

**Trends in NPS in Argentina and  
the challenge of design chemical precursors**  
*Control initiatives to address the problem*

13-15 AUGUST 2019, GROUP OF EXPERTS ON CHEMICAL SUBSTANCES AND PHARMACEUTICAL PRODUCTS, CICAD  
BUENOS AIRES, ARGENTINA

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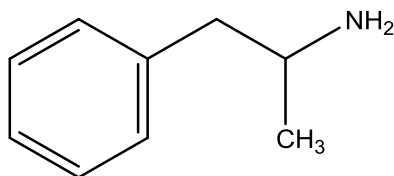


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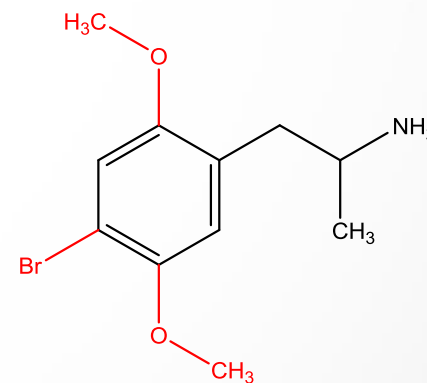
## Designer drugs

- Its abuse began in sixties.
- Term coined in 1984.

*«Analog, or chemical parent, of a controlled substance that has been designed to mimic the pharmacological effects of the original drug»*



Amphetamine



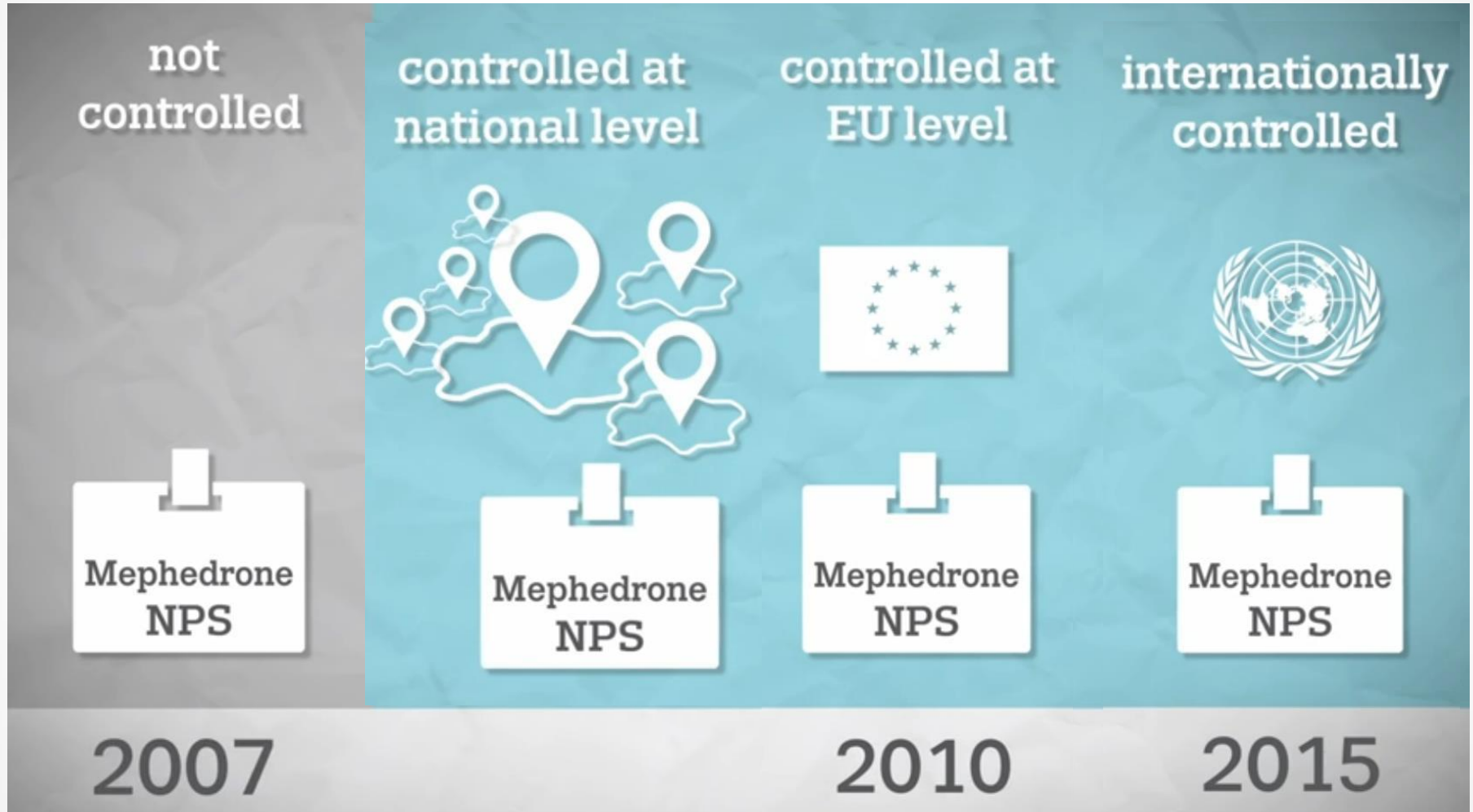
DOB

## NPS definition

- Term used since 2005.

*“Substances of abuse, that are not controlled by the United Nations Conventions, but which may pose a public health threat”.*





## Alternative terms in its marketing



Legal highs



Plant food



Research chemicals



**NOT FOR HUMAN  
CONSUMPTION**

## Characteristics

- Pharmacological effects similar to controlled substances.
- Threat to public health and security.
- Profitability, accelerated market and availability

¿CUÁNTA DROGA PURA SE NECESITA PARA HACER 10 000 DOSIS?



Carfentanil  
0,1 g



2-Metilfentanil  
2,5 g



25I-NBOMe  
5 g



PB-22  
100 g




Anfetamina  
100 g



Cocaína  
200 g



MDMA  
750 g

 «Nuevas drogas»  «Drogas antiguas»

