



**UNODC**

United Nations Office on Drugs and Crime

# The UNODC Early Warning Advisory on New Psychoactive Substances

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**Laboratory and Scientific Section, UNODC**

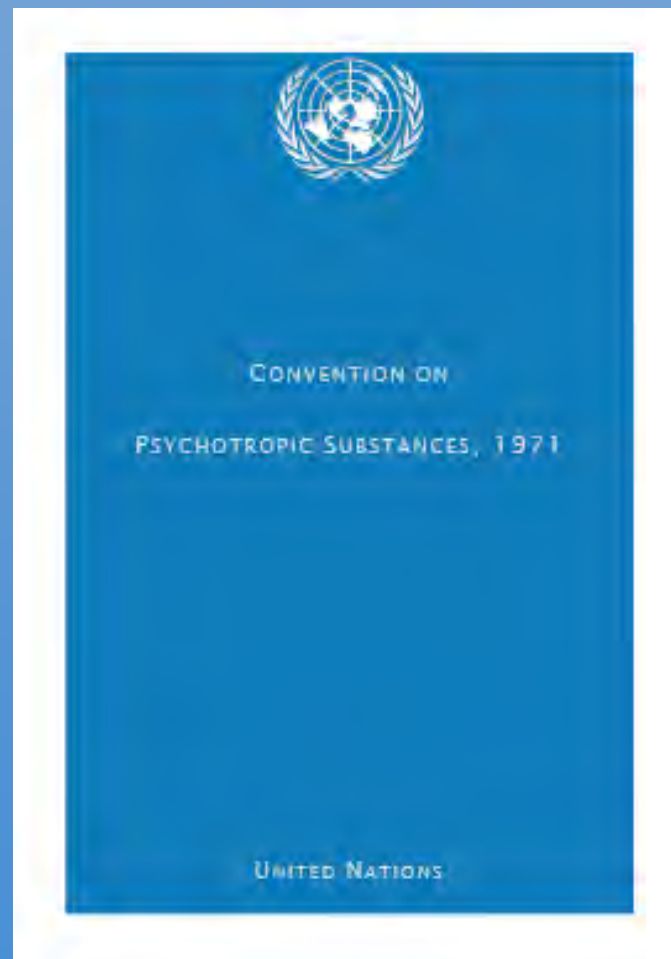
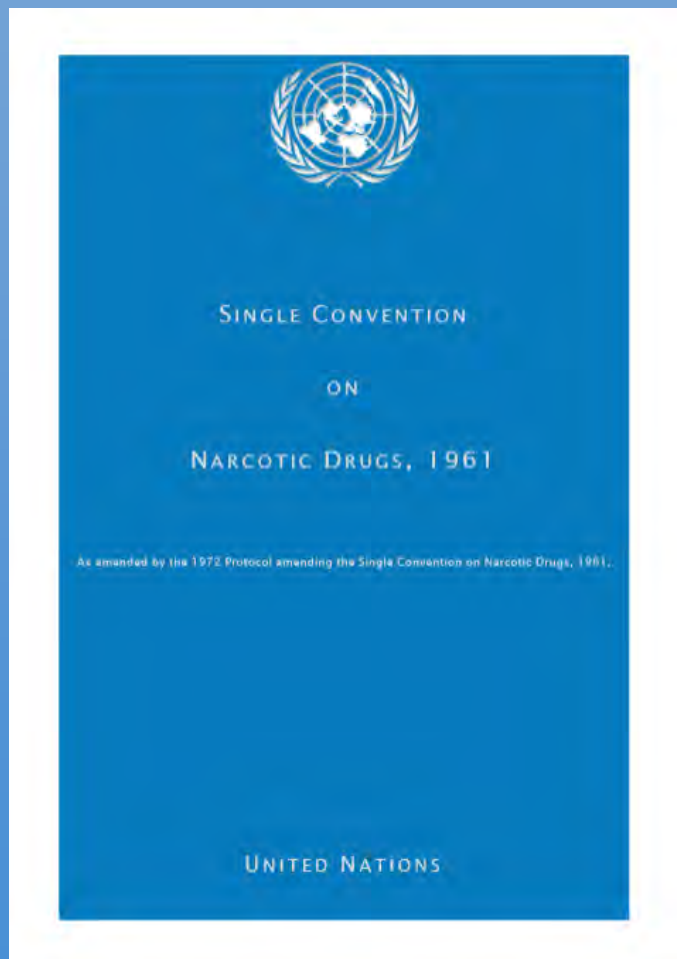


# Content

- The emergence of NPS at the global level
- Prioritization of NPS – the role of UNODC
- UNODC's response to the NPS phenomenon: the Early Warning Advisory on NPS



