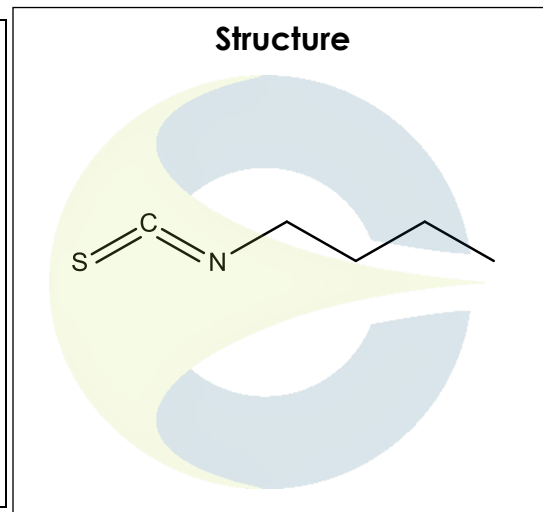


**Certificate of Analysis**
*For Laboratory Use Only*

<b>PRODUCT NAME</b>	Butyl Isothiocyanate
<b>PART NUMBER</b>	00002493
<b>STANDARD TYPE</b>	Analytical Standard (AS)
<b>LOT NUMBER</b>	00002493-222
<b>REPORT NUMBER</b>	CDXA-RSS-8107-01
<b>SAMPLE NUMBER</b>	CDXP-18-00563
<b>DATE OF SAMPLE</b>	06/14/2018
<b>DATE OF RE-EVALUATION</b>	05/04/2022
<b>DATE OF REPORT</b>	05/27/2022



<b>CHEMICAL NAMES</b>	1-Isothiocyanato-butane; Butyl mustard oil; n-Butyl isothiocyanate
<b>CHEMICAL FORMULA</b>	C <sub>5</sub> H <sub>9</sub> NS
<b>MOLECULAR WEIGHT (MW)</b>	115.20
<b>CHEMICAL FAMILY</b>	Isothiocyanates
<b>CAS NUMBER</b>	[592-82-5]
<b>EC#(EINECS)</b>	209-770-4
<b>RTECS</b>	NX8420500

**ANALYTICAL RESULTS**

TEST	METHOD	SPECIFICATION	RESULT
GC	0.700.10.2.METH140	≥ 75%	97.7%
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>	05/2027 under the above conditions.



**Digitally signed by  
Tiffany Rodgers  
Date: 2022.05.27  
13:00:20 -06'00'**

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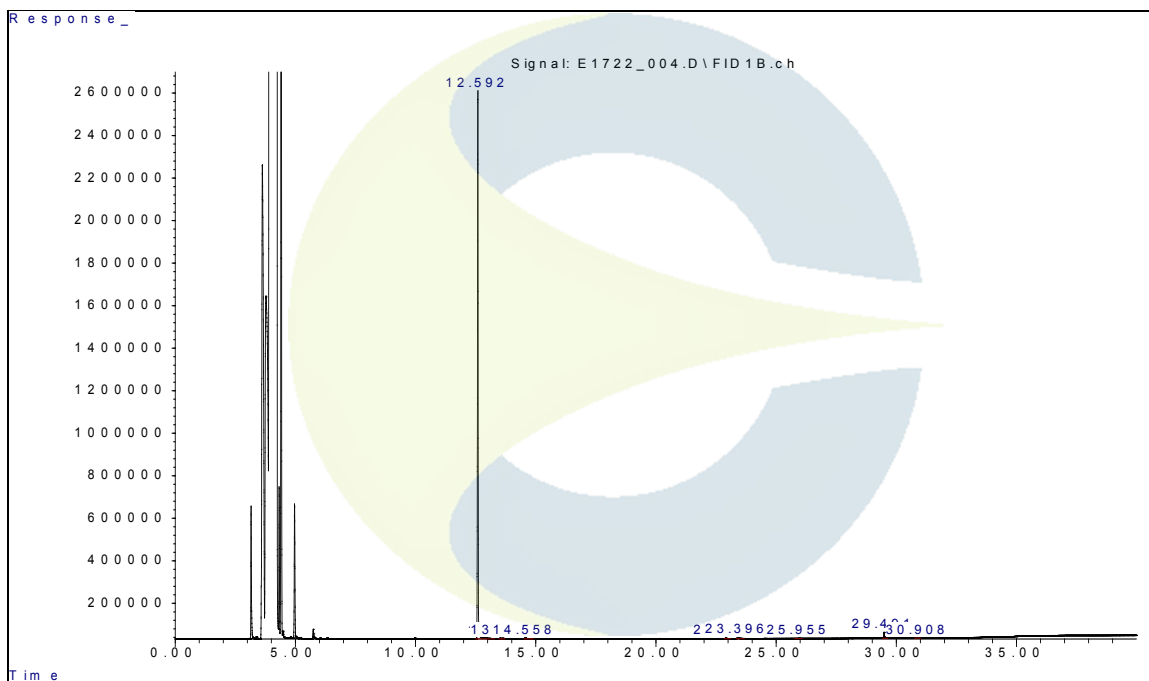
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**ANALYTICAL CONDITIONS**

