



## Zirconia

### Zirconium dioxide

CAS number: 1314-23-4

Molecular formula:  $ZrO_2$

Molecular weight: 123.22

MDL: MFCD00011310

EINECS: 215-227-2

Alias: Zirconium Anhydride; Nano Zirconium Dioxide; Nano Zirconium Oxide

#### Chemical nature

Nano zirconia is a non-toxic and odorless white powder, divided into monoclinic crystal and tetragonal crystal. It is soluble in sulfuric acid and hydrofluoric acid. It has large specific surface area, good dispersion, good thermochemical stability, high temperature conductivity and high strength and toughness of nanometer zirconia have good mechanical, thermal, electrical and optical properties. Nano zirconia has small particle size, strong stability, and has acid, alkali, corrosion and high temperature resistance.

Melting point 2700 °C(lit.)

Boiling point 5000 °C(lit.)

Density 5.89 g/mL at 25 °C(lit.)

Flash point 5000°C

Solubility insoluble

form powder

Water solubility insoluble

Merck 14,10180

#### Quality Standard

Item Analytical purity

calcium oxide $\leq 0.05\%$	Item High purity 4N grade
aluminum oxide Qualified	$SiO_2 \leq 0.005\%$
magnesium oxide $\leq 0.05\%$	$TiO_2 \leq 0.001\%$
ignition weight loss $\leq 1.0\%$	$Zr(Hf)O_2$
silicon dioxide $\leq 0.01\%$	$\geq 99.99\%$ $Na_2O \leq 0.0005\%$
titanium dioxide $\leq 0.005\%$	$Fe_2O_3 \leq 0.0005\%$
content $\geq 99.0\%$	
ferric oxide $\leq 0.005\%$	