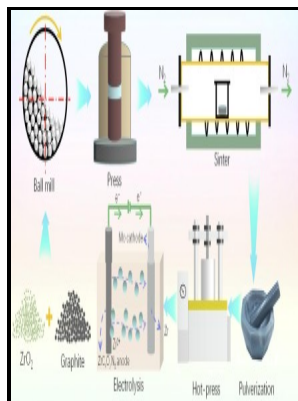


# Hafnium Electrorefining.

s.n - PURE METALS PROJECT, ZIRCONIUM AND HAFNIUM PROGRAM. Quarterly Progress Report No. 1 through 6 for November 1, 1956 to June 30, 1958 (Technical Report)



Description: -

-Hafnium Electrorefining.

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Report of investigations (United States. Bureau of Mines) --

5851Hafnium Electrorefining.

Notes: 1

This edition was published in 1961



Filesize: 34.28 MB

Tags: #Electrorefining #in #molten #salts # — #an #effective #method #of #high #purity #tantalum, #hafnium #and #scandium #metal #production

## Electrorefining in molten salts — an effective method of high purity tantalum, hafnium and scandium metal production

First, the synthesis of Zr oxycarbide by carbothermic reduction of  $ZrO_2$  was investigated, and a dense and conductive  $ZrC$  0. Electrochemical studies on the redox mechanism of uranium chloride in molten  $LiCl-KCl$  eutectic.

## Zirconium Metal Production by Electrorefining of Zr Oxycarbide

In: Liddell KC, Sadowy DR, Bautista RG, editors.

## Electrochemical reduction behavior of Hf(IV) in molten NaCl

High Temperature Materials and Processes, 14 2 , MLA Sehra, J. Den Haag The Netherlands About this paper Cite this paper as: Xu L. Raynes BC, Thellmann EL, Steinberg MA, Wainer E 1955 The extractive metallurgy of zirconium by the electrolysis of fused salt III.

## Electrochemical reduction behavior of Hf(IV) in molten NaCl

The effect of the various experimental variables, such as temperature of electrolysis, current density and concentration of soluble metal in the bath, has been optimised to recover these metals in a state of right purity and with good yield.

## Nuclear

Preparation of zirconium and hafnium metal powders using fused salt electrolysis. However, hafnium typically contained in zirconium causes it to be far less useful for nuclear reactor materials because of its high neutron-absorbing properties. The square wave voltammetry results further confirm the reduction mechanism of hafnium.

## Preparation of Zirconium and Hafnium Metal Powders Using Fused Salt Electrolysis, High Temperature Materials and Processes

In the present study, a novel effective method has been developed for the production of hafnium-free zirconium.

## **Nuclear**

Over many cycles, it transports uranium back and forth between the anodic fuel dissolution baskets and the cathode tubes until, because of imperfect adherence of the dendrites, it all ends up in the product collector at the bottom. Basile F, Chassaing E, Lorthioir G 1981 Electrochemical reduction of  $ZrCl_4$  in molten NaCl, CsCl and KCl-LiCl and chemical reactions coupled to the electrodeposition of zirconium. Kirihara A, Shibata Y 1957 Refining of Zr metal for nuclear use I.

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