

800 Kaderly Dr Columbus, OH 43228-1034 USA Tel: 800.858.9682 . 740.881.5501

Fax: 740.881.5989

www.gfschemicals.com

Product name:

NITRIC ACID, 69%, VERITAS REDISTILLED

Item #:

63

Lot #:

24000540

Certified Values:

Specifications	Status	Results
Assay 68.0 % - Min	Pass	69.6
Chloride 0.00001 % Max	Pass	<0.00001
Sulfate 0.00001 % Max	Pass	<0.00001
Arsenic 0.0000001 % Max	Pass	<0.0000001
Heavy Metals 0.000001 % Max	Pass	<0.000001
ron 0.000001 % Max	Pass	<0.000001
Residue after ignition 0.0001 % Max	Pass	<0.0001
Color (APHA) 10 Max	Pass	<10
Al 5.00 ppb Max	Pass	<0.50
Ag 1.00 ppb Max	Pass	<0.50
Au 1.00 ppb Max	Pass	<0.50
B 10.00 ppb Max	Pass	1.15
Ba 2.00 ppb Max	Pass	<0.50
Be 1.00 ppb Max	Pass	<0.50
Bi 1.00 ppb Max	Pass	<0.50
Ca 10.00 ppb Max	Pass	2.14
Cd 1.00 ppb Max	Pass	<0.50
Ce 1.00 ppb Max	Pass	<0.50
Co 1.00 ppb Max	Pass	<0.50
Cr 1.00 ppb Max	Pass	<0.50
Cs 1.00 ppb Max	Pass	<0.50
Cu 2.00 ppb Max	Pass	<0.50
Dy 1.00 ppb Max	Pass	<0.50
Er 1.00 ppb Max	Pass	<0.50

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practices (cGMP), including without limitation for those finished drug products in 21 CFR Parts 210 and 211. Consult warranty limitations at www.gfschemicals.com

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Pass	www.gfschemicals.com		
Pass <0.50	Eu 1.00 ppb Max	Pass	<0.50
Pass <0.50	Fe 5.00 ppb Max	Pass	<0.50
See 1.00 ppb Max	Ga 1.00 ppb Max	Pass	<0.50
Pass	Gd 1.00 ppb Max	Pass	<0.50
Ho 1.00 ppb Max	Ge 1.00 ppb Max	Pass	<0.50
Name	Hg 2.00 ppb Max	Pass	<0.50
Pass	Ho 1.00 ppb Max	Pass Nacio	<0.50
C 2.00 ppb Max Pass <0.50	In 1.00 ppb Max	Pass	<0.50
La 1.00 ppb Max Pass -0.50 Li 1.00 ppb Max Pass -0.50 Li 1.00 ppb Max Pass -0.50 Mg 2.00 ppb Max Pass -0.50 Mg 2.00 ppb Max Pass -0.50 Min 1.00 ppb Max Pass -0.50 Min 1.00 ppb Max Pass -0.50 No 1.00 ppb Max Pass -0.50 Po 1.00 ppb Max Pass -0.50 Rb 1.00 ppb Max Pass -0.50 Rb 1.00 ppb Max Pass -0.50 Ru 1.00 ppb Max Pass -0.50 Ru 1.00 ppb Max Pass -0.50 Ru 1.00 ppb Max Pass -0.50 Po 1.00 ppb Max Pass -0.50 Ru 1.00 ppb Max Pass -0.50 Po 1.00 ppb Max Pass -0.50 Ru 1.00 ppb Max Pass -0.50 Po 1.00 ppb Max Pass -0.50 Ru 1.00 ppb Max Pass -0.50	Ir 1.00 ppb Max	Pass	<0.50
Li 1.00 ppb Max Pass Q.50 Mg 2.00 ppb Max Pass Q.50 Mn 1.00 ppb Max Pass Q.66 Nd 1.00 ppb Max Pass Q.66 Nd 1.00 ppb Max Pass Q.50 Ni 1.00 ppb Max Pass Q.50 Os 1.00 ppb Max Pass Q.50 Pr 1.00 ppb Max Pass Q.50 Rb 1.00 ppb Max Pass Q.50 Ru 1.00 ppb Max Pass Q.50 Ru 1.00 ppb Max Pass Q.50 Ru 1.00 ppb Max Pass Q.50	K 2.00 ppb Max	Pass	<0.50
Pass	La 1.00 ppb Max	Pass	<0.50
Mg 2.00 ppb Max Pass <0.50	Li 1.00 ppb Max	Pass	<0.50
Mn 1.00 ppb Max Pass -0.50 Mo 1.00 ppb Max Pass -0.50 Na 10.00 ppb Max Pass -0.50 Na 1.00 ppb Max Pass -0.50	Lu 1.00 ppb Max	Pass	<0.50
Mo 1.00 ppb Max Pass 2.66 Nd 1.00 ppb Max Pass 2.66 Nd 1.00 ppb Max Pass 2.66 Nd 1.00 ppb Max Pass 40.50 Ni 1.00 ppb Max Pass 40.50	Mg 2.00 ppb Max	Pass	<0.50
Na 10.00 ppb Max	Mn 1.00 ppb Max	Pass	<0.50
Nd 1.00 ppb Max Pass <0.50	Mo 1.00 ppb Max	Pass	<0.50
No 1.00 ppb Max	Na 10.00 ppb Max	Pass	2.66
Os 1.00 ppb Max Pass Pb 1.00 ppb Max Pass Pos 1.00 ppb Max Pass Pass Pos 20.50 Pd 1.00 ppb Max Pass Pass Pass Pass Pass Pass Pass Pa	Nd 1.00 ppb Max	Pass	<0.50
Pb 1.00 ppb Max Pass Pass Po 1.00 ppb Max Pass Pr 1.00 ppb Max Pass Pass Pass Pass Pass Pass Pass Pa	Ni 1.00 ppb Max	Pass	<0.50
Pd 1.00 ppb Max Pd 1.00 ppb Max Pass Pt 1.00 ppb Max Pass Pt 1.00 ppb Max Pass Pass Pass Pass Pass Pass Pass Pa	Os 1.00 ppb Max	Pass	<0.50
Pr 1.00 ppb Max Pr 1.00 ppb Max Pass <0.50 Pt 1.00 ppb Max Pass <0.50 Rb 1.00 ppb Max Pass <0.50 Rh 1.00 ppb Max Pass <0.50 Ru 1.00 ppb Max Pass <0.50	Pb 1.00 ppb Max	Pass	<0.50
Pt 1.00 ppb Max Pass Pass 	Pd 1.00 ppb Max	Pass	<0.50
Per Per	Pr 1.00 ppb Max	Pass	<0.50
Rb 1.00 ppb Max Pass <0.50	Pt 1.00 ppb Max	Pass	<0.50
Rh 1.00 ppb Max Pass <0.50	Rb 1.00 ppb Max	Pass	<0.50
Sb 1.00 ppb Max Pass <0.50	Rh 1.00 ppb Max	Pass	<0.50
Sb 1.00 ppb Max Pass <0.50	Ru 1.00 ppb Max	Pass	<0.50
50.50		Pass	<0.50
		Pass	<0.50

