(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :11/08/2025

(21) Application No.202531076092 A

(43) Publication Date : 22/08/2025

(54) Title of the invention : FoamLens™ Composite Processing System and Method for Upcycling Thermocol and Optical Waste into Functional Consumer Products

(51) International classification	:B29B0017000000, B29B0017020000, C08K0005000000, C10G0001100000, B29B0017040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Brainware University, Kolkata
Address of Applicant :398, Ramkrishnapur Rd, Near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Dr. Sandhimita Mondal
Address of Applicant :Ph.D, Associate Professor, Department of Biotechnology, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ---------- ----------
2)Mr. Pranav Goel
Address of Applicant :CFA (Level 1), Chief Executive Officer (CEO), Redivivus Recycler (Vital Waste), 57/1 Mallipanchgara Street Liluah, Howrah - 711204 ---------- ----------

(57) Abstract :
The present invention discloses a sustainable and scalable method for upcycling non-biodegradable plastic waste—specifically expanded polystyrene (Thermocol) and discarded optical lenses—into a durable composite material for manufacturing consumer products. The process involves melting waste Thermocol at moderate temperatures (~180°C) and mechanically blending it with granulated optical lens particles to form a moldable pulp. This composite is cast into functional and decorative items such as photo frames, clocks, toys, and stationery products using silicone or aluminum molds. The method requires no toxic solvents, is environmentally safe, and can be implemented using low-cost equipment, making it suitable for decentralized, community-based production. The invention not only addresses plastic waste management challenges but also promotes circular economy practices and livelihood generation. Accompanied Drawing [FIGS. 1-2]

No. of Pages : 19 No. of Claims : 10