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# QUALITY AND PURITY OF ILLICIT DRUGS, NEW PSYCHOACTIVE SUBSTANCES DETECTED IN SLOVENIA AND AWARENESS

## Report for the year 2016

dr. Sonja Klemenc, Mojca Janežič, Brigita Nemeč, Rajko Koren,  
Bojana Koštrun

National Forensic Laboratory  
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Report is available in Slovenian and English version and is published at web pages of the National Forensic Laboratory (NFL):

<http://www.policija.si/eng/index.php/generalpolicedirectorate/1669-nfl-page-response>

Results presented in this document will be included in the Slovenian national report on the drug situation, which is edited and issued yearly by NIJZ (National Institute of Public Health) in Slovenian and English languages. Slovenian national report is forwarded to the European Monitoring Centre on Drugs and Drug Addiction (EMCDDA) within the framework of the REITOX system.

## TABLE OF CONTENTS

Quality and purity of illicit drugs - foreword .....	4
Heroin mixtures .....	5
Cocaine mixtures .....	7
Cannabis and Cannabis Products .....	9
Amphetamine-type stimulants (ATS).....	10
Powders .....	10
Tablets .....	11
New psychoactive substances .....	13
Seizures .....	13
Anonymous testing .....	13
Acknowledgement .....	14

## LIST OF PICTURES

<i>Figure 1: Average heroin concentrations in the 2006-2016 period .....</i>	5
<i>Figure 2: Heroin concentration for 2016 in relation to net sample weight.....</i>	6
<i>Figure 3: Average cocaine concentrations in the 2006-2016 period.....</i>	7
<i>Figure 4: Cocaine concentration for 2016 in relation to net sample weight .....</i>	8
<i>Figure 5: Average concentrations of total THC in cannabis (marijuana and hashish) samples seized in the 2006-2016 period .....</i>	9
<i>Figure 6: Average concentrations of amphetamine in the 2006-2016 period (no data is available for 2007) .....</i>	10
<i>Figure 7: Amphetamine concentration for 2016 in relation to net sample weight .....</i>	11
<i>Figure 8: Different types of tablets seized in Slovenia in 2016 .....</i>	12

# Quality and purity of illicit drugs - foreword

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Data on the quality or purity of drugs are available only for certain seized drugs. In 2015, the sampling, analyses (chemical characterisations) and statistical evaluations of results were carried out by the Chemical Investigation Department of the National Forensic Laboratory (hereinafter “NFL”), which has carried out regular annual monitoring since 2006 (since 1995 for heroin mixtures). NFL informs domestic stakeholders and ministries and is actively involved in the preparation of the Report on the Drug Situation of the Republic of Slovenia. Analytical results provided by NFL always represent a significant part of the reports delivered by the Republic of Slovenia to international institutions (UNODC and EMCDDA) and to EUROPOL via the national ENU contact point, when relevant. The Chemical Investigation Department is also an active member of ENFSI-DWG (European Network of Forensic Science Institutes – Drugs Working Group), which is vital for a quick exchange of analytical data that are a prerequisite for the detection and forensic identification – chemical characterization of new compounds, especially with regard to the ‘explosion’ of new psychoactive substances on the market.

All the concentrations reported in this work refer to the compounds in base form.

