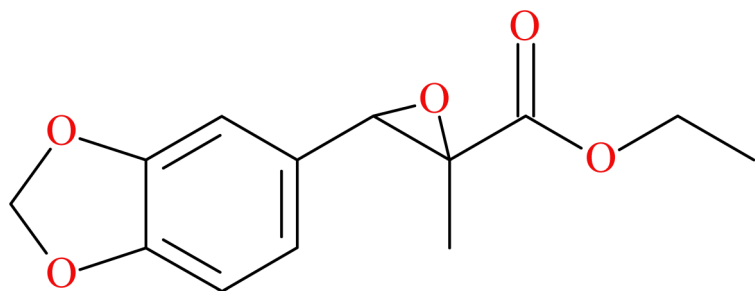




## PMK Ethyl Glycidate



NPS SUBCLASS	Miscellaneous
REPORT DATE	December 13, 2024
SAMPLE RECEIVED	July 10, 2024
SAMPLE TYPE	Drug Material

Preferred Name	PMK Ethyl Glycidate
Synonyms	3,4-Methylenedioxyphenylpropan-2-one, 3,4-MDP2P, MDP2P, NSC 195099
Formal Name	ethyl 3-(1,3-benzodioxol-5-yl)-2-methyl-oxirane-2-carboxylate
InChI Key	BRILFEZHPXQINW-UHFFFAOYSA-N
CAS Number	28578-16-7
Chemical Formula	C <sub>13</sub> H <sub>14</sub> O <sub>5</sub>
Molecular Weight	250.3
Molecular Ion [M <sup>+</sup> ]	250
Exact Mass [M+H] <sup>+</sup>	251.0914

## Characterization & Intelligence

The following information was compiled in December 2024 and is subject to change as new research is conducted and as new information becomes available:

**Description:** PMK ethyl glycidate is a precursor in the synthesis of methylenedioxyphenethylamines and methylenedioxyamphetamines (e.g., MDMA). PMK ethyl glycidate is structurally similar to PMK methyl glycidate and PMK glycidic acid. PMK ethyl glycidate was identified in seized drug material in Canada in 2023.<sup>1</sup> PMK ethyl glycidate was identified in the United States in July 2024 at our laboratory and confirmed after acquiring standard reference material.

**Sample Source:** Chicago Recovery Alliance (Chicago, IL)

**Sample Appearance:** Purple crystalline material

**Pharmacology:** No information is available at this time.

**Toxicology:** PMK ethyl glycidate is not currently tested for in toxicology cases at the CFSRE.

**Drug Materials:** PMK ethyl glycidate has been detected in one drug material to date at the CFSRE.

**Demographics / Geographics:** The drug material positive for PMK ethyl glycidate originated from the Illinois and was identified alone without the presence of other drugs.

**Legal Status:** PMK ethyl glycidate is not currently controlled in the United States.

### References:

- ▶ Cayman Chemical: [PMK ethyl glycidate](#)
- ▶ <sup>1</sup>Canada Border Services Agency (2023) [CBSA seizes over 3.3 tons of precursor chemicals...](#)



**About:** In collaboration with medical examiner and coroner offices, crime laboratories, clinical partners, and other stakeholders, the Center for Forensic Science Research and Education (CFSRE) is documenting first confirmations of NPS through analysis of drug materials and/or toxicology samples. These reports are generated using comprehensive analytical techniques (e.g., GC-MS, LC-QTOF-MS, NMR) and include available information about the new substances identified at the time of reporting, as well as the analytical data generated during testing. Our new drug monographs are intended to assist with the rapid identification of NPS in forensic casework and related disciplines, and should not be used for confirmatory purposes alone.

**Analytical Notes:** All identifications were made based on evaluation of analytical data (GC-MS and LC-QTOF-MS) in comparison to analysis of acquired reference material.

**Acknowledgements:** This report was prepared by Sara E. Walton, David Peress, Taylor Wood, Max T. Denn, Alexis D. Quinter, Joshua S. DeBord, Barry K. Logan, and Alex J. Krotulski at the Center for Forensic Science Research and Education (CFSRE) at the Fredric Rieders Family Foundation. The authors acknowledge scientists at the CFSRE for their involvements and contributions. For more information, contact [npsdiscovery@cfsre.org](mailto:npsdiscovery@cfsre.org) or visit [www.npsdiscovery.org](http://www.npsdiscovery.org).

**Funding:** CFSRE's NPS Discovery is supported by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice (Award Number 15PNIJ-22-GG-04434-MUMU, "Implementation of NPS Discovery – An Early Warning System for Novel Drug Intelligence, Surveillance, Monitoring, Response, and Forecasting using Drug Materials and Toxicology Populations in the US"). The opinions, findings, conclusions and/or recommendations expressed in this publication are those of the author(s) and do not necessarily represent the official position or policies of the U.S. Department of Justice.