## Global overview

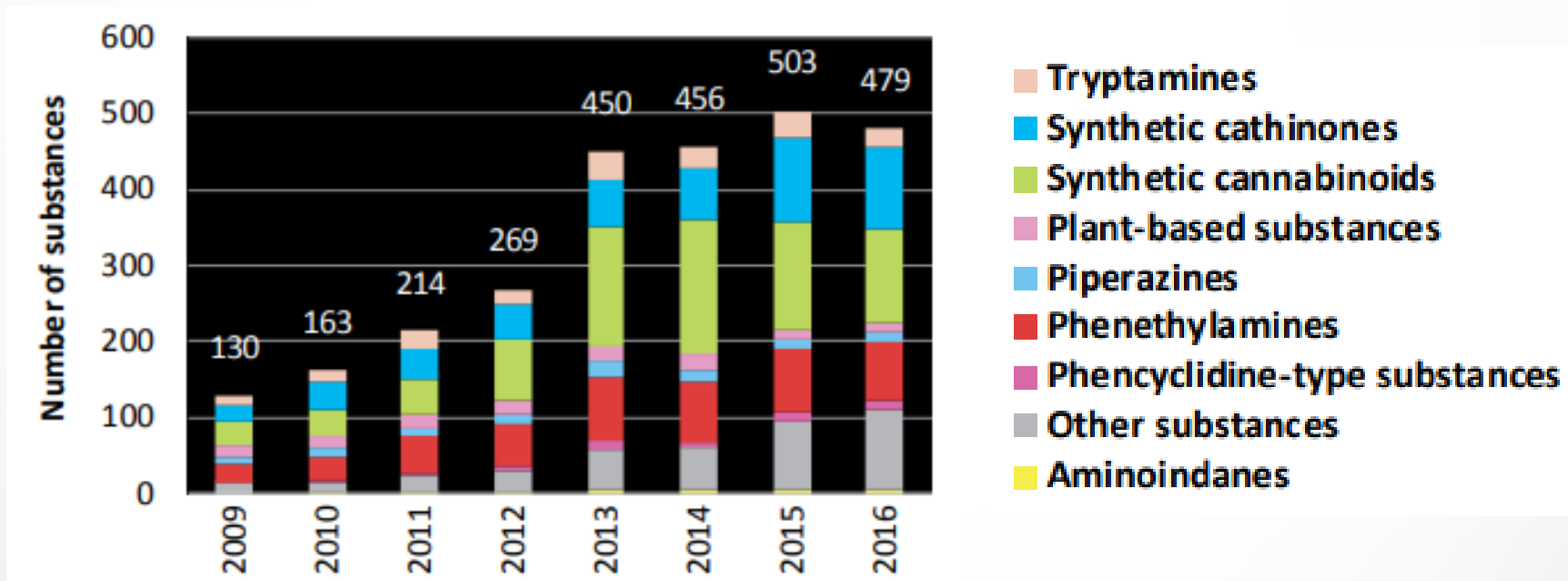
Every week **one new psychoactive substance** is reported





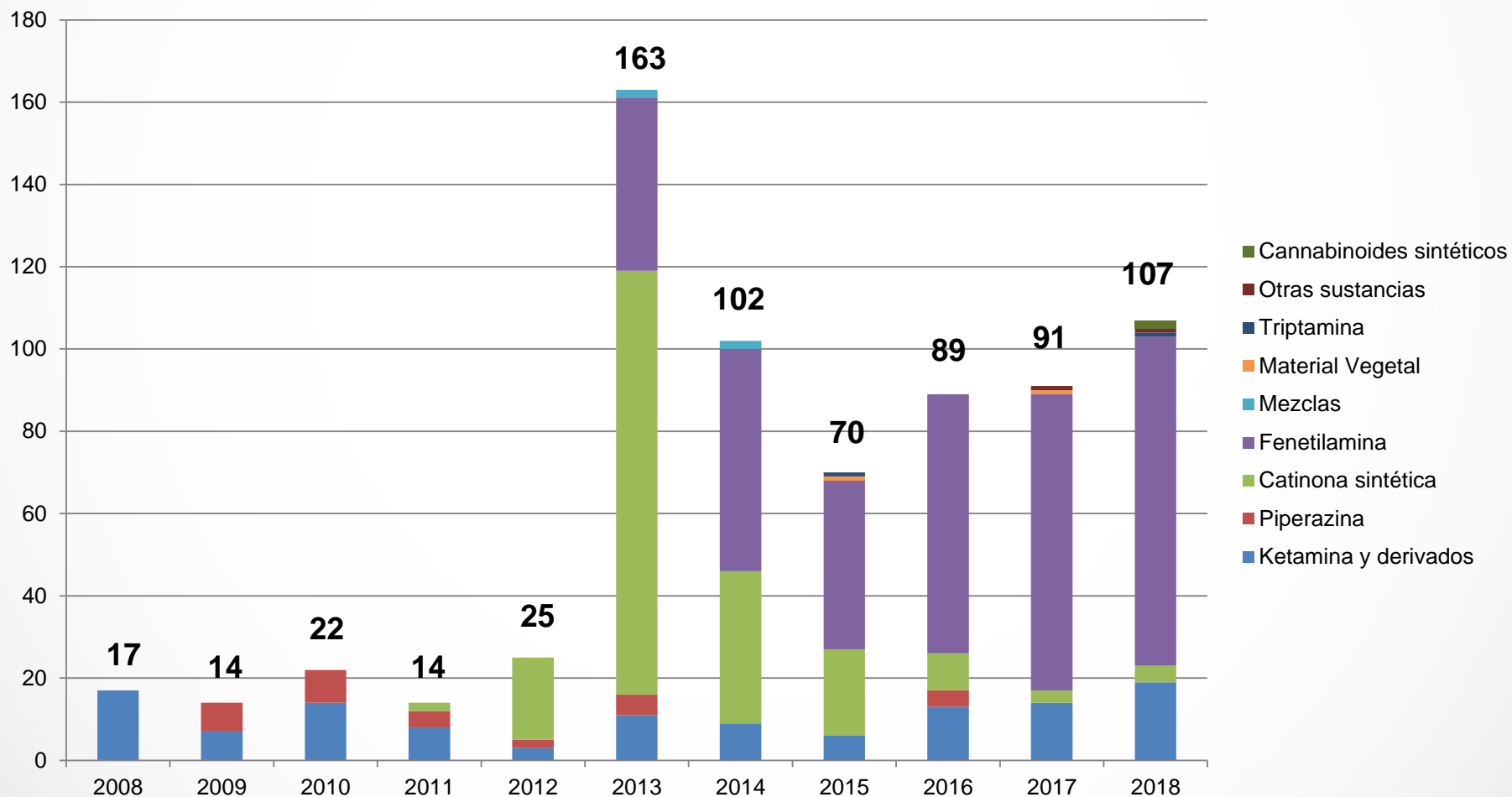
## Global overview

Between 2009 and 2018 **899 substances** have been reported to the early warning advisory of the UNODC.





## NPS detected in Argentina



## Narcotics control by individual listing of substances

Argentina applies the framework of the international drug control conventions controlling substances on a case-by-case basis.



