

The perfect solution for a wide range of applications

Challenge

Beyond our core business of providing semi-products and components for the nuclear industry, we also offer metals, chlorides and oxides for non-nuclear markets.

Framatome masters the entire production chain from zirconium ore to zirconium made product.

Today zirconium is a key contributor for applications in the semiconductor industry, in fine chemistry, in aerospace and in medical fields.

Zirconium Metal

Zirconium is widely used nowadays as alloying elements in variety of metallurgies (Ti, Ni, Nb, Al, Cu, Mg...) in high tech applications to boost advanced mechanical characteristics especially at high temperature.

Main area of interest is the sector of titanium, nickel and tantalum based super alloys for the aircraft industry, gas turbines, automotive turbochargers, rockets...

Zirconium Sponge

Zirconium sponge is produced in nuclear and metallurgical grades.

Zirconium Sponge – Nuclear grade

It is a metal used primarily for civilian power reactors, as well as cladding in fuel elements.

It is then mainly used for powered aircraft industry and nuclear submarines.

Zirconium Sponge – Metallurgical grade

It is mainly used for chemical corrosion resistance equipment, military industry, electronic industry, pipeline valve materials, special high strength and high temperature alloy materials.



Zirconium sponge

Customer benefits

- Expertise
- Wide products portfolio
- Quality
- Security

Your performance
is our everyday **commitment**

ZrCl₄

Zirconium tetrachloride (ZrCl₄) is a solid metallic compound that is currently used for :

Catalysis

- Zirconium chloride is well adapted to the catalyst industry with an array of very pure products, as support for metallocene catalysts used in polyolefin plastics.

Semiconductors

- ZrCl₄ is used in the semiconductor industry as a precursor for the formation of the high-k dielectric material.
- In the Atomic Layer Deposition (ALD) process, ZrCl₄ provides the source of Zr and a second precursor such as water or ozone as the source of oxygen.

Rheology modifiers

- Zirconium chloride enables formulators to adjust the flow behavior of paints and inks. That way, it will improve viscosity and application characteristics.

ZrO₂

Zirconium as an oxide (ZrO₂) could be used in medical applications.

Indeed, zirconium is among the few metals to be completely body-tolerant.

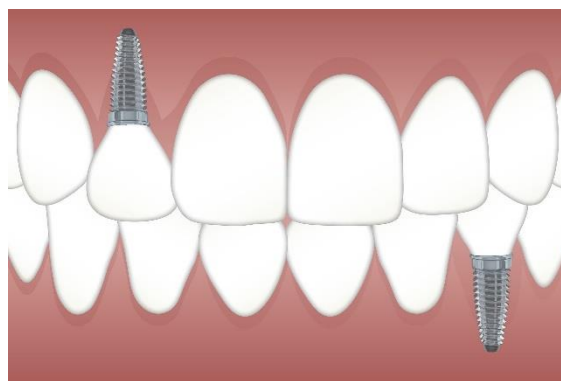
Thus, it does not come as a surprise if today Zirconium oxide ceramics is at the forefront of implant surgery.

Zirconia is used in the realization of dental implants for example but especially for hips and knees where wear-resistance and high strength are requested.



Customer benefits

- Very low level of residual impurities coming from our separation process
- Complete traceability



Contact: sales-fuel@framatome.com

www.framatome.com

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