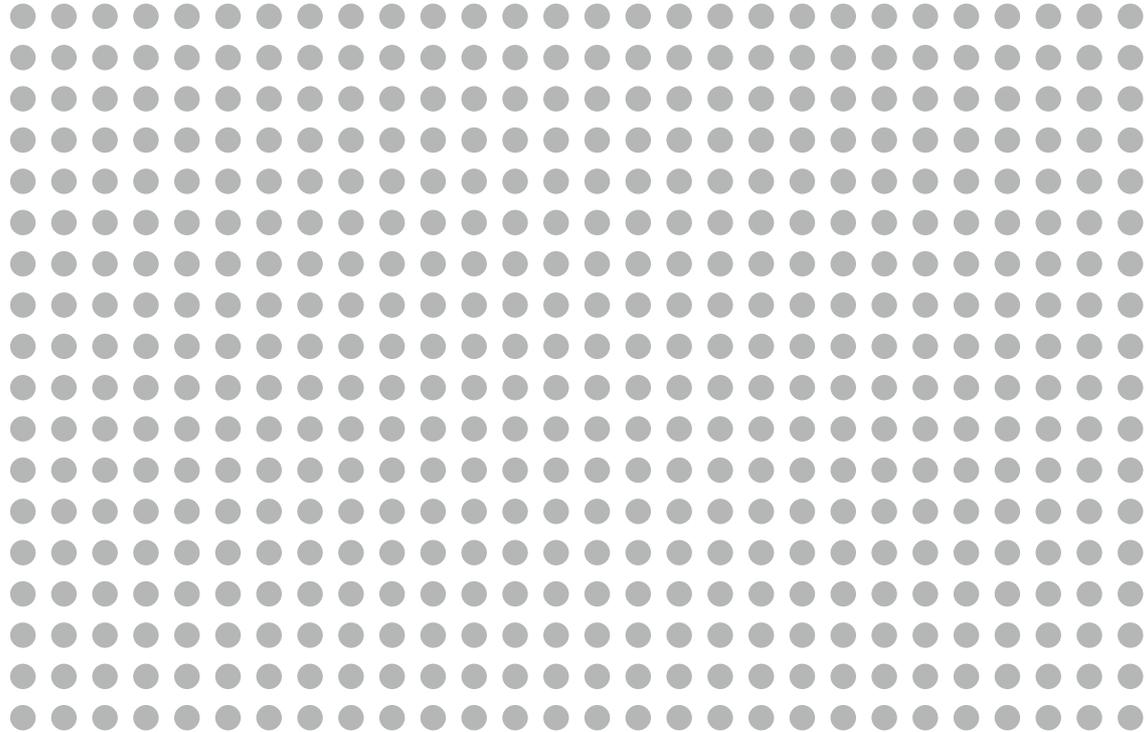


1ST TEDI TREND REPORT



About TEDI & the first trend report

The Trans European Drug Information project (TEDI) is a network of European fieldwork Drug Checking services that share their expertise and data within a European monitoring and information system. TEDI's chief aim is to improve public health and intervention programs. Toward this goal, TEDI has developed a database system that collects, monitors and analyses the evolution of various European drug trends in recreational settings. TEDI project is inside of the European NEWIP project.

All of the organisations currently involved in Drug Checking in recreational settings share their data on the TEDI database, which was originally established in conjunction with projects that worked directly with drug users (first-line projects). These projects are: Ai Laket!!, Check In, Checkit, DIMS, Energy Control, Jellinek, Modus Fiesta, Saferparty.ch and Techno plus.

TEDI project is committed to gathering and publishing the most relevant data from the TEDI database in its biannual trend reports. This report represents the launch of TEDI's trend report. The aim of the first trend report is to present the results of the data gathered, analysed and compared by four Harm Reduction groups during the period January–May 2012 in three countries. This trend report also compared the 2012 figures with those gathered by TEDI member organisations in 2011 to assess emerging trends.