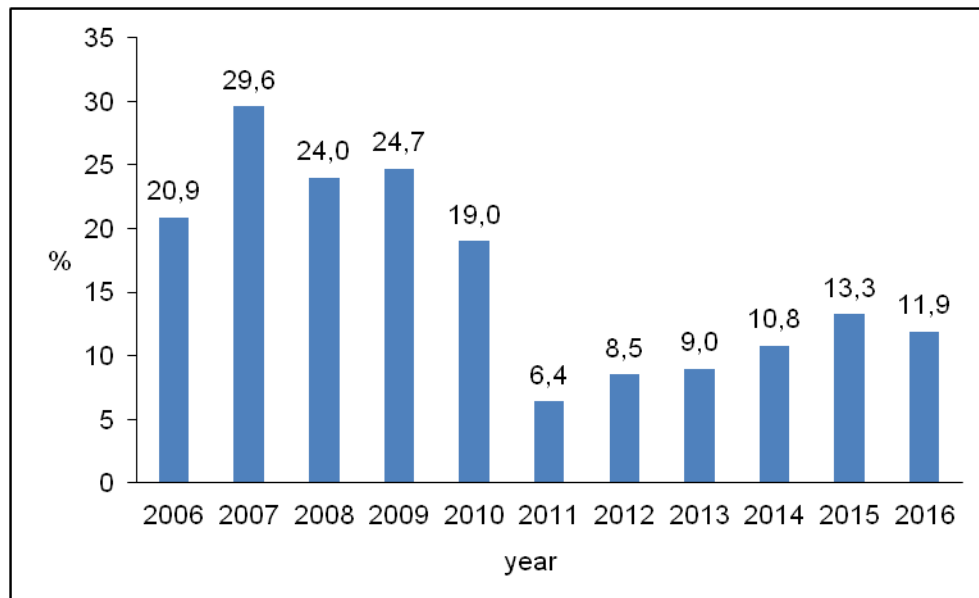
## Heroin mixtures

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In 2016, 311 samples from 87 cases (of total net weight of approximately 48 kg) were included in the monitoring.

All samples contained heroin in base form, typical accompanying opium-derived heroin compounds, and cutting agents paracetamol and caffeine.

The average concentration of heroin was 11.9 % (*Figure 1*). The highest measured content was 45.9%, and the lowest 1.6 %.



*Figure 1: Average heroin concentrations in the 2006-2016 period*

A detailed analysis showing the relationship between heroin concentration and the net weight of seized samples is shown in Figure 2 (*Figure 2*).