# International legislative framework



# What are NPS?



## *Working definition:*

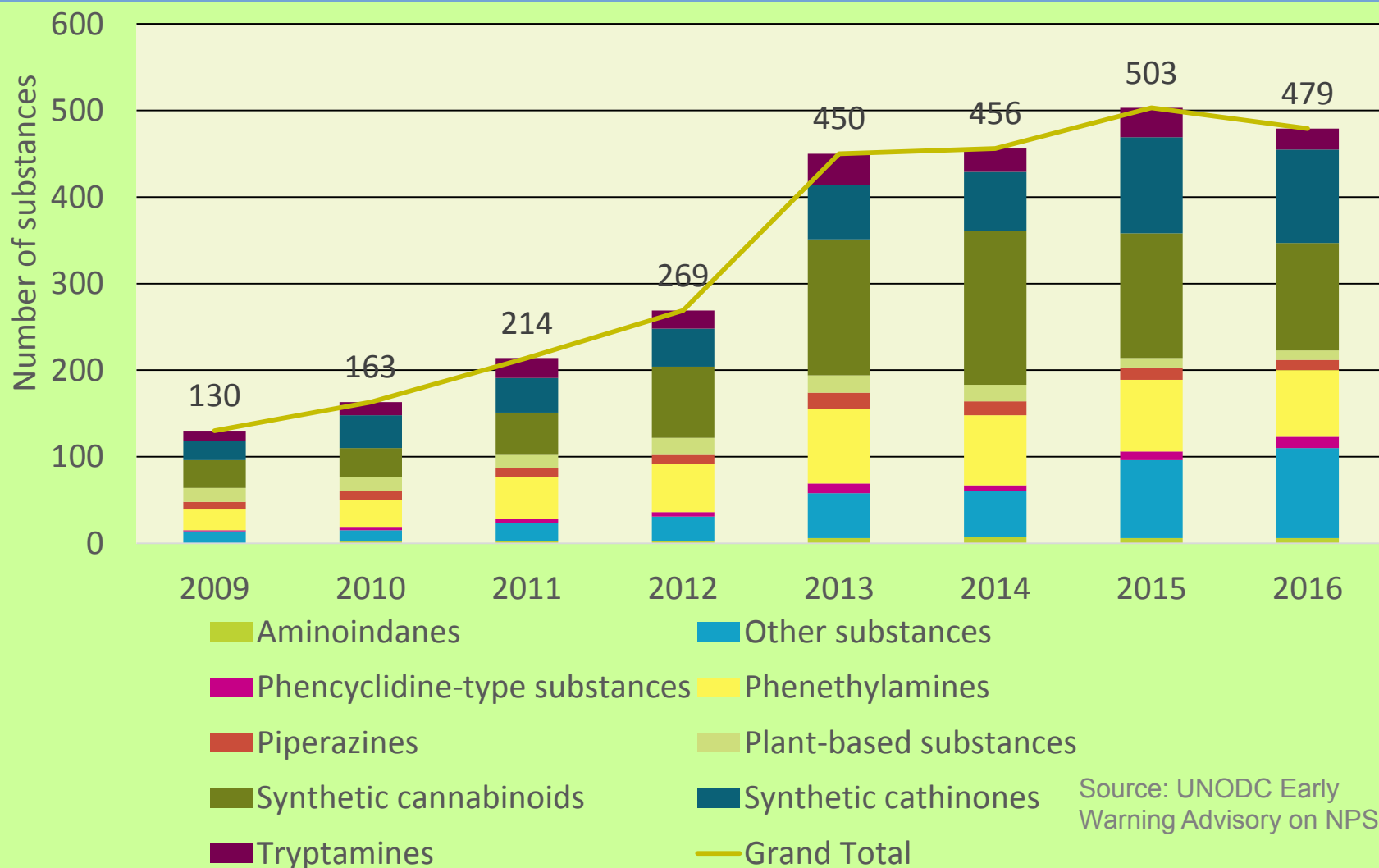
New Psychoactive Substances are substances of abuse, either in a pure form or a preparation, that are not controlled by the international drug conventions, but which may pose a public health threat.

