2,5-Dimethoxy-4-ethylamphetamine

The Drug Enforcement Administration's Special Testing and Research Laboratory generated this monograph using structurally confirmed reference material.

![Chemical Structure](image_url)

1. GENERAL INFORMATION

**IUPAC Name:** 1-(4-ethyl-2,5-dimethoxyphenyl)propan-2-amine

**CAS#:** 22004-32-6 (base)

**Synonyms:** DOET, DOE, Hecate

**Source:** DEA Reference Material Collection

**Appearance:** White powder

**UV$_{max}$(nm):** Not Determined

2. CHEMICAL AND PHYSICAL DATA

2.1 CHEMICAL DATA

<table>
<thead>
<tr>
<th>Form</th>
<th>Chemical Formula</th>
<th>Molecular Weight</th>
<th>Melting Point (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>C$<em>{13}$H$</em>{21}$NO$_2$</td>
<td>223</td>
<td>Not Determined</td>
</tr>
<tr>
<td>HCl</td>
<td>C$<em>{13}$H$</em>{21}$NO$_2$ · HCl</td>
<td>259</td>
<td>194</td>
</tr>
</tbody>
</table>
**3. QUALITATIVE DATA**

**3.1 NUCLEAR MAGNETIC RESONANCE**

*Sample Preparation:* Dilute analyte to ~25 mg/mL in D₂O containing TSP for 0 ppm reference and maleic acid as quantitative internal standard.

**Instrument:** 400 MHz NMR spectrometer

**Parameters:**
- Spectral width: at least containing -3 ppm through 13 ppm
- Pulse angle: 90°
- Delay between pulses: 45 seconds

**¹H NMR:** 2,5-dimethoxy-4-ethylamphetamine HCl Lot # J-1; D₂O; 400MHz
2,5-Dimethoxy-4-ethylamphetamine

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3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

Sample Preparation: Dilute analyte ~4 mg/mL base extracted into chloroform.

Instrument: Agilent gas chromatograph operated in split mode with MS detector
Column: HP-5 MS (or equivalent); 30m x 0.25 mm x 0.25 µm
Carrier Gas: Helium at 1 mL/min
Temperatures:
- MSD transfer line: 280°C
- MS Source: 230°C
- MS Quad: 150°C
- Oven program:
  1) 100°C initial temperature for 1.0 min
  2) Ramp to 300°C at 12 °C/min
  3) Hold final temperature for 9.0 min

Injection Parameters: Split Ratio = 20:1, 1 µL injected
MS Parameters:
- Mass scan range: 30-550 amu
- Threshold: 100
- Tune file: stune.u
- Acquisition mode: scan

Retention Time: 9.883 min

EI Mass Spectrum: 2,5-dimethoxy-4-ethylamphetamine HCl Lot # J-1
3.3 INFRARED SPECTROSCOPY (FTIR)

Instrument: FTIR with diamond ATR attachment (1 bounce)

Scan Parameters:
- Number of scans: 32
- Number of background scans: 32
- Resolution: 4 cm⁻¹
- Sample gain: 8
- Aperture: 150

FTIR ATR (Diamond, 1 Bounce): 2,5-dimethoxy-4-ethylamphetamine HCl Lot # J-1
2,5-Dimethoxy-4-ethylamphetamine

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4. ADDITIONAL RESOURCES

Forendex

Wikipedia