HALBLEITER MATERIAL

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*Technical Data Sheet*

# Yttria-Stabilized Zirconia (YSZ) Powder

**Product ID:** **3908400800PD001 - 3908400800PD003**

**Formular:** $Y_2O_3$-$ZrO_2$ **Molecular weight:** 198.14 g/mol

**CAS No.:** 114168-16-0 **EINECS No.:** /

**Color:** White

**Description:** Our YSZ powder features fine particles with uniform distribution. Typical specifications include 3YSZ, 5YSZ, and 8YSZ, and other yttria ratios can be customized. It offers excellent phase stability and thermal stability.

**Application:** High-temperature thermal barrier coating materials (TBCs), solid oxide fuel cells (SOFC), electronic ceramic pastes, ceramic inks/inkjet 3D printing, ceramic composites, etc.

**Product Image:**

## 1. Sizes

| Product ID | Formular | Particle Size |
|---|---|---|
| 3908400800PD001 | $Y_2O_3$-$ZrO_2$ (3%mol $Y_2O_3$) | D50< 2μm |
| 3908400800PD002 | $Y_2O_3$-$ZrO_2$ (5%mol $Y_2O_3$) | D50< 2μm |
| 3908400800PD003 | $Y_2O_3$-$ZrO_2$ (8%mol $Y_2O_3$) | D50< 2μm |
| 3908400800PDDZ | $Y_2O_3$-$ZrO_2$(other mol $Y_2O_3$) | Customized |

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## 2. Chemical compositions

| | Chemical Composition (wt%) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Element / Typical Value / Type | $ZrO_2$ ($+HfO_2$) | $Y_2O_3$ | $Al_2O_3$ | $SiO_2$ | $Fe_2O_3$ | CaO | MgO | $TiO_2$ | $Na_2O$ |
| 3YSZ | 94 | 5.2 ± 0.3 | ≤0.01 | ≤0.02 | ≤0.02 | ≤0.01 | ≤0.005 | ≤0.005 | ≤0.01 |
| 5YSZ | 89.5 | 8.5 ± 0.3 | ≤0.01 | ≤0.02 | ≤0.02 | ≤0.01 | ≤0.005 | ≤0.005 | ≤0.01 |
| 8YSZ | 86 | 13.5 ± 0.3 | ≤0.01 | ≤0.02 | ≤0.02 | ≤0.01 | ≤0.005 | ≤0.005 | ≤0.01 |

*Note: The purity values shown are calculated by subtracting the sum of selected measured elemental impurities from 100%. These values do not represent the result of a full elemental analysis.*

## 3. Packaging

Bottle/Bag.
Double vacuum packed.

## 4. Period of Validity

It is recommended to use this product within 12 months. If it is overdue, the product quality status should be re-evaluated.

## 5. Handling and Storage

When using, wear protective equipment to avoid inhalation of dust.

Keep dry and store in a sealed container to avoid moisture and prevent clumping.

## Contact Us

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