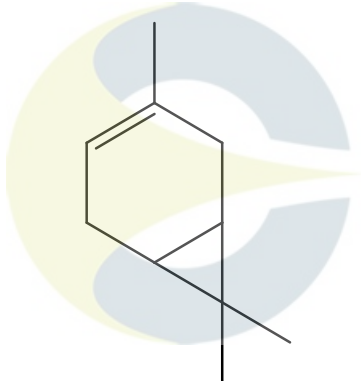


**Certificate of Analysis**
*For Laboratory Use Only*

|                              |  |   |
|------------------------------|--|---|
| <b>PRODUCT NAME</b>          | delta-3-Carene   | <b>Structure</b><br> |
| <b>PART NUMBER</b>           | 00003186   |   |
| <b>STANDARD TYPE</b>         | Analytical Standard (AS)                                     |   |
| <b>LOT NUMBER</b>            | 00003186-ZMF   |   |
| <b>REPORT NUMBER</b>         | CDXA-RSS-4447-02   |   |
| <b>SAMPLE NUMBER</b>         | CDXA-11-3130   |   |
| <b>DATE OF SAMPLE</b>        | 05/13/2011   |   |
| <b>DATE OF RE-EVALUATION</b> | 09/10/2015 (1 <sup>st</sup> ); 09/16/2020 (2 <sup>nd</sup> ) |   |
| <b>DATE OF REPORT</b>        | 10/12/2020   |   |

|                              |  |
|------------------------------|--|
| <b>CHEMICAL NAMES</b>        | 3,7,7-Trimethyl-bicyclo[4.1.0]hept-3-ene; 3-Carene |
| <b>CHEMICAL FORMULA</b>      | C <sub>10</sub> H <sub>16</sub>                    |
| <b>MOLECULAR WEIGHT (MW)</b> | 136.23   |
| <b>CHEMICAL FAMILY</b>       | Terpenes   |
| <b>CAS NUMBER</b>            | [13466-78-9]                                       |
| <b>EC#(EINECS)</b>           | 236-719-3  |
| <b>RTECS</b>                 | FH8400000  |

**ANALYTICAL RESULTS**

| TEST          | METHOD             | SPECIFICATION | RESULT   |
|---------------|--------------------|---------------|----------|
| GC            | 0.700.10.2.METH140 | ≥ 75%         | 82.6%    |
| Mass Spectrum | 0.700.10.2.METH140 | Conforms      | Conforms |
| Appearance    | NA                 | NA            | Liquid   |