International Narcotics Control Board

### Green List

29<sup>th</sup> edition, 2018  
Annex to the annual statistical report on  
psychotropic substances (form P)

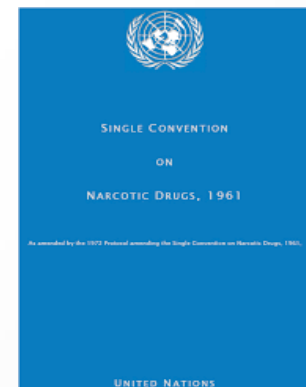
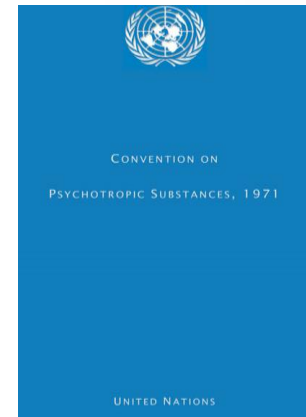
### List of Psychotropic Substances under International Control



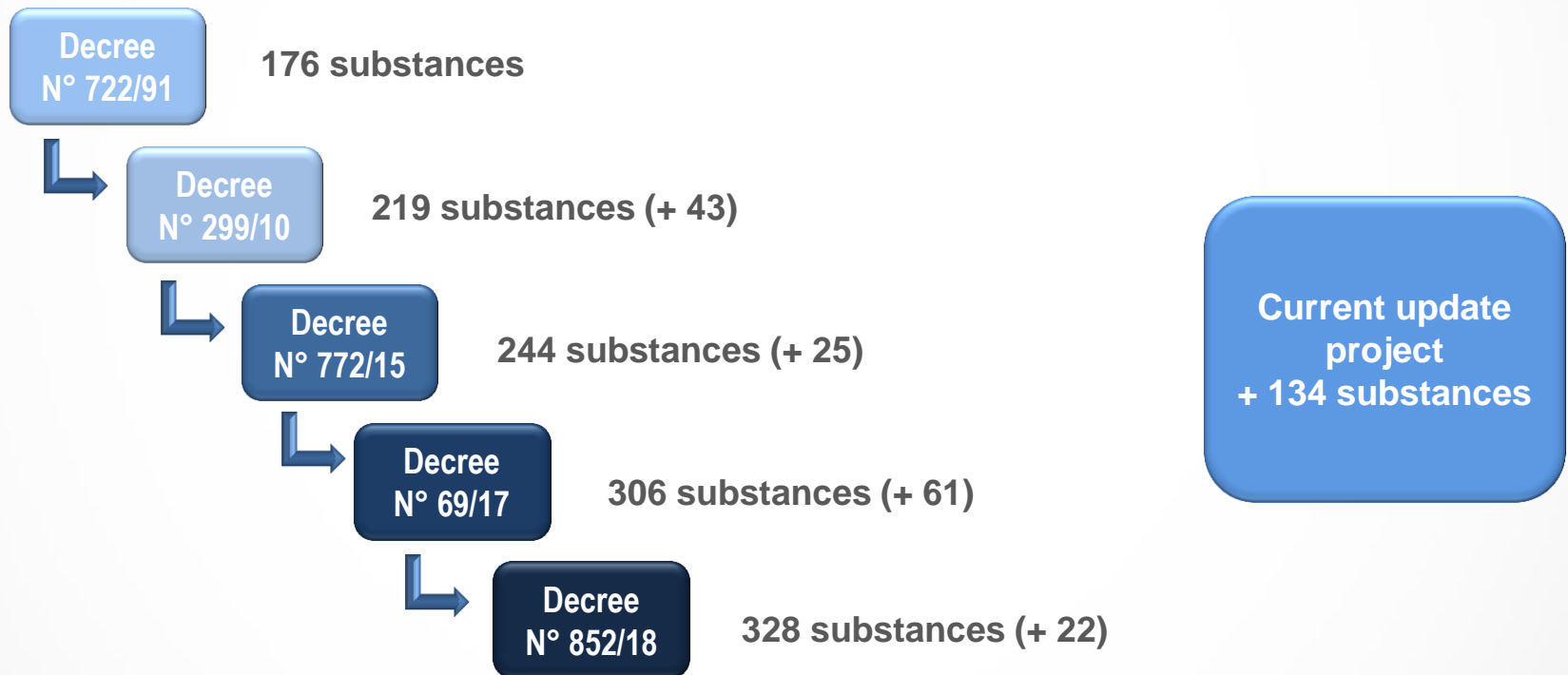
International Narcotics Control Board

### Yellow List

### LIST OF NARCOTIC DRUGS UNDER INTERNATIONAL CONTROL

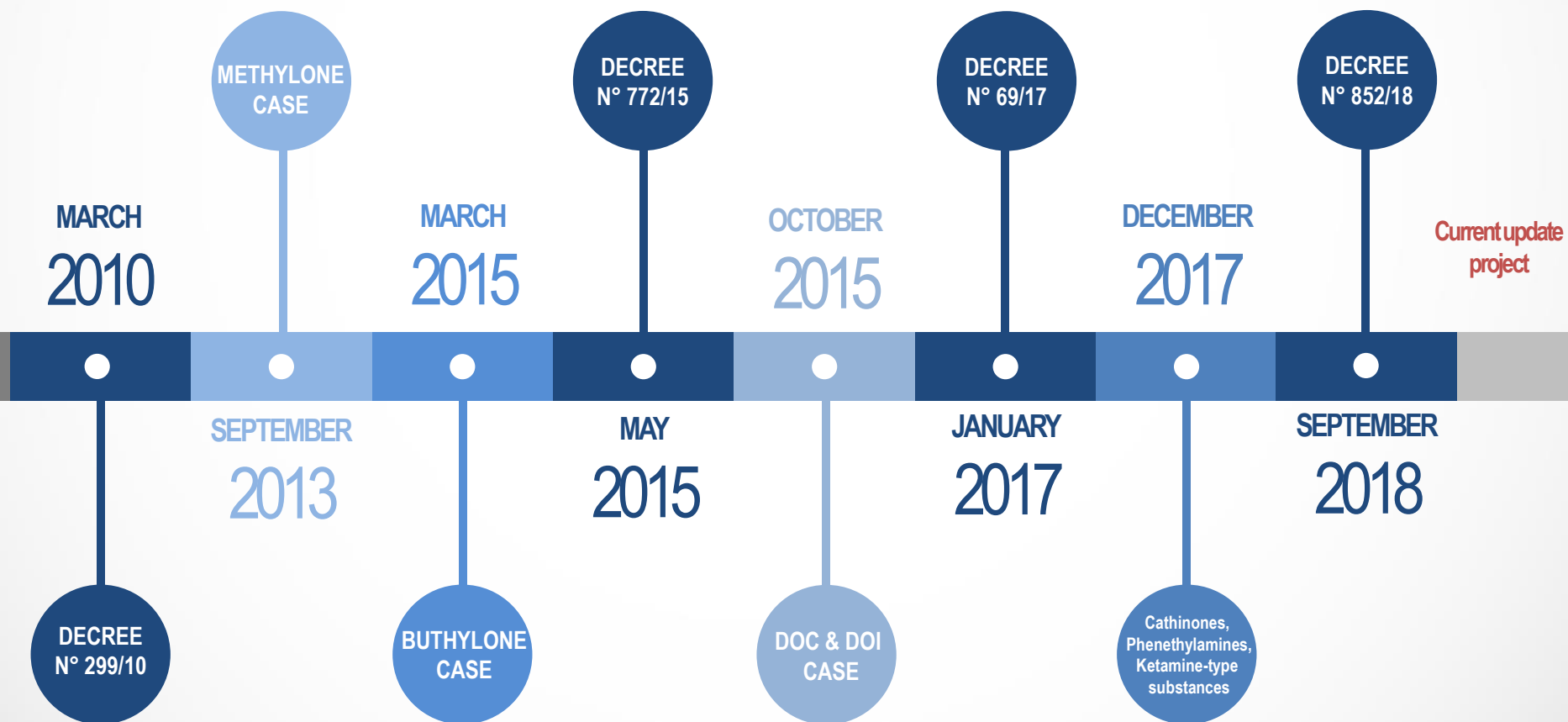


## Narcotics control by individual listing of substances

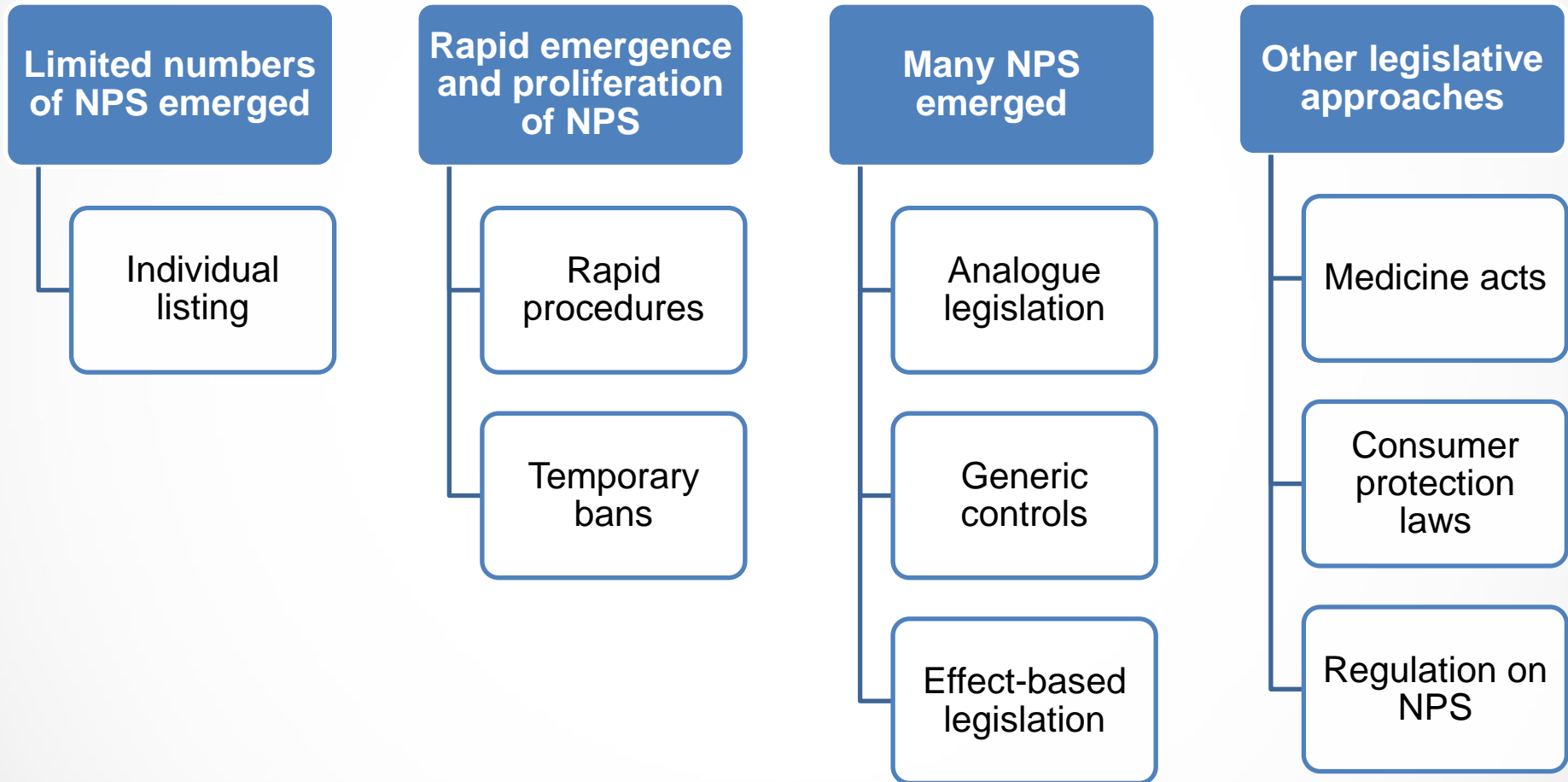


## Drawbacks of the individual listing of substances

- Some cases in Argentina



## Different approaches



## The generic control system

- **Legislative approach:**

The penal code establishes:

*“It will be considered as NARCOTICS those substances **that are included in the lists** that are periodically prepared and updated by decree of the National Executive Branch.”*

One **list of chemical groups** is added.

