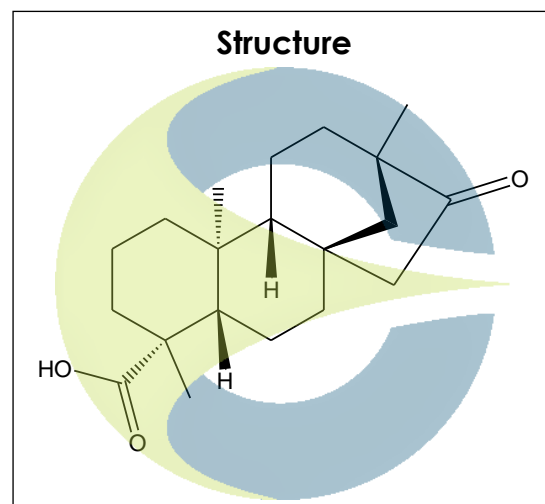


**Certificate of Analysis**

For Laboratory Use Only

<b>PRODUCT NAME</b>	Isosteviol
<b>PART NUMBER</b>	00009591
<b>STANDARD TYPE</b>	Primary (P)
<b>LOT NUMBER</b>	00009591-802
<b>REPORT NUMBER</b>	CDXA-RSS-8019-02
<b>SAMPLE NUMBER</b>	CDXP-18-00413
<b>DATE OF SAMPLE</b>	05/02/2018
<b>DATE OF RE-EVALUATION</b>	07/12/2022
<b>DATE OF REPORT</b>	08/03/2022



<b>CHEMICAL NAMES</b>	(4 $\alpha$ ,8 $\beta$ ,13 $\beta$ )-13-Methyl-16-oxo-17-norkauran-18-oic acid; Ketoisostevic acid
<b>CHEMICAL FORMULA</b>	C <sub>20</sub> H <sub>30</sub> O <sub>3</sub>
<b>MOLECULAR WEIGHT (MW)</b>	318.45
<b>CHEMICAL FAMILY</b>	Diterpenes
<b>CAS NUMBER</b>	[27975-19-5]
<b>EC#(EINECS)</b>	817-156-8
<b>RTECS</b>	RC5532500

**ANALYTICAL RESULTS**

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	99.5%
HPLC	0.700.10.2.METH86	≥ 90%	99.8%
NMR	99.1-04-2.0-000122	Conforms to structure	Conforms to structure
Mass Spectrum	99.1-04-3.0-000126	Conforms	Conforms
Residual Solvent*	99.1-CDXA-3.0-000621	NA	EtOAc – 0.3%
Water	0.700.12.37	NA	ND
Appearance	NA	NA	White powder

\*Testing performed at an ISO 17025 accredited subcontracted laboratory.