## *Caveats:*

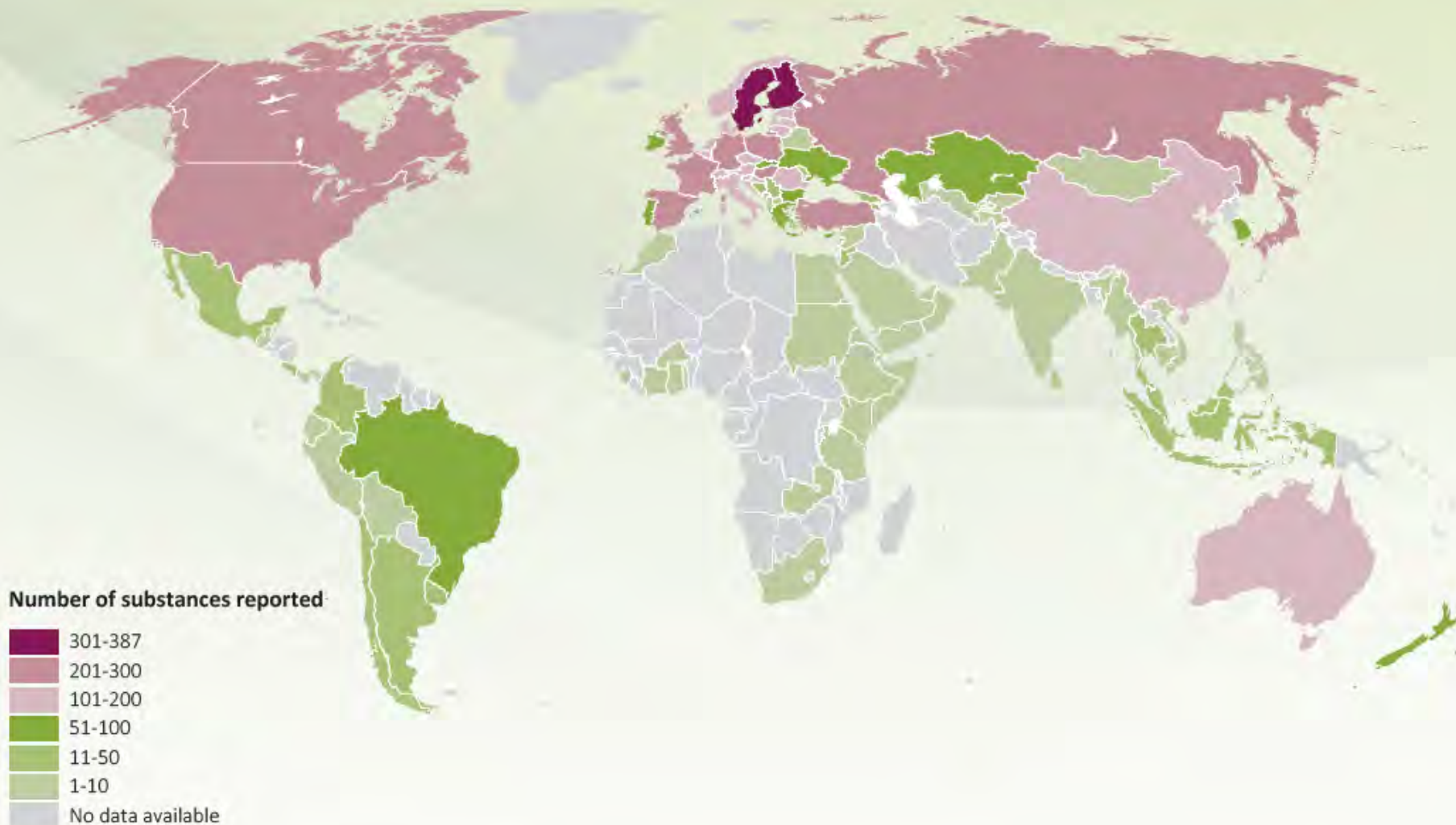
The term “new” does not necessarily refer to new inventions but to substances that have newly become available in specific markets.

39 substances have been placed under international control since 2015. For the purpose of this presentation, they are included in the data analysis.

# Number of NPS annually reported, 2009-2016



Source: UNODC Early Warning Advisory on NPS



*Source: UNODC Early Warning Advisory on NPS.*

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas). The analysis comprises NPS registered up to December 2017.

# NPS - From substitution to expansion to diversification to ?

		Example of traditional drug	Example of synthetic NPS
<b>Psychoactive effect groups</b>	Sedatives/hypnotics	Diazepam	Etizolam, clonazolam
	Dissociatives	Phencyclidine	3-methoxyphencyclidine, Deschloroketamine
	Classic hallucinogens	LSD, 2C-B	1p-LSD, 2C-I
	Stimulants	Cocaine, methamphetamine	4-fluoroamphetamine, Dimethylcathinone
	Cannabinoids	Cannabis	AB-PINACA, ADB-FUBINACA
	Opioids	Morphine, heroin	Furanyl fentanyl, ocfentanyl



# Expectations: what is UNODC's role?

## **CND Resolution 56/4 (2013)**

Urges the United Nations Office on Drugs and Crime to continue to develop the voluntary electronic portal of the international collaborative exercises, (...) to enable timely and comprehensive sharing of information on new psychoactive substances, including analytical methodologies, reference documents and mass spectra, as well as trend-analysis data, with a view to providing a global reference point and **early warning advisory** on new psychoactive substances (...).

