

The product carbon footprint for TS Resins' NUE28

Product	NUE28 manufactured by TS Resins Ltd.
Functional unit	1 tonne of NUE28 packaged in an IBC at the factory gate
Emissions	854 kg CO ₂ e per functional unit
Time period	The assessment is based on activity data and emission factors collected in the second half of 2024.
System boundary	The system boundary covers: • All emissions from the production of inputs and the transportation of those inputs to the factory. • Energy inputs are assumed to be zero at the manufacturing facility due to the use of renewable electricity. • The system boundary ends at the point where the product has been packaged and is ready for shipping to customers from the manufacturing facility.
Downstream emissions	The use of this product will result in further emissions. These downstream emissions are not included in the product carbon footprint. These consist of: • The release of the fossil carbon dioxide captured within urea during its manufacture. On contact with water and urease from soil microorganisms, 385 kg CO₂ will be released. • The creation of nitrous oxide from the nitrogen within the fertiliser on exposure to soil microorganisms. These emissions have a high level of uncertainty, and there are multiple methods of estimating these. How the nitrogen within this product behaves once applied has not been determined. It is assumed that it does not differ from standard nitrogen fertilisers. • Nitrogen fertiliser can decrease soil pH. To compensate for this, lime is typically added to soil. The carbon within the lime is released as carbon dioxide. The acidifying properties of this product have not been determined. It is assumed that it does not differ from urea and ammonium nitrate.
Uncertainty	The activity data has been supplied by TS Resins; ADAS have validated the mass flows but has not verified the activity data. The assessment is based on the suppliers during the second half of 2024; changes to the suppliers in the future may mean that the PCF becomes less representative. Emission factors were not available from suppliers of the inputs, and emission factors were instead taken from alternative sources (secondary data from databases, reports and scientific papers). Proxies had to be used for one chemical input and the IBC as emission factors for those specific inputs were not identified.
Assessor	The product carbon footprint was undertaken by RSK ADAS Limited in alignment with ISO 14067:2018.