



## Certificate of Analysis

<b>Product Name</b>	Spermine Tetrahydrochloride	<b>Manufacture Date</b>	June.13.2022
<b>Batch Number</b>	SW220613	<b>Analysis Date</b>	June.14.2022
<b>Batch Quantity</b>	30kg	<b>Expiry Date</b>	June.13.2024
<b>Molecular Formula</b>	C10 H26 N4 • 4HCl	<b>CAS No.</b>	306-67-2

ANALYSIS	SPECIFICATION	RUSULT
Appearance	White to off-white powder	Conforms
Identification	<sup>1</sup> HNMR confirms to structure	Conforms
Solubility	Soluble in water	Conforms
Loss on drying	≤1%	0.48%
Residue on ignition	≤0.2%	0.05%
Heavy metals	≤10ppm	Conforms
Pb	≤0.5ppm	Conforms
As	≤0.15ppm	Conforms
Cd	≤2.5ppm	Conforms
Hg	≤1.5ppm	Conforms
Purity (GC)	≥98.0%	99.03%
Conclusion	Conform with specification	

<b>Packing description:</b>	Sealed export grade drum & double of sealed plastic bag
<b>Storage:</b>	Store in a cool and dry place, stay away from strong light and heat
<b>Shelf life:</b>	2 years when properly stored

Quality Assurance Officer



Corrector

Analyst