



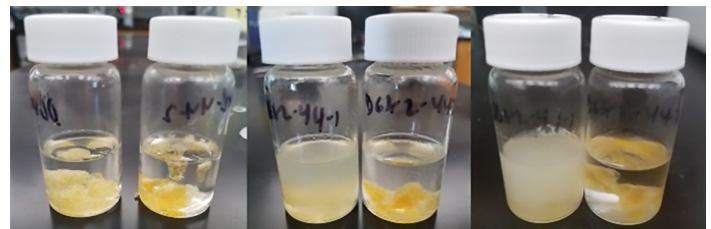
Soy Ester Polyol

Airable Research Lab has developed a degradable soy-based ester polyol. Polyols are commonly used in the production of polyesters and polyurethanes, which are found in a range of applications such as foams, automotive and aircraft coatings, windows sealants, electrical components, rollers, belts, wheels, beddings, and furniture cushioning.

THE TECHNOLOGY

Airable has developed two soy ester polyols with different degrees of available functional groups. The polyols contain >50% bio content and have demonstrated degradability in basic conditions. A simple polyurethane was synthesized and subjected to a basic water-ethanol mixture at room temperature to show degradability.

The table below provides technical details of the Airable polyol.



Day 0

Day 1

Day 5

Degradation study of polyurethane in basic water-ethanol
Airable polyol (left), commercial soy polyol (right)

	Medium-Viscosity Polyol	High-Viscosity Polyol
Viscosity @ 21°C (cPs)	31,050	>100,000
Density (g/mL)	1.092	1.109
Refractive index	1.4760	1.4885
Hydroxyl value (mg KOH/g)	341	278
Acid value (mg KOH/g)	29	31
Saponification value (mg KOH/g)	207	271

STATUS AND AVAILABILITY

The formulation can be optimized and tailored to an individual company's needs. Contact Airable Research Lab to discuss partnership options.