ADJUSTED PURITY: 99.5% IS BASED ON (100 - 0.3 SOLVENTS - 0.0 WATER) X 99.8% HPLC

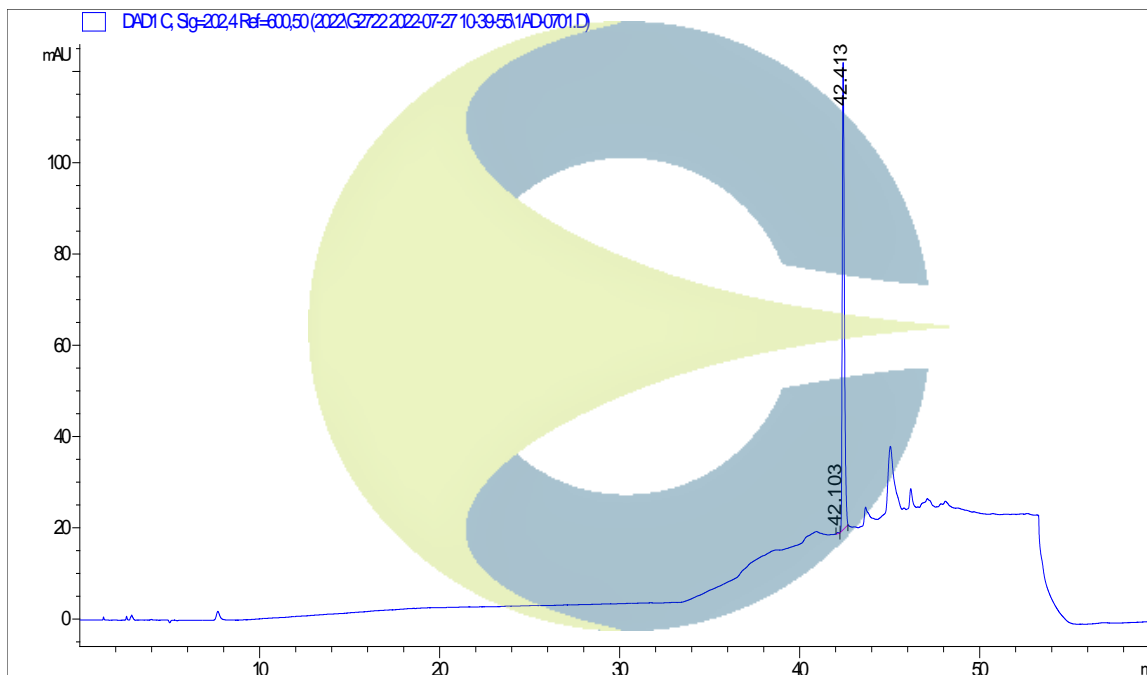
**STORAGE CONDITIONS**

<b>STORAGE</b>	Room Temperature in a dry place.
<b>EXPIRATION DATE</b>	07/2027 under the above conditions.

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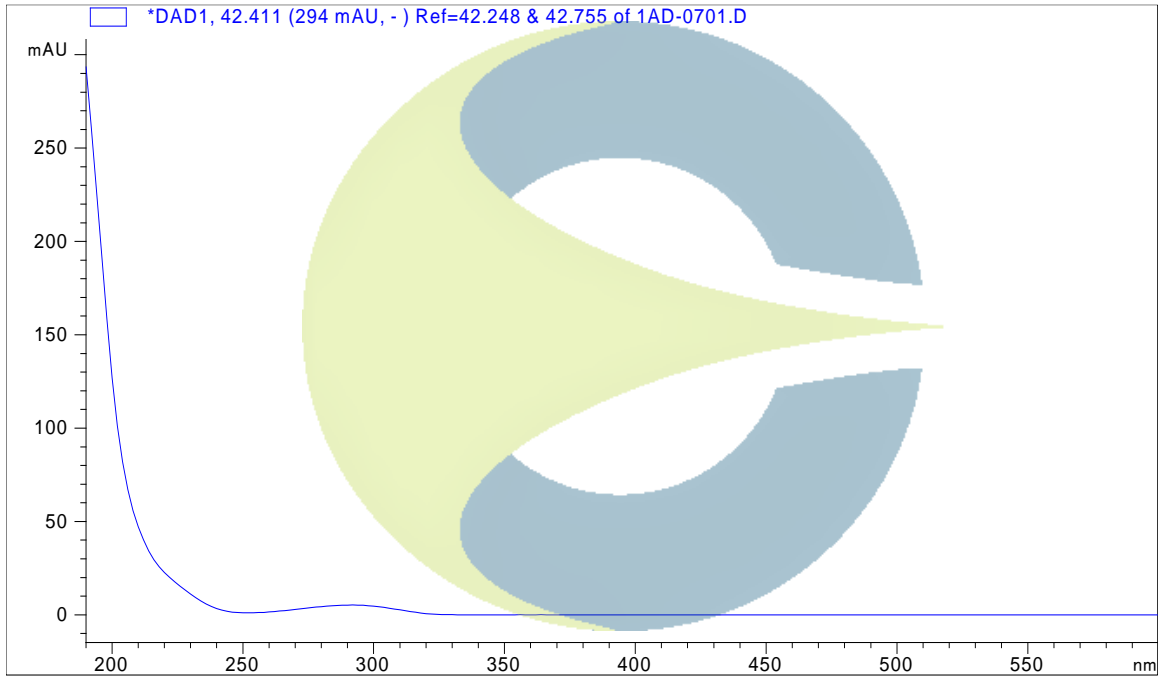
**Certificate of Analysis**
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**ANALYTICAL CONDITIONS**

