



CERTIFICATE OF ANALYSIS

CHOLINE BITARTRATE

CAS Number 87-67-2
Molecular Formula $C_9H_{19}NO_7$
Molecular Weight 253.25

TEST	SPECIFICATION
ASSAY ($C_9H_{19}NO_7$)	98.0 % --
OPTICAL ROTATION	+17.5 TO +18.5
1, 4-DIOXANE	TO PASS TEST
LEAD (Pb)	-- 2 MG/KG
RESIDUE ON IGNITION	-- 0.1 %
WATER	-- 0.5 %
IDENTIFICATION	TO PASS TEST
RETEST DATE	

CHOLINE CHLORIDE

CAS Number 67-48-1
Molecular Formula $C_5H_{14}ClNO$
Molecular Weight 139.62

TEST	SPECIFICATION
ASSAY ($C_5H_{14}ClNO$)	98.0 - 100.5 %
WATER	-- 0.5 %
1, 4-DIOXANE	-- TO PASS TEST
RESIDUE ON IGNITION	-- 0.05 %
LEAD (Pb)	-- 2 mg/kg
IDENTIFICATION	-- TO PASS TEST
RETEST DATE	