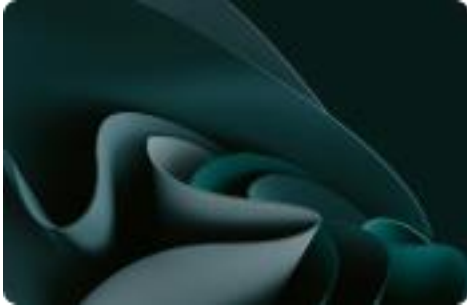


Life Cycle Analyses

MHBALL F



Summary



01 | Methodology



02 | Results

01

Methodology

Environmental Impact Assessment

Functional unit	The functional unit is a quantified performance of a product system for use as a reference unit. One of the primary purposes of a functional unit is to provide a reference to which the input and output data are normalized (in a mathematical sense). Therefore, the functional unit shall be clearly defined and measurable.
Impact Indicator	The impact is measured through the "IPCC 2021 GWP100" method
Electricity impact calculation method	Following guidelines from the GHG Protocol, the impact of electricity is calculated using the location-based approach. This means that the emission factors used represent the average annual carbon intensity of the power grid in the country the processes take place in.
Life Cycle Analyses	Cradle to grave

Emission Factor Inventory

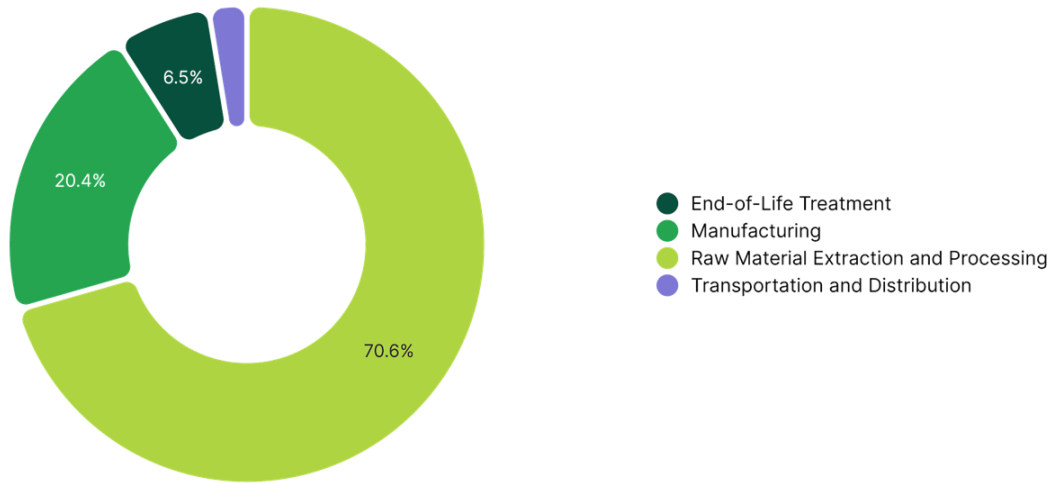
Num	Emission Factor	Source	Value	Unit
1	Polyvinylchloride, emulsion polymerised Ordinary transforming activity	ECOINVENT 3.10	2.62843892	kg
2	Polyester filament finished at plant 100% polyester	BASE EMPREINTE ADEME 3.0	10.0285	kg
3	Polypropylene, granulate Market activity	ECOINVENT 3.10	3.516196993	kg
4	Electricity Total (Scope 2 & 3) People's Republic of China	IEA 2023	0.7231	kWh
5	Freight Boat From CN to FR	WELOW EXPERTS 1.0	0.25227278	kg
6	Waste yarn and waste textile Ordinary transforming activity	ECOINVENT 3.10	0.004657246015	kg
7	Waste polyvinylchloride product Ordinary transforming activity	ECOINVENT 3.10	1.213152213	kg
8	Waste polyethylene/polypropylene product Ordinary transforming activity	ECOINVENT 3.10	1.783532575	kg

