

Life Cycle Assessment (LCA) of VESTAMID® TERRA DS

Product Information:

Production Site: Shanghai, China

Evonik Energy Source: Standard

System Boundary: Cradle-to-Gate

Functional Unit (FU): 1 kg unpacked

Year of LCA Calculation: 2025

LCA Certification:



Life Cycle Assessment

Impact Categories	Value	Unit per FU
Blue Water Consumption	1762.9	kg
GWP 100 incl. bio. CO ₂ incl. LUC	5.6	kg CO ₂ eq.
GWP 100 excl. bio. CO ₂ incl. LUC	8.2	kg CO ₂ eq.
Land Use	2.3E+01	Annual crop eq.·y
Separated Emission Values		
Aircraft emissions	3.8E-07	kg CO ₂ eq.
Biogenic GHG emissions	0.3	kg CO ₂ eq.
Biogenic GHG removal	-2.9	kg CO ₂ eq.
Emissions from land use change (dLUC)	7.1E-03	kg CO ₂ eq.
Fossil GHG emissions	8.1	kg CO ₂ eq.
Other Environmental Impacts		
Acidification	1.8E-01	Mole of H ⁺ eq.
Resource Use, fossils	98.7	MJ
Eutrophication, freshwater	7.6E-06	kg P eq.

GWP 100 = Global Warming Potential 100 years
dLUC : Direct Land Use Change

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General Information:

Standards: All our LCA calculations and reporting follow the ISO 14040/44 and ISO 14067 standards and the [Together for Sustainability \(TfS\) PCF guideline Dec-2024](#)

Validation Approach: Third Party Validation – Product Review

Data Sources and Methods:

Primary data: Evonik production process during 2023-2025 and supplier data for raw materials and external processes

Secondary data: Sphera MLC database 2025.2, ecoinvent 3.11 database and literature

Please note that secondary data includes increased GHG emissions for oil and natural gas production (based on the “Global Methane Tracker Report” from IEA). For some products this leads to an increased GWP compared to earlier versions.

Attribution of multi-output processes (according to the [TfS PCF guideline Dec-2024](#))

- Product: Allocation (economic)
- Waste treatment: Substitution

Cut-off rules for the inventory: In general, 1% for single inputs and below 3% for the sum. No environmentally relevant flows were neglected. Transports were considered but distances were mainly estimated

Impact assessment:

- Global Warming Potential: IPCC AR6 GWP 100 with separated emission values according to ISO 14067
- Land use according to ReCiPe 2016 v1.1, other environmental impacts (except Blue water consumption): EF 3.1

A state-of-the-art LCA software was used for modeling.

For **further information**, please visit the [Evonik sustainability website](#)

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