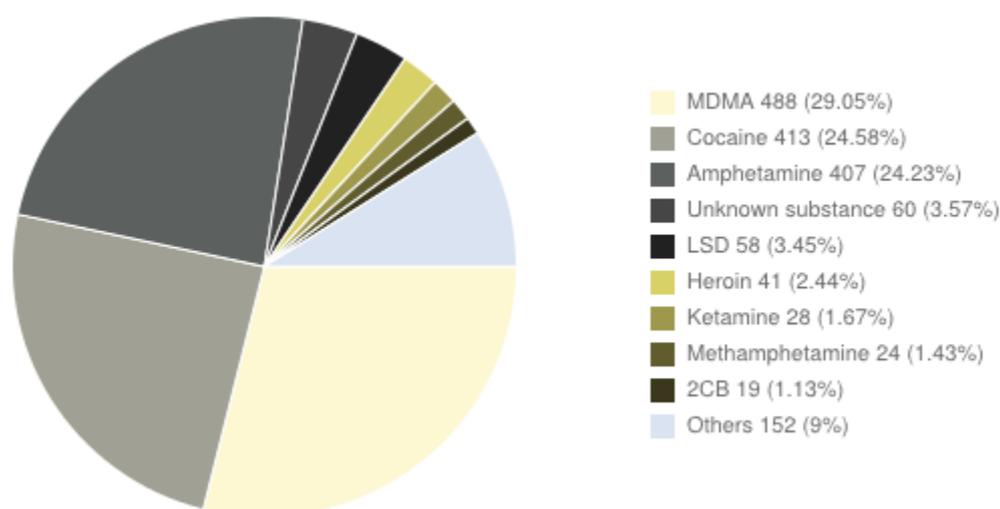
The TEDI trend report does not, however, provide any detailed information about the substances named in the report. But it does provide numerous links where more information related to specific substances can be found.

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Types of analysed drugs

This very first trend report includes **1,690 analyses from the period January–May 2012**. These analyses were developed by four Harm Reduction groups located in three countries: Spain's Ai Laket!! analysed 71 samples and Energy Control 808 samples, Austria's Checkit! analysed 444 samples, while Switzerland's Saferparty.ch analysed 367 samples. As is usual for these types of services, **the most analysed substances remain MDMA (29%), cocaine (25%) and amphetamine (24%), which combined represent over 78% of the total analysed samples**. This further mirrors current usage trends of substances in recreational settings. However, it must also be emphasised that the number of samples of LSD (58), heroin (41), ketamine (28), methamphetamine (24) and 2C-B (19) were also not insignificant.

Types of Analysed Drugs



Of the samples received, 4% of the substances were unknown to the users. In most cases, people who acquire a substance of unknown consistency in a recreational setting will bring it to a Drug Checking service before using it. The Drug Checking service on hand offers the users the capacity to identify the substance quickly and analyse the composition of the substance in question, which gives users the opportunity to make an informed decision about any dangers or unexpected additives associated with the involved substance.

Besides the readily identified substances noted above, **the chart above breaks** down the “others” category of which involved less-popular substances that were analysed a few times including: methylone (15), methoxetamine (14), DMT (11), mephedrone (6), MDA (6), 4-MEC (3) and MDPV (2).

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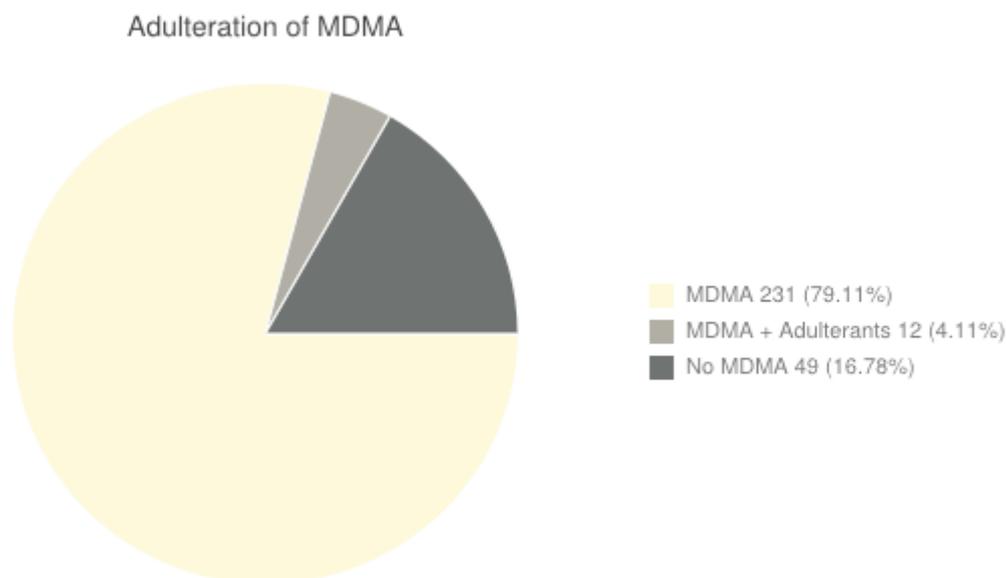
Ecstasy (MDMA)

