

Combining evidence-based healthcare with environmental sustainability: using the toothbrush as a model. Supplementary Tables 1-4.

Table 1. Life cycle inventory for the plastic manual toothbrush

Input/output/process	Unit	Quantity	Provider (Ecoinvent dataset)
Polypropylene (handle)	g	295.800	Market for polypropylene, granulate APOS,U - GLO
Nylon (bristles)	g	17.4000	Market for nylon 6 APOS,U - GLO
Steel (bristle staples)	g	1.80000	Market for steel, low-alloyed APOS,U - GLO
Injection moulding	g	295.800	Injection moulding APOS,U - GLO
Tufting	kWh	0.05905	Market for electricity, medium voltage, label-certified APOS,U - CH
Buffing	kWh	0.00952	Market for electricity, medium voltage, label-certified APOS,U - CH
Printed cardboard packaging	g	60.2000	Market for carton board box production with offset printing APOS,U - GLO
Plastic packaging	g	83.0000	Market for polyethylene, low density APOS,U - GLO
Blister packaging	kWh	0.23810	Market for electricity, medium voltage, label-certified APOS,U - CH
Land transport	kg*km	441.247	Transport, freight, lorry >32 metric ton, EUR06 - RER
Sea transport	kg*km	19.7484	Transport, freight, sea, transoceanic ship APOS,U - RER
Tap water	l	2190.00	Market for tap water APOS,U- RER
Waste tap water	l	-2190.00	Market for wastewater, unpolluted, from residence APOS,U - GB
Recycled cardboard	g	-60.2000	Market for waste paperboard, unsorted APOS,U - GB
Recycled plastic	g	-83.0000	Market for waste polyethylene, for recycling, unsorted APOS,U - GB
Municipal waste	g	-315.0000	Market for municipal solid waste, APOS,U - GB

Table 2. Life cycle inventory for the bamboo manual toothbrush

Input/output/process	Unit	Quantity	Provider (Ecoinvent dataset)
Bamboo (handle)	g	186.000	Authors own
Nylon (bristles)	g	11.0000	Market for nylon 6 APOS,U - GLO
Brass (bristle staples)	g	1.60000	Market for brass APOS,U - RoW
Bamboo processing and shaping handle	kWh	2.04503	Market for electricity, medium voltage APOS,U - CN
Bamboo heat treatment	kWh	0.21667	Market for electricity, medium voltage APOS,U - CN
Tufting	kWh	0.05905	Market for electricity, medium voltage APOS,U - CN
Buffing	kWh	0.00952	Market for electricity, medium voltage APOS,U - CN
Printed cardboard packaging	g	110.200	Market for carton board box production with offset printing APOS,U - GLO
Inner paper packaging	g	14.0000	Market for tissue paper APOS,U - GLO
Heat sealing	kWh	0.00417	Market for electricity, medium voltage APOS,U - CN
Land transport	kg*km	260.822	Transport, freight, lorry >32 metric ton, EUR06 - RER
Sea transport	kg*km	7002.93	Transport, freight, sea, transoceanic ship APOS,U - RER
Tap water	l	2190.00	Market for tap water APOS,U- RER
Waste tap water	l	-2190.00	Market for wastewater, unpolluted, from residence APOS,U - GB
Recycle cardboard/ paper	g	-124.200	Market for waste paperboard, unsorted APOS,U - GB
Recycle bamboo	g	-186.000	Market for waste wood, untreated APOS,U - GB
Municipal waste	g	-12.6000	Market for municipal solid waste, APOS,U - GB

Table 3. Life cycle inventory for the plastic manual replaceable head toothbrush

Input/output/process	Unit	Quantity	Provider (Ecoinvent dataset)
Polypropylene (handle)	g	17.0000	Market for polypropylene, granulate APOS,U – GLO
Starch based biopolymer (plastic head)	g	29.6000	Market for biopolymer, 30% starch, granulate APOS,U - GLO
Nylon (bristles)	g	11.6000	Market for nylon 6 APOS,U - GLO
Steel (bristle staples)	g	1.60000	Market for steel, low-alloyed APOS,U - GLO
Injection moulding	g	46.6000	Injection moulding APOS,U - GLO