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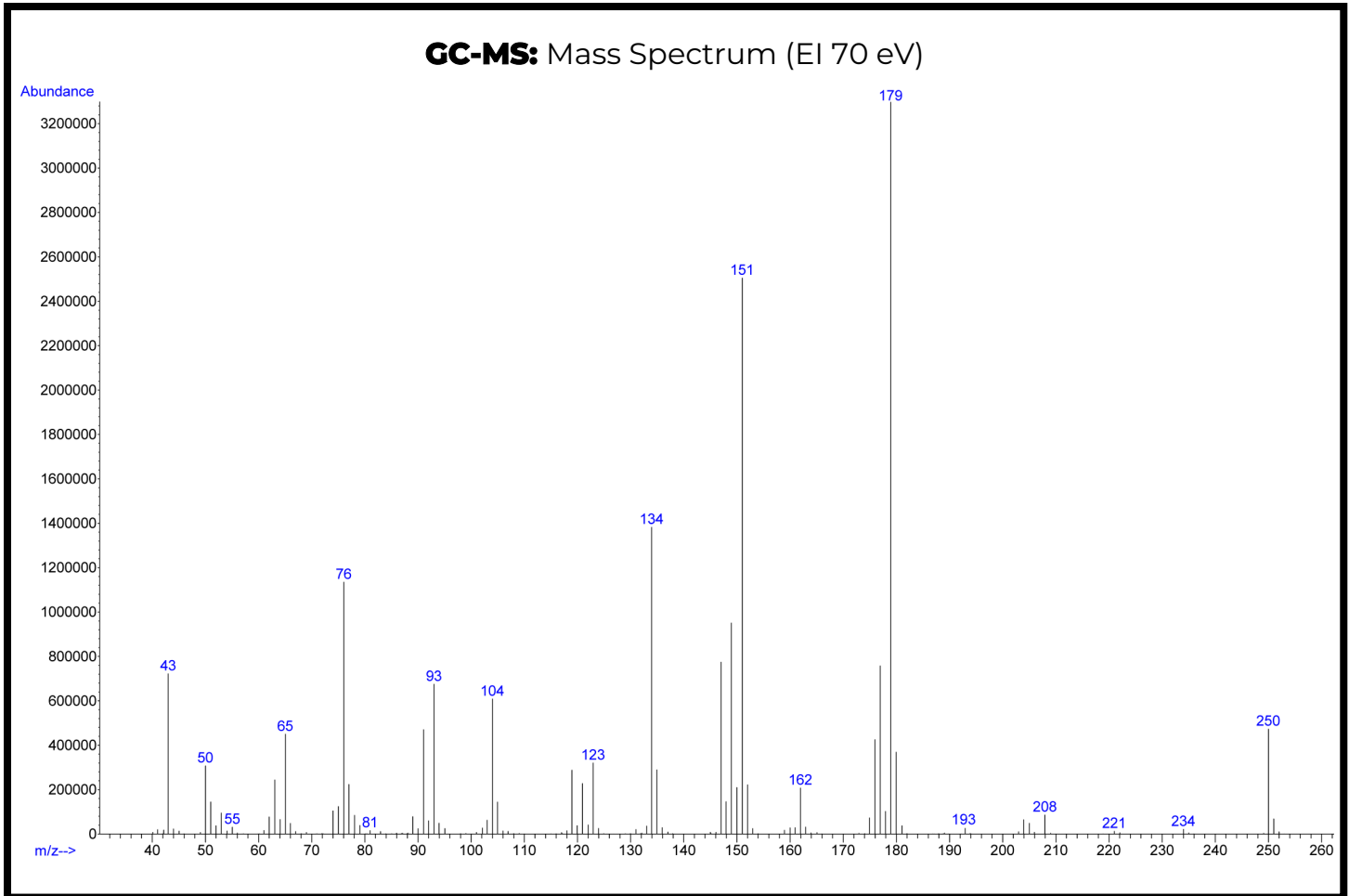
## Gas Chromatography Mass Spectrometry (GC-MS)

**Laboratory:** Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

**Instrument:** Agilent 5975 Series GC/MSD

**Methods:** [GC-MS Method Details](#) & [Monographs](#)

**Sample Preparation:** Acid/base extraction



**Confirmation Using Drug Standard:** Reference material (Batch: 0504785-31) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be PMK ethyl glycidate based on retention time (sample: 5.09 min vs. standard: 5.11 min) and mass spectral data comparisons.