<b>INSTRUMENT</b>	AGILENT 7890B WITH FLAME IONIZATION DETECTOR (FID) AND AGILENT 5977B 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>	1.1 mg/mL in Hexane
<b>DETECTION</b>	FID (300 °C) & MSD (Transfer line 280 °C, Source 230 °C, Quad 150 °C)

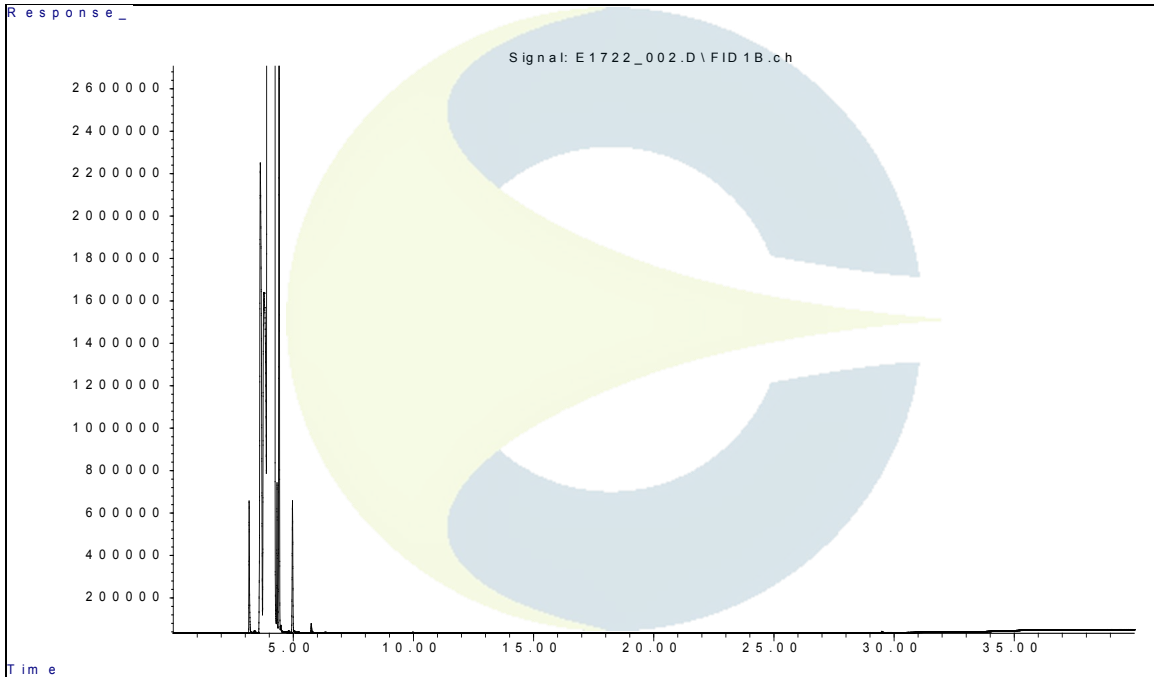
**GC CHROMATOGRAM OF BUTYL ISOTHIOCYANATE (CDXP-18-00563)**