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March 6, 2028

May 1, 2023

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Se 1.00 ppb Max	Pass	<0.50
Sm 1.00 ppb Max	Pass	<0.50
Sn 1.00 ppb Max	Pass	<0.50
Sr 1.00 ppb Max	Pass	<0.50
Tb 1.00 ppb Max	Pass	<0.50
Te 1.00 ppb Max	Pass	<0.50
Th 1.00 ppb Max	Pass Year	<0.50
Ti 1.00 ppb Max	Pass	<0.50
U 1.00 ppb Max	Pass	<0.50
V 1.00 ppb Max 28.1034	Pass	<0.50
W 1.00 ppb Max	Pass	<0.50
Y 1.00 ppb Max	Pass	<0.50
Yb 1.00 ppb Max	Pass	<0.50
Zn 5.00 ppb Max	Pass	<0.50
Zr 1.00 ppb Max	Pass	<0.50
	A CONTRACTOR OF THE CONTRACTOR	

Best by:

Print Date:

Comments

CoA #:

Certificate Created By: CoA Creation Date:

Certified by:

COA-097913

Karen Hirsch

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April 3, 2023

Aron Becza - Quality Assurance Manager

Aron Busa

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Traceability:

This material was processed under a quality management system that is registered to ISO 9001:2015. The equipment used in the testing of material is NIST traceable. In cases where NIST traceability is not possible, equipment manufacturer recommendations and/or industry best practices are followed.

The following tests are performed under an A2LA accredited ISO/IEC 17025 management system:

- UV/VIS Spectrophotometer testing is performed according to ASTM method E169-16
- Turbidity according to ASTM methods D6855-17 and ASTM D7315-17
- Conductivity according to ASTM method D1125-14
- pH according to ASTM method D1293-18
- Karl Fischer titration according to ASTM methods DE203-16 and E1064-16

Samples for testing are obtained using GFS procedure GFSW-LAB-PPG-0022.

Testing is performed in a laboratory temperature of 22 °C +/- 2 °C and/or a solution temperature of 25 °C +/- 0.2 °C.

Karl Fischer testing is performed at a laboratory temperature of 25 ℃ +/- 5 ℃ and a relative humidity of less than or equal to 60%.

Measurement Uncertainty:

The reported measurement uncertainty is an expanded measurement uncertainly according to the ASM method E2554-18, calculated using 2 as the coverage factor (which gives a confidence level of approximately 95%).

- -Example for a reported conductivity value of 2124 uS/cm: 2124uS/cm ± 0.65%, k=2
- -Example for a reported pH value of 8.32: 8.32 ± 0.01, K=2
- -Karl Fischer for values between 0.1 to 10 mg/g
 o Example for a reported Karl Fischer value of 5.3 mg/g:
 5.3mg/g ± 3.76%, k=2

as the coverage factor (st. on gives a confidence layer of approximately state)

to Example for a reported Katt Fischer was at 5.3 mg/g

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8.32 ± 0.01, K=2