

html

carboncalcpcf.com

Product Carbon Footprint Dashboard

Product: mthdyvtldj • **Company:** zjvtmnumks

Standard: GHG Protocol • **Production:** China

17.59 kg CO₂e

Total Cradle-to-Grave Footprint

Total Footprint

17.59 kg CO2e

Carbon Intensity

17.59 kg CO2e/unit

Top Material Hotspot

Aluminum Casing (3.0 kg CO2e)

Largest Lifecycle Contributor

Materials Acquisition (8.9 kg CO2e)

Detailed Carbon Breakdown

Lifecycle Stage Breakdown (Excl. EoL Credits)

Materials Acquisition & Processing	8.90 kgCO2e (47.3%)
Product Use Phase	6.25 kgCO2e (33.2%)
Manufacturing Energy	2.90 kgCO2e (15.4%)
Downstream Transportation	0.76 kgCO2e (4.0%)
End-of-Life Treatment (Credit)	-1.22 kgCO2e (6.9% reduction)

Material Composition vs. Carbon Impact

Aluminum Casing	3.0 kgCO2e (33.7%)
Plastic Housing	2.0 kgCO2e (22.5%)
Lithium-ion Battery	2.0 kgCO2e (22.5%)
Circuit Board	1.5 kgCO2e (16.9%)
Copper Wiring	0.4 kgCO2e (4.5%)

Key Highlights

Material Footprint Dominates: Materials Acquisition & Processing (Scope 3, Category 1) contributes the largest share, accounting for 8.9 kg CO₂e, primarily driven by components like Aluminum and Lithium-ion Battery.

Use Phase is Significant: The product's Use Phase (Scope 3, Category 11) is the second-largest hotspot at 6.25 kg CO₂e, influenced by energy consumption over its 5-year lifespan and the European grid mix.

EoL Provides Credits: End-of-Life (Scope 3, Category 12) generates a net credit of -1.22 kg CO₂e, demonstrating the positive impact of high recyclability and circular economy programs.

Recommendations for Carbon Reduction

1. **Material Optimization:** Explore lower-carbon alternatives or higher recycled content for aluminum, plastics, and batteries. Engage suppliers for primary emission data.
2. **Renewable Energy Expansion:** Increase renewable energy adoption in manufacturing facilities beyond the current 50% to further decarbonize production.
3. **Energy Efficiency in Use:** Redesign 'mthdyvtldj' for greater energy efficiency and educate users on sustainable usage to reduce emissions during its lifespan.
4. **Logistics Optimization:** Optimize transport routes and prioritize lower-emission modes (e.g., rail over road) for distribution.
5. **Enhance Circularity:** Strengthen take-back programs to maximize recycling rates and ensure materials re-enter the value chain, amplifying avoided emissions.