



## Certificate of Analysis

### Choline Chloride USP/FCC

**Catalog Number:** CC1002  
**Lot Number:** 0906802  
**CAS Number:** 67-48-1  
**Molecular Formula:**  $C_5H_{14}ClNO$   
**Molecular Weight:** 139.62  
**Storage:** 15°C – 30°C  
**Date of Manufacture:** August 20, 2018  
**Retest Date:** August 19, 2020

Test	Specification	Result
Appearance	White crystalline solid	Conforms
Purity	99.0 – 100.5%	99.9%
Identification	Passes USP ID-B	Conforms
Infrared Spectrum	Passes USP Test	Conforms
Chromatographic Purity	Passes USP Test	Conforms
Moisture	≤ 0.5%	0.3%
pH (10%)	4.0 – 7.0	6.7
Residual Solvent	Passes USP Test	Conforms
Residue on Ignition	≤ 0.05%	0.00%
1,4-Dioxane	≤ 10ppm	< 10ppm
Total Amines	≤ 10ppm	< 10ppm
Heavy Metals (as Pb)	≤ 10ppm	< 10ppm
Arsenic	≤ 2ppm	< 2ppm
Lead	≤ 0.3ppm	< 0.3ppm
Total Aerobic Count	≤ 100cfu/g	Negative
Yeast & Mold	≤ 30cfu/g	Negative
Total Coliform	Negative/10g	Negative
<i>E. coli</i>	Negative/10g	Negative
<i>Salmonella</i>	Negative/25g	Negative
<i>S. Aureus</i>	Negative/10g	Negative
Sulfite Reducing Clostridia	Negative/1g	Negative
<i>Listeria Monocytogenes</i>	Negative/25g	Negative
<i>B. cereus</i> spores	≤ 3cfu/g	< 3cfu/g
Cronobacter sp.	Negative/10g	Negative
<i>Enterobacteriaceae</i>	Negative/10g	Negative

Approved by:

Date: September 6, 2018

For research purposes only. Not for drug or clinical use in humans or human food additive use.



# Gojira Fine Chemicals, LLC

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