In case the substance identified is not listed in list I, the forensic expert should resort to list II, since its function will be to **complement the current system of individual listing of substances.**

## Development of the generic control system

### 1) Interagency cooperation



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CONICET





## Development of the generic control system

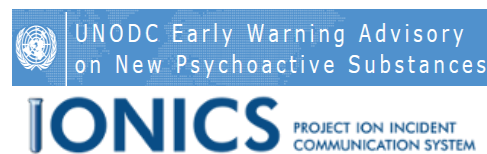
### 2) Categories of NPS to control



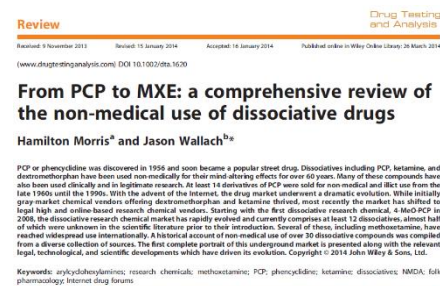
## Development of the generic control system

### 3) Use of various sources of information

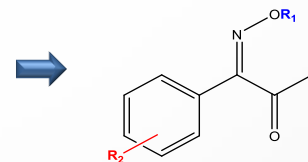
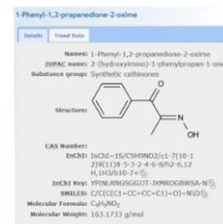
International Early Warning Systems



Specialized Bibliography



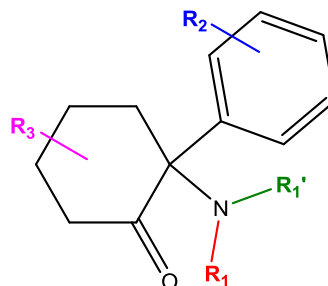
Research of possible combinations



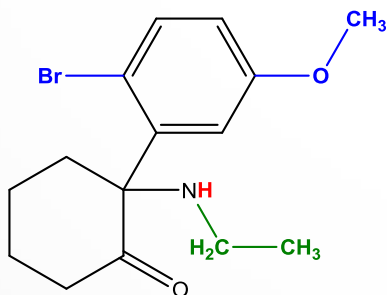
# Implementing the generic control system

## ✓ Example illustrating the usage of the Generic Control System

- Generic definition for Ketamine derivatives:



