

Kalchem International

Chemicals & Compounding Supplies

CERTIFICATE OF ANALYSIS

CHOLINE CHLORIDE USP

CUSTOMER	GLANBIA NUTRITIONALS NA LOKER	PRODUCT NAME	CHOLINE CHLORIDE USP
CUSTOMER P.O. NUMBER	4502488228	PRODUCT LOT NUMBER	CC 7652
CUSTOMER PRODUCT CODE	1035821	WEIGHT PER UNIT	25.00 K
SHIP DATE	09/30/2015	WEIGHT SHIPPED THIS LOT	600.00 K
UNITS SHIPPED THIS LOT	24.00	PRODUCT-PACKAGE CODE	F6522120-I25KG
		PRODUCT CODE	F6522120

ANALYTICAL RESULTS

DETERMINATION	SPECIFICATION	LOT ANALYSIS
**RESIDUAL SOLVENT USP	PASS USP REQUIREMENT	PASSES
USP IDENTIFICATION TEST**	PASSES USP ID B	PASSES USP ID B
INFRARED SPECTRUM**	PASSES USP TEST	PASSES USP TEST
APPEARANCE	WHITE CRYSTALLINE,SOLID	PASSES
ASSAY,% (ANHYDROUS)	99.0 =< Value =< 100.5	99.9 %
WATER, %	0.0 =< Value =< 0.5	0.2 %
1,4-DIOXANE**	10 ppm MAXIMUM	PASSES
HEAVY METALS (AS Pb)**	10 ppm MAXIMUM	PASSES
pH (10% SOLUTION)	4.0 =< Value =< 7.0	6.4
RESIDUE ON IGNITION,%	0.00 =< Value =< 0.05	0.00 %
TOTAL AMINES	10 ppm MAXIMUM	PASSES
CHROMATOGRAPHIC PURITY-USP**	PASSES USP TEST	PASSES USP TEST
ARSENIC**	2 ppm MAXIMUM	PASSES
LEAD**	0.3 ppm MAXIMUM	PASSES
TOTAL AEROBIC COUNT*	100 cfu/g MAXIMUM,NEGATIVE	NEGATIVE
YEAST AND MOLDS*	30 cfu/g MAXIMUM,NEGATIVE	NEGATIVE
TOTAL COLIFORM*	NEGATIVE/10g	NEGATIVE/10g
E.COLI*	NEGATIVE/10g	NEGATIVE/10g
SALMONELLA*	NEGATIVE/25g	NEGATIVE/25g
STAPHYLOCOCCUS AUREUS*	NEGATIVE/10g	NEGATIVE/10g
SULPHITE REDUCING CLOSTRIDIA*	NEGATIVE/1g	NEGATIVE/1g
LISTERIA MONOCYTOGENES*	NEGATIVE/25g	NEGATIVE/25g
BACILLUS CEREUS SPORES*	NEGATIVE/10g	NEGATIVE/10g
CRONOBACTER SPP*	NEGATIVE/10g	NEGATIVE/10g
ENTEROBACTERIACEAE*	NEGATIVE/10g	NEGATIVE/10g

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