ANALYTICAL REPORT

4-Ethylethcathinone (C13H19NO)

2-(ethylamino)-1-(4-ethylphenyl)propan-1-one

Remark – other active cpd. detected: none

<table>
<thead>
<tr>
<th>Sample ID:</th>
<th>1582-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample description:</td>
<td>powder - white</td>
</tr>
<tr>
<td>Sample type:</td>
<td>RM-reference material</td>
</tr>
<tr>
<td>Comments¹:</td>
<td>Chiron AS Lot#16017; RESPONSE -purchasing</td>
</tr>
<tr>
<td>Date of entry:</td>
<td>5/19/2016</td>
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</tbody>
</table>

Substance identified-structure² (base form)

![Structure Diagram]

Systematic name: 2-(ethylamino)-1-(4-ethylphenyl)propan-1-one

Other names: 4-ethyl-N-ethylcathinone, 4-EEC, 4-ethylethcathinone

Formula (per base form) C13H19NO

\( M_w (\text{g/mol}) = 205.3 \)

Salt form: hydrochloride

StdInChIKey: FAXVCSOMTQMQQD-UHFFFAOYSA-N

Compound Class Cathinones

Other active cpd. detected none

Add.info (purity..) 98,8 %

¹ This report has been produced with the financial support of the Prevention of and Fight against Crime Programme of the European Union (grant agreement number JUST/2013/ISEC/DRUGS/AG/6413). The contents of this report are the sole responsibility of the National Forensic Laboratory and can in no way be taken to reflect the views of the European Commission.

² Created by OPSIN free tool: http://opsin.ch.cam.ac.uk/ DOI: 10.1021/ci100384d
Report updates

<table>
<thead>
<tr>
<th>date</th>
<th>comments (explanation)</th>
</tr>
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<tbody>
<tr>
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Supporting information

<table>
<thead>
<tr>
<th>Analytical technique</th>
<th>applied</th>
<th>remarks</th>
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</thead>
<tbody>
<tr>
<td>GC-MS (EI ionization)</td>
<td>NFL GC-RT (min): 4.5</td>
<td>BP(1): 72; BP(2): 44, BP(3): 77,</td>
</tr>
<tr>
<td>FTIR-ATR</td>
<td>direct measurement</td>
<td></td>
</tr>
<tr>
<td>GC-IR (condensed phase)</td>
<td>always as base form</td>
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</tr>
</tbody>
</table>

**GC-MS** (Agilent):
GC-method is RT locked to tetracosane (RT=9.53 min).
Injection volume 1 ml and split mode (1:50).
Injector temperature: 280 °C.
Chromatographic separation
Column: HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickens 0.25 mm.
Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 °C for 1 min, followed by heating up to 293 °C at a rate of 18 °C/min, hold for 6.1 min, than heating at 50 °C/min up to 325 °C and finally 2.8 min isothermal.
MSD source EI = 70 eV. GC-MS transfer line T= 235°C, source and quadropole temperatures 280° C and 180° C, respectively. Scan range m/z scan range: from 50 (30 until 6 min) to 550 (300) amu.

**FTIR-ATR** (Perkin Elmer): scan range 4000-400 cm⁻¹; resolution 4cm⁻¹

**GC-(MS)-IR** condensed phase (GC-MS (Agilent) & IR (Spectra analyses-Danny) IR scan range 4000 to 7000, resolution 4cm⁻¹
GC-method:
Injection volume 1 ml and split mode (1:5).
Injector temperature: 280 °C.
Chromatographic separation
Column: HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickens 0.25 mm.
Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 °C for 1 min, followed by heating up to 293 °C at a rate of 18 °C/min, hold for 6.1 min, than heating at 50 °C/min up to 325 °C and finally 2.8 min isothermal.
Split MS : IR : (1:9)
MSD source EI = 70 eV. GC-MS transfer line T= 235°C, source and quadropole temperatures 280° C and 180° C, respectively. Scan range m/z scan range: from 50 (30 until 6 min) to 550 (300) amu.
IR (condensed phase): IR scan range 4000 to 7000, resolution 4cm⁻¹
FIGURES OF SPECTRA

MS (EI)

Abundance

Scan 72.1 (4.498 min): 4-Ethylethcathinone-HCl_1582-16.D\data.ms