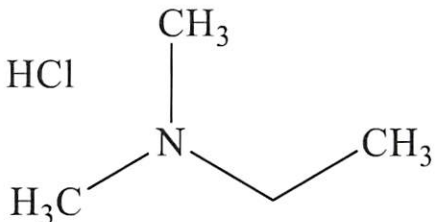


## Certificate of Analysis


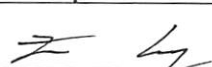
Certificate No.: 20251017018

Date: October 17, 2025

Retest date: October 16, 2028

<b>Compound Name:</b>	<b>Clavulanic Acid Impurity 10 HCl</b>	
<b>Synonyms:</b>	<i>N,N</i> -dimethylethanamine, hydrochloride (1:1)	
<b>TLC Catalogue Number:</b>	C-3218	
<b>CAS Number:</b>	58114-25-3	
<b>Alternate CAS Number:</b>	598-56-1 (free base)	
<b>Molecular Weight:</b>	73.14 36.46	
<b>Molecular Formula:</b>	C <sub>4</sub> H <sub>11</sub> N. HCl	
<b>Source:</b>	TLC Pharmaceutical Standards	
<b>Source Lot No.:</b>	3939-001A3	
<b>Storage Conditions:</b>	Hygroscopic, store at 2-8 °C	
<b>Solubility:</b>	Methanol, DMSO, Water	

Test Description	Specifications	Results
<b>Visual Description</b>	White to off-white solid	<b>Conforms</b>
<b>Identification</b>		
IR	Conforms to structure	<b>Conforms</b>
MS	Conforms to structure	<b>Conforms</b>
<sup>1</sup> H NMR	Conforms to structure	<b>Conforms</b>
<b>Purity (HPLC)</b>	Not less than 95.0%	<b>100.0%</b>
<b>Impurity (HPLC)</b>	N/A	
<b>Water Content (KF)</b>	N/A	<b>1.1%</b>
<b>Residual Solvents (NMR)</b>	No residual solvent	
<b>Assay (%)</b>	Not less than 90.0%	<b>98.9%</b>
<b>Recommendation:</b>	<b>Release.</b>	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		10/17/2025
Approved by:	Quality Assurance		10/17/2025

**Attachments:** Peak Attribution Table, HPLC, IR, MS and NMR spectra.