<b>INSTRUMENT</b>	AGILENT 1260 HPLC UV-VIS (DAD); AB-SCIEX 6600 TRIPLE TOF
<b>COLUMN</b>	Phenomenex Synergi Hydro RP 80A 250 x 4.6 mm, 4 µm particle size
<b>MOBILE PHASE</b>	A – Ultrapure water, B - Acetonitrile; Isocratic 20% B for 5 minutes, then increasing to 30% B over 10 minutes, then increasing to 35% B over 15 minutes, then increasing to 80% over 10 minutes, then increasing to 90% over 5 minutes, hold at 90% for 5 minutes, then decreasing to 20% over 1 minute.
<b>COLUMN TEMP.</b>	60 °C
<b>FLOW RATE</b>	1.0 mL/minute
<b>INJECTION VOL.</b>	10 µL
<b>INJECTION CONC.</b>	1.0 mg/mL in (8:2) Acetonitrile : Ultrapure Water
<b>DETECTION</b>	202 ± 2 nm

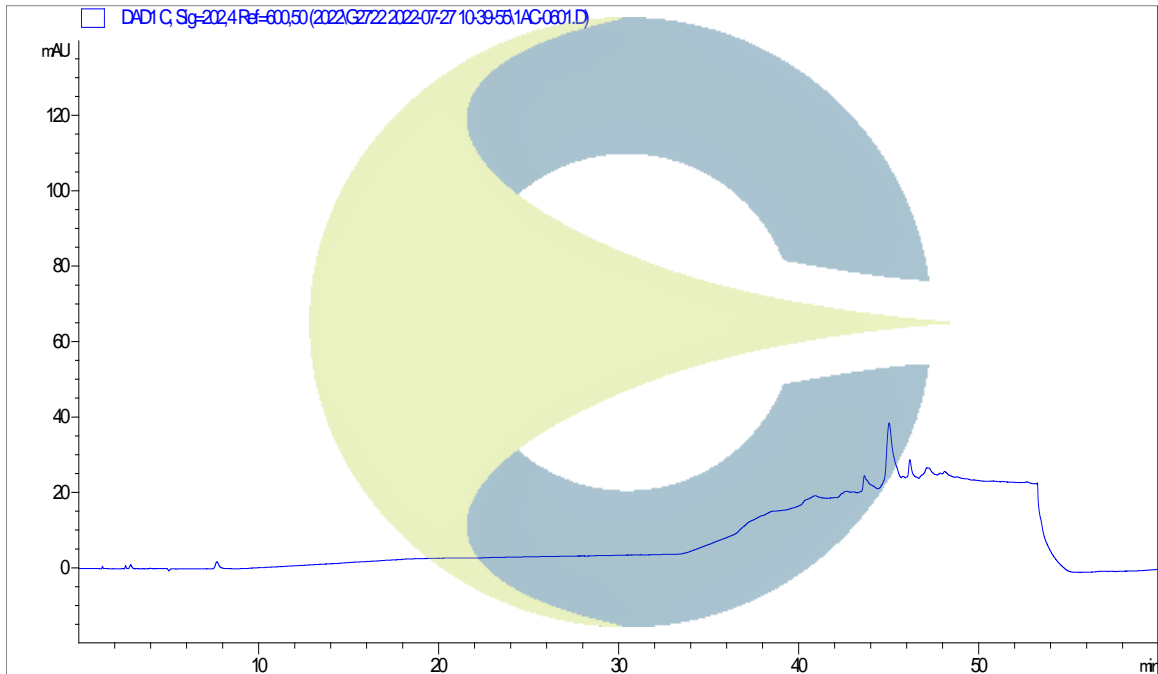
**HPLC CHROMATOGRAM OF ISOSTEVIOL (CDXP-18-00413)**


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**UV SPECTRUM AT RT = 42.4 MINUTES**

