



## Specification

### Choline Chloride USP/FCC

**Catalog Number:** CC1002  
**CAS Number:** 67-48-1  
**Molecular Formula:**  $C_5H_{14}ClNO$   
**Molecular Weight:** 139.62  
**Storage:** 15°C – 30°C  
**Retest Period:** Two years from the date of manufacture

Test	Specification
Appearance	White crystalline solid
Purity	≥ 99.0%
Identification*	Passes USP ID-B
Infrared Spectrum*	Passes USP Test
Chromatographic Purity*	Passes USP Test
Moisture	≤ 0.5%
pH (10%)	4.0 – 7.0
Residual Solvent*	Passes USP Test
Residue on Ignition	≤ 0.05%
1,4-Dioxane*	≤ 10mg/kg
Total Amines	≤ 10mg/kg
Aluminum	TBD
Antimony	TBD
Arsenic*	≤ 0.5ppm
Cadmium*	≤ 0.05ppm
Lead*	≤ 0.1ppm
Mercury*	≤ 0.02ppm
Total Aerobic Count**	≤ 100cfu/g
Yeast & Mold**	≤ 30cfu/g
Total Coliform**	Negative/10g
<i>E. coli</i> **	Negative/10g
<i>Salmonella</i> **	Negative/25g
<i>S. Aureus</i> **	Negative/10g
Sulfite Reducing Clostridia**	Negative/1g
<i>Listeria Monocytogenes</i> **	Negative/25g
<i>B. cereus</i> spores**	Negative/10g
Cronobacter sp.**	Negative/10g
<i>Enterobacteriaceae</i> **	Negative/10g
* The manufacturer regularly analyzes selected lots.	
** Microbiological testing is performed quarterly.	



# Gojira Fine Chemicals, LLC

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Approved:

Date: August 26, 2016

A handwritten signature in blue ink that reads "John Grubb". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

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