

# **Certificate of Analysis**

Product Number:	S010601	CAS Number:	64-19-7 co.os
Product Description:		Molecular Weight:	60.05
Product Grade: Lot Number:	Instrument Quality 6122060	Molecular Formula: Density:	CH₃COOH 1.05 q/mL
Release Date:	10/14/2022 (mm/dd/ywy)	Molarity:	18 moles/litre
Expiration Date:	10/14/2025 (mm/dd/yyyy)	Normality:	18 moles/litre

Analytical Data						
Analyte	Specification	Actual Value	Analyte	Specification	Actual Value	
Assay (CH₃COOH)	≥99% w/w	99.4% 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 <sup>-</sup> )	1 ppm	< 1 ppm	Manganese (Mn)	0.5 ppb	< 0.1 ppb	
Phosphate (PO <sub>4</sub> <sup>3-</sup> )	1 ppm	< 1 ppm	Mercury (Hg)	1 ppb	< 0.5 ppb	
Sulphate (SO <sub>4</sub> <sup>2-</sup> )	0.5 ppm	< 0.5 ppm	Molybdenum (Mo)	0.5 ppb	< 0.5 ppb	
Substances Reducing Dichromate (K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> )	To Pass Test	Passes Test	Neodymium (Nd) Nickel (Ni)	0.1 ppb 0.5 ppb	< 0.1 ppb < 0.1 ppb	
			Platinum (Pt)	0.5 ppb	< 0.1 ppb	
Substances Reducing Permanganate (KMnO₄)	To Pass Test	Passes Test	Potassium (K)	1 ppb	< 0.5 ppb	
Aluminum (AI)	1 ppb	< 0.5 ppb	Praseodymium (Pr)	0.1 ppb	< 0.1 ppb	
Antimony (Sb)	0.5 ppb	< 0.1 ppb	Rhenium (Re)	0.1 ppb	< 0.1 ppb	
Arsenic (As)	0.5 ppb	< 0.1 ppb	Rhodium (Rh)	0.5 ppb	< 0.1 ppb	
Barium (Ba)	0.5 ppb	< 0.1 ppb	Rubidium (Rb)	0.1 ppb	< 0.1 ppb	
Beryllium (Be)	0.1 ppb	< 0.1 ppb	Ruthenium (Ru)	0.5 ppb	< 0.1 ppb	
Bismuth (Bi)	0.1 ppb	< 0.1 ppb	Samarium (Sm)	0.1 ppb	< 0.1 ppb	
Cadmium (Cd)	0.5 ppb	< 0.1 ppb	Scandium (Sc)	0.1 ppb	< 0.1 ppb	
Calcium (Ca)	1 ppb	< 1 ppb	Selenium (Se)	1 ppb	< 0.5 ppb	
Cerium (Ce)	0.1 ppb	< 0.1 ppb	Silver (Ag)	1 ppb	< 0.1 ppb	
Cesium (Cs)	0.1 ppb	< 0.1 ppb	Sodium (Na)	1 ppb	< 0.5 ppb	
Chromium (Cr)	1 ppb	< 0.1 ppb	Strontium (Sr)	0.5 ppb	< 0.1 ppb	
Cobalt (Co)	0.1 ppb	< 0.1 ppb	Tellurium (Te)	0.5 ppb	< 0.1 ppb	
Copper (Cu)	0.5 ppb	< 0.1 ppb	Terbium (Tb)	0.1 ppb	< 0.1 ppb	
Dysprosium (Dy)	0.1 ppb	< 0.1 ppb	Thallium (TI)	0.1 ppb	< 0.1 ppb	
Erbium (Er)	0.1 ppb	< 0.1 ppb	Thorium (Th)	0.1 ppb	< 0.1 ppb	
Europium (Eu)	0.1 ppb	< 0.1 ppb	Thulium (Tm)	0.1 ppb	< 0.1 ppb	
Gadolinium (Gd)	0.1 ppb	< 0.1 ppb	Tin (Sn)	0.5 ppb	< 0.1 ppb	
Gallium (Ga)	0.1 ppb	< 0.1 ppb	Titanium (Ti)	0.5 ppb	< 0.1 ppb	
Germanium (Ge)	0.5 ppb	< 0.1 ppb	Tungsten (W)	0.5 ppb	< 0.1 ppb	
Hafnium (Hf)	0.1 ppb	< 0.1 ppb	Uranium (U)	0.1 ppb	< 0.1 ppb	
Holmium (Ho)	0.1 ppb	< 0.1 ppb	Vanadium (V)	0.5 ppb	< 0.1 ppb	
Indium (In)	0.1 ppb	< 0.1 ppb	Ytterbium (Yb)	0.1 ppb	< 0.1 ppb	
Iron (Fe)	1 ppb	< 0.5 ppb	Yttrium (Y)	0.1 ppb	< 0.1 ppb	
Lanthanum (La)	0.1 ppb	< 0.1 ppb	Zinc (Zn)	1 ppb	< 0.5 ppb	
Lead (Pb)	0.1 ppb	< 0.1 ppb	Zirconium (Zr)	0.1 ppb	< 0.1 ppb	
Lithium (Li)	0.1 ppb	< 0.1 ppb				

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Greg Henson QA & RA Manager

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## **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<sup>™</sup>'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.

Greg Henson QA & RA Manager