

Claims

1. Star-shaped ceramic body, wherein the cross-section of the body has six lobes, the ratio of the maximum radius r_2 in the star to radius r_1 of a circle connecting the intersections of the lobes being in the range from 1.0 to 3.61, preferably from 2.17 to 3.61, the ratio of the area F_1 inside this circle to the summed area F_2 of the lobes outside this circle being in the range of from 0.54 to 0.90, the ratio of the distance x_2 between the two intersections I of one lobe with neighboring lobes and the radius r_1 of the circle being in the range of from 0.67 to 1.11.
2. The body according to claim 1, wherein each lobe has straight outer walls with a rounded top, wherein the ratio of the length x_1 from the intersection I of one lobe and neighboring lobes to the end of the straight outer wall to the distance x_2 between two intersections I of one lobe and neighboring lobes is from 0.87 to 1.45.
3. The body according to claim 1 or 2, wherein each lobe has straight outer walls with a rounded top, wherein the angle α between the straight outer wall and the straight line x_2 between two intersections I of one lobe and neighboring lobes is from 70 to 140 degrees.
4. The body according to one of claims 1 to 3, wherein each lobe has straight outer walls with a rounded top, wherein the ratio of the length x_2 between two intersections I of one lobe and neighboring lobes to the length x_3 between the ends of the straight outer walls is from 0.9 to 1.8.
5. The body according to one of claims 1 to 4, wherein each lobe has straight outer walls with a rounded top and the ratio of the lobe area of the trapeze F_3 confined by the straight outer walls of a lobe and the outer lobe area F_4 outside this trapeze is from 2.5 to 14.35.
6. The body according to one of claims 1 to 5, wherein the cross-section area is from 0.19 to 13.9 mm².
7. The body according to one of claims 1 to 6, wherein the maximum radius r_2 is from 0.4 to 6 mm, preferably from 1.35 to 2.25 mm or from 1.2 to 1.5 mm.
8. The body according to one of claims 1 to 7, wherein the circle radius r_1 is from 0.25 to 3.4 mm.
9. The body according to one of claims 1 to 8, wherein the ceramic body is an alumina body, preferably alumina extrudate, more preferably transition alumina extrudate.
10. The body according to claim 9, having a pore volume in pores of diameter of over 1000 nm, as determined by mercury porosimetry, of at least 0.05 ml/g.

11. The body according to one of claims 9 or 10, wherein the total pore volume, as determined by mercury porosimetry, is between 0.05 and 2.0 ml/g, and/or wherein the BET surface area is at least 10 m²/g, and/or wherein the attrition in accordance with ASTM D4058-87 is less than 5 wt%, preferably less than 4 wt%.
12. The body according to one of claims 1 to 8, wherein the ceramic body is a silica body, preferably silica extrudate.
13. The body according to one of claims 1 to 12, wherein the cross-section of the body has six axes of mirror symmetry.
14. The body according to one of claims 1 to 13, having a length L of from 2 to 10 mm and/or having a length L to maximum diameter $2r_2$ ratio of from 1 to 3.
15. A process for preparing a body according to one of claims 1 to 11 by forming, preferably extruding, a ceramic or ceramic precursor paste, optionally cutting the extrudate, drying and optionally calcining the formed, preferably extrudated, paste.
16. A catalyst, comprising at least one catalytically active material supported on a body according to one of claims 1 to 14.
17. The catalyst according to claim 16, wherein the catalytically active material is selected from the group of metals, metal oxides, metal sulfides and combinations thereof.
18. The use of a body according to one of claims 1 to 14 or of a catalyst according to claim 16 or 17 in a chemical reaction, preferably in oxidation reactions, hydrogenation reactions, dehydrogenation reactions and more preferably in dehydration reactions.