

Algenesis Wins ACS Green Chemistry Challenge Award for Soleic®, the First Fully Biodegradable, High-Performance Polyurethane Platform Validated For a Microplastic-free World

SAN DIEGO, July 6, 2026 — Algenesis Labs, a San Diego-based sustainable materials science company, today announced it has received the 2026 ACS Green Chemistry Challenge Award in the Small Business category. The award recognizes Algenesis for its Soleic® platform, a family of plant-based, fully biodegradable polyurethane materials engineered to match the performance of conventional petroleum-based alternatives while leaving zero persistent microplastics behind.

One of the most prestigious recognitions in sustainable chemistry, the ACS Green Chemistry Challenge Award honors technologies that advance green chemistry principles to benefit human health and the environment. Algenesis will be honored at the ACS Fall 2026 Meeting in Chicago on Aug. 26, 2026.

"Winning in the Small Business category is a validation that you don't need a massive R&D budget to solve one of the most urgent pollution crises on the planet," said Dr. Stephen Mayfield, CEO and Co-Founder of Algenesis Corporation. "We built Soleic® from the ground up to address the growing accumulation of microplastics in our oceans, our soil, and ultimately our bodies. This recognition from ACS tells us the science is right and the timing is now."

Performance Without the Plastic Legacy

Soleic® is a patent-pending family of polyurethane materials — polyols, isocyanates, thermoplastic polyurethanes, and foams, derived from plant-based feedstocks that do not compete with the food supply. USDA BioPreferred® certified across multiple product grades (56% to 100% biobased content), Soleic® matches the durability, flexibility, and abrasion resistance of conventional polyurethane while biodegrading fully in compost, soil, and marine environments.

Creating truly sustainable plastics requires reducing greenhouse gas emissions, replacing petroleum with renewable raw materials, and eliminating persistent microplastic pollution at end of life. Soleic® addresses all three, delivering a 50–65% reduction in greenhouse gas emissions compared to petroleum-based alternatives, according to an independent life cycle assessment conducted by TrueNorth Collective. Unlike conventional plastics that fragment into persistent microplastics, Soleic® undergoes true mineralization, breaking down into CO₂ and biomass with no harmful residues. Biodegradation has been validated under ASTM D5338 and ISO 14855, with ecotoxicity confirmed through OECD 208 plant growth studies.

Why It Matters

Footwear alone sheds up to 400,000 tonnes of microplastics annually, representing 15–20% of total sole mass produced globally. A 2025 *Nature Medicine* study confirmed microplastic

bioaccumulation in human kidneys, livers, and brains. Duke University's 2025 analysis estimated the U.S. Social Cost of Plastic at up to \$1.1 trillion annually.

Algenesis' 17 peer-reviewed papers demonstrate that Soleic® microplastics biodegrade rapidly — unlike petroleum-based microplastics, which persist for centuries.

About Algenesis Corporation

Algenesis pioneers bio-based, fully biodegradable polyurethanes that leave no harmful microplastics behind. Spun out of UC San Diego and built on 17 peer-reviewed studies, Soleic® delivers high-performance materials for footwear, apparel, and industrial applications with 50–65% lower GHG emissions than petroleum-based alternatives and USDA BioPreferred® certification. For a World Without Microplastics. www.algenesislabs.com

Press Contact:

Sandra Watts, Director of Marketing
Algenesis Corporation
info@algenesislabs.com | www.algenesislabs.com

###