- Analysis of a substance reported to EWA



Methoxetamine bromo derivative

**Substituent R<sub>1</sub>:** hydrogen (-H).

*Included in the list for possible substituents for R<sub>1</sub>.*

**Substituent R<sub>1</sub>':** ethyl (-CH<sub>2</sub>-CH<sub>3</sub>).

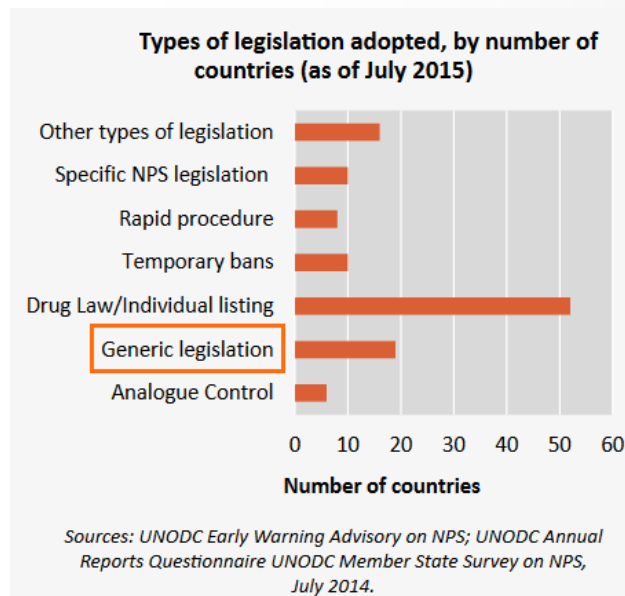
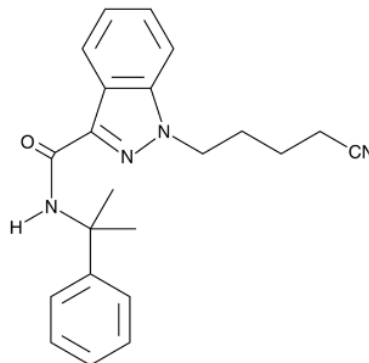
*Included in the list for possible substituents for R<sub>1</sub>'.*

**2 substituent R<sub>2</sub>:** bromine (-Br) at position 2 of the aromatic ring and methoxy (-O-CH<sub>3</sub>) at position 5.

*Included in the list for possible substituents for R<sub>2</sub>.*

## Implementación del sistema de fiscalización genérica

- ✓ Nueva herramienta normativa para la Justicia y las Fuerzas de Seguridad.
- ✓ Argentina se suma al listado de países que adoptan, simultáneamente, más de un tipo de legislación.
- ✓ Complemento del sistema vigente de listas de sustancias individuales: menor probabilidad de incautar sustancias no fiscalizadas.
- ✓ Desafíos de la implementación

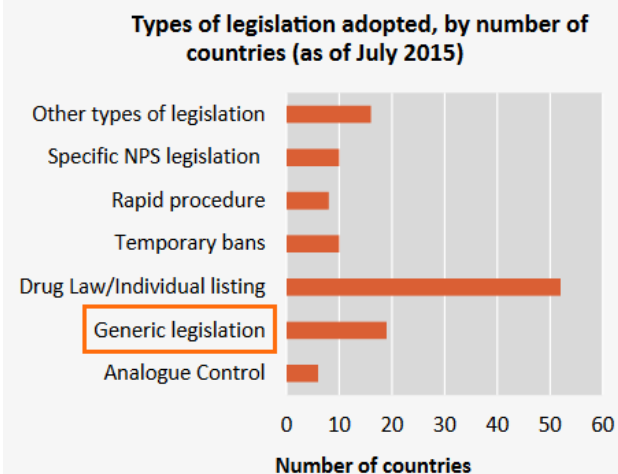
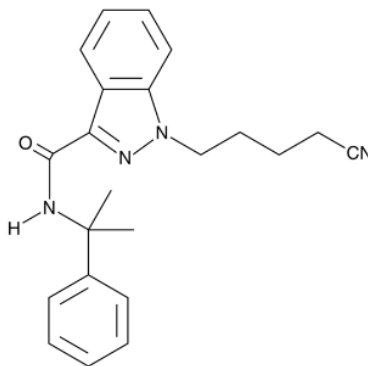


CUMYL-4CN-BINACA

## Implementing the Generic Control System

- ✓ Innovative legal instrument for Justice and Law Enforcement Agencies.
- ✓ Argentina joins the list of countries that have adopted multiple legislative approaches.
- ✓ Complement of the individual list of controlled substances: lower probability of seizing non-controlled substances.

- ✓ Challenges



Sources: UNODC Early Warning Advisory on NPS; UNODC Annual Reports Questionnaire UNODC Member State Survey on NPS, July 2014.

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# Synthetic drugs

## *Regional overview*

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**Main procedures**, carried out at international airports or in post offices. Mail or packages mostly **from a European country**.



## The changing “nature” of MDMA

2005

- Successful control of its precursors.

2008

- Pills with a low content of MDMA and mixtures of MDMA and other psychoactive substances.

Nowadays

- Pills with a high content of MDMA and in powder form. Large scale clandestine laboratories have been dismantled in Europe.

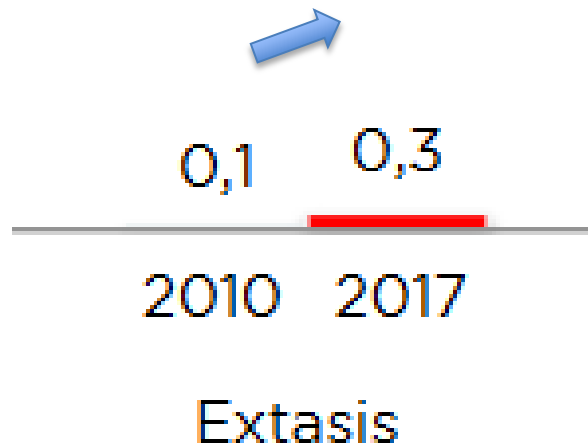
In Latin America...

The use of “ecstasy” exceeds the use of other amphetamine-type stimulants.

Availability of **tablets** containing high doses of MDMA

And availability of MDMA in **powder or in crystalline form.**

Consumption of “ecstasy tablets”, among young people, has increased and been associated with **some fatalities**.



58,882 persons consume  
ecstasy monthly

# Designer precursors

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CONVENCIÓN DE LAS NACIONES UNIDAS CONTRA EL

TRÁFICO ILÍCITO DE ESTUPEFACIENTES Y

SUSTANCIAS SICOTRÓPICAS,

1988



Junta Internacional de Fiscalización  
de Estupefacientes

## Lista Roja

(Decimosexta edición, enero de 2018)  
Anexo del formulario de información anual sobre  
sustancias utilizadas frecuentemente en la fabricación  
ilícita de estupefacientes y sustancias sicotrópicas  
(formulario D)

## Lista de precursores y sustancias químicas utilizados frecuentemente en la fabricación ilícita de estupefacientes y sustancias sicotrópicas sometidos a fiscalización internacional

De conformidad con  
la Convención de las Naciones Unidas contra el Tráfico Ilícito  
de Estupefacientes y Sustancias Sicotrópicas, 1988

*“The current reality is characterised by the emergence of novel precursors and pre-precursors that challenge the global control regime.”*

**Availability of precursors:** large impact on the synthetic drug market.

Production methods in illicit laboratories are constantly evolving to **circumvent controls**,

including the **use of non-scheduled chemicals** to produce synthetic drugs.



