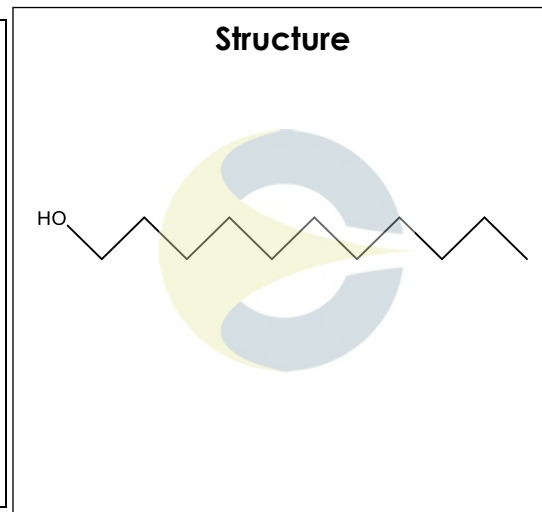


Certificate of Analysis
For Laboratory Use Only

PRODUCT NAME	1-Undecanol
PART NUMBER	00021239
STANDARD TYPE	Analytical Standard (AS)
LOT NUMBER	00021239-V01
REPORT NUMBER	CDXA-RSS-2958-02
SAMPLE NUMBER	CDXP-08-1447
DATE OF SAMPLE	07/09/2008
DATE OF RE-EVALUATION	01/08/2015 (1 st); 08/29/2019 (2 nd)
DATE OF REPORT	10/02/2019



CHEMICAL NAMES	1-Hendecanol; 1-Undecyl alcohol; Hendecanoic alcohol; Hendecyl alcohol
CHEMICAL FORMULA	C ₁₁ H ₂₄ O
MOLECULAR WEIGHT (MW)	172.31
CHEMICAL FAMILY	Fatty alcohols
CAS NUMBER	[112-42-5]
EC#(EINECS)	203-970-5
RTECS	YQ3155000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
GC	0.700.10.2.METH140	NA	99.5%
Mass Spectrum	0.700.10.2.METH140	Conforms	Conforms
Appearance	NA	NA	Oil

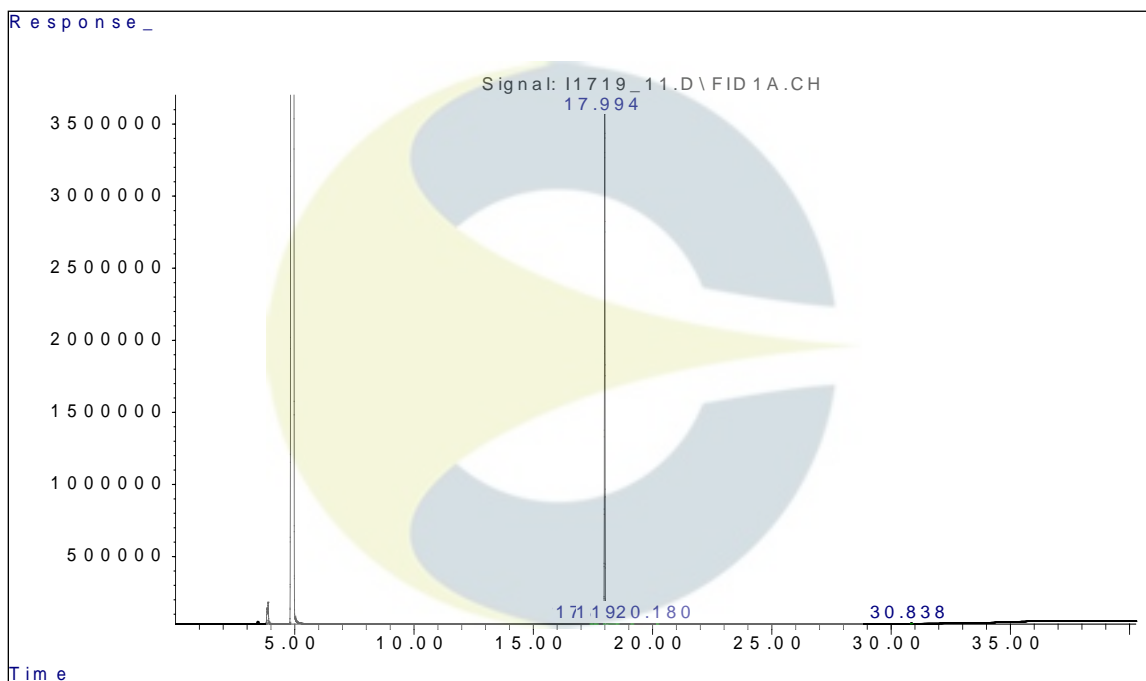
STORAGE CONDITIONS

STORAGE	+4 °C in a dry place.
EXPIRATION DATE	08/2024 under the above conditions.

