6. The magnesium alloy as claimed in claim 1, characterized in that, with a combination of the impurity elements Fe, Si, Mn, Co, Ni, Cu and Al, the sum of these impurities is no more than 0.004% by weight, preferably no more than 0.001% by weight, the content of Al is no more than 0.001% by weight, and/or the content of Zr is preferably no more than 0.0003% by weight, preferably no more than 0.0001% by weight.

7. The magnesium alloy as claimed in claim 1, characterized in that the individual elements from the group of rare earths in the total amount are no more than 0.001, preferably no more than 0.0003 and particularly preferably no more than 0.0001% by weight.

8. The magnesium alloy as claimed in any one of the preceding claims 1 to 7, characterized in that the alloy has a fine-grain microstructure with a grain size of no more than 5.0 µm, preferably no more than 3.0 µm and particularly preferably no more than 1.0 µm without ~~considerable~~ electrochemical potential differences between the individual matrix phases.

9. The magnesium alloy as claimed in any one of the preceding claims 1 to 8, characterized in that the intermetallic phases $Ca_2Mg_6Zn_3$ and Mg_2Ca are as noble as the matrix phase or are less noble than the matrix phase.

10. The magnesium alloy as claimed in one of claims 2, 3 or 9, characterized in that the precipitates have a size of no more than 2.0 µm, preferably no more than 1.0 µm, particularly preferably no more than 200 nm, and are distributed dispersely at the grain boundaries or inside the grain.

11. The magnesium alloy as claimed in any one of the preceding claims 1 to 10, characterized in that it has a strength of > 275 MPa, preferably > 300 MPa, a yield point of > 200 MPa, preferably > 225 MPa, and a ratio yield point of < 0.8, preferably < 0.75, wherein the difference between strength and yield point is > 50 MPa, preferably > 100 MPa, and the mechanical asymmetry is < 1.25.