## Detection of new substances used in the illicit narcotic drugs manufacture

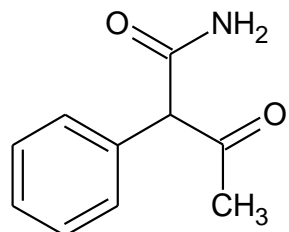
International early  
warning systems



- ✓ Shipping from China to Europe
- ✓ Mislabeled substances
- ✓ Substances with not known licit uses
- ✓ Large shipments

**“Designer” precursors:** purpose-made, close chemical relatives of controlled precursors and can easily be converted into a controlled precursor; they usually have no legitimate use and are therefore not traded widely and regularly.

# Alpha-phenylacetoacetamide (APAA)

Structure	
Molecular formula	$C_{10}H_{11}NO_2$
CAS Number	4433-77-6
Synonymous	2-phenylacetoacetamide; 3-oxo-2-phenylbutanamide
Description	White crystalline powder

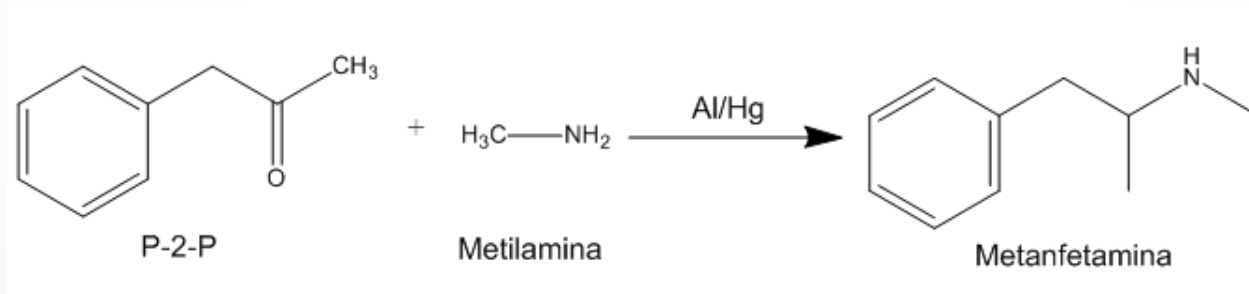
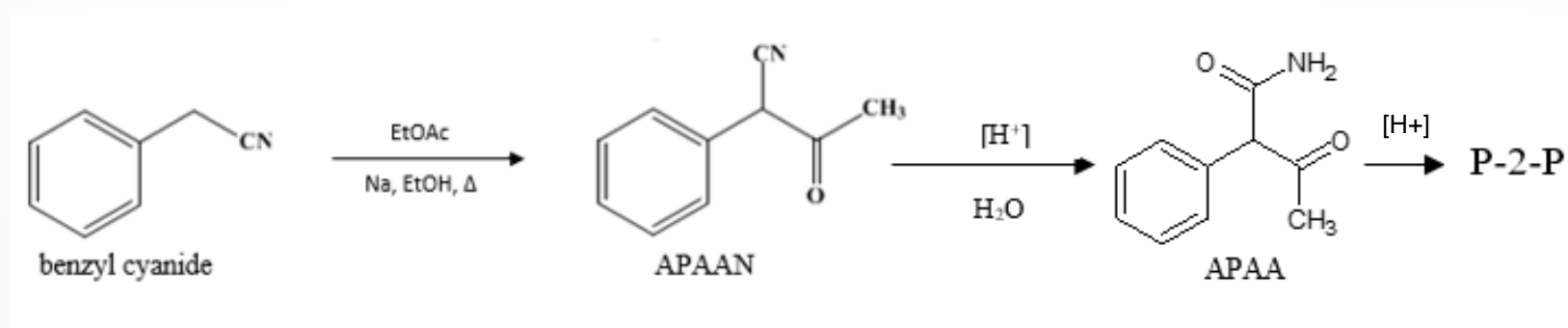
## Licit uses

- Analytical and research.
- Chemical intermediate in the P-2-P synthesis (never isolated).

# Alpha-phenylacetamide (APAA)

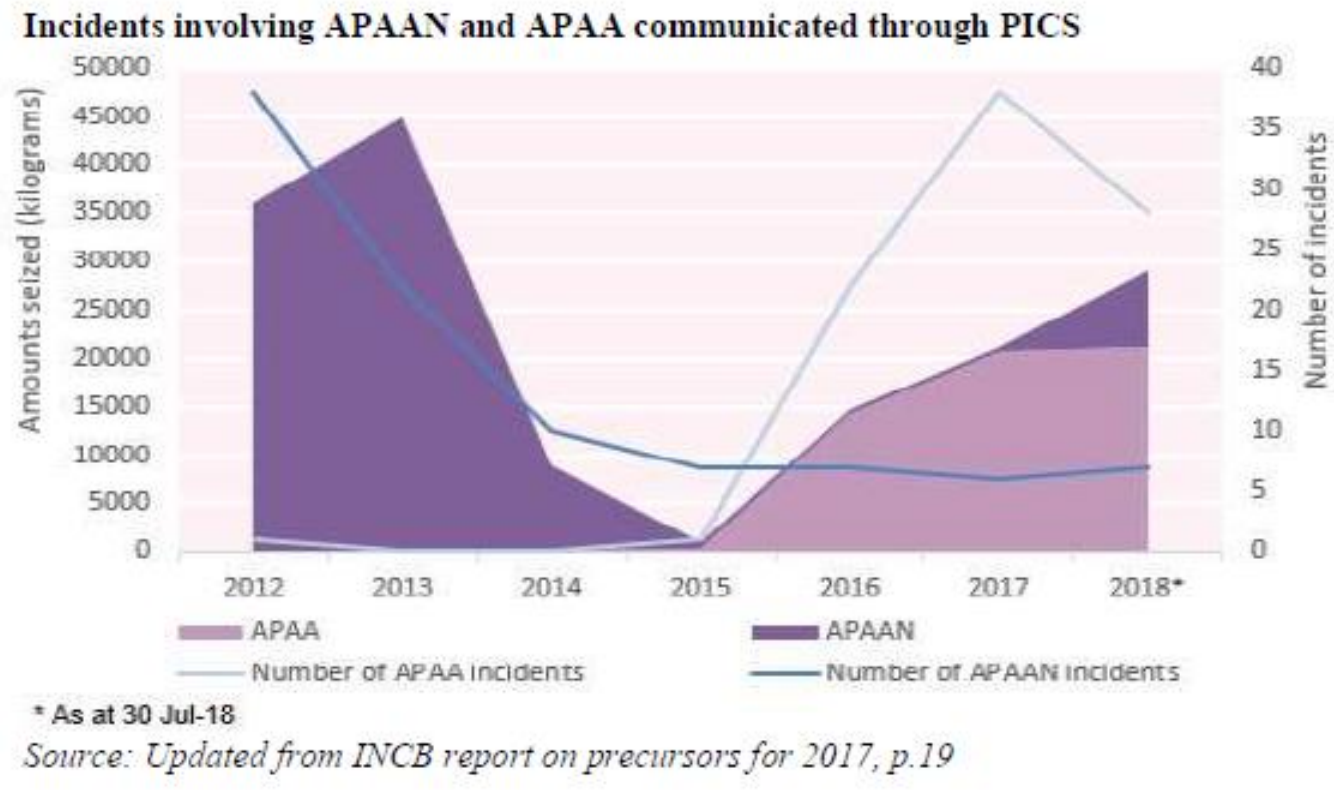
## Illicit uses

- In the synthesis of P-2-P for the illicit manufacture of amphetamine and methamphetamine.