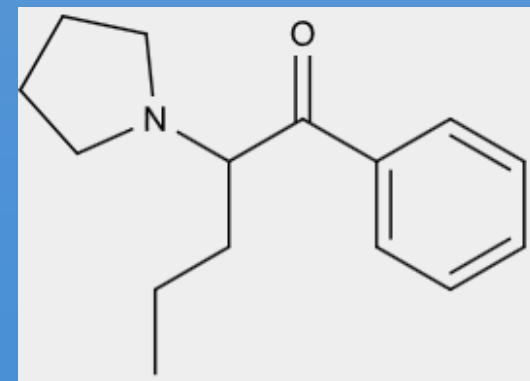
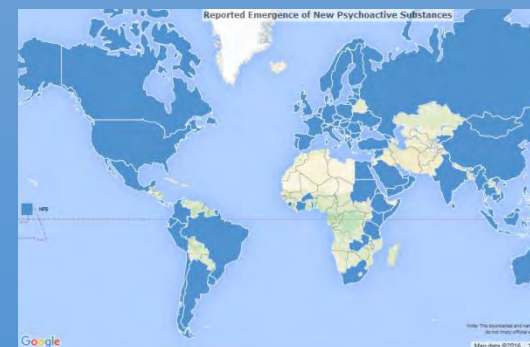
## **CND Resolution 58/11 (2015)**

Invites the World Health Organization, with the support of the United Nations Office on Drugs and Crime and other relevant international and regional organizations, to prioritize the review of the most prevalent, persistent and harmful new psychoactive substances

# Early Warning Advisory: Clients and needs

## Main clients

- International bodies and organisations (CND, WHO Expert Committee on Drug Dependence, INCB, ...):
  - Global reference point as a basis for discussion and decisions, NPS trends, maps, terminology, effects, and harms.
- National experts, policy and decision-makers:
  - Trend-analysis data and legal approaches
- Laboratories:
  - Spectra for NPS identification, methodologies for analysis and scientific names





## UNODC Early Warning Advisory – Data sources

- International Collaborative Exercise (ICE) Programme with over 250 forensic laboratories in over 80 countries
  - UNODC Annual Report Questionnaire and Individual Drug Seizure Database
  - UNODC member states questionnaire on NPS 2012, 2014 and 2016
  - European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)
  - Ad-hoc communication and threat assessments from individual member states (e.g. Canada, Japan, USA)
  - International Narcotics Control Board (Project ION Incident Communication System, IONICS)
  - World Customs Organization seizure data
- **Close to 15,000 data points from over 110 countries and territories worldwide**

- What are NPS?
- NPS Substance Groups
  - Aminoindanes
  - Other substances
  - Phencyclidine-type substances
  - Phenethylamines
  - Piperazines
  - Plant-based substances
  - Synthetic cannabinoids
  - Synthetic cathinones
  - Tryptamines
- Legal Responses
- Resources
- Global SMART Programme
- EWA Partners
- Latest News on NPS
- ICE-Portal

## UNODC Early Warning Advisory (EWA) on New Psychoactive Substances (NPS)

The EWA provides access to basic information on new psychoactive substances. Specific information on NPS including trend data, chemical details on individual substances, supporting documentation on laboratory analysis and legislative responses can be accessed by [registered users](#) only.



### What are NPS?

New psychoactive substances have been known in the market by terms such as 'legal highs', 'herbal highs', 'bath salts', 'research chemicals'

### NPS Substance Groups

NPS differ greatly in terms of their adverse effects, the ways in which they are abused and their historical background



### Legal Responses

Countries have adopted various legislative measures to tackle the NPS problem

## Latest News on NPS ([view all](#))



April 2018 – Drug checking services provide important forensic



April 2018 – UNODC: first training on handheld electronic field testing




March 2018 – New Zealand: Police issue warning about

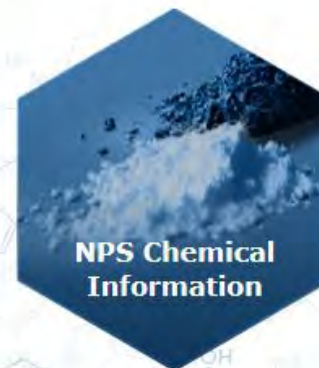


# What does the Early Warning Advisory Offer?

Home About **Dashboard** Round Management Search NPS Data Maintenance Area

## UNODC Early Warning Advisory on New Psychoactive Substances (NPS)

- ➔ Register New Client
- ➔ Clients
- ➔ What are NPS?
- ➔ NPS Substance Groups
  - Aminoindanes
  - Ketamine & Phencyclidine-type substances
  - Other substances
  - Phenethylamines
  - Piperazines
  - Plant-based substances
  - Synthetic cannabinoids
  - Synthetic cathinones
  - Tryptamines
- ➔ NPS Chemical Information
- ➔ NPS Briefs
- ➔ Legal Responses
- ➔ Resources
- ➔ EWA Guide
- ➔ Global SMART Programme
- ➔ EWA Partners
- ➔ Latest News on NPS
- ➔  ICE-Portal






# UNODC Early Warning Advisory on New Psychoactive Substances



Home Dashboard Search NPS Data

## Search NPS Data

### Filter:

Year:

