

## Certificate of Analysis

Item Code: Hf-ST-3N3  
Product Name: Hafnium (Hf) Pellets  
Purity: >99.93%, Zr<0.5%  
Lot Number: YT20180625-6916  
Date: 06/25/2018

Impurity contents (wt%):

Al	0.0160	Ni	<0.0005	W	0.0010
Cr	<0.001	Si	<0.0020	Zr	0.056
Cu	0.0062	Sn	0.00480	C	0.0024
Fe	0.0025	Ta	<0.0010	H	<0.0010
Mo	<0.001	Ti	0.0280	N	<0.0020
Nb	0.0010	V	<0.0005	O	<0.0240

Stanford Advanced Materials