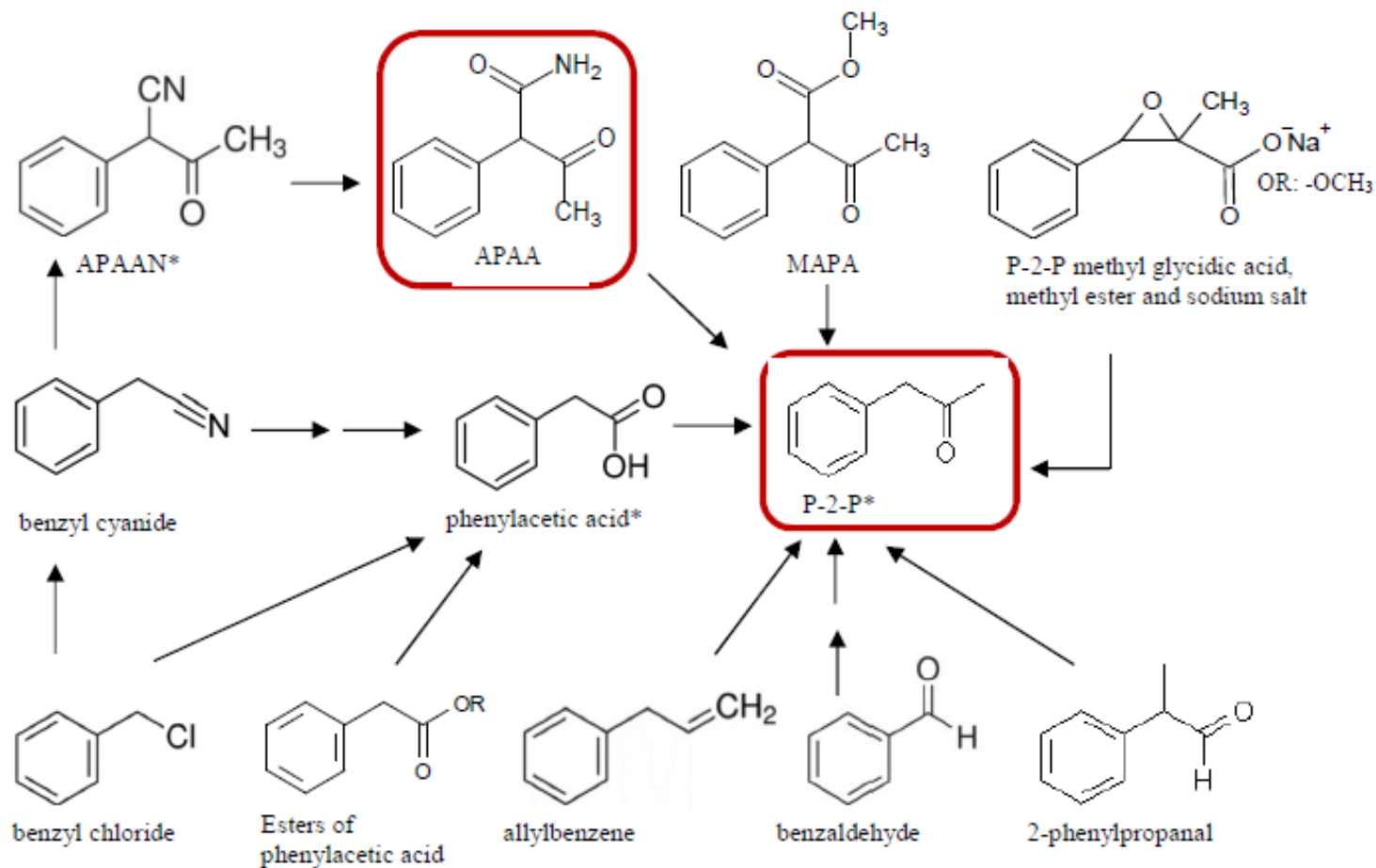


## Alpha-phenylacetamide (APAA)

- 2013
- Annualy seizures from 5 kilograms to 6.5 tons

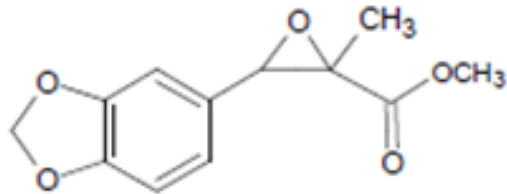


## Synthesys pathways to obtain P-2-P



Note: \* Included in Table I of the 1988 Convention

## 3,4-MDP-2-P methyl glycidate

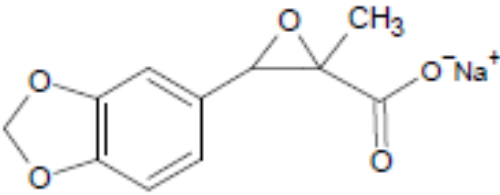
Structure	 <p>The chemical structure shows a 1,3-benzodioxole ring system attached to a glycidyl group. The glycidyl group is substituted with a methyl group (CH<sub>3</sub>) and a methyl ester group (OCH<sub>3</sub>) on the same carbon atom.</p>
Molecular formula	C <sub>12</sub> H <sub>12</sub> O <sub>5</sub>
CAS Number	13605-48-6
Synonymous	PMK glycidate; 3-(1,3-benzodioxol-5-yl)-2-methyl-2-oxiranecarboxylic acid, methyl ester
Description	White crystalline powder

### Licit uses

- Analytical and research.