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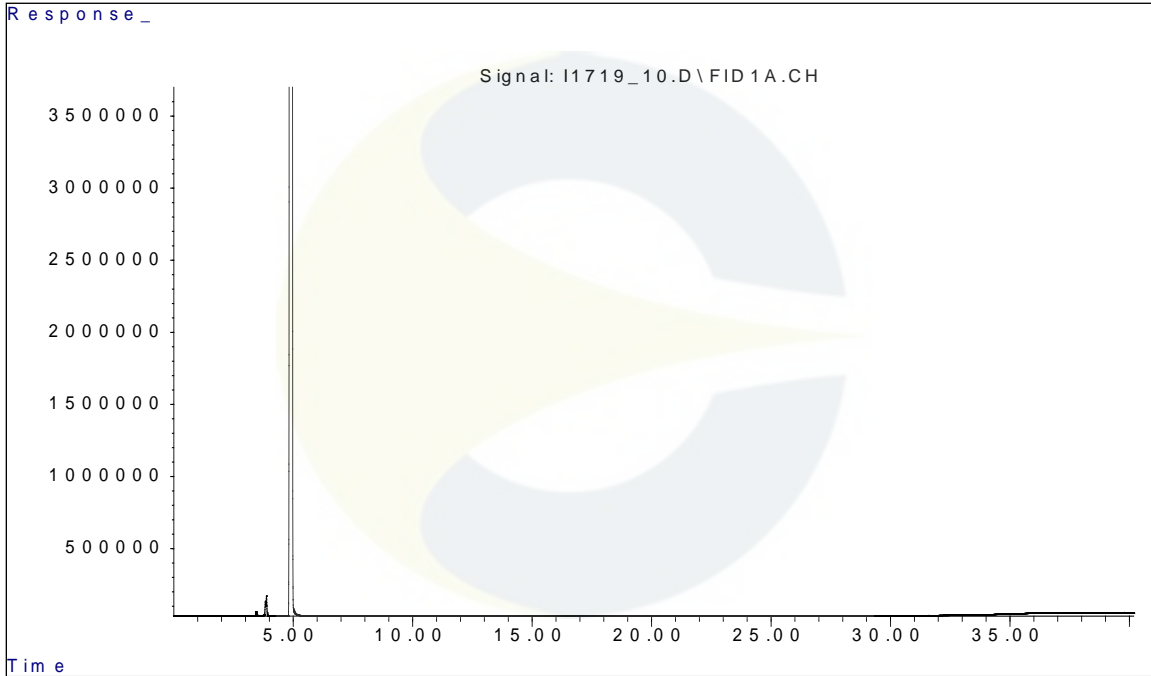
ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 6890N WITH FLAME IONIZATION DETECTOR (FID) AND AGILENT 5973N MASS SELECTIVE DETECTOR (MSD)
COLUMN	Phenomenex Zebron ZB-5HT Inferno, 30 m x 0.32 mm x 0.25 µm; connected to an MXT Y-union, connected to a Restek Siltek deactivated guard column: 10 m x 0.25 mm to FID; and a 5 m x 100 µm transfer line to MSD.
CARRIER GAS	Helium
COLUMN TEMP.	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.
FLOW RATE	2.0 mL/minute
INJECTOR TEMP.	300 °C
INJECTOR SPLIT RATIO	20:1
INJECTION VOL.	1.0 µL
INJECTION CONC.	2.2 mg/mL in Chloroform
DETECTION	FID (350 °C) & MSD (300 °C interface; 250 °C source; 200 °C quad)

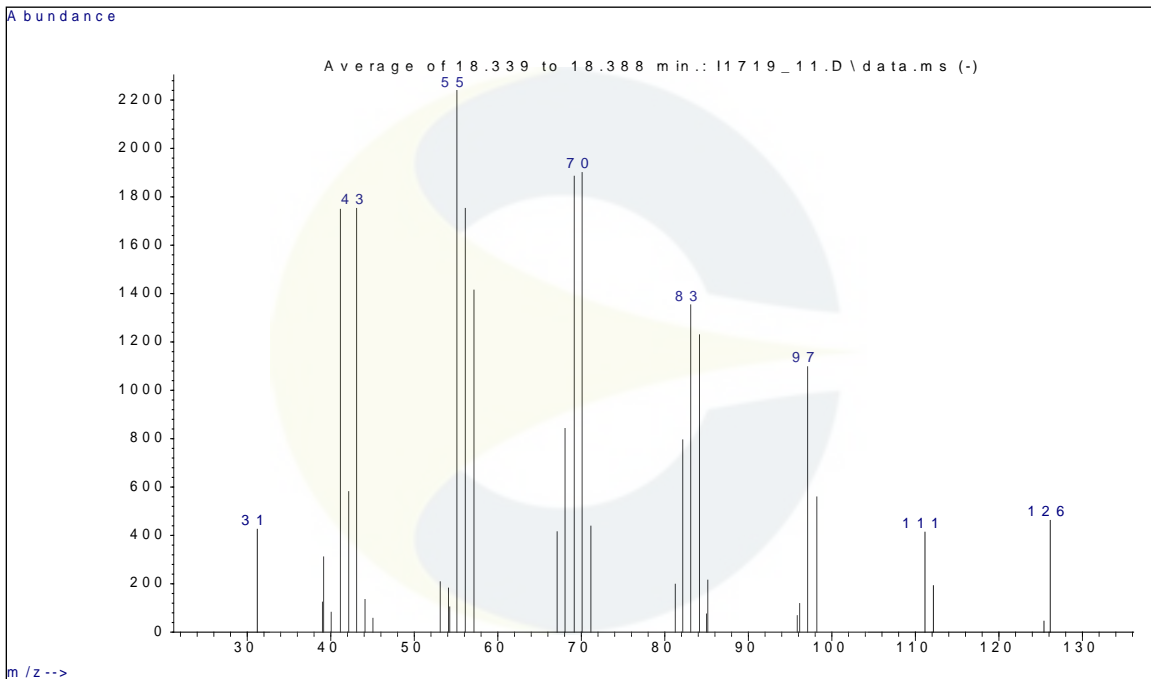
GC CHROMATOGRAM OF 1-UNDECANOL (CDXP-08-1447)


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GC CHROMATOGRAM OF DILUENT BLANK



MASS SPECTRUM OF 1-UNDECANOL (CDXP-08-1447)



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REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	07/17/2019	New report
01	01/19/2015	Passed re-evaluation by GC-FID; updated expiration date, melting point, chemical names and chemical family.
02	10/02/2019	Passed re-evaluation by GC-MS. Updated template, analytical method and results, and expiration date. Removed melting point,

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