

# Recommended Scope for NPS Testing in the United States

NPS  
SCOPE

Q4  
2024

**PURPOSE:** The objective of this report is to provide updated guidance in developing an appropriate analytical scope of testing for novel psychoactive substances (NPS) in the United States (and around the world) based on current trends and intelligence. *This report is based on information available in Q3 2024 and early Q4 2024 and is subject to change along with the drug market.*

**SUMMARY:** The NPS landscape is changing rapidly, requiring laboratories to constantly remain abreast of new and emerging drugs locally, nationally, and internationally. To meet individualized needs, laboratories amend existing methods or develop new ones for detection and confirmation of NPS. This can be challenging for scientists as information about NPS detections can be regionalized and/or out-of-date, making it difficult to determine which drugs should be prioritized at a given time. **CFsRE's NPS Discovery** and the **SOFT NPS Committee** have established the below recommendations for NPS scope based on information from extensive collaborations, partnerships, and initiatives which yield national and international perspectives. Suggested cut-off concentrations or reporting limits (in ng/mL) are listed for each NPS. These values are categorized (i.e., <1, 1-10, and >10 ng/mL) and determined based on currently available quantitative data and/or comparison to structurally similar NPS within the given sub-class.

BENZODIAZEPINES		OPIOIDS		STIMULANTS & HALLUCINOGENS		SYNTHETIC CANNABINOIDS	
<b>TIER ONE (STRONGLY RECOMMEND)</b>							
Bromazolam	1-10	Protonitazene	<1	2F-2-oxo-PCE / Fluorexetamine	>10	MDMB-4en-PINACA	<1
Desalkylgidazepam†	1-10	Metonitazene	<1	N,N-Dimethylpentylone	>10	5F-MDMB-PINACA (5F-ADB)	<1
Flubromazepam	1-10	Carfentanil	<1	Pentylone	>10	ADB-BINACA (-BUTINACA)	<1
Etizolam†	1-10	o/m/p-Fluorofentanyl	1-10	*N-Isopropyl Butylone	>10	ADB-4en-PINACA	<1
Flualprazolam	1-10	o/m/p-Methylfentanyl	1-10	*2/3/4-Methylmethcathinone	>10	MDMB-BINACA (-BUTINACA)	<1
<b>TIER TWO (RECOMMEND)</b>							
*Phenazolam	1-10	N-Pyrrolidino Etonitazene	<1	2/3/4-Chloromethcathinone	>10	5F-MDMB-PICA	<1
Clonazolam‡	<1	N-Pyrrolidino Protonitazene	<1	*alpha-PiHP / alpha-PHP	>10	ADB-5'Br-BINACA	<1
8-Aminoclonazolam‡	1-10	N-Desethyl Isotonitazene	<1	*Eutylone	>10	MDMB-PICA	<1
*Flubromazolam	1-10	N-Desethyl Etonitazene	<1	MDPHP	>10	*4CI-MDMB-BINACA (-BUTINACA)	<1
<b>TIER THREE (CONSIDER)</b>							
*Desalkylflurazepam†	1-10	N-Pyrrolidino Metonitazene	<1	2C-B	<1	ADB-5'Br-PINACA	<1
Desalkylquazepam	1-10	Etodesnitazene	1-10	*N-Cyclohexyl Methylone	>10	MMB-4en-PINACA	<1
*Pyrazolam	1-10	*N-Propionitrile Chlorphine	<1	N-Cyclohexyl Butylone	>10	4F-MDMB-BICA	<1
Deschloroetizolam	1-10	*5,6-Dichloro Desmethylchlorphine (SR-17018)	<1	*N-Ethyl Pentedrone	>10	4F-MDMB-BINACA	<1

Note: This may not be an all-inclusive list. Laboratories should consider additional NPS for inclusion (or exclusion) based on local, national, and/or international trends.

