

Cerium oxide powder

Abstract

Polycrystalline cerium oxide powder in the form of aggregates of primary particles with a specific surface of between 70 and 150 m²/g, an average primary particle diameter of between 5 and 20 nm and an average, projected aggregate diameter of between 20 and 100 nm. It is produced in that an aerosol is reacted in a flame obtained from a hydrogen-containing combustible gas and primary air and the solid obtained is then separated from the gaseous substances, wherein

- at least the same quantity of secondary air as primary air is introduced into the reaction chamber,
 - for λ , it is true that $1.1 \leq \lambda \leq 1.5$, with λ being calculated from the quotient of the sum of the proportion of oxygen in the gases divided by the sum of the cerium compound to be oxidised and the hydrogen-containing combustible gas,
 - the discharge velocity of the liquid droplets from the atomiser unit into the reaction chamber is greater than 500 m/s, and
 - the velocity of the reaction mixture in the reaction chamber is greater than 2 m/s.
- Dispersion containing this cerium oxide powder.

(Figure 1)