- <all>
- 2015
- 2014
- 2013

(Ctrl+Click to multi-select)

Substance:

Regions:

- no region filter -
- Africa
- Americas
- Asia

(Ctrl+Click to multi-select)

Filter Clear Filter

Show Own/All:

- Show All

Substance Group:

- Synthetic cathinones

Countries:

- all -
- AFGHANISTAN (Asia)
- ÅLAND ISLANDS (Europe)
- ALBANIA (Europe)

(Ctrl+Click to multi-select)

Page Size:

- 30

Selected Countries (ISO-codes):

AF, AM, AZ, BH, BD, BT, BN, KH, CN, CD, KP, GE, HK, IN, ID, IQ, IR, IL, JP, JO, OM, PK, PH, QA, KR, SA, SG, LK, SY, TW, TJ, TH, TL, TM, AE, UZ, VN, YE

Access filtered data:

Summary Report (charts/tables) Detailed Substance Finding List

Substance Finding List Map



Use filters to check which NPS emerged where and when!

PDF summary report, excel list

Create an online map of NPS emergence based on your search criteria!



# UNODC Early Warning Advisory on New Psychoactive Substances



Means Of Identification (Ctrl-click to multiselect)

- Analytical technique(s)
- Labelling
- Online database
- Packaging

ATC Identification / Comment

**Create new NPS Submission**

### NPS Substance Finding

Substance ([open comprehensive list](#))

Quantity:  g or ml

Finding Date:

Means Of Identification (Ctrl-click to multiselect)

- Analytical technique(s)
- Labelling
- Online database
- Packaging

Description:

ATC Identification / Comment:

ATC Confirmation / Comment:

Comment:

Attachment  
 add attachment

Please ...  
select substance  
select means of identification

**Delete** **Cancel**

Submit a NPS finding in your country with analytical information using the online form!

