



Certificate of Analysis

PRODUCT NAME: Hydrochloric Acid
NF/FCC

CHEMICAL FORMULA: HCl

Product Code: CP-M1497P, A1497P
Lot #: 2013081573
F.W.: 36.4600
CAS No: 7647-01-0
Density: 1.1800

ANALYTICAL RESULTS		
ITEM	SPECIFICATIONS	ANALYSIS
Assay (HCl)	36.5-38.0%	37.3%
Assay (HCl) Be'	22.7 deg Be' min.	>22.7°
Appearance	Clear, colorless fuming liquid	Passes Test
Ammonium (NH4)	0.0003% max.	<0.00005%
Bromide or Iodide	Passes Test	Passes Test
Color (APHA)	10 max.	<10
Clarity of Solution	Free from suspended matter/sediment	Passes Test
Extractable organic substances	To pass test (0.0005% max.)	Passes Test(<0.0005%)
Free Bromine or Chlorine	To pass test	Passes Test
Free Chlorine (Cl2)	1.0 ppm Max	<1.0 ppm
Heavy Metals (as Pb)	0.0001% max.	<0.0001%
Hydrazine	0.1 ppm Max	<0.1 ppm
Identification NF	To pass test	Passes Test
Nonvolatile residue	0.5% Max	<0.5%
Identification FCC	To pass test	Passes Test
Organic Compounds - Total non-fluorine containing org:	5 mg/kg Max	<5 mg/kg
Organic Compounds - Benzene	0.05 mg/kg	<0.05 mg/kg
Organic Compounds - Total fluorinated organic compou	0.0025% Max	<0.0025%
Oxidizing substances (as Cl2)	0.003% Max	<0.003%
Reducing substances (as SO3)	To pass test	Passes Test
Residue After Ignition	0.0005% max.	<0.0003%
Phosphate (PO4)	50 ppb Max	<50 ppb
Specific Gravity at 60°F	Record only (approx. 1.17-1.20)	1.18
Sulfate (SO4)	0.0001% max.	<0.00005%
Sulfite (SO3)	0.0001% max.	<0.00008%
Aluminum (Al)	300 ppb Max	<100 ppb
Antimony (Sb)	4 ppb Max	<4 ppb
Arsenic (As)	4 ppb max.	<4 ppb
Barium (Ba)	100 ppb Max	<50 ppb
Beryllium (Be)	50 ppb Max	<50 ppb

It is certified that the above is a true copy of the actual lot analysis.

CERTIFIED CORRECT BY:

Kevin Hansen
Quality Assurance Manager

Disclaimer: To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication. However, nothing herein shall constitute any express or implied warranty of merchantability or fitness for a particular purpose. It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose.

Document Print Date:

04/20/2016

**CHEMICAL PROCESSORS AND PACKAGERS OF ELECTRONIC GRADE HIGH PURITY
ACIDS / BLENDS / REAGENTS / SOLUTIONS**

CHEMPURE BRAND CHEMICALS - 39103 WARRENROAD - WESTLAND, MICHIGAN 48185
PHONE: 734-725-1805 - FAX:734-405-6623 - INFO@CHEMPUREBRAND.COM - WWW.CHEMPUREBRAND.COM



