

**Contact Information:**

Equilisyn LLC – dba Artefact
attn: Ethan Escowitz
admin@artefact-made.com

Release Date:

February 10, 2025

Press Release

Advanced manufacturing technology innovator, Artefact, and the University of California Berkeley Center for Green Chemistry (BCGC) announce important findings about reducing greenhouse gas emissions in product manufacturing and the supporting emissions analysis for new manufacturing methods and circular biomaterials. The Artefact/BCGC collaboration builds upon existing lifecycle analysis (LCA) models and applies these models to evaluate the effects of materials circularity, decentralized manufacturing, and other production efficiencies on the reduction of greenhouse gas emissions. Findings include a 14x improvement of circular over virgin materials and a regional manufacturing advantage of 3x over globally centralized production. Results will be presented at the February 11th, 2025, meeting of the Cleantech Council in Sunnyvale, CA. Additional conference presentations to be announced and results are available in an a recently produced whitepaper.

The Artefact/BCGC collaboration came about when Artefact turned to the BCGC for help modeling greenhouse gas emissions associated with the launch of a new regional manufacturing site that will produce sustainable eyewear for the San Francisco Bay Area. The collaboration found that, while the benefits of circular materials and regional manufacturing are well known conceptually, there is sparse information about the quantitative benefits. To determine these benefits, product life cycle analysis can be employed, however existing models lacked information. This data and these models are critical to evaluating the sustainability of new materials, production technologies and supply chains.

Lead BCGC researcher, Grace Campbell, and Artefact CTO, Robert Fleming, PhD, evaluated existing LCA processes, assumptions and precedents and then developed an LCA model incorporating circular materials and regional manufacturing. Subsequently, the LCA model was applied to the Artefact pilot manufacturing site and compared to similar products with more conventional materials, manufacturing, and supply chains.

To receive a copy of the Artefact / BCGC white paper, email admin@artefact-made.com.

About Equilisyn LLC – dba Artefact

Artefact is a San Francisco Bay Area startup company that has developed the circular biomaterials and efficient manufacturing to unlock the future of product manufacturing. By improving product aesthetics, performance and sustainability, Artefact creates opportunity for product brands. By bringing digital control to molding, the backbone of global consumer product manufacturing, Artefact has created unprecedented agility in meeting market demand and design requirements.

About the Berkeley Center for Green Chemistry

The mission of the Berkeley Center for Green Chemistry is to bring about a generational transformation toward the design and use of inherently safer chemicals and materials.

Embedding the principles of green chemistry into science, markets and public policy will provide the foundation for safeguarding human health and ecosystems and provide a cornerstone for a sustainable, clean energy economy.

BCGC collaborates with public and private organizations, offering training and technical advice, advocating for safer products and informed policies, the placement of graduates in the workforce, and undergraduate and graduate course instruction.