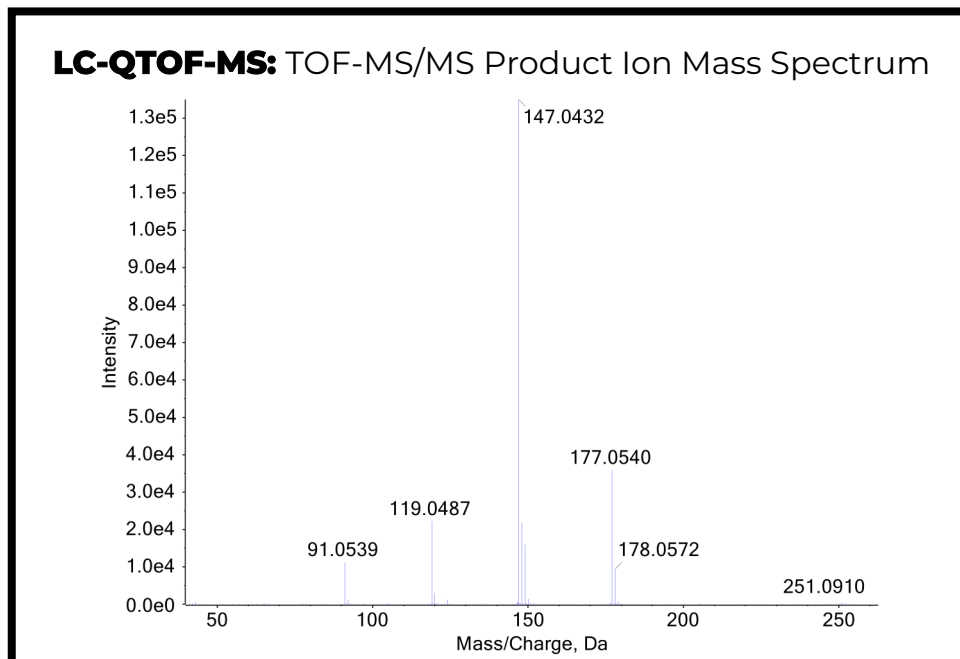
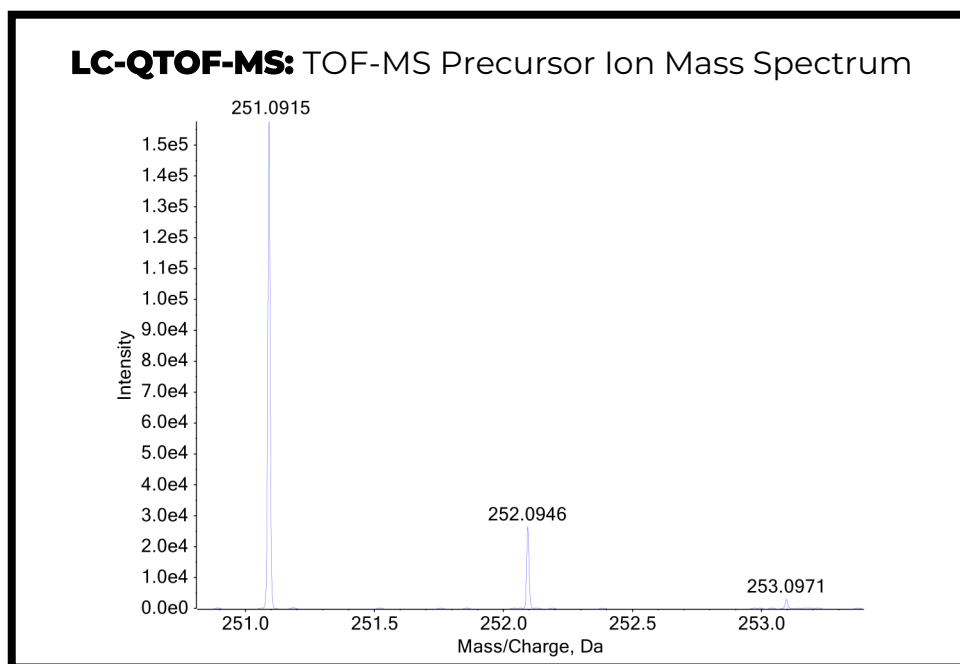
## Liquid Chromatography Quadrupole Time-of-Flight Mass Spectrometry (LC-QTOF-MS)

**Laboratory:** Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

**Instrument:** Sciex 5600+ LC-QTOF-MS

**Methods:** [LC-QTOF-MS Method Details](#) & [Monographs](#)

**Sample Preparation:** Dilution in mobile phase



**Confirmation Using Drug Standard:** Reference material (Batch: 0504785-31) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be PMK ethyl glycidate based on retention time (sample: 7.99 min vs. standard: 8.10 min) and mass spectral data comparisons.