

## Certificate of Analysis

Date of Testing: 2022-01-22 14:37:52  
 Date of Next Testing: 2024-01-12 14:37:52  
 Product Name: **Ammonium ceric nitrate**  
 CAS Number: 16774-21-3  
 Specifications & Purity: Analytical Reagent,99.0%  
 Lot #: A2219190  
 SKU #: **A105050**  
**Analysis:** **069442**  
 Storage Temperature: Argon charged

Parameter	Limit Values	Result
Cobalt(Co)	0-5 (ppm)	2.00 ppm
Calcium(Ca)	0-10 (ppm)	4.63 ppm
Chromium(Cr)	0-5 (ppm)	1.80 ppm
Manganese(Mn)	0-5 (ppm)	1.00 ppm
Potassium(K)	0-10 (ppm)	6.01 ppm
Insoluble in dilute sulfuric acid	0-0.05 (%)	0.02 %
Zinc(Zn)	0-5 (ppm)	0.99 ppm
Chloride (Cl-)	0-10 (ppm)	6.87 ppm
Copper(Cu)	0-5 (ppm)	2.63 ppm
Magnesium(Mg)	0-20 (ppb)	9.99 ppb
Lead(Pb)	0-5 (ppm)	3.00 ppm
Ce By Titration with Dichromate	25-26.1 (%)	25.13 %
Cadmium(Cd)	0-5 (ppm)	2.60 ppm
Nickel(Ni)	0-5 (ppm)	3.90 ppm
Iron(Fe)	0-50 (ppm)	18.00 ppm
Phosphate(PO4)	0-200 (ppm)	99.00 ppm
Purity(redox titration)	98.5-101 (%)	100.00 %
Sodium(Na)	0-10 (ppm)	8.97 ppm
Appearance (A105050)	Light Orange to Very Dark Orange Powder or Crystal	Light Orange to Very Dark Orange Powder or Crystal
Solubility in H2O , Yellow clear solution(50 mg/mL)	pass	Pass
X-Ray Diffraction	Conforms to Structure	Conforms to Structure



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ALADDIN SCIENTIFIC CORPORATION

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A handwritten signature in black ink that reads "John Su".

John Su  
QA & QC Manager