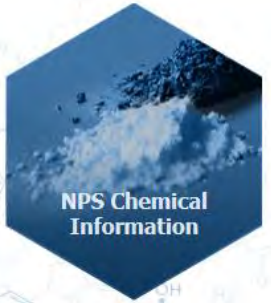


# UNODC Early Warning Advisory on New Psychoactive Substances

Home Dashboard Search NPS Data

NPS Chemical Information  🔍

Find more information on individual NPS



Name	Substances
<p><a href="#">Aminoindanes</a></p>	<ul style="list-style-type: none"> <li>➤ <a href="#">2,3-Dihydro-1H-Inden-1-amine, 1-Aminoindan</a></li> <li>➤ <a href="#">2-Aminoindane, 2,3-Dihydro-1H-inden-2-amine (2-AI) [2975-41-9]</a></li> <li>➤ <a href="#">5,6-Methylenedioxy-2-aminoindane, 6,7-Dihydro-5H-cyclopenta[f][1,3]benzodioxol-6-amine (MDAI) [132741-81-2]</a></li> <li>➤ <a href="#">5,6-Methylenedioxy-N-methyl-2-aminoindane, N-methyl-6,7-dihydro-5H-cyclopenta[f][1,3]benzodioxol-6-amine (MDMAI)</a></li> <li>➤ <a href="#">5-Iodo-2-aminoindane, 5-Iodo-2,3-dihydro-1H-inden-2-amine (5-IAI) [132367-76-1]</a></li> <li>➤ <a href="#">5-Methoxy-6-methyl-2-aminoindane, 5-Methoxy-6-methyl-2,3-dihydro-1H-inden-2-amine (MMAI)</a></li> <li>➤ <a href="#">N-Ethyl-5-trifluoromethyl-2-aminoindane, N-Ethyl-5-(trifluoromethyl)-2,3-dihydro-1H-inden-2-amine (ETAI)</a></li> <li>➤ <a href="#">N-Methyl-2-Aminoindane, 2,3-dihydro-N-methyl-1H-inden-2-amine (NM-2AI) [10408-85-2]</a></li> </ul>
	<ul style="list-style-type: none"> <li>➤ <a href="#">((E)-1-(1-(2-Morpholino-1-yl)ethyl)indol-3-yl)-3,4,4-trimethylpent-2-en-1-one (A-796,260 isomer)</a></li> <li>➤ <a href="#">(1-(5-fluoropentyl)-3-(2-ethylbenzoyl)indole)</a></li> <li>➤ <a href="#">(1-(5-fluoropentyl)-3-(2-methylbenzoyl)indole)</a></li> <li>➤ <a href="#">(1-Butyl-1H-indol-3-yl)(naphthalen-1-yl)methanone (JWH-073) [208987-48-8]</a></li> <li>➤ <a href="#">(1-ethyl-1H-indol-3-yl)naphthalen-1-yl-methanone (JWH-071)</a></li> <li>➤ <a href="#">(1-Pentyl-1H-indazol-3-yl)(2,2,3,3-tetramethylcyclopropyl)methanone</a></li> <li>➤ <a href="#">(1-pentyl-1H-indazol-3-yl)piperazin-1-yl)methanone</a></li> <li>➤ <a href="#">(1-Pentyl-1H-indol-3-yl)(pyridin-3-yl)methanone</a></li> <li>➤ <a href="#">(1-pentyl-1H-indol-3-yl)piperazin-1-yl)methanone</a></li> <li>➤ <a href="#">(2,2,3,3-tetramethylcyclopropyl)[1-(4,4,4-trifluorobutyl)-1H-indol-3-yl]-methanone (XLR-12)</a></li> <li>➤ <a href="#">[1-(3-chloropentyl)-1H-indol-3-yl](2,2,3,3-tetramethylcyclopropyl)methanone (UR-144 N-(3-chloropentyl)analog)</a></li> <li>➤ <a href="#">[1-(4-fluorobenzyl)-1H-indol-3-yl](2,2,3,3-tetramethylcyclopropyl)methanone (FUB-144, FUB-UR-144)</a></li> <li>➤ <a href="#">[1-(5-fluoropentyl)-1H-indol-3-yl]tricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl-methanone (5F-AB-001)</a></li> <li>➤ <a href="#">1-(5-fluoropentyl)-N-(quinolin-8-yl)-1H-indazole-3-carboxamide, 5-fluoro-THJ (5F-THJ, 5F-THJ-018)</a></li> <li>➤ <a href="#">1-Naphthalenyl(1-pentyl-1H-indazol-3-yl)-methanone, JWH-018 indazole analogue (THJ-018)</a></li> <li>➤ <a href="#">1-(2-Morpholin-4-ylethyl)-1H-indol-3-yl)-(2,2,3,3-tetramethylcyclopropyl)methanone (A-796,260)</a></li> <li>➤ <a href="#">1-(5-fluoropentyl)-N-(2-phenylpropan-2-yl)-1H-indazole-3-carboxamide, N-cumyl-1-(5-fluoropentyl)-1H-indazole-3-carboxamide (CUMYL-SFPINACA)</a></li> <li>➤ <a href="#">1-(5-fluoropentyl)-N-(2-phenylpropan-2-yl)-1H-indole-3-carboxamide (CUMYL-SFPICA)</a></li> <li>➤ <a href="#">1-(Cyclohexylmethyl)-2-[(4-ethoxyphenyl)methyl]-N,N-diethyl-1H-benzimidazol-5-carboxamide</a></li> <li>➤ <a href="#">1-(Phenylmethyl)-1H-indole-3-carboxylic acid 8-quinolinyl ester, Quinolin-8-yl-1-(phenylmethyl)-1H-indole-3-carboxylate</a></li> <li>➤ <a href="#">1-(Tetrahydropyran-4-ylmethyl)-1H-indol-3-yl)-(2,2,3,3-tetramethylcyclopropyl)methanone (A-834,735)</a></li> <li>➤ <a href="#">1-Benzyl-N-(quinolin-8-yl)-1H-indazole-3-carboxamide</a></li> <li>➤ <a href="#">1-Benzyl-N-(quinolin-8-yl)-1H-indole-3-carboxamide</a></li> <li>➤ <a href="#">1-butyl-N-(2-phenylpropan-2-yl)-1H-indole-3-carboxamide (CUMYL-BICA)</a></li> </ul>



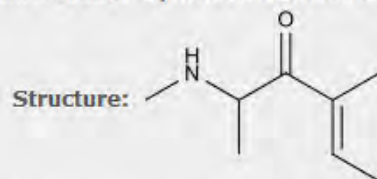
NPS Chemical Information

## Methylone | 3,4-Methylenedioxy-N-meth

Details Analytical Information Trend Data

**Names:** Methylone | 3,4-Met  
2-Methylamino-1-(3,  
bk-MDMA | MDMC

**IUPAC name:** 1-(1,3-benzodioxol-5-yl)-2-methylamino-1-propanone  
**Substance group:** Synthetic cathinones



**CAS Number:** 196028-79-5

**InChI:** InChI=1S/C11H13NO3  
13)8-3-4-9-10(5-8)  
7,12H,6H2,1-2H3

**InChI Key:** VKEQBMCQRDSRET-U

**SMILES:** CC(NC)C(=O)c1ccc2

**Molecular Formula:** C<sub>11</sub>H<sub>13</sub>NO<sub>3</sub>

**Molecular Weight:** 207.2258 g/mol

## Methylone | 3,4-Methylenedioxy-N-methcathinone

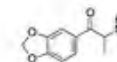
Details Analytical Information Trend Data

### Spectra:

Note: All analytical spectra can only be used for reference purposes.