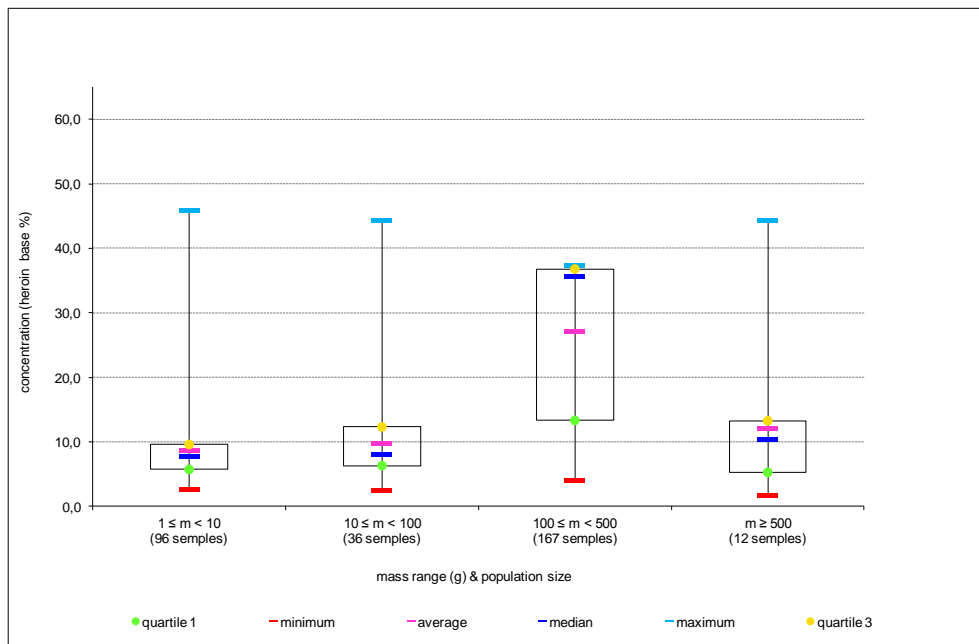


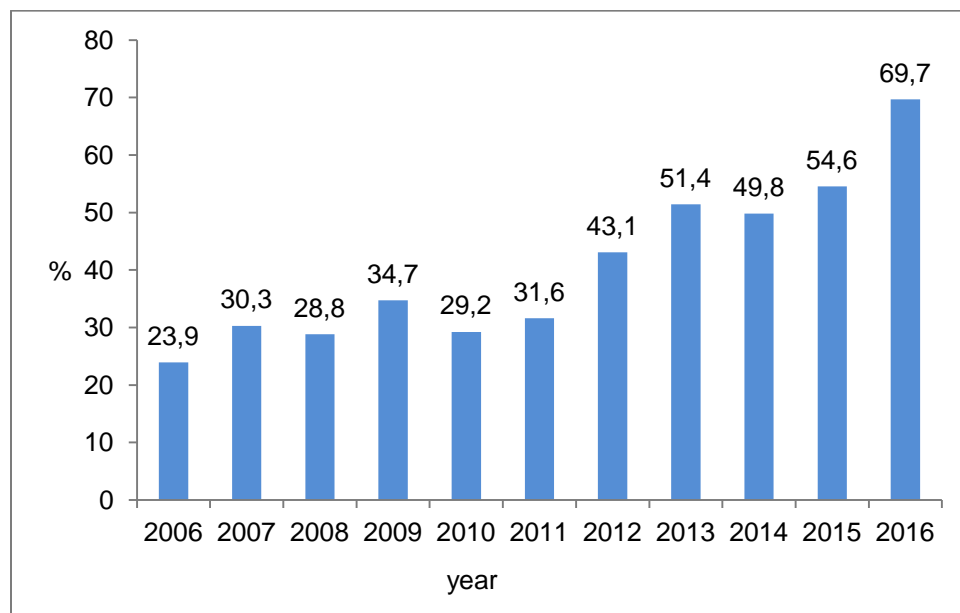
Figure 2: Heroin concentration for 2016 in relation to net sample weight

## Cocaine mixtures

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The monitoring included 172 samples from 54 of seizures with total net weight of the samples roughly amounted to 107 kg. All samples contained cocaine in the form of hydrochloride. The average cocaine content was 69.7 % (*Figure 3*), minimum 9.2% and the maximum 90.5%.

The most common cutting agents detected were levamisole and lidocaine, similar as in previous years.



*Figure 3: Average cocaine concentrations in the 2006-2016 period*

A detailed analysis showing the relationship between cocaine concentration and the net weight of seized samples is shown in *Figure 4*.

