



## Certificate of Analysis

### Choline Bitartrate USP/FCC

**Catalog Number:** CB1009  
**Lot Number:** 1006605  
**CAS Number:** 87-67-2  
**Synonym(s):** 2-(Hydroxyethyl)-trimethylammonium Bitartrate  
**Molecular Formula:**  $C_9H_{19}NO_7$   
**Molecular Weight:** 253.26  
**Storage:** 15°C – 30°C  
**Date of Manufacture:** June 12, 2016  
**Retest Date:** June 11, 2018

Test	Specification	Result
Appearance	White crystalline powder	Conforms
Assay	99.0 – 100.5%	99.21%
Identification A,B,C	To meet requirements	Conforms
Specific Rotation	+17.5° to +18.5°	+17.9°
Choline Content	40.90 – 41.72%	41.23%
pH	3.0 – 4.0	3.3
Moisture (KF)	≤ 0.5%	0.33%
Residue on Ignition	≤ 0.1%	0.02%
Total Amines	≤ 0.001%	< 0.001%
Heavy Metals (Pb)	≤ 10ppm	3ppm
Arsenic	≤ 2ppm	1ppm
Lead	≤ 0.3ppm	0.1ppm
Total Plate Count	≤ 1,000cfu/g	< 1,000cfu/g
Yeast & Mold	≤ 100cfu/g	< 100cfu/g
Coliforms	≤ 300cfu/g	< 300cfu/g
<i>E. coli</i>	Negative	Negative
<i>Salmonella</i>	Negative	Negative
This lot meets the specifications for USP30 and FCCV.		

Approved by:

John Grubb, PhD  
Gojira Fine Chemicals, LLC  
Quality Manager  
Tel: 440-539-7033 Fax: 888-211-5523  
[john@gojirafc.com](mailto:john@gojirafc.com)

Date: October 6, 2016



# Gojira Fine Chemicals, LLC

**Quality Products & Services Meeting Customer Needs**  
5386 Majestic Parkway, Suite 7, Bedford Heights, OH 44146  
[www.gojirafc.com](http://www.gojirafc.com) • [sales@gojirafc.com](mailto:sales@gojirafc.com)

---