ANALYTICAL REPORT

DBZP (C18H22N2)

1,4-bis(phenylmethyl)-piperazine

Remark – other active cpd. detected: none

Sample ID: 1341-16
Sample description: crystalinic - white
Sample type: RM-reference material
Comments¹: Lipomed Lot#1578.1B1.1; RESPONSE -purchasing
Date of entry: 3/4/2016

Substance identified-structure² (base form)

Systematic name: 1,4-bis(phenylmethyl)-piperazine
Other names: DBZP, 1,4-Dibenzylpiperazine
Formula (per base form) C18H22N2
Mₙ (g/mol) 266.39
Salt form: 2HCl
StdInChIKey YPUGLZQRXQCSX-UHFFFAOYSA-N
Compound Class Piperazine derivates
Other active cpd. detected none
Add.info (purity..) >98.5% (as dihydrochloride)

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>
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Supporting information

<table>
<thead>
<tr>
<th>Analytical technique:</th>
<th>applied</th>
<th>remarks</th>
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<tbody>
<tr>
<td>GC-MS (EI ionization)</td>
<td>+</td>
<td>NFL GC-RT (min): 8.08</td>
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<td>BP(1): 91; BP(2): 175; BP(3): 120,</td>
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<td>FTIR-ATR</td>
<td>+</td>
<td>direct measurement</td>
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<tr>
<td>GC-IR (condensed phase)</td>
<td>+</td>
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**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 700, resolution 4cm-1
FIGURES OF SPECTRA

MS (EI)
Abundance

Scan 1621 (8.082 min); D8ZP-2HCl_1341-16_LIP_D\data.ms

m/z ->

65.1 120.1 146.1 175.1 207.0 238.1 266.2
FTIR-ATR

IR-Condensed phase

NOTE: This is condensed phase IR (pneus form of substance) Instrument: (Specs or GC)

Stran 4 od 4

ID 1341-16