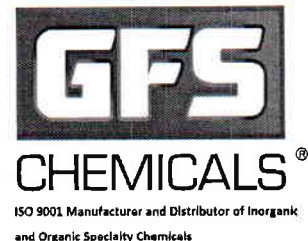


Certificate of Analysis

Product Name: HYDROCHLORIC ACID, 32-38%,
VERITAS REDISTILLED

Item #: 2180

Lot #: 20460095



Certified Values:

Specifications (Max Limits or as Specified)	Status	Results
Assay 32 - 38 %	Pass	37
Residue after ignition 0.0001 % Max	Pass	< 0.0001
Sulfate 0.00001 % Max	Pass	< 0.00001
Sulfite 0.00001 % Max	Pass	< 0.00001
Ammonium 0.00002 % Max	Pass	< 0.00002
Arsenic 0.0000001 % Max	Pass	< 0.0000001
Boron 0.0000002 % Max	Pass	< 0.0000002
Silicon 0.000001 % Max	Pass	< 0.000001
Ag 5.0 ppb Max	Pass	< 0.1
Al 1.0 ppb Max	Pass	0.2
Au 1.0 ppb Max	Pass	< 0.1
Ba 1.0 ppb Max	Pass	< 0.1
Be 1.0 ppb Max	Pass	< 0.1
Bi 1.0 ppb Max	Pass	< 0.1
Ca 10.0 ppb Max	Pass	2.0
Cd 1.0 ppb Max	Pass	< 0.1
Ce 1.0 ppb Max	Pass	< 0.1

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www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html

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GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 * Signed Orig. Doc. On File
1-800-858-9682 (U.S. and Canada) 1-740-881-5501 (International) 1-740-881-5989 (Fax)

Co 1.0 ppb Max	Pass	< 0.1
Cr 1.0 ppb Max	Pass	< 0.1
Cs 1.0 ppb Max	Pass	< 0.1
Cu 1.0 ppb Max	Pass	< 0.1
Dy 1.0 ppb Max	Pass	< 0.1
Er 1.0 ppb Max	Pass	< 0.1
Eu 1.0 ppb Max	Pass	< 0.1
Fe 5.0 ppb Max	Pass	1.2
Ga 1.0 ppb Max	Pass	< 0.1
Gd 1.0 ppb Max	Pass	< 0.1
Ge 1.0 ppb Max	Pass	< 1.0
Hf 1.0 ppb Max	Pass	< 0.1
Hg 1.0 ppb Max	Pass	< 0.1
Ho 1.0 ppb Max	Pass	< 0.1
In 1.0 ppb Max	Pass	< 0.1
Ir 1.0 ppb Max	Pass	< 0.1
K 5.0 ppb Max	Pass	0.1
La 1.0 ppb Max	Pass	< 0.1
Li 2.0 ppb Max	Pass	< 0.1
Lu 1.0 ppb Max	Pass	< 0.1
Mg 2.0 ppb Max	Pass	0.1
Mn 1.0 ppb Max	Pass	< 0.1
Mo 1.0 ppb Max	Pass	< 0.1

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Na 5.0 ppb Max	Pass	0.6
Nb 1.0 ppb Max	Pass	< 0.1
Ni 1.0 ppb Max	Pass	< 0.1
Os 1.0 ppb Max	Pass	< 0.1
Pb 3.0 ppb Max	Pass	< 0.1
Pd 1.0 ppb Max	Pass	< 0.1
Pr 1.0 ppb Max	Pass	< 0.1
Pt 1.0 ppb Max	Pass	< 0.1
Rb 1.0 ppb Max	Pass	< 0.1
Rh 1.0 ppb Max	Pass	< 0.1
Ru 1.0 ppb Max	Pass	< 0.1
Sb 1.0 ppb Max	Pass	< 0.1
Sc 1.0 ppb Max	Pass	< 0.1
Se 1.0 ppb Max	Pass	< 0.1
Sm 1.0 ppb Max	Pass	< 0.1
Sn 1.0 ppb Max	Pass	< 0.1
Sr 1.0 ppb Max	Pass	< 0.1
Tb 1.0 ppb Max	Pass	< 0.1
Te 1.0 ppb Max	Pass	< 0.1
Th 1.0 ppb Max	Pass	< 0.1
Ti 1.0 ppb Max	Pass	< 0.1
U 1.0 ppb Max	Pass	< 0.1
V 1.0 ppb Max	Pass	< 0.1

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W 1.0 ppb Max	Pass	< 0.1
Y 1.0 ppb Max	Pass	< 0.1
Yb 1.0 ppb Max	Pass	< 0.1
Zn 2.0 ppb Max	Pass	0.1
Zr 1.0 ppb Max	Pass	< 0.1

Comments

CoA #: COA-064824
Certificate Created By: Jacob Watson
CoA Creation Date: November 24, 2020
Best by: October 28, 2025
Print Date: February 26, 2021

Signature on File

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ISO 17025 Testing

All ISO 17025 testing is performed at GFS Chemicals, Inc. 800 Kaderly Dr, Columbus, OH 43228 USA

UV/Vis Spectrophotometer testing is performed according to ASTM method E169-16.

Turbidity testing is performed according to ASTM methods D6855-17 and ASTM D7315-17.

Conductivity testing is performed according to ASTM method D1125-14.

pH testing is performed according to ASTM method D1293-18.

Karl Fischer titration testing is performed according to ASTM methods E203-16 and E1064-16.

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