

Ertalyte[®] Sterra[™] PET

Polyester

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Ertalyte[®] Sterra[™] Polyethylene Terephthalate Polyester PET is an unreinforced, semi-crystalline grade made by Mitsubishi Chemical Advanced Materials. Characterized by its excellent wear resistance, low coefficient of friction, high strength, and resistance to moderately acidic solutions, this grade is capable of sustaining high loads, and retains more of its original strength up to 180 °F / 85 °C than nylons or acetals. Due to these characteristics, Ertalyte[®] Sterra[™] PET components are a great solution for bearing and structural applications. As part of the Sterra[™] product portfolio, this material contains recycled content and exhibits a significantly lower carbon footprint compared to similar materials derived from virgin feedstocks.

Recycled Content (post-industrial material)	%	100%
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ENVIRONMENTAL PRODUCT DATA SHEET

LCA Endpoints	Ertalyte [®] Sterra [™] PET		Comparison with a generic material based on 100% virgin resin	
	Units	Indicative Values	Units	Indicative Values
Climate change	kg CO ₂ eq	0.92	kg CO ₂ eq	2.75
Acidification	Mole of H ⁺ eq.	2.20E-03	Mole of H ⁺ eq.	4.44E-03
Ecotoxicity freshwater	CTUe	4.46	CTUe	34.97
Particulate Matter	Disease inc.	2.01E-08	Disease inc.	3.53E-08
Human toxicity, non-cancer - total	CTUh	1.35E-08	kg NMVOC eq.	4.63E-08
Resource use, fossils	MJ	10.08	MJ	70.15
Resource use, mineral and metals	kg Sb eq.	2.64E-06	kg Sb eq.	3.00E-06
Water use	m ³ world equiv.	7.90E-02	m ³ world equiv.	1.29E-01
Environmental footprint, EF v3.0	eco points	5.95E-05	eco points	2.12E-04

More aggregated LCA endpoints are available on request.

Fundamentals
 Life cycle assessment was calculated according to **ISO 14040/44** (ISO, 2006; ISO/TC, 2006) using a mix of primary and secondary data including the **GaBi 10.6** database (Sphera, 2022). The total environmental footprint was calculated with the **EFv3.0** method and the carbon footprint was calculated with the **IPCC 2013** method. In accordance with the life cycle assessment approach, all environmentally relevant processes within the system boundary are recorded and evaluated as far as possible. This LCA looks at the ecological impacts "from cradle to gate" of the MCAM products. The further processing, the use phase and the end-of-life phase of the material products are excluded from the system boundary. The LCA has undergone a critical review by an independent third party according to ISO 14040.

Miscellaneous
 Mitsubishi Chemical Group's production sites for the manufacturing of this material are certified according to **ISO 9001:2015** and **ISO 14001:2015**. Production sites are using electricity from Renewable Sources (RE).

Product name is a registered trademark of Mitsubishi Chemical Advanced Materials

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