



CERTIFICATE OF ANALYSIS

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1. Identification

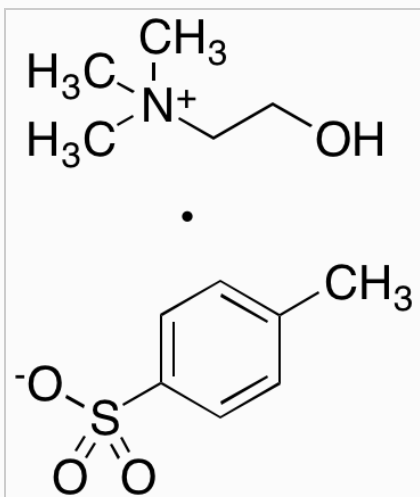
Catalogue Number: C433050

CAS Number: 55357-38-5

Product: Choline p-Toluenesulfonate Salt

Synonym: 4-Methylbenzenesulfonate 2-Hydroxy-N,N,N-trimethylethanaminium; Choline Toluenesulfonate; Choline Tosylate;

Structure:



Molecular Formula:

$C_5H_{14}NO \cdot C_7H_7O_3S$

Molecular weight:

104.17 + (171.19)

Source of Product:

N/A

Solubility:

DMSO (Slightly), Methanol (Slightly)

Lot Number: 51-GHZ-91-1

Purity: 95%

Shipping Condition: This Product Is Stable To Be Shipped At Room Temperature

Storage Condition: -20°C

2. Warning

Warning 1:

Warning 2:

Warning 3:

3. Analytical Information

| Tests: | Specifications: | Results: |
|--------------------|--|--|
| Appearance | White to Pale Yellow Semi-Solid to Solid | Off-White to Pale Yellow Semi-Solid to Solid |
| NMR | Conforms to Structure | Conforms |
| Elemental Analysis | Conforms | %C: 51.14, %H: 7.98, %N: 4.86 |
| MS | Conforms to Structure | Conforms |
| HPLC Purity | Report Result | 99.88% (225 nm) |

Additional Information: N/A

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of $\pm 2\%$. Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

4. Signatures

| Reviewed By | Reviewed By | C of A Approved By | Test Date | Retest Date |
|----------------|---------------|--------------------|-----------|-------------|
| Sarbjeeet Kaur | Toni Rantanen | Chanell Chu | 8/31/2022 | 8/29/2026 |
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