

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511113529 A

(19) INDIA

(22) Date of filing of Application :18/11/2025

(43) Publication Date : 09/01/2026

(54) Title of the invention : MICROSPONGE-BASED TOPICAL GEL FOR CONTROLLED RELEASE OF SILYMARIN IN ATOPIC DERMATITIS

(51) International classification	:C07K 17/04, C12N 11/04, C01B 25/46, B01D 53/22, C01D 7/06	(71)Name of Applicant : <b>1)Chitkara University</b> Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India Punjab India <b>2)Chitkara Innovation Incubator Foundation</b>
(31) Priority Document No	:NA	(72)Name of Inventor :
(32) Priority Date	:NA	<b>1)Dr. Ujjwal Kaushik</b>
(33) Name of priority country	:NA	<b>2)Archana Kaushik</b>
(86) International Application No	:	
Filing Date	:01/01/1900	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

The invention relates to a microsp sponge-based topical gel formulation for controlled dermal delivery of silymarin to treat atopic dermatitis. Silymarin is entrapped within porous ethyl-cellulose microsponges prepared via solvent diffusion and dispersed into a Carbopol gel containing ethanol and propylene glycol as penetration enhancers. The microsponges provide sustained drug release up to 24 hours, improve drug residence time on the skin, minimize irritation, and reduce application frequency. The formulation demonstrates high entrapment efficiency, desirable spreadability, stability, and superior therapeutic efficacy.

No. of Pages : 16 No. of Claims : 10