būmi®

LCA 3.74

LIFE CYCLE ASSESSMENT

Executive Summary

būmi LLC conducted a Life Cycle Assessment (LCA) of its būmigro™ microbe-edible blend 70% product, evaluating the environmental impact of producing and distributing 1 kg of this microbe-edible film solution.

MATERIAL PROPERTIES

The analysis follows the GHG Protocol, using a location-based approach for electricity emissions and the IPCC 2021 GWP100 method to calculate carbon impact.

The system boundaries are cradle to gate, assessing all phases: raw material extraction, manufacturing, transport, and end-of-life treatment.

Emission data was sourced from Ecoinvent 3.10 and relevant academic research, with transportation distances set at 19,500km.

KEY FINDINGS

Total Climate Impact: 3.74 kg CO^2e per 1 kg of mulch film.

Emissions Breakdown:

Transportation & Distribution: 2.33 kg CO^2e (62.2%)

Raw Material Extraction: 1.3 kg CO^2e (34.9%)

End-of-Life Treatment: 0.02 kg CO^2e (0.6%)

Major contributing materials:

End-of-Life Treatment: 0.02 kg CO^2e (0.6%)

Plant fiber, calcium carbonate, and biochar: remaining share

NEXT STEPS & RECOMMENDATIONS

būmi is committed to:

1. Measure & track emissions annually
2. Reduce impact by targeting major emission sources (notably transport and PBAT)
3. Educate stakeholders and train employees on sustainability
4. Commit to science-based targets and carbon reduction plans
5. Contribute to carbon offset and sequestration initiatives

FOR MORE INFO

For more information regarding this or other būmi products, visit www.bumiearth.com.