Application of vanadium and titanium in solar container

The chemistry of vanadium has seen remarkable activity in the past 50 years. In the present review, reactions catalyzed by homogeneous and ...

Vanadium extraction tailingsVanadium extraction tailings are a kind of hazardous solid waste generated from the vanadium extraction process ...

Major Chinese titanium and vanadium producer Pangang Group Vanadium/Titanium Resources and the world""s largest producer of high-purity vanadium products and vanadium electrolyte Dalian Borong ...

Effects of Ti concentration on microstructure and mechanical properties of high-purity V-4Cr-xTi alloys have been studied by means of scanning electro...

Vanadium, a crucial rare metal element, finds extensive applications across various fields owing to its exceptional physical and chemical properties. Its significance is further underscored ...

This study proposes a solar collector system constructed using high-performance vanadium-titanium black ceramic materials to address this challenge.

To improve the heat collection efficiency of VTBC solar collectors, this paper establishes a mathematical model based on the energy-conservation ...

??: Pyroxene is arguably the most powerful, single-phase geochemical and petrologic recorder of Solar System processes, from nebular condensation through planetary evolution, over a wide range ...

In the present density functional theory (DFT) study, we focus on the investigation of vanadium (V) and tantalum (Ta) doped SnO2 both in the bulk and the surface.

Titanium mineral was prepared from vanadium titanomagnetite concentrates by hydrogen reduction and acid leaching. The leaching behaviors of elements l...

This study discusses the synthesis of vanadium-titanium oxide (VTO) thin films through the thermal oxidation process, which is employed for CO gas sensors. Initially, the vanadium-titanium ...

Initially, the titanium-vanadium metal alloys were deposited on the substrate using the evaporation technique. Afterward, the thermal oxidation process is carried out to get titanium ...

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TMC semiconductors have started to show their potential use in photovoltaic devices based on thin films [22], [23]. The development of TMC-based solar cells is a highly active research ...

This review concisely outlines the fundamental information of key vanadium-bearing materials, including VTM, vanadium slag, and vanadium-bearing steel slag (VBSS), and conducts a ...

Thus, the selective separation of chromium and vanadium is essential for ensuring the quality of the vanadium product and improving the resource utilization, environmental effect, and ...

The application of titanium in solar panels is a game-changer for solar energy efficiency. Titanium"s exceptional corrosion resistance ensures the longevity of solar panels, an essential factor in solar ...

The work explored the possibility of using glass critical thermistors based on vanadium dioxide to improve reliability and prevent electrothermal overloads in photovoltaic components of solar cells.

Abstract Vanadium, a crucial rare metal element, finds extensive applications across various fields owing to its exceptional physical and chemical properties. Its significance is further ...

High-purity vanadium oxide HBIS has independently developed a new technology for the green manufacturing of high-purity vanadium, which includes "calcification impurity removal, ammonium ...

In this study, we aimed to develop a synthesis method of V-doped TiO 2 hydrosols with different compositions, which is neutral, easily coats on glass, and possess high photocatalytic activity.

Organometallic catalysis is a powerful strategy in chemical synthesis, especially with the cheap and low toxic metals based on green ...

Chromium, titanium, and vanadium containing glasses were fabricated using a custom designed glass making furnace. The optical properties including molar ab-sorption coe cient, photoluminescence ...

Various comprehensive utilization of vanadium extraction tailings have been reviewed and compared, mainly focusing on the extraction of vanadium, iron, titanium, and gallium from vanadium extrac-tion ...

Quickly grasp key insights from "exploring-vanadium-chalcogenides-toward-solar-cell-application-a-review", published in Journal of Industrial and Engineering Ch

Vanadium redox flow battery (VRFB) energy storage systems have the advantages of flexible location, ensured safety, long durability, independent power and capacity configuration, etc., ...

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Vanadium-doped titanium oxide nanoparticles (V-TiO2 NPs) was successfully synthesized by a sol-gel technique and the solid-state thin films of ...

In VRFBs, vanadium exhibits four oxidation states and possesses the essential characteristics required for an efficient flow battery. It showcases typical reduction potentials in the V ...

Vanitec is the only global vanadium organisation. Vanitec is a technical/scientific committee bringing together companies in the mining, processing, research and ...

The sodium roasting-water leaching process for vanadium-titanium magnetite (VTM) concentrate faces challenges such as low vanadium recovery, excessive addition of sodium salt, and ...

To further investigate the application of vanadium diselenide thin films, device performance in CdTe solar cells with a vanadium diselenide layer was also studied. The results ...

The work explored the possibility of using glass critical thermistors based on vanadium dioxide to improve reliability and prevent electrothermal overloads in photovoltaic components of solar cells. ...

Abstract--The properties, application, and methods for producing titanium and vanadium carbides are considered. These carbides are oxygen-free refractory metal-like compounds. ...

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