

PRODUCT NUMBER: S010201

LOT NUMBER: 2112021

RELEASE DATE: August, 2012

EXPIRY DATE: August, 2015

CERTIFICATE OF ANALYSIS

Tests	Maximum Specification	Actual Value	Units
ASSAY (HClO ₄ , w/w):	65 - 71%	69%	% by w/w
Colour:	10	< 10	APHA

HClO ₄ (67 - 71%):	Properties
Molar Mass:	100.46g/mol
Density:	1.67 g/ml
Molarity:	12 moles/litre
Normality:	12 moles/litre

Analyte	Maximum Specification	Actual Value (in ppb)	Analyte	Maximum Specification	Actual Value (in ppb)
Aluminum (Al)	1 ppb	< 0.5	Neodymium (Nd)	0.5 ppb	< 0.5
Antimony (Sb)	0.5 ppb	< 0.1	Nickel (Ni)	1 ppb	< 0.1
Arsenic (As)	0.5 ppb	< 0.5	Niobium (Nb)	Information Only	< 0.5
Barium (Ba)	1 ppb	< 0.1	Palladium (Pd)	0.5 ppb	< 0.5
Beryllium (Be)	0.5 ppb	< 0.1	Platinum (Pt)	0.5 ppb	< 0.5
Bismuth (Bi)	0.5 ppb	< 0.1	Potassium (K)	1 ppb	< 0.5
Cadmium (Cd)	1 ppb	< 0.1	Praseodymium (Pr)	0.5 ppb	< 0.5
Calcium (Ca)	1 ppb	< 0.5	Rhodium (Rh)	0.5 ppb	< 0.5
Cerium (Ce)	0.5 ppb	< 0.5	Rubidium (Rb)	0.5 ppb	< 0.5
Cesium (Cs)	0.5 ppb	< 0.5	Samarium (Sm)	0.5 ppb	< 0.5
Cobalt (Co)	0.5 ppb	< 0.1	Scandium (Sc)	0.5 ppb	< 0.5
Copper (Cu)	0.5 ppb	< 0.5	Silver (Ag)	1 ppb	< 0.1
Dysprosium (Dy)	0.5 ppb	< 0.5	Sodium (Na)	1 ppb	< 0.5
Erbium (Er)	0.5 ppb	< 0.5	Strontium (Sr)	0.5 ppb	< 0.1
Europium (Eu)	0.5 ppb	< 0.5	Tantalum (Ta)	Information Only	< 1
Gadolinium (Gd)	0.5 ppb	< 0.5	Tellurium (Te)	0.5 ppb	< 0.5
Gallium (Ga)	0.5 ppb	< 0.5	Terbium (Tb)	0.5 ppb	< 0.5
Gold (Au)	0.5 ppb	< 0.5	Thallium (Tl)	0.5 ppb	< 0.5
Hafnium (Hf)	Information Only	< 0.5	Thorium (Th)	1 ppb	< 0.1
Holmium (Ho)	0.5 ppb	< 0.5	Thulium (Tm)	0.5 ppb	< 0.5
Indium (In)	0.5 ppb	< 0.5	Tin (Sn)	1 ppb	< 0.1
Iron (Fe)	1 ppb	< 0.5	Titanium (Ti)	1 ppb	< 0.1
Lanthanum (La)	0.5 ppb	< 0.5	Tungsten (W)	Information Only	< 0.5
Lead (Pb)	1 ppb	< 0.1	Uranium (U)	0.5 ppb	< 0.1
Lithium (Li)	0.5 ppb	< 0.1	Vanadium (V)	0.5 ppb	< 0.5
Lutetium (Lu)	0.5 ppb	< 0.5	Ytterbium (Yb)	0.5 ppb	< 0.5
Magnesium (Mg)	1 ppb	< 0.5	Yttrium (Y)	0.5 ppb	< 0.5
Manganese (Mn)	1 ppb	< 0.1	Zinc (Zn)	1 ppb	< 0.5
Molybdenum (Mo)	0.5 ppb	< 0.1	Zirconium (Zr)	0.5 ppb	< 0.1

Element concentrations are at the point of bottling. Concentrations of some elements in particular, Ca, Si, K, Na, B, Al, Mg & Mn will increase due to storage in glass bottles.


Dr. B. McKelvey
QA/QC Manager

 **SEASTAR CHEMICALS INC**
A member of the AXYS Group

10005 McDonald Park Road, Sidney, BC Canada V8L 5Y2
Phone: 250-655-5880 - Fax: 250-655-5888 - Toll Free: 1-800-663-2330
www.seastarchemicals.com