

# Synth-Opioids Real-Time Communication Network (Synth-Opioids)

**2022 ANNUAL REPORT**

## About

The National Forensic Laboratory Information System (NFLIS) Drug Enforcement Administration (DEA) Synth-Opioids Real-Time Communication Network is a practitioner-driven, real-time communication platform focused on emerging drugs. The NFLIS DEA Synth-Opioids Real-Time Communication Network (Synth-Opioids) creates opportunities for swift information exchange and permanent, searchable storage of discussions between the forensic science community and relevant stakeholders.

With over 700 members from 19 countries including 49 U.S. States and the District of Columbia, Synth-Opioids brings together Federal, State, local, and private sectors and facilitates communication among the areas of forensic chemistry, toxicology, pathology, jurisprudence, research, public health, and law enforcement.

## Summary of Forum Interactions

- Sixteen agency reports and novel psychoactive substance (NPS) alerts that include public alerts from NFLIS, the Center for Forensic Science Research & Education (CFSRE), and DEA Tox were disseminated on the forum.
- Three laboratory posts about NPS identifications or tentative identifications (outside of agency reports) were shared on the forum.
- Members posted four requests for information to further research or method development.
- Members assisted each other in attempting to identify six unknown substances.
- The Synth-Opioids 2021 Annual Report was posted on the forum.