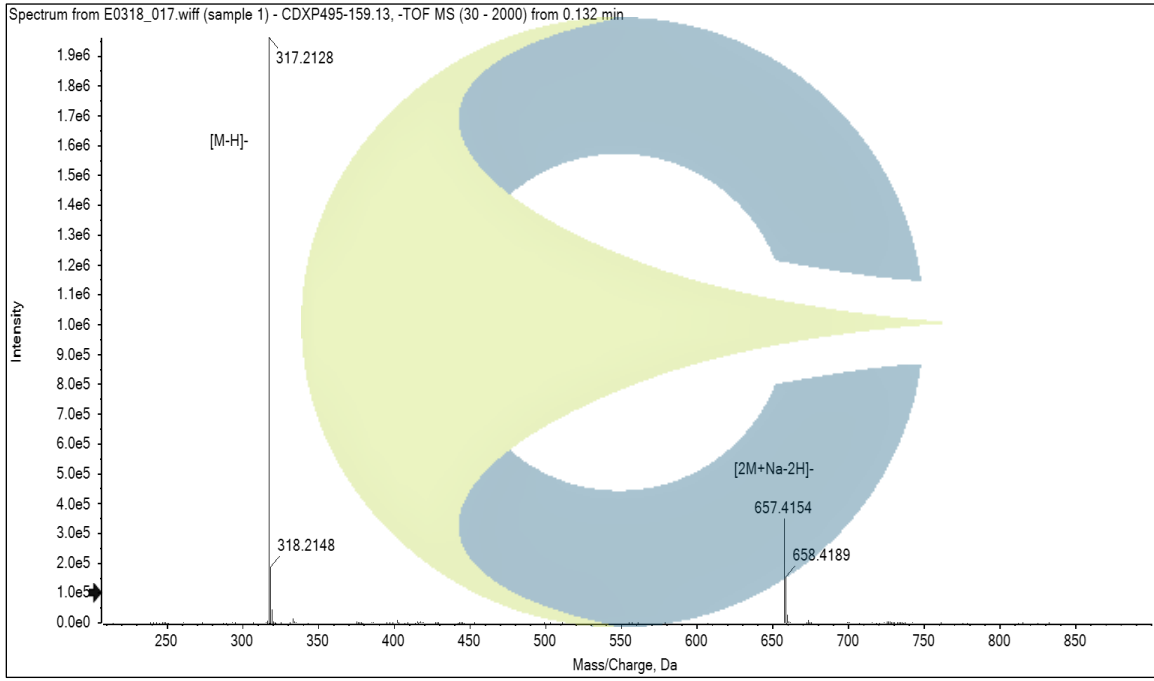


**HPLC CHROMATOGRAM OF DILUENT BLANK**

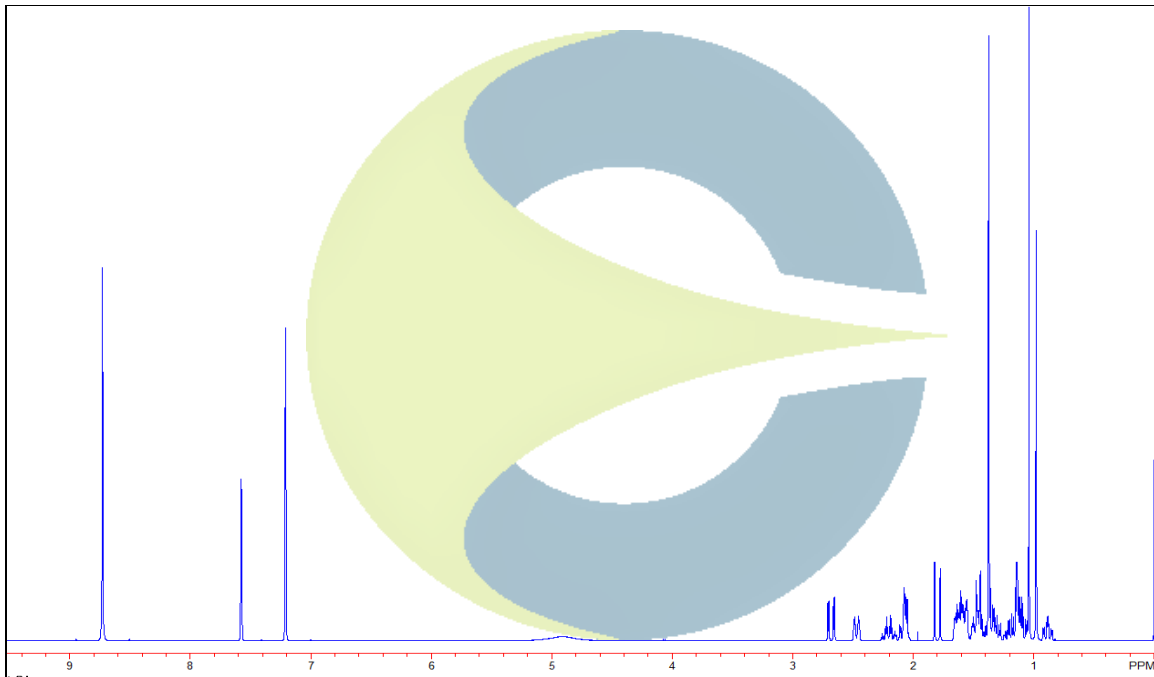


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**MASS SPECTRUM OF ISOSTEVIOL (CDXP-18-00413)**