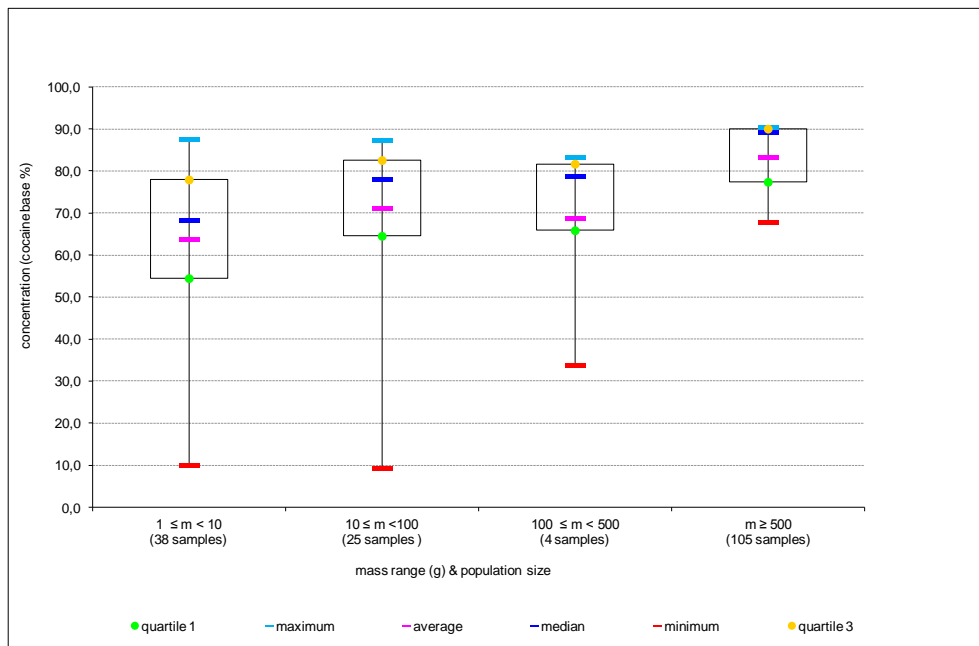


Figure 4: Cocaine concentration for 2016 in relation to net sample weight

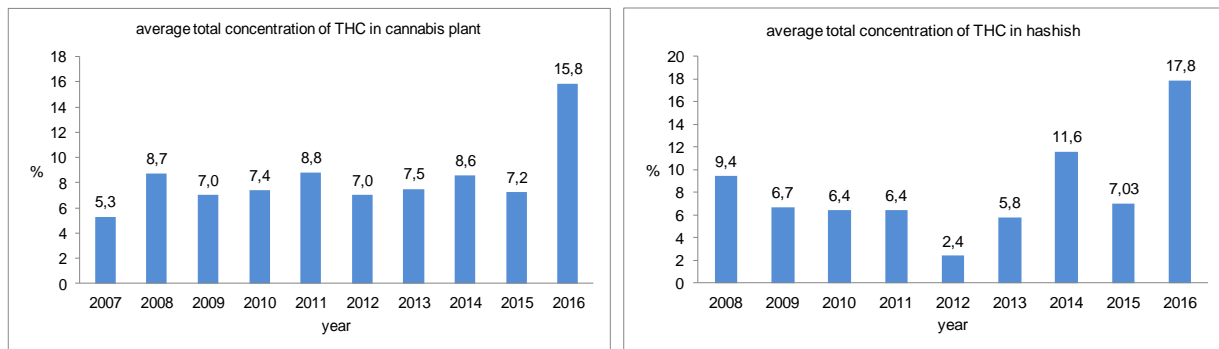


# Cannabis and Cannabis Products

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Monitoring included 265 samples of cannabis (tops and leaves) from 53 cases of total net weight approximately 184 kg, and 6 hashish samples from 2 not correlated cases. The net weight of hashish samples was 99 g.

The average concentrations (*Figure 5*) of the total THC in plant material were higher than in previous years (average value of 15.8 %, minimum value of 3.5 % and maximum value of 20.9%). Compared to the previous year, the average concentration of total THC in hashish has raised (average value of 17.8 %, minimum value of 0.2 % and maximum value of 38.4 %).



*Figure 5: Average concentrations of total THC in cannabis (marijuana and hashish) samples seized in the 2006-2016 period*

# Amphetamine-type stimulants (ATS)

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NFL investigated samples in powder and tablet forms.

## Powders

Most of the powdered samples seized in 2016 contained amphetamine. Seizures of powdered 3,4-methylenedioxy-N-methamphetamine (MDMA) and methamphetamine in powder form were rare.

The average content of amphetamine in 41 samples from 17 cases was 9.9 %, which is lower than in the previous year. (Figure 6). The minimum amphetamine concentration was 0.7 % and the maximum 65.7 %.

The average content of MDMA in two not correlated powdered samples (2 cases only) was 77.3 % with both measured values 76.6 % and 78.0 %.