**Figure 1. New Topics on Synth-Opioids**

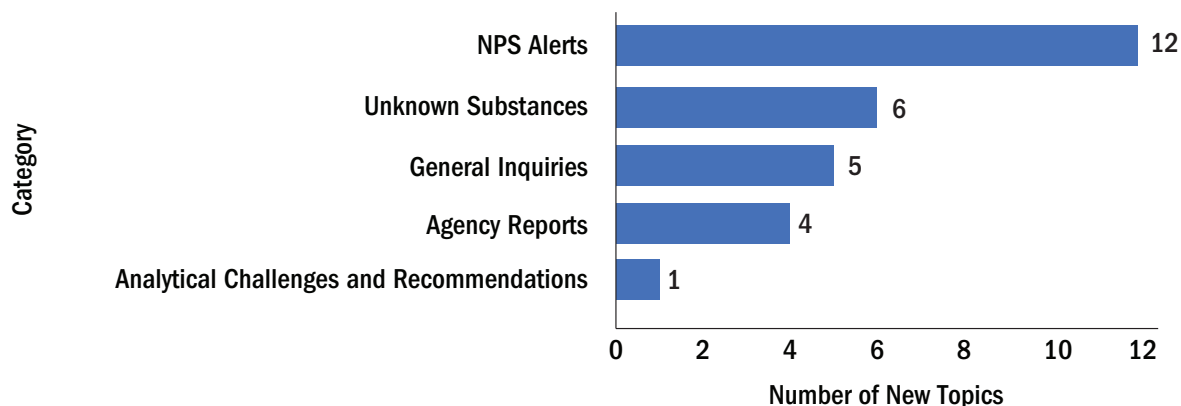


Figure 2. 2022 Synth-Opioids Participation

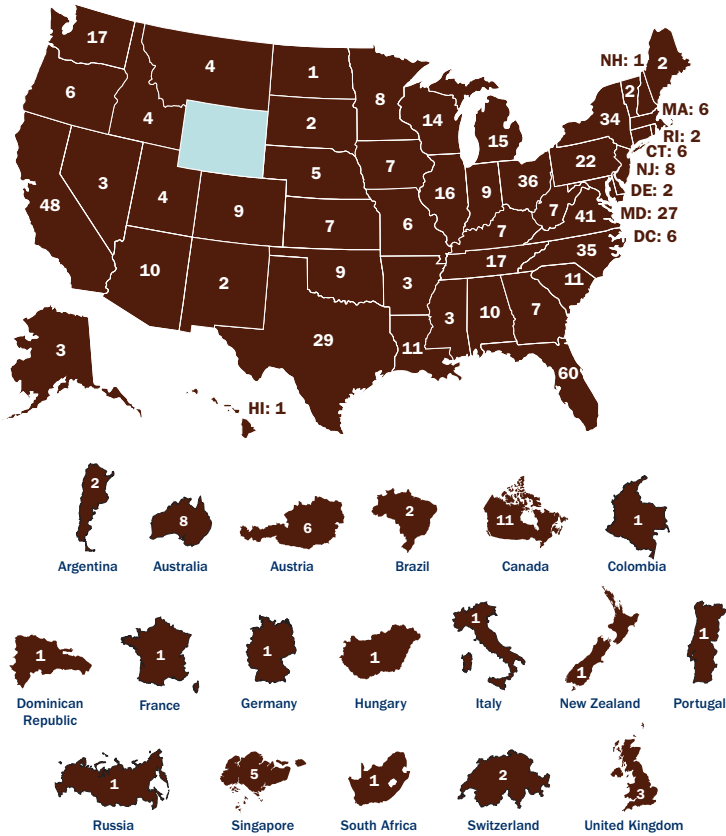


Table 1. Participation Metrics

724 Total Members	
184	New Members in 2022
49	Total U.S. States
19	Total Countries
8	New Countries in 2022

Figure 3. Participation by Affiliation

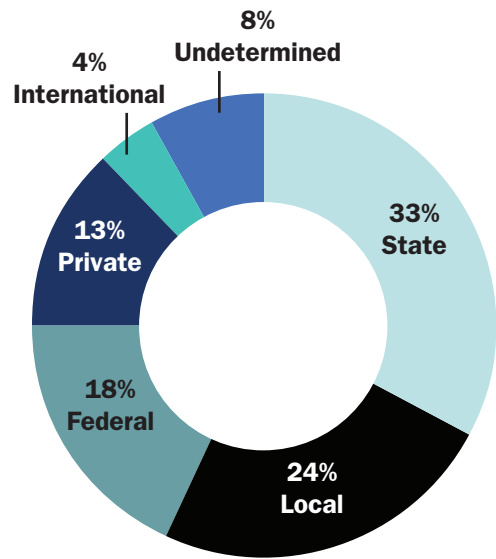


Table 2. Participation by Discipline

Number	Discipline
251	Chemistry
84	Toxicology
60	Public Health or Epidemiology
51	Law Enforcement or Intelligence
51	Research or Academics
24	Forensic Laboratory—Unspecified Discipline
12	Pathology
75	Other
116	Undetermined

### Webpage Metrics

Calendar year 2022 marked the second year in which Synth-Opioids operated as a fully functional web-based communication network. Webpage metrics show that the top search terms in 2022 were data, nitazene,<sup>1</sup> xylazine, and cathinone.

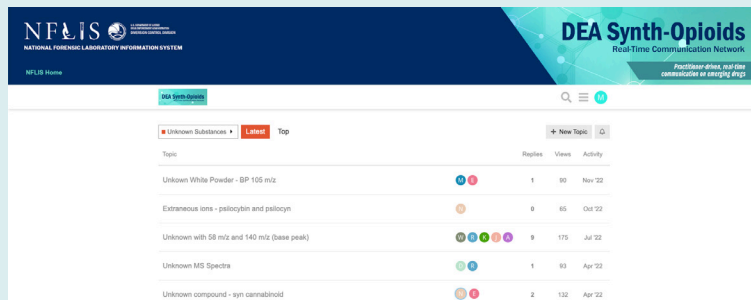


Table 3. Webpage Metrics

12,208 Consolidated Page Views	
1,750	User Visits
337	Daily Engaged Users
28	New Topics in 2022

<sup>1</sup>Nitazenes are a group of synthetic opioids also known as benzimidazole-opioids.

## 2022 Forum Discussion Highlights

**During 2022, members discussed several unknown substances. The following are examples of these discussions:**

- Unknown white powder with a base peak (BP)  $m/z$  105. The best infrared library match was to furfuryl benzoate. The gas chromatography-mass spectrometry (GC-MS) spectrum library match had few hits, and the best was for *N*-benzoyl-8-oxaazabicyclo[3.2.2]non-6-ene. One user suggested a possible similarity to (3-methyl-2-nitrophenyl) methyl ester benzoic acid using a National Institute of Standards and Technology library spectrum for comparison.
- Extraneous ions at  $m/z$  266 and 137 detected in a liquid chromatography (LC)-MS spectrum of psilocybin and/or psilocin.
- Several independent cases containing a suspected cathinone with ions at  $m/z$  58 and 140. Initial discussions centered on a possible match to *N*-methyl cybutylone, but once reference material was available, the mass spectra did not match. The eventual determination was potentially cybutylone.

- MS and MS/MS spectra shared for an unknown sample with three separate compounds having  $[M+H]^+$  of  $m/z$  425.2. Potentially butonitazene, iso-butonitazene, and/or sec-butonitazene.
- Unknown substance with  $m/z$  57 BP and a prominent  $m/z$  219 peak, suspected to be a synthetic cannabinoid.
- Unknown substance sprayed onto paper had prominent ions at  $m/z$  308, 222, and 86, as well as several ion pairs indicating the presence of bromine. Potentially ADB-5Br-INACA.

**Other discussion topics included the following:**

- Unusual presentations of mushrooms, plant material, and powders containing delta-9-THC, THCA, and psilocin/psilocybin.
- Request for information on methods used for field characterization of nitazenes.
- Discussion on which salt forms laboratories are most commonly seeing in seized opioid samples.
- Request for information on the prevalence of laboratories that perform purity testing.
- Request for photographs of samples (powder/tablets) that contain etonitazepine.



### How To Join the Discussion

DEA is pleased to continue to work with our partners in the forensic community to address the challenges associated with the rapid evolution of the illicit drug market. Those interested in being a member of the Synth-Opioids community can visit the Synth-Opioids website at <https://synthopioids.nflis.dea.diversion.usdoj.gov/> and request an account. Potential members will be asked to share their discipline, affiliation, and a curriculum vitae (CV) or résumé.



### For More Information

Questions about this information are welcome and can be directed to [synth-opioids@dea.gov](mailto:synth-opioids@dea.gov) or Agnes Winokur at 571-776-2079.

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