## Chem-Impex International, Inc.

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935 Dillon Drive

Wood Dale, IL 60191

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## Certificate of Analysis

Catalogue Number 00453

**Lot Number** 000021-6054

Product Choline chloride

(2-Hydroxyethyl)trimethylammonium chloride

CAS Number 67-48-1

Molecular Formula C<sub>5</sub>H<sub>14</sub>ClNO

Molecular Weight 139.63

Appearance White crystalline solid
Heavy Metals < 10 ppm (as Pb)

Trace Metal Analysis Arsenic (As): < 2 ppm

Lead (Pb): < 0.3 ppm

Water Content (Karl 0.2%

Fisher)

pH
 Yeast and Mold
 Infrared Spectrum
 5.8 (10% in solution)
 Negative; < 30 cfu/g</li>
 Conforms to structure

**Residual Solvents** Passes test

1,4 Dioxane: < 10 ppm

Coliform Organisms
Negative/10g
E. Coli
Negative/10g
Enterobacteriaceae
Negative/10g
Salmonella
Negative/25g
Staphylococcus Aureus
Negative/10g

**Residue On Ignition** 0% **Assay (anhydrous basis)** 99.4% **Grade** USP

**Storage** Store at RT

## Certificate of Analysis

Catalog Number: 00453 Lot Number: 000021-6054

**Additional Information** Total aerobic count: Negative; < 100 cfu/g

Sulphite reducing clostridia: Negative/1g Listeria monocytogenes: Negative/25g Bacillus Cereus Spores: Negative/10g Cronobacter SPP: Negative/10g USP identification B: Passes USP ID B

Total Amines: < 10 ppm

Chromatographic impurity: Passes USP test

**Remarks** See material safety data sheet for additional information

For laboratory use only

The foregoing is a copy of the Certificate of Analysis as provided by our supplier

**Bala Kumar** 

**Quality Control Manager**