Sandisk Technologies, Inc.
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Life Cycle Assessment: Western Digital SDCZ50 Cruzer Blade USB Flash Drive

Product Description:

Model	SDCZ50-064G-B35
Product Type	USB Flash Drive
Product Weight	2.17 gm
Packaging Weight	12.96 gm
Storage Capacity	64 Gigabyte[i]
Technology	1Z
Package Type	SIP

LCA Calculation Basis:

Standard	ISO 14040:2006 and 14044:2006
LCA Software	GaBi ts [Version 9.5.1.46]
Impact Assessment Method	Life cycle impact assessment classification and characterization factors according to the Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report for Global Warming Potential (GWP), with 100 years of time horizon for kg CO_2 equivalent (carbon footprint)
Database	GaBi 2020 LCI and ecoinvent 3.3
System Boundary	The system boundaries include: • Manufacturing (extraction of raw materials, upstream material preparation, component manufacturing, subassembly manufacturing and final assembly of product) • Distribution to customer located in USA • Five years of product use • End-of-life treatment according to waste management statistics in the customer country
Validation of Study	Validated through 3rd party critical review (Sphera)

i One gigabyte (GB) is equal to one billion bytes. Actual user capacity may be less due to operating environment.
ii *Absolute climate change impact values & contribution details for each phase will be available upon request

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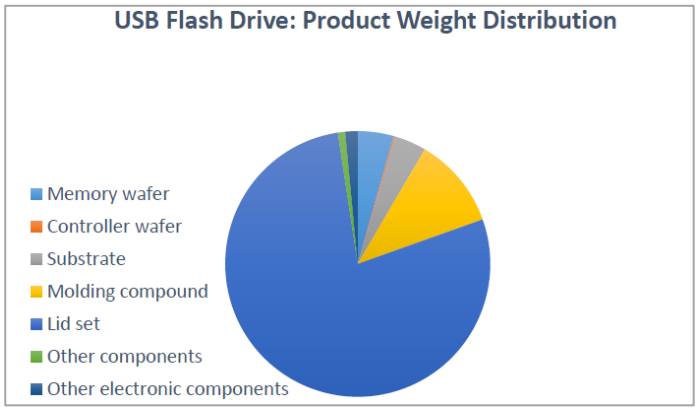
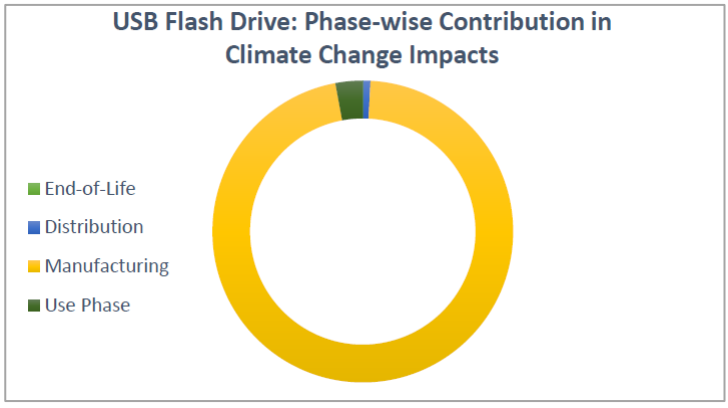
Components Used:

The pie chart shows weight contribution of various components of the USB flash drive. Lid set contributes 78% of the weight, followed by Molding compound [115], Substrate (PCB) [4%], Memory wafer [4%], other electronic components [2%] and non-electronic components [1%]. Controller wafer weight is less than 1%.



Breakdown of Carbon Footprint by Life Cycle Stages[ii]:

Climate change impacts are dominated by the device manufacturing phase [96%], followed by use [3%], distribution [1%] and end-of-life [<1%]. Manufacturing impacts are primarily attributed to resource consumption during wafer fabrication processes. Use phase impacts are from energy consumed by the product during its useful life. Distribution phase impacts are focused on transportation of the product from the manufacturing location to the customer location.



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