## 3,4-MDP-2-P methyl glycidic acid, sodium salt

Structure	
Molecular formula	$C_{11}H_9O_5 \cdot Na$
CAS Number	N/A
Synonymous	3-[3',4'-(methylenedioxy)phenyl]-2-methyl glycidic acid, sodium salt
Description	White crystalline powder

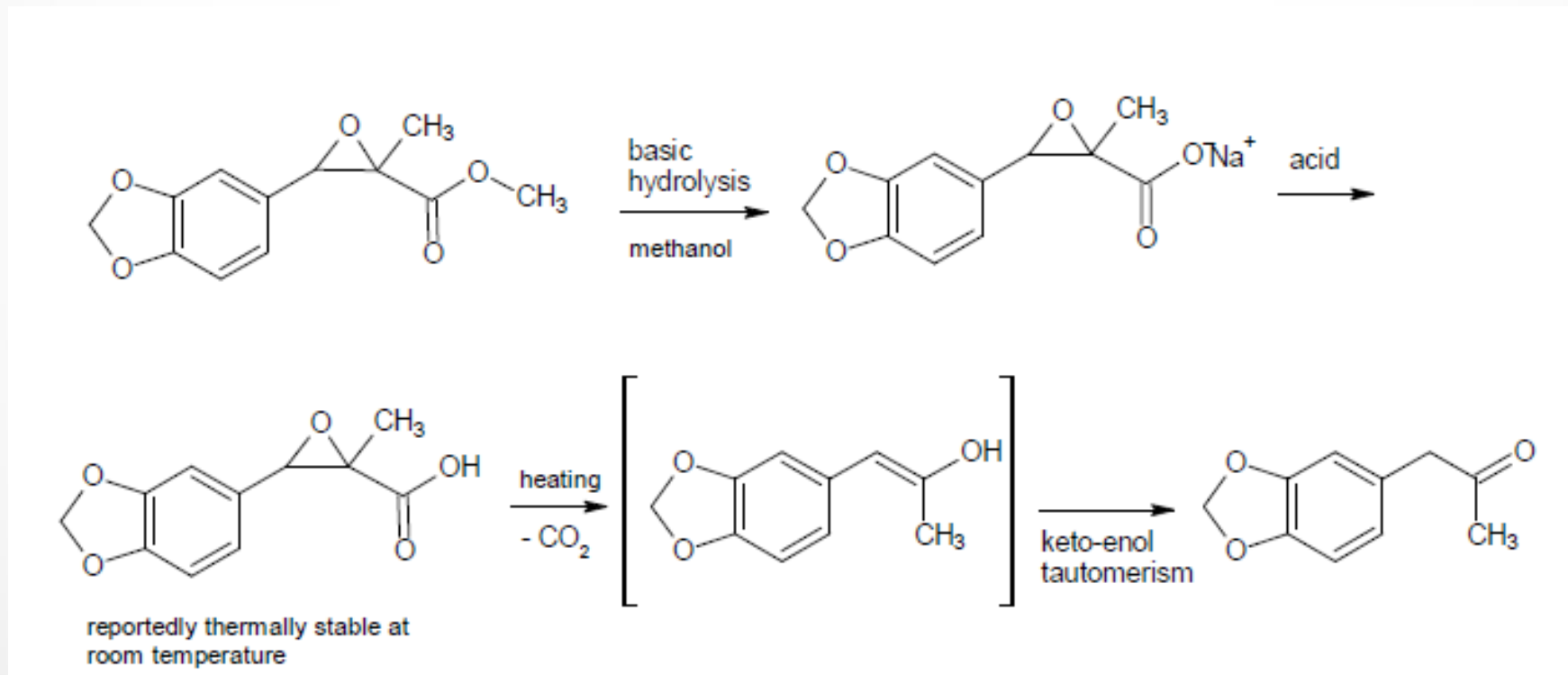
### Licit uses

- Analytical and research.

## Sodium salt and methyl ester

### Illicit uses

- In the synthesis of 3,4-MDP-2-P for the illicit manufacture of MDMA.



## **3,4-MDP-2-P methyl glycidic acid, sodium salt**

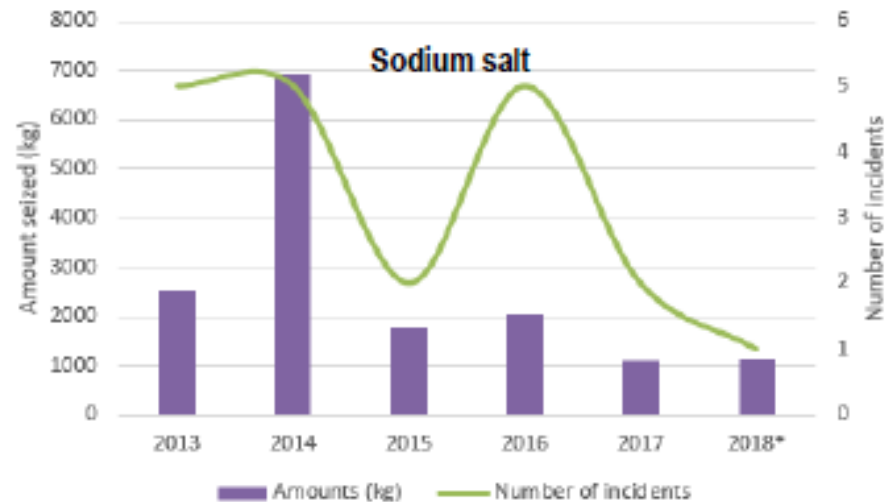
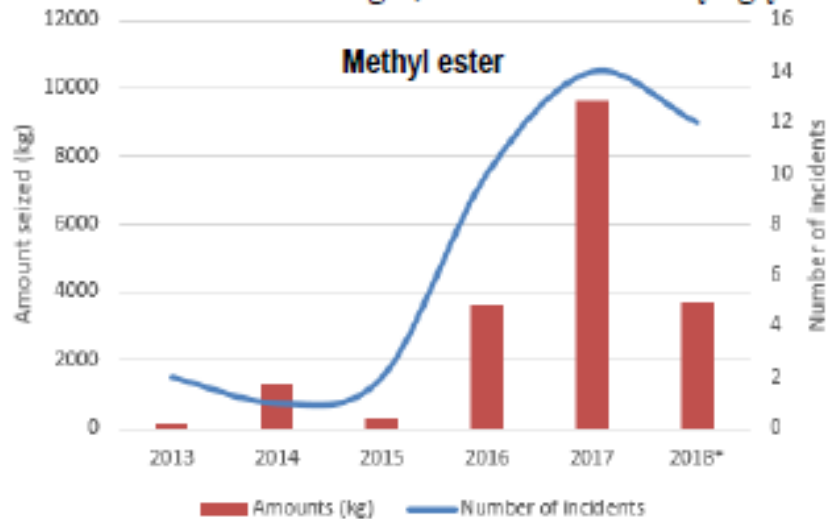
- 2013
- Annualy seizures from 500 grams to 2 tons

## **3,4-MDP-2-P methyl glycidate**

- 2010
- Annualy seizures from 100 grams to 3 tons

## Sodium salt and methyl ester

PICS incidents involving 3,4-MDP-2-P methyl glycidic acid methyl ester (left) and salt (right)



\* January-July 2018

## Austria, Vienna – March 2019: 62<sup>nd</sup> CND SESSION

Following the INCB recommendation, 3 chemical substances were added to the Table I of the 1988 Convention, which can be use in the illicit manufacture of amphetamine-type stimulants.



- 3,4-MDP-2P-methyl glycidate - Table I
- 3,4-MDP-2P-methyl glycidic acid - Table I
- Alpha-phenylacetoacetamide (APAA) - Table I

# Thank you!

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