



Certificate of Analysis

Product Number: S010601
Product Description: Acetic acid
Product Grade: Instrument Quality
Lot Number: 6118080
Release Date: 12/21/2018 (mm/dd/yyyy)
Expiration Date: 12/21/2021 (mm/dd/yyyy)

CAS Number: 64-19-7
Molecular Weight: 60.05
Molecular Formula: CH₃COOH
Density: 1.05 g/mL
Molarity: 18 moles/litre
Normality: 18 moles/litre

Analytical Data

Analyte	Specification	Actual Value	Analyte	Specification	Actual Value
Assay (CH ₃ COOH)	≥ 99% w/w	99.8% w/w	Lutetium (Lu)	0.1 ppb	< 0.1 ppb
Colour	10 APHA	< 10 APHA	Magnesium (Mg)	0.5 ppb	< 0.2 ppb
Chloride (Cl ⁻)	1 ppm	< 1 ppm	Manganese (Mn)	0.5 ppb	< 0.1 ppb
Phosphate (PO ₄ ³⁻)	1 ppm	< 1 ppm	Mercury (Hg)	1 ppb	< 1 ppb
Sulphate (SO ₄ ²⁻)	0.5 ppm	< 0.5 ppm	Molybdenum (Mo)	0.5 ppb	< 0.2 ppb
Substances Reducing Dichromate (K ₂ Cr ₂ O ₇)	To Pass Test	Passes Test	Neodymium (Nd)	0.1 ppb	< 0.1 ppb
Substances Reducing Permanganate (KMnO ₄)	To Pass Test	Passes Test	Nickel (Ni)	0.5 ppb	< 0.1 ppb
Aluminum (Al)	1 ppb	< 0.5 ppb	Platinum (Pt)	0.5 ppb	< 0.1 ppb
Antimony (Sb)	0.5 ppb	< 0.1 ppb	Potassium (K)	1 ppb	< 0.5 ppb
Arsenic (As)	0.5 ppb	< 0.1 ppb	Praseodymium (Pr)	0.1 ppb	< 0.1 ppb
Barium (Ba)	0.5 ppb	< 0.5 ppb	Rhenium (Re)	0.1 ppb	< 0.1 ppb
Beryllium (Be)	0.1 ppb	< 0.1 ppb	Rhodium (Rh)	0.5 ppb	< 0.1 ppb
Bismuth (Bi)	0.1 ppb	< 0.1 ppb	Rubidium (Rb)	0.1 ppb	< 0.1 ppb
Cadmium (Cd)	0.5 ppb	< 0.1 ppb	Ruthenium (Ru)	0.5 ppb	< 0.1 ppb
Calcium (Ca)	1 ppb	< 0.5 ppb	Samarium (Sm)	0.1 ppb	< 0.1 ppb
Cerium (Ce)	0.1 ppb	< 0.1 ppb	Scandium (Sc)	0.1 ppb	< 0.1 ppb
Cesium (Cs)	0.1 ppb	< 0.1 ppb	Selenium (Se)	1 ppb	< 0.5 ppb
Chromium (Cr)	1 ppb	< 0.1 ppb	Silver (Ag)	1 ppb	< 0.1 ppb
Cobalt (Co)	0.1 ppb	< 0.1 ppb	Sodium (Na)	1 ppb	< 1 ppb
Copper (Cu)	0.5 ppb	< 0.2 ppb	Strontium (Sr)	0.5 ppb	< 0.1 ppb
Dysprosium (Dy)	0.1 ppb	< 0.1 ppb	Tellurium (Te)	0.5 ppb	< 0.1 ppb
Erbium (Er)	0.1 ppb	< 0.1 ppb	Terbium (Tb)	0.1 ppb	< 0.1 ppb
Europium (Eu)	0.1 ppb	< 0.1 ppb	Thallium (Tl)	0.1 ppb	< 0.1 ppb
Gadolinium (Gd)	0.1 ppb	< 0.1 ppb	Thorium (Th)	0.1 ppb	< 0.1 ppb
Gallium (Ga)	0.1 ppb	< 0.1 ppb	Thulium (Tm)	0.1 ppb	< 0.1 ppb
Germanium (Ge)	0.5 ppb	< 0.1 ppb	Tin (Sn)	0.5 ppb	< 0.1 ppb
Hafnium (Hf)	0.1 ppb	< 0.1 ppb	Titanium (Ti)	0.5 ppb	< 0.1 ppb
Holmium (Ho)	0.1 ppb	< 0.1 ppb	Tungsten (W)	0.5 ppb	< 0.1 ppb
Indium (In)	0.1 ppb	< 0.1 ppb	Uranium (U)	0.1 ppb	< 0.1 ppb
Iron (Fe)	1 ppb	< 0.5 ppb	Vanadium (V)	0.5 ppb	< 0.1 ppb
Lanthanum (La)	0.1 ppb	< 0.1 ppb	Ytterbium (Yb)	0.1 ppb	< 0.1 ppb
Lead (Pb)	0.1 ppb	< 0.1 ppb	Yttrium (Y)	0.1 ppb	< 0.1 ppb
Lithium (Li)	0.1 ppb	< 0.1 ppb	Zinc (Zn)	1 ppb	< 0.5 ppb
			Zirconium (Zr)	0.1 ppb	< 0.1 ppb

Greg Henson
 QA & RA Manager

For terms and conditions of use, please see page 2.

Terms and Conditions of Use

Safety Guidelines:

PRIOR to opening or storing this product be sure to consult the Safety Data Sheet (SDS) to ensure safe storage and handling with regards to this hazardous material. This information must be read and understood prior to use or storage.

SAFETY HANDLING NOTES: Consult the SDS PRIOR to handling this product. Use proper safety apparel according to the recommendations of the SDS. Exposure controls and personal protection should include: a properly functioning fume hood, protection for eyes (safety glasses), hands (chemically compatible gloves), feet (chemically compatible boots), and exposed skin (splash protection and a chemically compatible apron). All of these items must conform to local/regional/national regulatory requirements.

SEASTAR™'s Product Integrity Guidelines:

We have found our products, unopened and sealed, maintain the certified integrity, or product quality, for their stated certification period under the following conditions:

- Store at room temperature, maximum range 15°C (59°F) to 25°C (77°F).
- Avoid exposure to sunlight or ultraviolet light sources.
- Open in a 'particle free' environment. SEASTAR recommends a HEPA or ULPA particle filtered trace metal clean room. Open product should be handled under Class 100 or ISO 5 clean room or better conditions.

Once opened, product integrity will depend on proper handling and exposure to contaminants. To reduce trace metal contamination, the inner pack of plastic bags and bottle should be opened under Class 100 or ISO 5 clean room or better conditions to maintain the integrity of the product. The use of plastic gloves, hair net and a clean room suit is also advised.

For SEASTAR™'s Product Expiration Policy and Product Permeation FAQ, please see our website.

Notes:

Reported density, molarity and normality values reflect published literature and are characteristic of the product's assay range. If you require an accurate density, molarity, or normality for the product that you have purchased, you will have to perform the measurement. Bottles within a given lot have small assay variations.

Definitions:

- **Actual value:** the measured value in a particular lot analysis.
- **Analyte:** the substance being measured.
- **Specification:** the maximum certified value of an analyte, unless otherwise specified.
- **Unit(s):** **ppm** – part per million or µg (microgram) of analyte per gram of solution.
ppb – part per billion or ng (nanogram) of analyte per gram of solution.
ppt – part per trillion or pg (picogram) of analyte per gram of solution.



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