United Nations Office on Drugs and Crime



Methylone, 1-(1,3-benzodioxol-5-yl)-2-(methylamino)propan-1-one



GC/MS operating conditions	
GC oven conditions:	Column temp. initially set at 240 °C and held isothermal for 1 min; immediately after injection and ramped to 330 °C at a rate of 8 °C/min with a final isotherm of 4 min.
Column:	TO-SOC, TO-MS, DB-5MS or equivalent, 30 m x 0.25 mm i.d., 0.25 µm film thickness
inlet:	Mode: splitless (purge flow 30 ml/min at 0.3 min); Temp.: 250 °C; Carrier gas: Helium, 1 ml/min, constant flow; injection volume: 1 µl
Detector:	Ionisation mode: EI mode, 70 eV; Transfer line temp.: 280 °C; Ion source temp.: 225 °C
MS parameters:	Solvent delay: 1 min; Scan mode: Scanning mass range: 30 - 160 amu at 2.17 scan/sec
Retention time:	9.4 min.

Note: The above method represents a general screening method and may not be applicable to separate multiple components in a sample.



### Search Legal Responses

#### Legal Responses

To find more information on the various legal responses in place around the world, click [here](#).

#### Known year of first control:

-- all --  
1978  
1985  
1986

(Ctrl+Click to multi-select)

#### Regions:

-- no region filter --  
Africa  
Americas  
Asia

(Ctrl+Click to multi-select)

#### Countries:

ÅLAND ISLANDS  
ALBANIA  
ALGERIA  
AMERICAN SAMOA

(Ctrl+Click to multi-select)

#### Selected countries:

AS, AI, AG, AR, AW, BS, BB, BZ, BM, BO, BR, CA, KY, CL, CO, CR, CU, DM, DO, EC, SV, FK, GF, GD, GP, GT, GY, HT, HN, JM, MQ, MX, MS, AN, NI, PA, PY, PE, PR, KN, LC, VC, SR, TT, TC, US, UY, VE, VG, VI

#### Type of legislation:

-- all --  
Analogue Control  
Drug Laws/Individual Listing  
Generic Legislation

(Ctrl+Click to multi-select)

#### Page Size:

30

Filter Clear Filter

### Drug Laws/Individual Listing for ARGENTINA

**Type of legislation:** Drug Laws/Individual Listing

**Legislation title:** Decree 299 of 2010, Update of the list of narcotics and other chemical substances to be included under the Law No. 23.737

**Known year of first control:** 2010

#### Description:

In Argentina, the possession and traffic of narcotic and psychotropic substances is regulated by Law No. 23.737 [<http://www.mseq.gba.gov.ar/Investigaciones/Drogaslicitas/ley%2023737.htm>] and the Decree No. 722 of 18 April 1991 [<http://infoleg.mecon.gov.ar/infolegInternet/resaltaranexos/5000-9999/6027/norma.htm>] where the list of controlled substances is contained. This Decree has been amended several times to update the list of controlled substances. In 2010, a number of new psychoactive substances were added to the list of controlled substances by Decree 299 of 2010 [<http://infoleg.mecon.gov.ar/infolegInternet/anexos/160000-164999/164826/norma.htm>]. Among the substances that were controlled are the phenethylamines 2C-I; 2C-T-2; 2C-T-7, PMMA, TMA-2, ketamine, the synthetic cathinone MPPP.

#### Links:

[Decree 299 of 2010](#)

If you have any further information or any amendments to the information provided on this page, please send an email to Global SMART ([globalsmart@unodc.org](mailto:globalsmart@unodc.org)).

[Return to list of legislation in ARGENTINA](#)

In most cases the original law is hyperlinked



## EWA Newsletter (4-5 times per year) and news clips

### Tweets

**Martin Raithelhuber**  
@raithelhuber

International Coordinator @UNODC  
Global SMART Programme | Tweets on #syntheticdrugs and #nps | Views my own, RT not necessarily endorsement.

[unodc.org/nps](https://unodc.org/nps)  
Joined March 2016

120 Photos and videos

**NEW ZE POL**  
Ngā Pirihimana

**Tweets**   **Tweets & replies**   **Media**

**Martin Raithelhuber** @raithelhuber · 42m  
\$Drug checking services provide important forensic information and harm reduction. Thanks @maier\_Jarissa unodc.org

You Retweeted  
**UNODC** @UNODC · Apr 8  
Speaking about the [#OpioidCrisis](#) @RxSummit -



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NEWSLETTER on New Psychoactive Substances  
March 2018 Vol. 15

### UNODC HIGHLIGHTS

[More than 800 NPS have been reported to UNODC from over 110 countries and territories from all regions of the world;](#) NPS have become a global phenomenon with over 110 countries and territories from all regions of the world having reported one or more NPS. Up to December 2017, more than 800 substances have been reported to the UNODC Early Warning Advisory (EWA) on NPS by Governments, laboratories and partner organisations. Looking at the psychoactive effects of NPS that have been reported until December 2017, the majority are stimulants, followed by synthetic cannabinoid receptor agonists and classic hallucinogens.