Certificate of Analysis

PRODUCT NAME: **Hydrochloric Acid**
NF/FCC

CHEMICAL FORMULA: HCl

Product Code: CP-M1497P, A1497P

Lot #: 2013081573

F.W.: 36.4600

CAS No: 7647-01-0

Density: 1.1800

ANALYTICAL RESULTS		
ITEM	SPECIFICATIONS	ANALYSIS
Bismuth (Bi)	50 ppb Max	<50 ppb
Boron (B)	50 ppb Max	<50 ppb
Bromide (Br)	50 ppm Max	<50 ppm
Calcium (Ca)	300 ppb Max	<300 ppb
Cadmium (Cd)	100 ppb Max	<50 ppb
Chromium (Cr)	100 ppb Max	<100 ppb
Cobalt (Co)	50 ppb Max	<50 ppb
Copper (Cu)	50 ppb Max	<50 ppb
Gallium (Ga)	100 ppb Max	<50 ppb
Germanium (Ge)	100 ppb Max	<50 ppb
Gold (Au)	100 ppb Max	<50 ppb
Iron (Fe)	200 ppb Max	<100 ppb
Lead (Pb)	100 ppb Max	<50 ppb
Iridium (Ir)	2 ppm Max	<2 ppm
Lithium (Li)	100 ppb Max	<50 ppb
Magnesium (Mg)	200 ppb Max	<100 ppb
Manganese (Mn)	100 ppb Max	<50 ppb
Mercury (Hg)	1 ppb Max	<1 ppb
Molybdenum (Mo)	50 ppb Max	<50 ppb
Nickel (Ni)	50 ppb Max	<50 ppb
Palladium (Pd)	2 ppm Max	<2 ppm
Platinum (Pt)	2 ppm Max	<2 ppm
Potassium (K)	300 ppb Max	<100 ppb
Silver (Ag)	50 ppb Max	<50 ppb
Silicon (Si)	300 ppb Max	<100 ppb
Sodium (Na)	300 ppb Max	<100 ppb
Strontium (Sr)	100 ppb Max	<50 ppb
Rhodium (Rh)	2 ppm Max	<2 ppm
Ruthenium (Ru)	2 ppm Max	<2 ppm
Tantalum (Ta)	50 ppb Max	<50 ppb

It is certified that the above is a true copy of the actual lot analysis.

CERTIFIED CORRECT BY:

Kevin Hansen
Quality Assurance Manager

Disclaimer: To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication. However, nothing herein shall constitute any express or implied warranty of merchantability or fitness for a particular purpose. It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose.

Document Print Date:

04/20/2016

CHEMICAL PROCESSORS AND PACKAGERS OF ELECTRONIC GRADE HIGH PURITY
ACIDS / BLENDS / REAGENTS / SOLUTIONS

CHEMPURE BRAND CHEMICALS - 39103 WARRENROAD - WESTLAND, MICHIGAN 48185
PHONE: 734-725-1805 - FAX: 734-405-6623 - INFO@CHEMPUREBRAND.COM - WWW.CHEMPUREBRAND.COM



Certificate of Analysis

PRODUCT NAME: **Hydrochloric Acid**
NF/FCC

CHEMICAL FORMULA: **HCl**

Product Code: CP-M1497P, A1497P

Lot #: 2013081573

F.W.: 36.4600

CAS No: 7647-01-0

Density: 1.1800

ANALYTICAL RESULTS		
ITEM	SPECIFICATIONS	ANALYSIS
Thallium (Tl)	50 ppb Max	<50 ppb
Tin (Sn)	300 ppb Max	<50 ppb
Titanium (Ti)	300 ppb Max	<50 ppb
Vanadium (V)	50 ppb Max	<50 ppb
Zinc (Zn)	100 ppb Max	<100 ppb
Zirconium (Zr)	50 ppb Max	<50 ppb
USP/NF-Sulfate	To pass test	Passes Test
USP/NF-Sulfite	To pass test	Passes Test
FCC-Color	To pass test	Passes Test
REMARKS		
This material meets National Formulary (NF) specifications.		

It is certified that the above is a true copy of the actual lot analysis.

CERTIFIED CORRECT BY:

Kevin Hansen
Quality Assurance Manager

Disclaimer: To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication. However, nothing herein shall constitute any express or implied warranty of merchantability or fitness for a particular purpose. It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose.

Document Print Date:

04/20/2016

**CHEMICAL PROCESSORS AND PACKAGERS OF ELECTRONIC GRADE HIGH PURITY
ACIDS / BLENDS / REAGENTS / SOLUTIONS**

CHEMPURE BRAND CHEMICALS - 39103 WARRENROAD - WESTLAND, MICHIGAN 48185
PHONE: 734-725-1805 - FAX: 734-405-6623 - INFO@CHEMPUREBRAND.COM - WWW.CHEMPUREBRAND.COM