02

Results

Dynamic seating ball

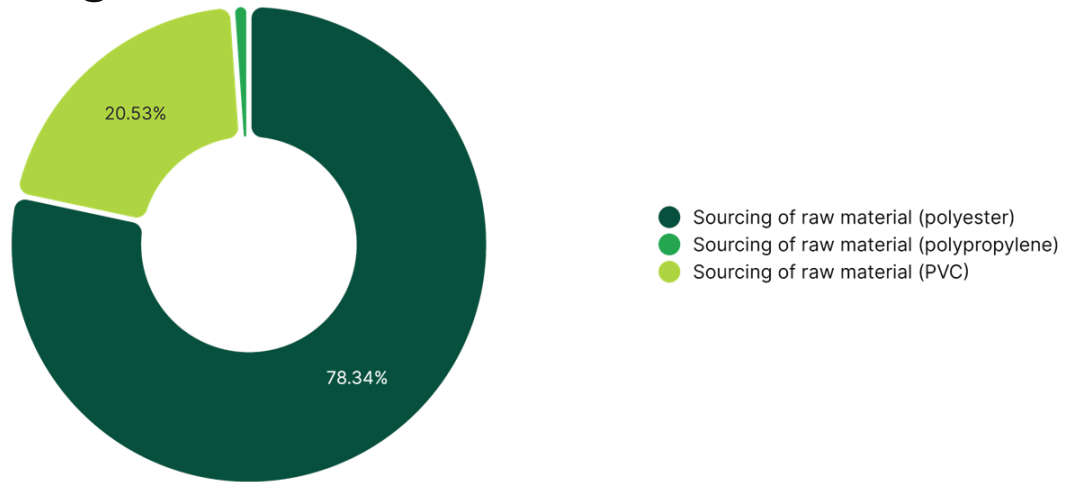
Climate Change



Step	Impact (kg CO ₂ eq)	Percentage (%)
Raw Material Extraction and Processing	14.07	70.57 %
Manufacturing	4.07	20.38 %
End-of-Life Treatment	1.29	6.47 %
Transportation and Distribution	0.51	2.58 %
TOTAL	19.95	100.00 %

Dynamic seating ball

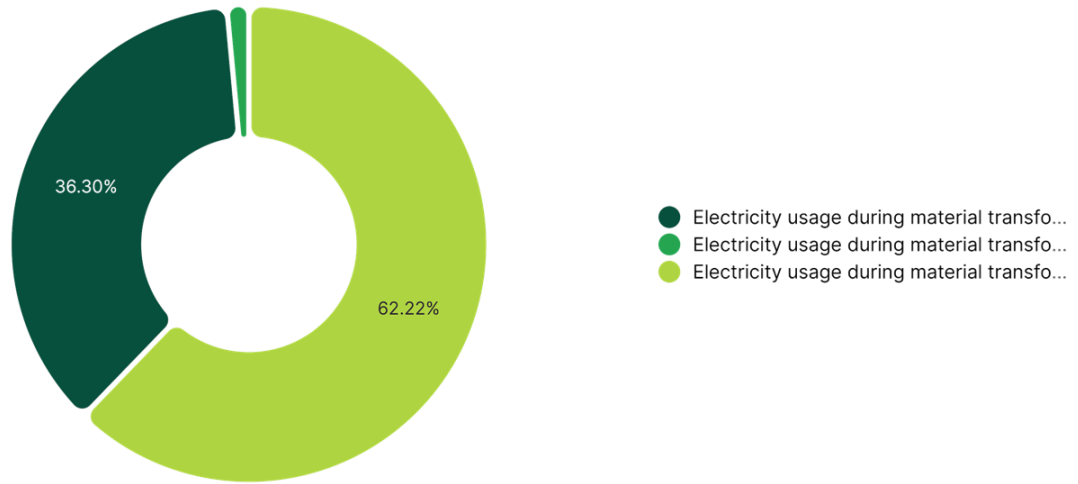
Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Sourcing of raw material (polyester)	2	1.1	11.03	78.34 %
Sourcing of raw material (PVC)	1	1.1	2.89	20.53 %
Sourcing of raw material (polypropylene)	3	0.04	0.16	1.12 %
TOTAL			14.07	100.00 %

Dynamic seating ball

Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Electricity usage during material transformation (PVC)	4	3.5	2.53	62.22 %
Electricity usage during material transformation (polyester)	4	2.04	1.48	36.30 %
Electricity usage during material transformation (polypropylene)	4	0.08	0.06	1.48 %
TOTAL			4.07	100.00 %

Dynamic seating ball

Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Freight	5	2.04	514.64	100.00 %
TOTAL			514.64	100.00 %

Dynamic seating ball

Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
End of life (PVC)	7	1	1.21	94.00 %
End of life (polypropylene)	8	0.04	0.07	5.64 %
End of life (polyester)	6	1	4.65 · 10 ⁻³	0.36 %
TOTAL			1.29	100.00 %