[SMART Update 19 explores the impact of NPS on the synthetic drug market:](#) The Global SMART Update (Volume 19, March 2018) presents an analysis of the synthetic drug situation before and after the rapid emergence of large numbers of NPS. Particularly, this report aims to shed light on how NPS have produced a transformative shift in a market that was characterised by a limited number of substances belonging to a limited number of chemical groups to one that includes hundreds of substances of diverse chemistries. Despite their diversity, NPS can be grouped into the same six categories of psychoactive effects known from traditional drugs under international control.

[UNODC publishes five brochures on various forensic services available to Member States;](#) UNODC has recently published brochures on five key areas of forensic services: crime scene investigation, drug and precursor field test kits, security documents examination, safe handling and disposal of chemicals, and forensic and scientific services publications. These brochures offer an overview of the variety of forensic services provided by UNODC to various disciplines of forensic science.

### UNODC EWA UPDATES

Legal responses: Updates are now available for [Estonia](#) and [Viet Nam](#) (for registered users only).

Analytical information: SWGDRUG monographs now available for 2-Methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one, Alpha-methyl acetyl fentanyl, Benzoylbenzyl Fentanyl, Crotonyl Fentanyl, alpha-PPP, 4-Fluoropentedrone, Cyclopropyl Fentanyl and U-49900 (for registered users only).

Updates to the website: The [legal responses](#) interface, the page on [what are NPS?](#) and the [phencyclidine-type substances](#) page have been updated with new information.

### RECENT NEWS on NPS

[INCB:](#) Synthetic cathinones and synthetic cannabinoids account for the majority of incidents reported to IONICS.

[EMCDDA-EUROPOL:](#) EMCDDA and Europol conduct a joint assessment of cyclopropylfentanyl, methoxyacetyl fentanyl and carfentanyl.

[FRANCE:](#) Information on online forums suggests that habitual NPS use is confined to narrow population groups.

[UNITED KINGDOM:](#) Problematic NPS use increases among adults and decreases among young people treated in secure settings.

[UNITED STATES:](#) US Food and Drug Administration uses computational model to assess kratom properties and potential adverse effects.

[UNITED STATES:](#) Drug Enforcement Administration issues a temporary order on fentanyl-related substances.

[AUSTRALIA:](#) Wastewater analysis identifies low levels of NPS.

# Highlighting specific issues: The Global SMART Updates (biannually)

**UNODC**  
United Nations Office on Drugs and Crime

**GLOBAL SMART UPDATE**

VOLUME 19  
March

**Understanding the synthetic drug market: the NPS factor**

EN

UNODC 2018

**UNODC**  
United Nations Office on Drugs and Crime

**GLOBAL SMART UPDATE**

VOLUME 18  
September

**Non-medical use of benzodiazepines: a growing threat to public health?**

EN

UNODC 2017

**UNODC**  
United Nations Office on Drugs and Crime

**GLOBAL SMART UPDATE**

VOLUME 17  
March

**Fentanyl and its analogues - 50 years on**

2017

**UNODC**  
United Nations Office on Drugs and Crime

**GLOBAL SMART UPDATE**

**legislation**

legis-lation

1. The act or process of making laws.  
2. A proposed or enacted law or statute.

**legislation** (noun)

1. (Law) the act or process of making laws.  
2. (Law) the laws so made.

**legis-lation** (noun)

1. (Law) the act or process of making laws.  
2. a law or a body of laws.

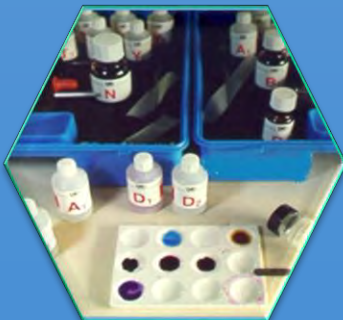
**legislation**

A law, body of laws, or the process of making laws.

**Special Segment**  
Legal responses to NPS: Multiple approaches to a multi-faceted problem

## Challenges for the UNODC Early Warning Advisory on NPS

- Early Warning at the global level has its own challenges
- Ensure a consistent flow of data on NPS from a wide range of sources (links to national and regional mechanisms)
- Between 2015 and 2017, 27 NPS and 2 NPS precursors were placed under international control, in March 2018, 12 more substances added: implementation gap between international decisions and national capabilities
- Respond to the demand of laboratories and law enforcement to improve their NPS detection and identification capability
- Capture more systematically information on harm





# Who can get access to the information in the UNODC Early Warning Advisory on NPS?

- Online database: for official use only (password protected)
- Newsletters, Global SMART Updates, news clips, tweets (@raithelhuber), other publications: general public

Sign up to be included in our distribution list  
([unodc-globalsmart@un.org](mailto:unodc-globalsmart@un.org))