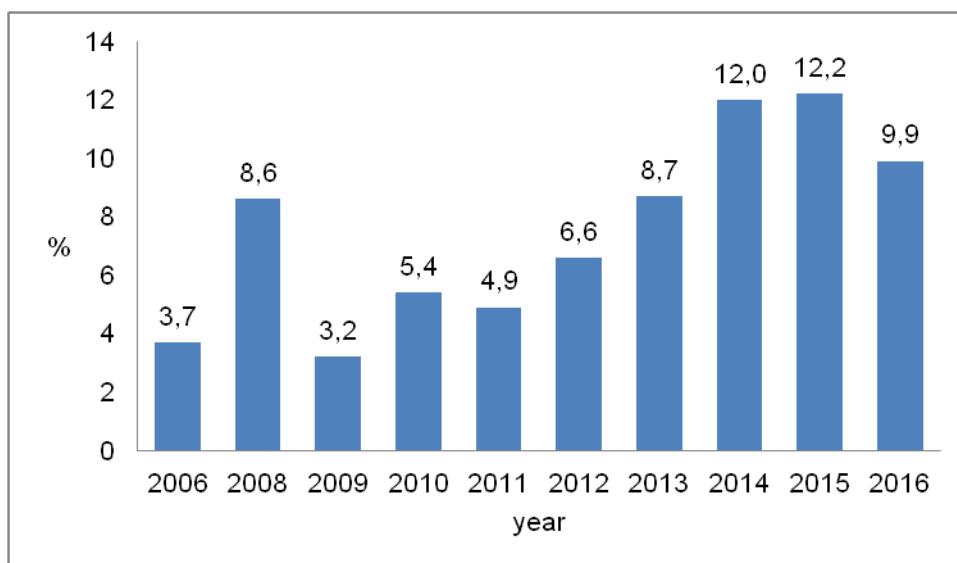


Figure 6: Average concentrations of amphetamine in the 2006-2016 period (no data is available for 2007)

A detailed analysis showing the