

PRODUCT NAME: Hydrochloric Acid

High Purity

CHEMICAL FORMULA: HCI

Product Code: 260100-90000

F.W.: 36.4600

CAS No: 7647-01-0

Density: 1.18

ITEM	SPECIFICATIONS
Assay (HCI)	36.5-38.0%
Assay (HCI) Be'	22.7 deg Be' min.
Appearance	Clear, colorless fuming liquid
Appearance (EP)	To pass test
Ammonium (NH4)	0.0003% max.
Bromide or lodide	To pass test
Clarity of Solution	Free from suspended matter/sediment
Color (APHA)	10 max.
Free Bromine or Chlorine	To pass test (0.0001% max.)
Free Chlorine (Cl2)	1.0 ppm Max
Heavy Metals (as Pb)	0.0001% max.
Hydrazine	0.1 ppm Max
Identification NF	To pass test
Nonvolatile residue	0.5% Max
Identification FCC	To pass test
Organic Compounds - Total non-fluorine containing organic compounds	5 mg/kg Max
Organic Compounds - Benzene	0.05 mg/kg Max
Organic Compounds - Total fluorinated organic compounds	0.0025% Max
Oxidizing substances (as Cl2)	0.003% Max
Reducing Substances	To pass test
Residue After Ignition	0.0005% max.
Phosphate (PO4)	50 ppb Max
Specific Gravity at 60°F	Record only (approx. 1.17-1.20)
Sulfate (SO4)	0.0001% max.
Sulfite (SO3)	0.0001% max.
Aluminum (AI)	300 ppb Max
Antimony (Sb)	4 ppb Max
Arsenic (As)	4 ppb max.
Barium (Ba)	100 ppb Max
Beryllium (Be)	50 ppb Max
Bismuth (Bi)	50 ppb Max
Boron (B)	50 ppb Max
Bromide (Br)	50 ppm Max
Cadmium (Cd)	100 ppb Max
Calcium (Ca)	300 ppb Max
Chromium (Cr)	100 ppb Max
Cobalt (Co)	50 ppb Max
Copper (Cu)	50 ppb Max
Gallium (Ga)	100 ppb Max



