

Certificate of Analysis

Product: Benzalkonium Chloride 50% Solution

Grade: NF Grade

Lot Number: 200319-14R

Manufacture Date: 3.05.2020

Expiry: 3.05.2025

Tested Property	Specification	Analysis
Assay, Total Alkylbenzenedimethyl ammonium chloride	47.5 -52.5% w/v	50.2% w/v
Description	Clear liquid to slightly yellow Slightly aromatic odor	Clear Liquid Aromatic odor
Analysis	A white precipitate is formed and then dissolved after adding 5ml alcohol	Pass
Chloride	A solution it in a mixture of equal volumes of water and alcohol meets requirements	Pass
Identification C	Orange-Red Color is produced	Pass
HPLC Retention Time	Retention Time Corresponds to Standard	Pass
Alkyl Chain C ₁₂	≥40.0%	Pass
Alkyl Chain C ₁₄	≥20.0%	Pass
Total alkyl ammonium chlorides	47.5-52.5%	Pass
Limit of Amine and Amine Salts	No Perceptible odor	Pass
Free Amine (Mw226) mmol/g	≤0.1	0.018
Amine HCL (Mw262.5), mmol/g		0.011
Alcohol Content if added	None Added	0.0000% None Detected
Benzyl Alcohol	≤0.5%	Pass
Benzaldehyde	≤0.15%	Pass
Chloromethyl Benzene	≤0.05%	Pass
Acidity or Alkalinity	≤0.1ml 0.1N HCL or 0.1N NaOH	Pass

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