relationship between amphetamine content and net weight of seized samples is shown in Figure (Figure 7).

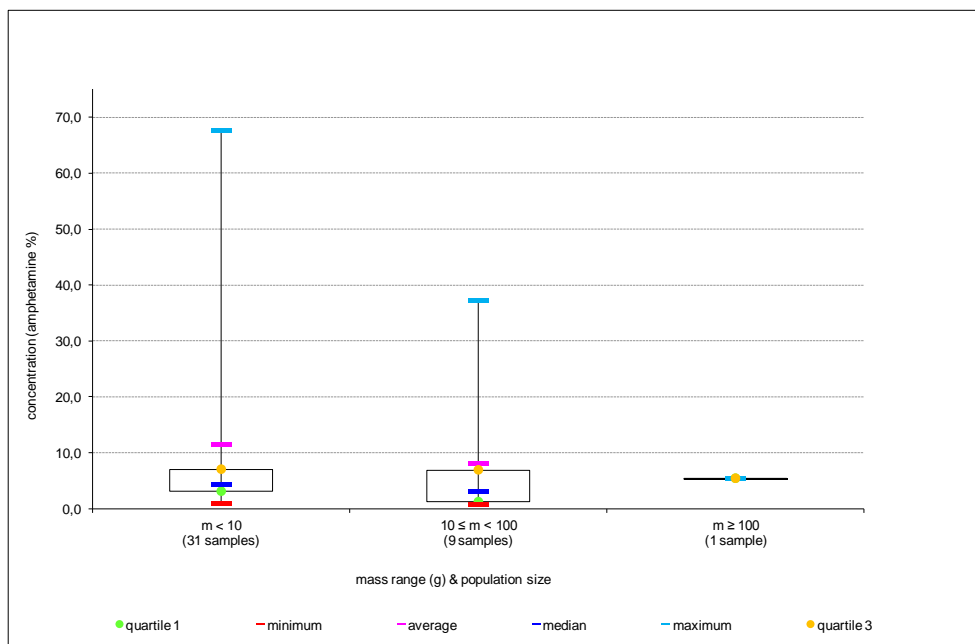
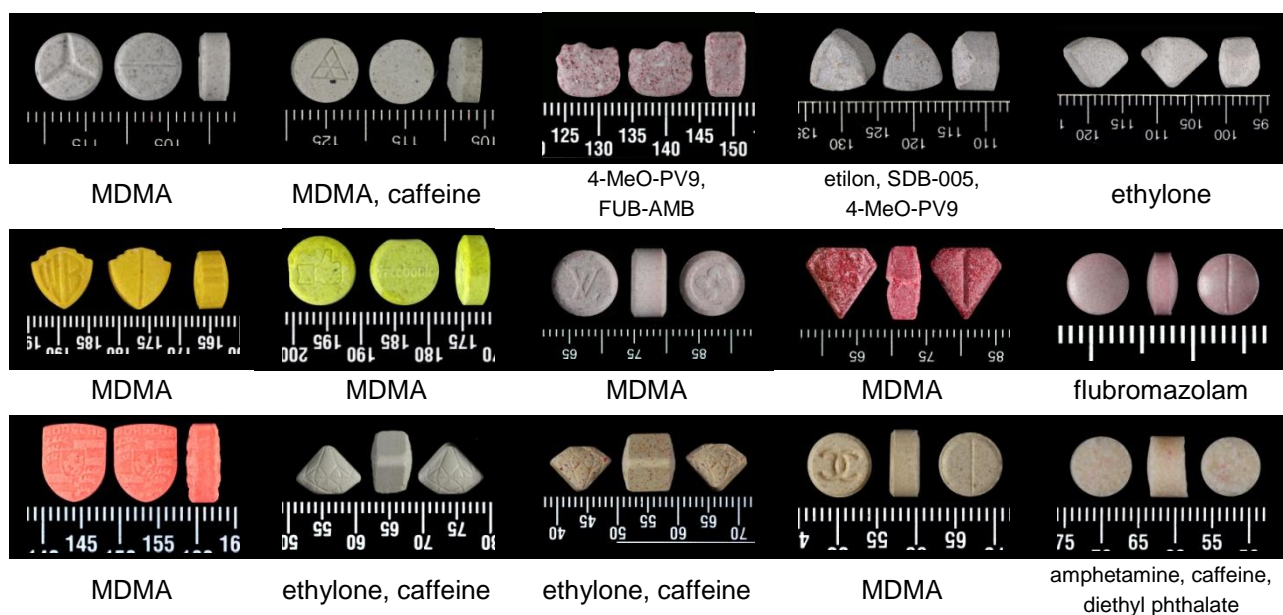