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CAS No: 7647-01-0

Density: 1.18

Germanium (Ge) 100 ppb Max Gold (Au) 100 ppb Max Indium (Ir) 2 ppm Max Iron (Fe) 200 ppb Max Lead (Pb) 100 ppb Max Lithium (Li) 100 ppb Max Magnesium (Mg) 200 ppb Max Manganese (Mn) 100 ppb Max Morecury (Hg) 1 ppb Max Molybdenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Silver (Ag) 300 ppb Max Silver (Ag) 50 ppb Max Sillicon (Si) 300 ppb Max Sillicon (Si) 300 ppb Max Sillicon (Si) 300 ppb Max Rtnodium (Rh) 2 ppm Max Ruthenium (Rc) 2 ppm Max Ruthenium (Rg) 2 ppm Max Tantalum (Ta) 50 ppb Max Tin (Sh) 300 ppb Max Titanium (Ti) 300 ppb Max Titanium (Ti) 300 ppb Max Titanium (Ti) 300 ppb Max Titan	ITEM	SPECIFICATIONS
Iridium (Ir) 2 ppm Max Iron (Fe) 200 ppb Max Lead (Pb) 100 ppb Max Lithium (Li) 100 ppb Max Magnesium (Mg) 200 ppb Max Manganese (Mn) 100 ppb Max Mercury (Hg) 1 ppb Max Molybdenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Palladium (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silcon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Rhodium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (TI) 50 ppb Max Thialium (TI) 50 ppb Max Titanium (TI) 300 ppb Max Vanadium (V) 50 ppb Max Zirconium (Zf) 60 ppb Max Zirconium (Zf) 60 ppb Max	Germanium (Ge)	100 ppb Max
Iron (Fe) 200 ppb Max Lead (Pb) 100 ppb Max Lithium (Li) 100 ppb Max Magnesium (Mg) 200 ppb Max Manganese (Mn) 100 ppb Max Mercury (Hg) 1 ppb Max Molybdenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Paltainum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Silvon (Si) 300 ppb Max Strontium (St) 300 ppb Max Strontium (Rt) 2 ppm Max Ruthenium (Rt) 2 ppm Max Ruthenium (Rt) 2 ppm Max Tantalum (Ta) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 50 ppb Max Vanadium (V) 50 ppb Max Ziroc (Zn) 100 ppb Max Zirocnium (Zr) 50 ppb Max	Gold (Au)	100 ppb Max
Lead (Pb) 100 ppb Max Magnesium (Mg) 200 ppb Max Mangnesie (Mn) 100 ppb Max Mercury (Hg) 1 ppb Max Morbydenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sdilum (Na) 300 ppb Max Silton (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Tin (Sn) 300 ppb Max Tin (Sn) 300 ppb Max Tin (Sn) 300 ppb Max Zinco (Zn) 100 ppb Max Zinco (Zn) 100 ppb Max Zinco (Zn) 100 ppb Max Zinco (Zn) 50 ppb Max	Iridium (Ir)	2 ppm Max
Lithium (LI) 100 ppb Max Magnesium (Mg) 200 ppb Max Manganese (Mn) 100 ppb Max Mercury (Hg) 1 ppb Max Molybdenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silcon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (TI) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (TI) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zinconium (Zr) 50 ppb Max Manufacture Date Record Actual	Iron (Fe)	200 ppb Max
Magnesium (Mg) 200 ppb Max Manganese (Mn) 100 ppb Max Mercury (Hg) 1 ppb Max Molybdenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Ti) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (Y) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Lead (Pb)	100 ppb Max
Manganese (Mn) 100 ppb Max Mercury (Hg) 1 ppb Max Molybdenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Ruthenium (Ta) 50 ppb Max Thallium (Ta) 50 ppb Max Tin (Sn) 300 ppb Max Titanlum (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Lithium (Li)	100 ppb Max
Mercury (Hg) 1 ppb Max Molybdenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Ruthenium (Ta) 50 ppb Max Thallium (Ti) 50 ppb Max Tin (Sn) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zinc (Zn) 100 ppb Max Manufacture Date Record Actual	Magnesium (Mg)	200 ppb Max
Molybdenum (Mo) 50 ppb Max Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Ti) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Manganese (Mn)	100 ppb Max
Nickel (Ni) 50 ppb Max Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Tin (Sn) 300 ppb Max Tin (Sn) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Aunufacture Date Record Actual	Mercury (Hg)	1 ppb Max
Palladium (Pd) 2 ppm Max Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Tl) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Tl) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Molybdenum (Mo)	50 ppb Max
Platinum (Pt) 2 ppm Max Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Nickel (Ni)	50 ppb Max
Potassium (K) 300 ppb Max Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Ti) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Palladium (Pd)	2 ppm Max
Silver (Ag) 50 ppb Max Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Tl) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Platinum (Pt)	2 ppm Max
Sodium (Na) 300 ppb Max Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Tl) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Potassium (K)	300 ppb Max
Silicon (Si) 300 ppb Max Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Tl) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Silver (Ag)	50 ppb Max
Strontium (Sr) 100 ppb Max Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Tl) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Sodium (Na)	300 ppb Max
Rhodium (Rh) 2 ppm Max Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Tl) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Silicon (Si)	300 ppb Max
Ruthenium (Ru) 2 ppm Max Tantalum (Ta) 50 ppb Max Thallium (Tl) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Strontium (Sr)	100 ppb Max
Tantalum (Ta) 50 ppb Max Thallium (Tl) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Rhodium (Rh)	2 ppm Max
Thallium (TI) 50 ppb Max Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Ruthenium (Ru)	2 ppm Max
Tin (Sn) 300 ppb Max Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Tantalum (Ta)	50 ppb Max
Titanium (Ti) 300 ppb Max Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Thallium (TI)	50 ppb Max
Vanadium (V) 50 ppb Max Zinc (Zn) 100 ppb Max Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Tin (Sn)	300 ppb Max
Zinc (Zn)100 ppb MaxZirconium (Zr)50 ppb MaxManufacture DateRecord Actual	Titanium (Ti)	300 ppb Max
Zirconium (Zr) 50 ppb Max Manufacture Date Record Actual	Vanadium (V)	50 ppb Max
Manufacture Date Record Actual	Zinc (Zn)	100 ppb Max
	Zirconium (Zr)	50 ppb Max
Expiration Date Two years from manufacture date	Manufacture Date	Record Actual
	Expiration Date	Two years from manufacture date

Remarks:



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High Purity

CHEMICAL FORMULA: HCI

Product Code: 260100-90000

F.W.: 36.4600

CAS No: 7647-01-0

Density: 1.18

ITEM	SPECIFICATIONS

The above are the specifications, ranges and limits set for this product.

Eddy Santiago
Quality Assurance Manager

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