-80 µm
D80:100-160 µm
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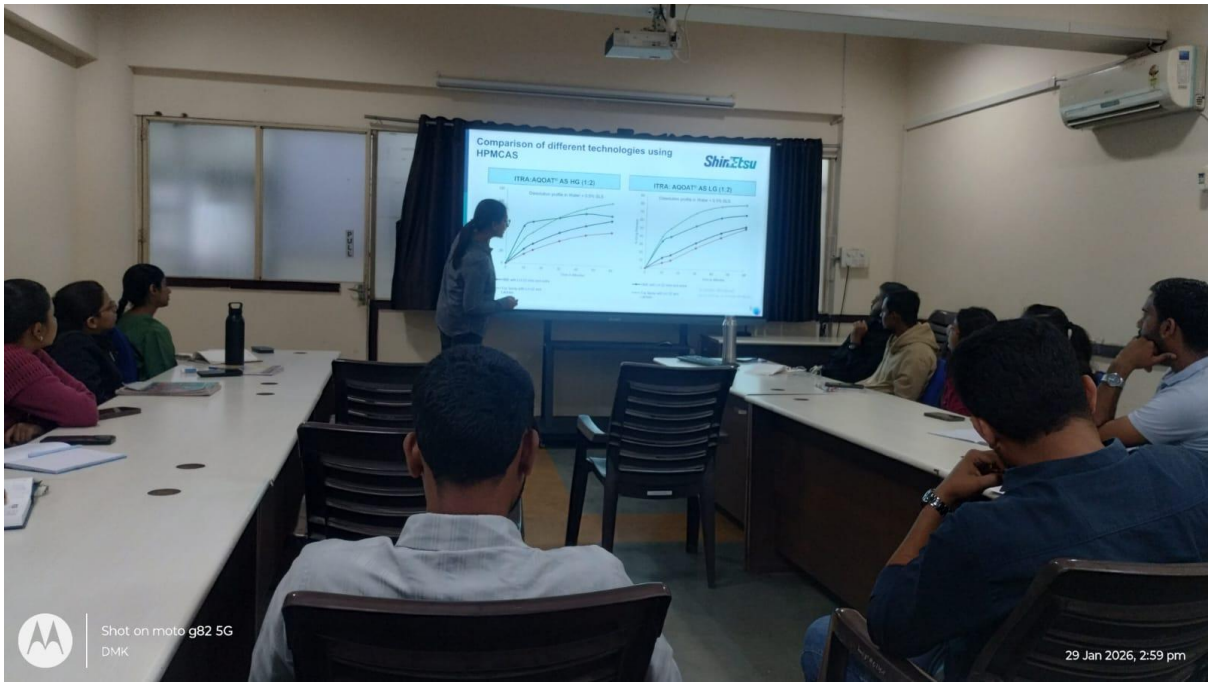
Comparison of different technologies using HPMCAS
Shin-Etsu
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