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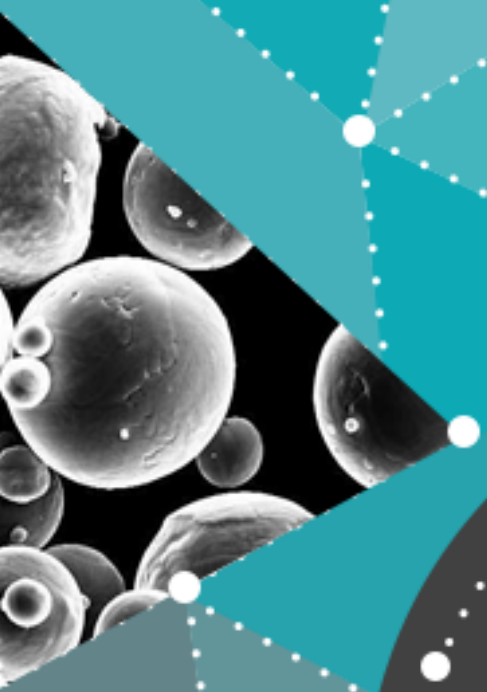

Ti-based Metal Powder

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Ti-based Metal Powder

As human life span grows, the need of biomaterials will definitely continue to increase. This can stimulate the market and research process in a large scale. However, from the application viewpoint, there is still a huge gap between the supply and demand, especially in economically underdeveloped areas where medical technology is very limited. From the research viewpoint, biomaterial is an increasingly important topic, calling for a good mastery of knowledge in materials, biology, physics, chemistry, etc.

Among metallic materials, titanium and its alloys are considered as the most suitable materials for biomedical applications for their superior comprehensive properties, and they satisfy the requirements of implantation materials better than other competing materials. Ti-based alloys are finding ever-increasing applications in biomaterials due to their excellent mechanical, physical and biological performance. Nowadays, low modulus β-type Ti-based alloys are still being developed. Meanwhile, porous Ti-based alloys are being developed as an alternative orthopedic implant material, as they can provide good biological fixation through bone tissue ingrowth into the porous network.

The development of Ti-based alloys to manufacture dental implants has emerged in recent years due to the increased failure of commercially pure titanium (cpTi) implants. Ti alloys may be considered viable substitutes in the fabrication of dental implants, which has a low elastic modulus, high tensile strength, satisfactory biocompatibility, and good corrosion and wear resistances. In addition, Ti alloys may be modified at the structural, chemical, and thermomechanical levels, which allows the development of materials in accordance with the demands of several situations encountered in clinical practice.
Besides, Bacterial contamination is a critical problem in different fields (ranging from everyday life to space missions, and from medicine to biosensing). Specifically, in the case of medical implants, foreign materials are preferential sites for bacterial adhesion and microbial contamination, which can lead to the development of prosthetic infections. Commercially pure titanium and its alloys are the most commonly used materials for permanent implants in contact with bone, and the prevention of infections on their surface is therefore a crucial challenge for orthopaedic and dental surgeons.

Matexcel provides multi-functional titanium-based alloys, from fine powders to nanostructured forms. The high strength-to-weight ratio and outstanding corrosion resistance inherent, excellent biocompatibility of Titanium and its alloys have led to a wide range of successful applications in aerospace, automotive, power generation, chemical plant, sports, oil and gas extraction. Welcome to contact us for more information.

Products List

Cat. NO.	MET-0014
Product Name	Titanium-based TA1 Powder
Components	Fe <0.2; C <0.08; H <0.015; Ti Bal.

Cat. NO.	MET-0015
Product Name	Titanium-based TA19 Powder
Components	Fe <0.25; C <0.05; H <0.0125; Si <0.13; Al 5.5-6.5; Mo 1.8-2.2; Sn 1.8-2.2; Zr 3.6-4.4; Ti Bal.

Cat. NO.	MET-0016
Product Name	Titanium-based TC4 Powder
Components	Al 5.5~6.75; V 3.5~4.5; Fe ≤ 0.06; H ≤ 0.005; N ≤ 0.01; C ≤ 0.08; O ≤ 0.13; Other ≤ 0.15; Ti Bal.

Cat. NO.	MET-0017
Product Name	Titanium-based TC17 Powder
Components	Fe <0.25; C <0.05; H <0.0125; Si <0.13; Al 4.5-5.5; Mo 3.5-4.5; Sn 1.5-2.5; Zr 1.5-2.5; Ti Bal.

Cat. NO.	MET-0018
Product Name	Titanium-based Ti6Al4V Powder
Components	Al 5.50-6.75; V 3.50-4.50; Ti Bal；Fe ≤0.3；C ≤0.08; N ≤0.05; H ≤ 0.015; O ≤0.2; Y ≤0.005

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Cat. NO.	MET-0019
Product Name	Titanium-based Ti-CP Powder
Components	Ti Bal; Fe ≤0.1; C ≤0.03; N ≤0.012; H ≤0.008; O ≤0.1; Res Each 0.05; ResToal 0.2

Cat. NO.	MET-0020
Product Name	Titanium-based TA15 Powder
Components	Al 5.50-7.10; Mo 0.50-2.0; V 0.80-2.5; Zr 1.5-2.5; Si ≤0.15; Ti Bal; Fe ≤ 0.25; C ≤0.08; N ≤0.05; H ≤0.015; O ≤0.15; Res Each 0.1; Res Total 0.3

Cat. NO.	MET-0021
Product Name	Titanium-based TC11 Powder
Components	Al 5.80-7.00; Zr 0.80-2.00; Mo 2.80-3.80; Si 0.20-0.35; Ti Bal; Fe ≤0.25; C ≤0.08; N ≤0.05; H ≤0.01; O ≤0.15

Cat. NO.	MET-0022
Product Name	Titanium-based TC18 Powder
Components	Al 4.4-5.7; Mo 4.0-5.5; V 4.0-5.5; Cr 0.5-1.5; Fe 0.5-1.5; Zr ≤0.30; Si ≤ 0.15; Ti Bal; C ≤0.08 ; N ≤0.05; H ≤0.015; O ≤0.18; Res Each 0.1; Res Total 0.3

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