Figure 7: Amphetamine concentration for 2016 in relation to net sample weight

## Tablets

In 2016, the police seized 32 new types of ecstasy tablets (in view of the logo or active substance) in Slovenia. Most of the tablets contained MDMA, while other types of compounds were rarely detected (Figure 8). Average, minimum and maximum MDMA content per tablet was 119 mg, 78 mg and 201 mg, respectively.



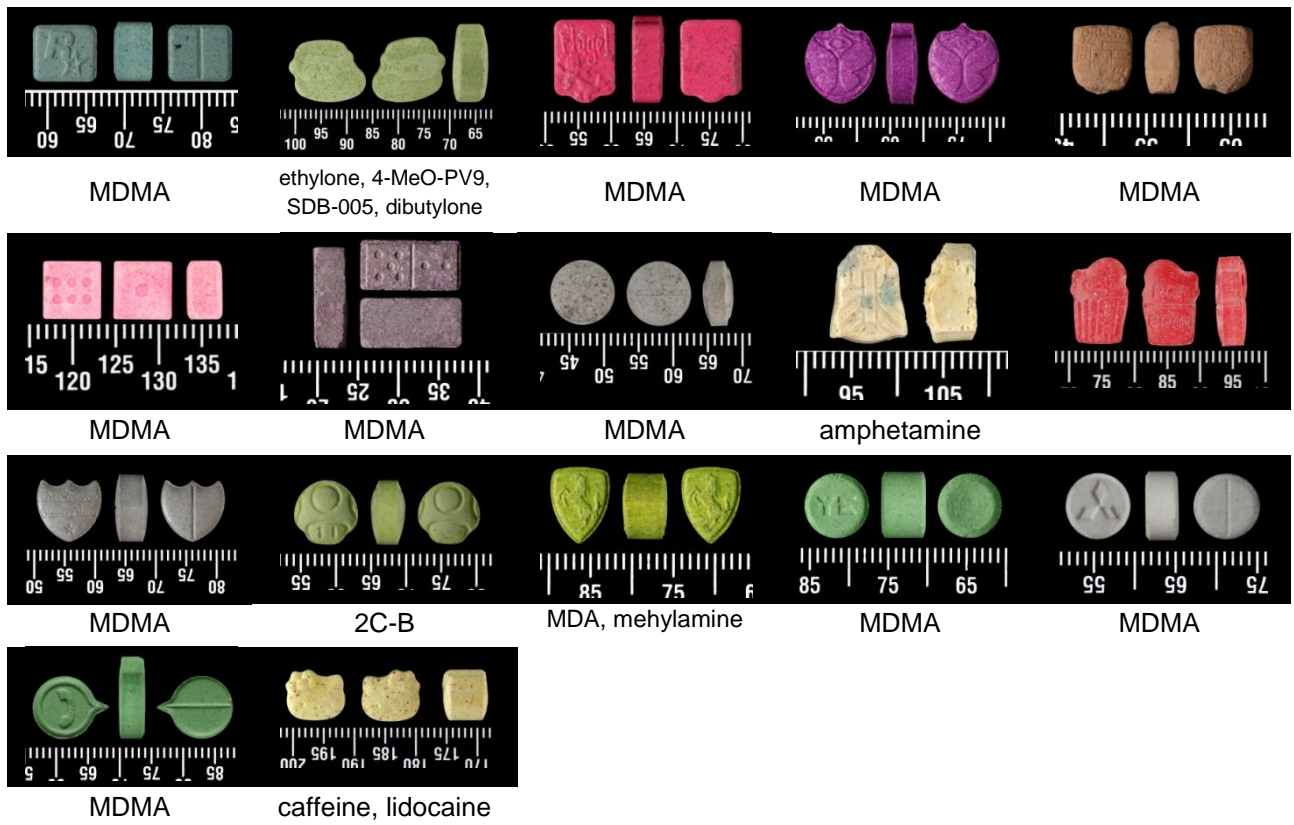


Figure 8: Different types of tablets seized in Slovenia in 2016

# New psychoactive substances

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The customers (mostly the Police), Slovenian EWS, EMCDDA and in some cases EUROPOL were promptly informed about substances detected in Slovenia for the first time. A comprehensive overview on NPS identified at the NFL in the period January – December 2016 is available online at the web pages of NFL:

[http://www.policija.si/eng/images/stories/GPUNFL/PDF/2016/NPS-SI\\_EWS\\_Report\\_January-December2016.pdf](http://www.policija.si/eng/images/stories/GPUNFL/PDF/2016/NPS-SI_EWS_Report_January-December2016.pdf)

## *Seizures*

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Minor quantities of samples (up to several tens of grams) were seized by the Police involving natural persons in the field and in prisons.

In 2016 NFL processed 32 cases (seizures) where altogether 26 different NPS were identified. Synthetic cannabinoids 5F-AKB48, ADB-CHMINACA, ADB-FUBINACA, MDMB-CHMICA were the most popular and were found either in plant material or dark pasty samples. The number of powdered or crystalline NPS samples has increased. For further information please see:

[http://www.policija.si/eng/images/stories/GPUNFL/PDF/2016/NPS-SI\\_EWS\\_Report\\_January-December2016.pdf](http://www.policija.si/eng/images/stories/GPUNFL/PDF/2016/NPS-SI_EWS_Report_January-December2016.pdf)

## *Anonymous testing*

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Within the scope of the Slovenian Early Warning System (EWS-SI) around 100 samples free of charge for users were received for anonymous testing. Most of samples contained classic illicit drugs, or drugs were not detected at all. NPSs were detected in 22 samples.

Several awareness reports were issued by SI EWS.

# Acknowledgement

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