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**NEW THIS QUARTER:** At the 2024 SOFT Annual Meeting, the SOFT NPS Committee made the decision to add additional NPS scope recommendations and suggestions to this Q4 2024 report as supplemental information. The additions encompass metabolites of specified NPS to consider in testing scopes, when known or postulated with high certainty based on literature or prior drug similarity, as well as specific semi-synthetic cannabinoids. Our new recommendations come after years of discussion and consideration, in addition to commentary for improvements from stakeholders through our 2023 survey.

**PROVIDE FEEDBACK:** If you are interested in providing feedback to the committee on specific drugs and/or drug classes, the content and formatting of our latest scope recommendations, or other topics, please email us at [npsdiscovery@cfsre.org](mailto:npsdiscovery@cfsre.org).

## RECOMMENDED METABOLITES FOR SPECIFIC NPS

Bromazolam ▶ alpha-Hydroxy Bromazolam	Protonitazene ▶ N-Desethyl Protonitazene & 5-Aminoprotonitazene	2F-2-oxo-PCE ▶ 2F-Deschloronorketamine	MDMB-4en-PINACA ▶ MDMB-4en-PINACA 3,3- Dimethylbutanoic Acid
Phenazolam ▶ alpha-Hydroxy Phenazolam	Metonitazene ▶ N-Desethyl Metonitazene & 5-Aminometonitazene	N,N-Dimethylpentylone ▶ Pentylone	5F-MDMB-PINACA (5F-ADB) ▶ 5F-MDMB-PINACA 3,3- Dimethylbutanoic Acid
Clonazolam ▶ 8-Aminoclonazolam	N-Pyrrolidino Etonitazene ▶ N-Pyrrolidino 4'-OH Nitazene	N-Isopropyl Butylone ▶ N-Desalkyl Butylone	ADB-BINACA (-BUTINACA) ▶ ADB-BINACA N-Butanoic Acid & MDMB-BINACA 3,3- Dimethylbutanoic Acid
Carfentanil ▶ Norcarfentanil	N-Pyrrolidino Protonitazene ▶ N-Pyrrolidino 4'-OH Nitazene	2/3/4-Methylmethcathinone ▶ 2/3/4-Methylcathinone	ADB-4en-PINACA ▶ MDMB-4en-PINACA 3,3- Dimethylbutanoic Acid
o/m/p-Fluorofentanyl ▶ o/m/p-Fluoronorfentanyl	N-Pyrrolidino Metonitazene ▶ N-Pyrrolidino 4'-OH Nitazene	2/3/4-Chloromethcathinone ▶ 2/3/4-Chlorocathinone	MDMB-BINACA (-BUTINACA) ▶ MDMB-BINACA 3,3- Dimethylbutanoic Acid
o/m/p-Methylfentanyl ▶ o/m/p-Methylnorfentanyl	N-Desethyl Isotonitazene ▶ N,N-Didesethyl Isotonitazene & 5-Amino N-Desethyl Isotonitazene	N-Desethyl Etonitazene ▶ N,N-Didesethyl Etonitazene & 5-Amino N-Desethyl Etonitazene	5F-MDMB-PICA ▶ 5F-MDMB-PICA 3,3- Dimethylbutanoic Acid

Notes: NPS metabolize to >1 metabolite. NPS metabolites are found at varying abundances in different matrices. This is not an exhaustive list. Some metabolites listed are predicted.

## RECOMMENDED SEMI-SYNTHETIC CANNABINOIDS (SUGGESTED CUTOFF: 1-10 NG/ML)

TIER ONE ▶	$\Delta^8$ -THC	$\Delta^8$ -THC-COOH	9(R)-HHC / 9(S)-HHC	9(R)-HHC-COOH / 9(S)-HHC-COOH
TIER TWO ▶	$\Delta^{10}$ -THC	$\Delta^{10}$ -THC-COOH	THC-O-Acetate	HHC-O-Acetate
TIER THREE ▶	THCP	HHCP	CBDP	H4-CBD

Note: This is not an all-inclusive list. Laboratories should consider additional NPS for inclusion (or exclusion) based on local, national, and/or international trends.