Tufting	kWh	0.05905	Market for electricity, medium voltage, label-certified APOS,U - DE
Buffing	kWh	0.00952	Market for electricity, medium voltage, label-certified APOS,U - DE
Printed cardboard packaging	g	14.8750	Market for carton board box production with offset printing APOS,U - GLO
Plastic packaging	g	19.2125	Market for polyethylene, low density APOS,U - GLO
Blister packaging	kWh	0.23810	Market for electricity, medium voltage, label-certified APOS,U - CH
Land transport	kg*km	134.648	Transport, freight, lorry >32 metric ton, EUR06 - RER
Sea transport	kg*km	3.99128	Transport, freight, sea, transoceanic ship APOS,U - RER
Tap water	l	2190.00	Market for tap water APOS,U- RER
Waste tap water	l	-2190.00	Market for wastewater, unpolluted, from residence APOS,U - GB
Recycle cardboard	g	-14.8750	Market for waste paperboard, unsorted APOS,U - GB
Recycle plastic	g	19.2125	Market for waste polyethylene, for recycling, unsorted APOS,U - GB
Municipal waste	g	58.6600	Market for municipal solid waste, APOS,U - GB

Table 4. Life cycle inventory for the electric toothbrush

Input/output/process	Unit	Quantity	Provider (Ecoinvent dataset)
Polypropylene (handle and heads)	g	140.700	Market for polypropylene, granulate APOS,U – GLO
Injection moulding	g	140.700	Injection moulding APOS,U - GLO
Steel components	g	1.52000	Market for steel, low-alloyed APOS,U - GLO
Copper (charging wire)	g	14.1000	Market for copper concentrate APOS,U – GLO
Copper wiring	g	14.1000	Wire drawing, copper APOS,U - RER
Rechargeable NiMH battery	g	32.5100	Market for battery, NiMH, rechargeable, prismatic APOS,U - GLO
Microchip (integrated circuit)	g	2.46000	Market for integrated circuit, logic type APOS,U - GLO
Ferrochromium components	g	10.1800	Market for ferrochromium, high-carbon, 68% Cr APOS,U - GLO
Electric motor	g	34.5700	Market for electric motor, for electric scooter APOS,U - GLO
Nylon (bristles)	g	17.4000	Market for nylon 6 APOS,U - GLO
Tufting	kWh	0.05905	Market for electricity, medium voltage, label-certified APOS,U - CH
Buffing	kWh	0.00952	Market for electricity, medium voltage, label-certified APOS,U - CH
Steel (bristle staples)	g	1.60000	Market for steel, low-alloyed APOS,U - GLO
Charging unit (cable, plug)	Kg	1.00000	Market for cable, ribbon cable, 20-pin, with plug APOS,U – GLO
Component assembly	kWh	0.00119	Market for electricity, medium voltage, label-certified APOS,U - CH
Printed paper manual	g	20.0000	Market for printed paper, offset APOS,U - GLO
Printed cardboard packaging	g	70.0000	Market for carton board box production with offset printing APOS,U - GLO
Polystyrene packaging	g	70.0000	Market for polystyrene, general purpose APOS,U - GLO
Plastic packaging	g	19.0000	Market for polyethylene, low density APOS,U - GLO
Blister packaging	kWh	0.05952	Market for electricity, medium voltage, label-certified APOS,U - CH
Land transport	kg*km	1510.94	Transport, freight, lorry >32 metric ton, EUR06 - RER
Sea transport	kg*km	67.4834	Transport, freight, sea, transoceanic ship APOS,U - RER
Tap water	l	2190.00	Market for tap water APOS,U- RER
Waste tap water	l	-2190.00	Market for wastewater, unpolluted, from residence APOS,U - GB
Electricity use	kWh	14.0000	Market for electricity, low voltage, label-certified APOS,U - GB
Recycle cardboard/ paper	g	-89.0000	Market for waste paperboard, unsorted APOS,U - GB
Recycle plastic	g	-19.0000	Market for waste polyethylene, for recycling, unsorted APOS,U - GB
Municipal waste	g	-99.0000	Market for municipal solid waste, APOS,U - GB
Recycle electric components	g	-1216.74	Market for waste electric and electronic equipment APOS,U - GB