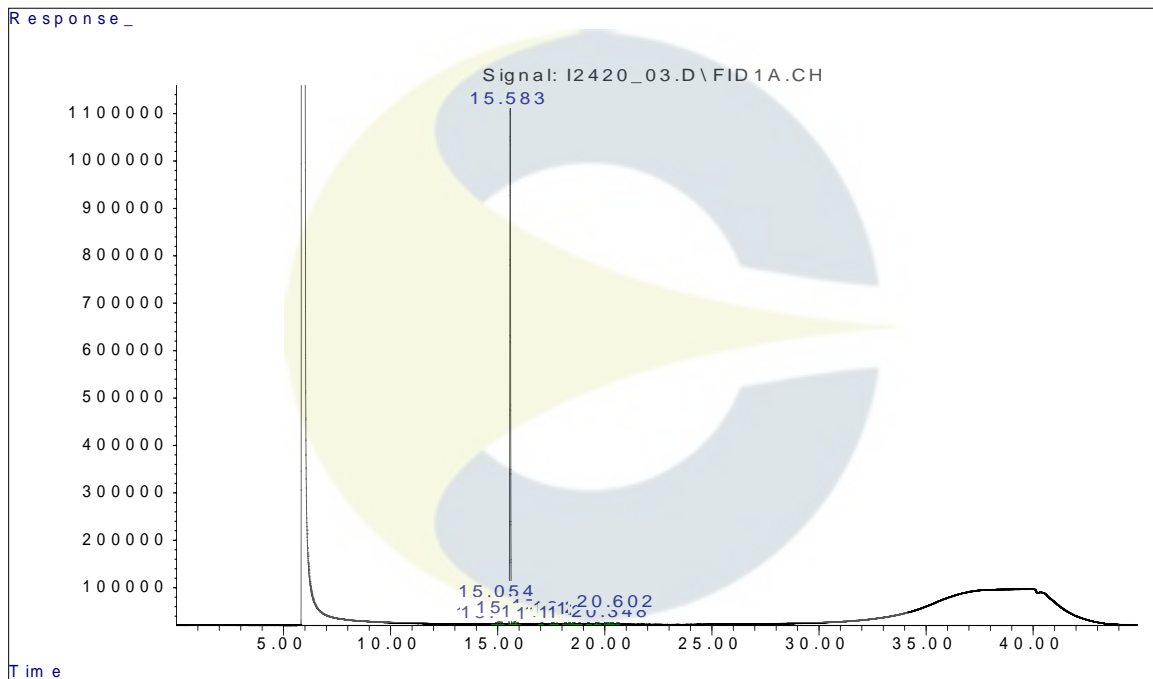
**STORAGE CONDITIONS**

|                        |                                     |
|------------------------|-------------------------------------|
| <b>STORAGE</b>         | +4 °C in a dry place.               |
| <b>EXPIRATION DATE</b> | 09/2025 under the above conditions. |

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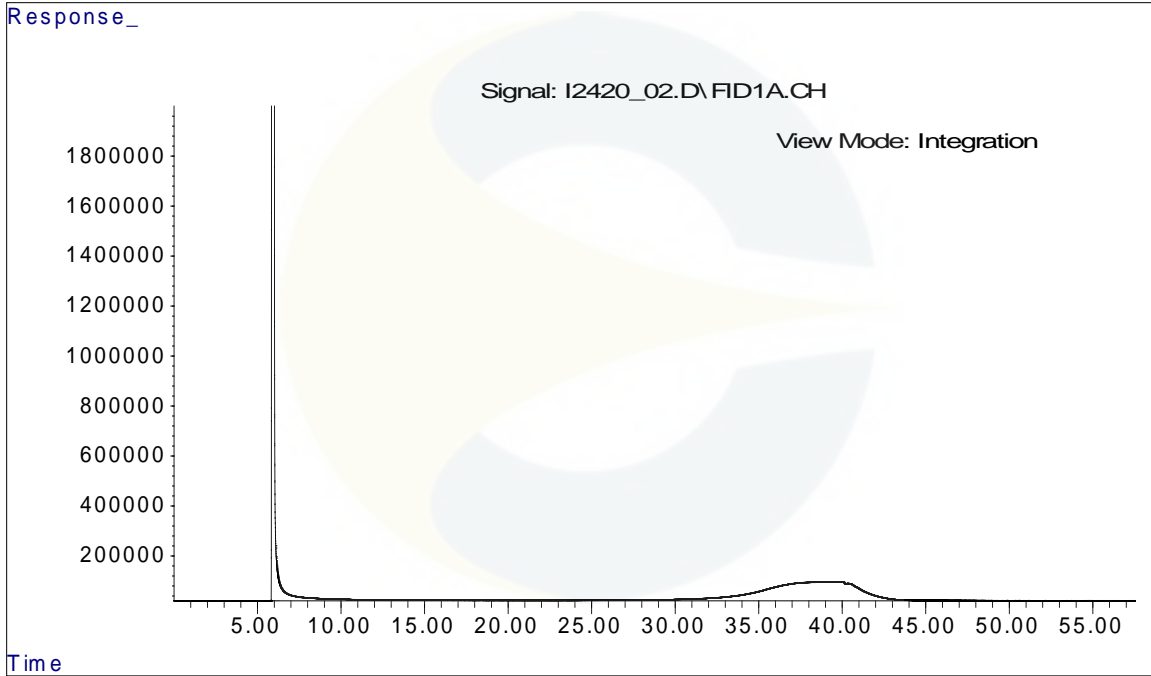
**ANALYTICAL CONDITIONS**