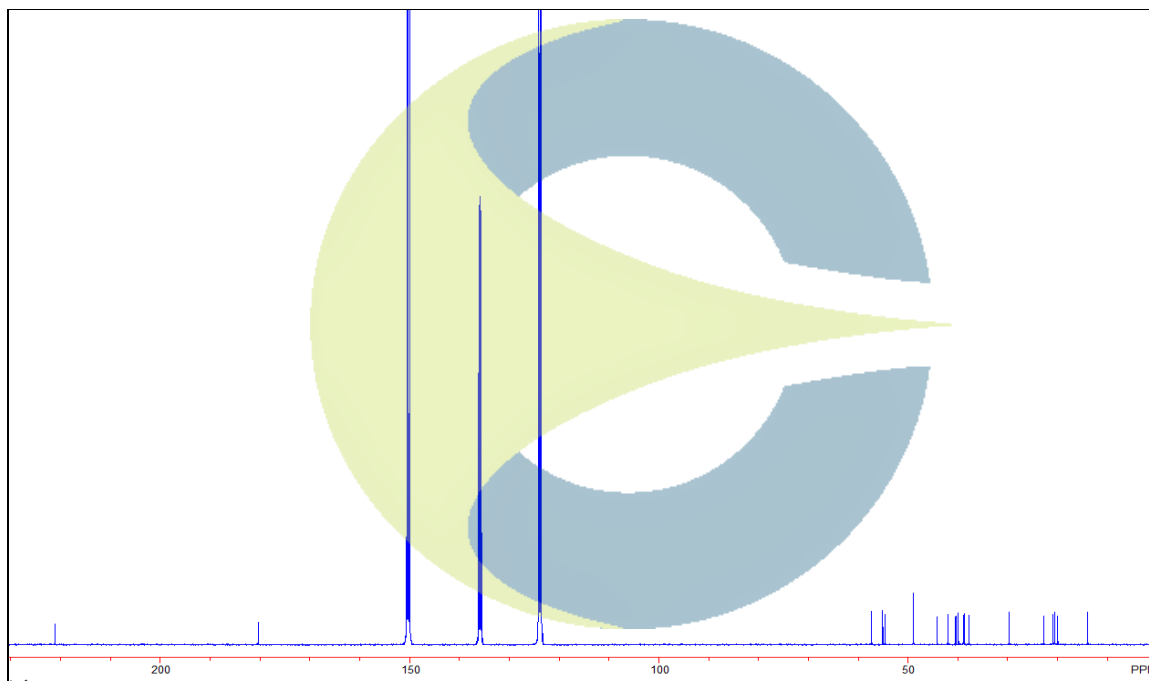


**<sup>1</sup>H-NMR SPECTRUM OF ISOSTEVIOL (CDXP-18-00413) IN PYRIDINE-d<sub>5</sub>**

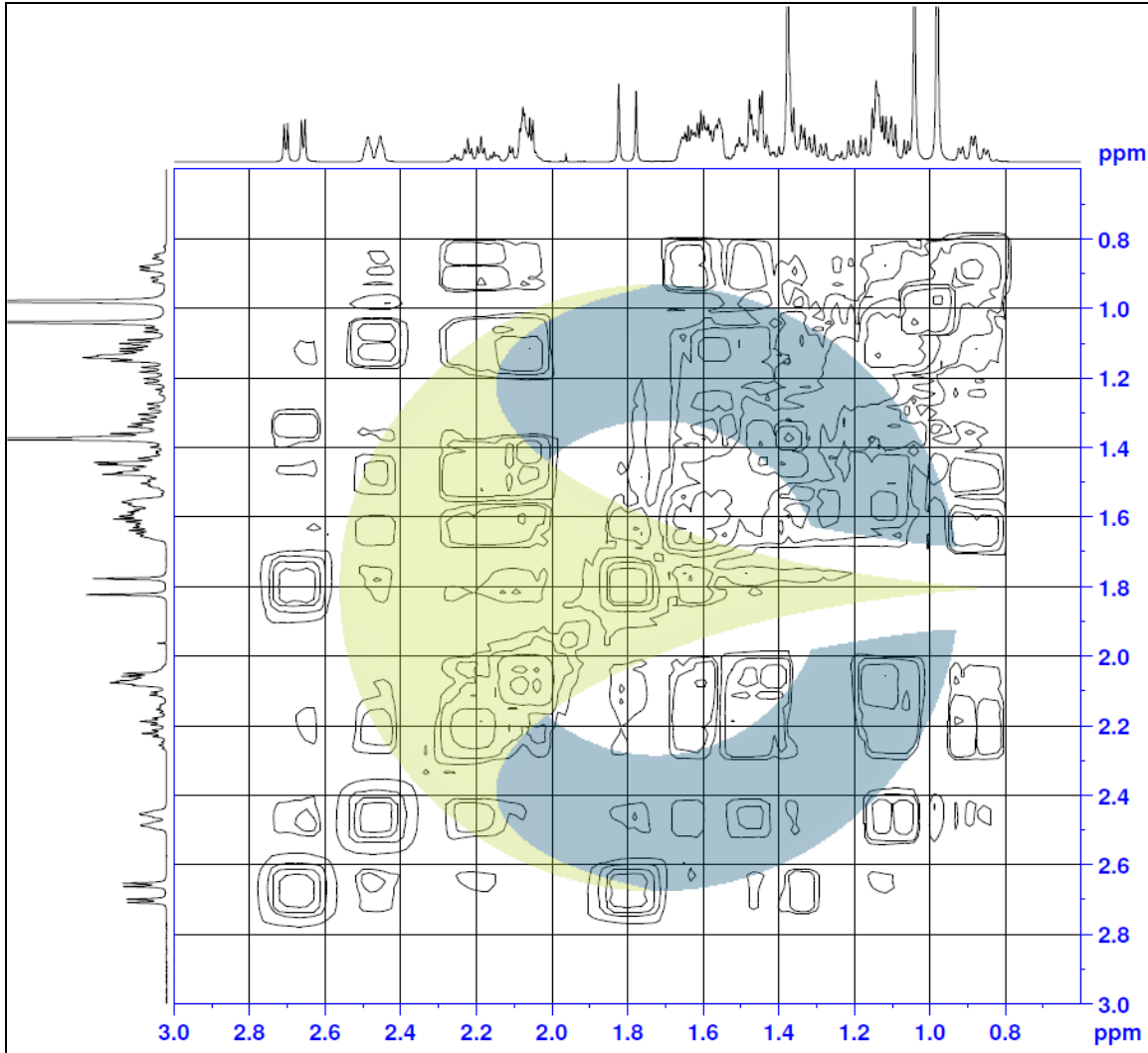


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<sup>13</sup>C-NMR SPECTRUM OF ISOSTEVIOL (CDXP-18-00413) IN PYRIDINE-d<sub>5</sub>



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**COSY-NMR SPECTRUM OF ISOSTEVIOL (CDXP-18-00413) IN PYRIDINE-*d*<sub>5</sub>**

**REVISION HISTORY**

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	05/29/2018	New report
01	08/31/2018	Corrected water content result.
02	08/03/2022	Passed re-evaluation by HPLC, KF. Updated expiration date, analytical method, conditions, chromatograms and results. Added EINECS number.

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