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carboncalcpcf.com

Product Carbon Footprint Dashboard

Product: izlftphwve (1.0 unit)

Total Carbon Footprint: 17.37 kg CO2e

Total Footprint (Cradle-to-Grave)

17.37 kg CO2e

Carbon Intensity

17.37 kg CO2e/unit

Top Material Hotspot

Lithium Battery (1.50 kg CO2e)

Primary Emission Scope

Scope 3 (Use Phase)

Lifecycle Stage Breakdown

Use Phase (Energy)	13.50 kg CO2e (77.9%)
Materials Acquisition & Processing	2.74 kg CO2e (15.8%)
Manufacturing & Assembly (Energy)	2.17 kg CO2e (12.5%)
Upstream Transportation	0.26 kg CO2e (1.5%)
End-of-Life Treatment	0.04 kg CO2e (0.2%)

Material Composition vs. Carbon Impact

Lithium Battery	1.50 kg CO2e
Plastic Casing	0.70 kg CO2e
Circuit Board	0.50 kg CO2e
Copper Wiring	0.04 kg CO2e

Highlights & Key Insights

- The **Use Phase** is the dominant emission hotspot, contributing 77.9% of the total cradle-to-grave PCF due to energy consumption.
- **Materials Acquisition & Processing** is the second largest contributor (15.8%), emphasizing the impact of material choices.
- **Manufacturing Energy** accounts for a significant 12.5% of factory-gate emissions, highlighting production efficiency as a key area.

Action Plan for Emission Reduction

1. **Optimize Use Phase:** Focus on reducing izlftphwve's energy consumption during its operational lifespan through design for energy efficiency and smart power management features.
2. **Sustainable Material Sourcing:** Investigate and switch to lower-carbon alternatives for key materials, engaging with suppliers for primary, verified emission data.
3. **Increase Renewable Energy in Production:** Elevate the percentage of renewable energy used in manufacturing facilities beyond the current 30% to significantly cut Scope 2 emissions.
4. **Logistics Optimization:** Implement more efficient and lower-carbon transport modes (e.g., rail, sea freight) for long distances and optimize load factors to reduce transport impacts.
5. **Enhance Circularity:** Strengthen take-back and recycling programs for izlftphwve, aiming to increase the recyclability percentage beyond 60% and maximize material recovery.