|                             |  |
|-----------------------------|--|
| <b>INSTRUMENT</b>           | AGILENT 6890N WITH FLAME IONIZATION DETECTOR (FID) AND AGILENT 5973N MASS SELECTIVE DETECTOR (MSD)             |
| <b>COLUMN</b>               | Phenomenex Zebron ZB-5plus, 30 m x 0.32 mm x 0.25 µm   |
| <b>CARRIER GAS</b>          | Helium   |
| <b>COLUMN TEMP.</b>         | Isothermic 40 °C for 5.0 minutes, then increasing at 10.0 °C/minute to 340 °C. Hold at 340 °C for 5.0 minutes. |
| <b>FLOW RATE</b>            | 2.0 mL/minute  |
| <b>INJECTOR TEMP.</b>       | 300 °C   |
| <b>INJECTOR SPLIT RATIO</b> | 20:1   |
| <b>INJECTION VOL.</b>       | 1.0 µL   |
| <b>INJECTION CONC.</b>      | 2.8 mg/mL in Methanol  |
| <b>DETECTION</b>            | FID (350 °C) & MSD (Transfer line 300 °C, Source 250 °C, Quad 200 °C)  |

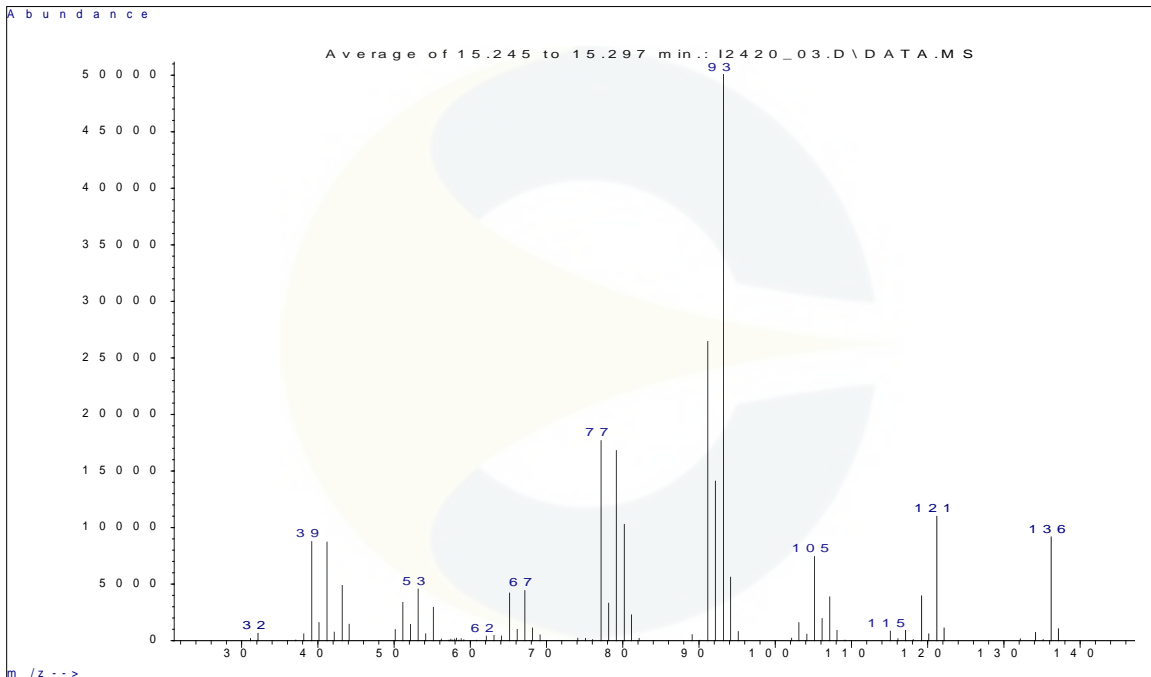
**GC CHROMATOGRAM OF DELTA-3-CARENE (CDXA-11-3130)**


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**GC CHROMATOGRAM OF DILUENT BLANK**



**MASS SPECTRUM OF DELTA-3-CARENE (CDXA-11-3130)**



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**REVISION HISTORY**

| <u>Revision History</u> | <u>Date of Revision</u> | <u>Document/Changes</u>  |
|-------------------------|-------------------------|--|
| 00                      | 05/27/2011              | New report   |
| 01                      | 10/09/2015              | Passed re-evaluation by GC/FID. Updated expiration date, standard type, chemical names, molecular weight and melting point.                                      |
| 02                      | 10/12/2020              | Passed second re-evaluation by GC/FID. Updated chemical family, expiration date, analytical conditions, chromatograms, and mass spectrum. Removed melting point. |

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