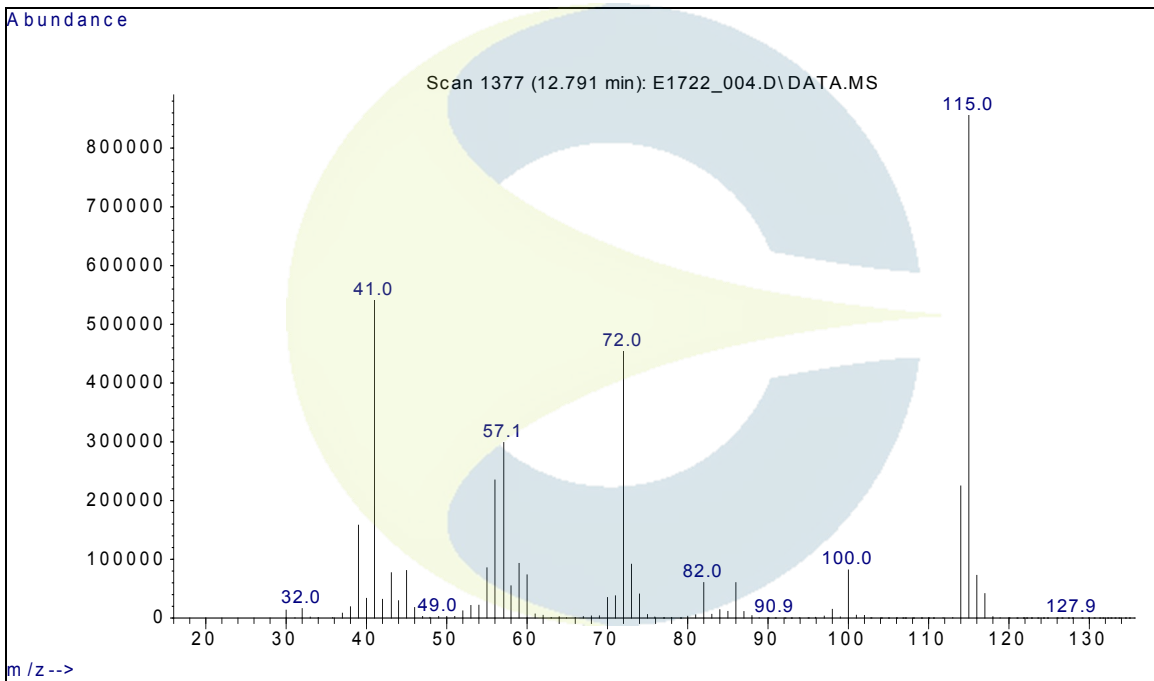
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10900 Wilshire Blvd., Suite 600, Los Angeles, CA 90024 | T: +1 949-419-0288 | F: +1 949-419-0294 | www.chromadex.com  
 Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

**GC CHROMATOGRAM OF DILUENT BLANK**



**MASS SPECTRUM OF BUTYL ISOTHIOCYANATE (CDXP-18-00563)**



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10900 Wilshire Blvd., Suite 600, Los Angeles, CA 90024 | T: +1 949-419-0288 | F: +1 949-419-0294 | [www.chromadex.com](http://www.chromadex.com)  
Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

India Contact:  
Life Technologies (India) Pvt. Ltd.  
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444  
Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)

**REVISION HISTORY**

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	07/11/2018	New report
01	05/27/2022	Passed re-evaluation by GC/MS. Updated chromatograms, mass spectra, and expiration date.

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