The general observation over the past few years is that MDMA's composition tends to vary depending on how it is produced, as a pill or as crystal.

In the period January–May 2012, **488 samples of MDMA were analysed, 292 of which were sold as crystal and 196 sold in pill form.**

> MDMA in Powder or Crystal Form

The purity of the MDMA in the 292 analysed crystal samples was generally high, with over 54% of the analysed samples achieving a purity level of between 75 and 100%. The average level of purity of the samples analysed was 73% but this percentage varied per country. In Switzerland, the purity level was 92%, while in Spain it was 73% and in Austria, 63%. Compared to the 2011 data, which showed an average purity level of 69%, the crystal MDMA used in 2012 had a slightly higher percentage of purity, which reflects the current trend – the purity of crystal MDMA is increasing slightly.



Of the total 488 samples, 79% contained pure MDMA, with no adulterants, while 4% contained MDMA plus an adulterant. The remaining 17% did not contain any MDMA at all. These pills or crystals contained other substances, some of which were not even psychoactive. This mirrors

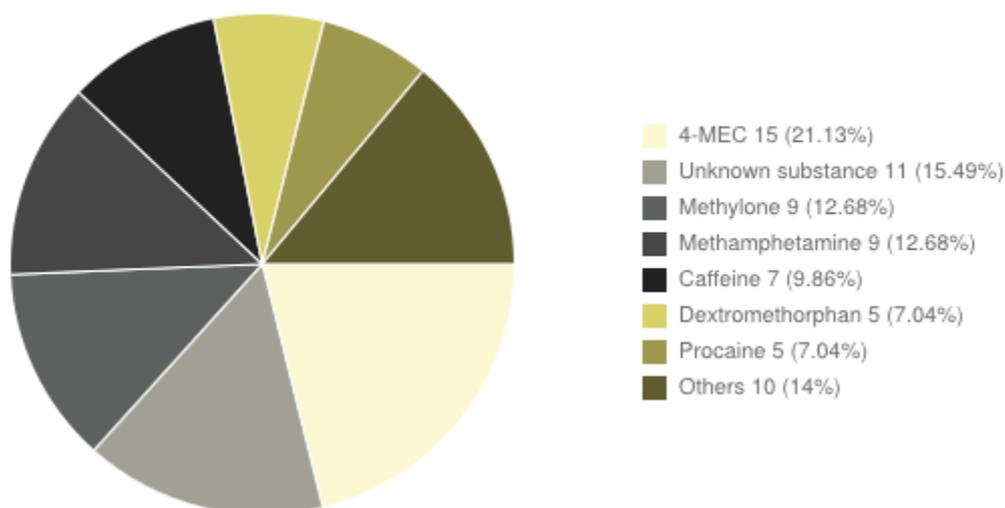
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the trend revealed in the 2011 data, where some 80% of the samples were pure MDMA and 12% contained no MDMA at all.

When we compare the data of the three countries, we observe that 87% of samples in Switzerland were pure MDMA, compared to 81% in Spain and 72% in Austria. The percentage of samples that contained no MDMA was 11% in Switzerland, 12% in Spain and 29% in Austria.

When we analyse the adulterants added to crystal MDMA, we discover that the most common adulterants were Research Chemicals such as 4-MEC and methylone, which represent 34% of the total adulterants used. It's also important to emphasise the use of methamphetamine (13%), caffeine (10%) (which is mostly used in combination with MDMA) as well as dextromethorphan (7%) and procaine (7%). Some unknown substances were detected but never properly identified (15% of the total adulterants found), while adulterants representing less than 3% of total substance were categorised as "Others".

Adulterants Found in Crystal MDMA

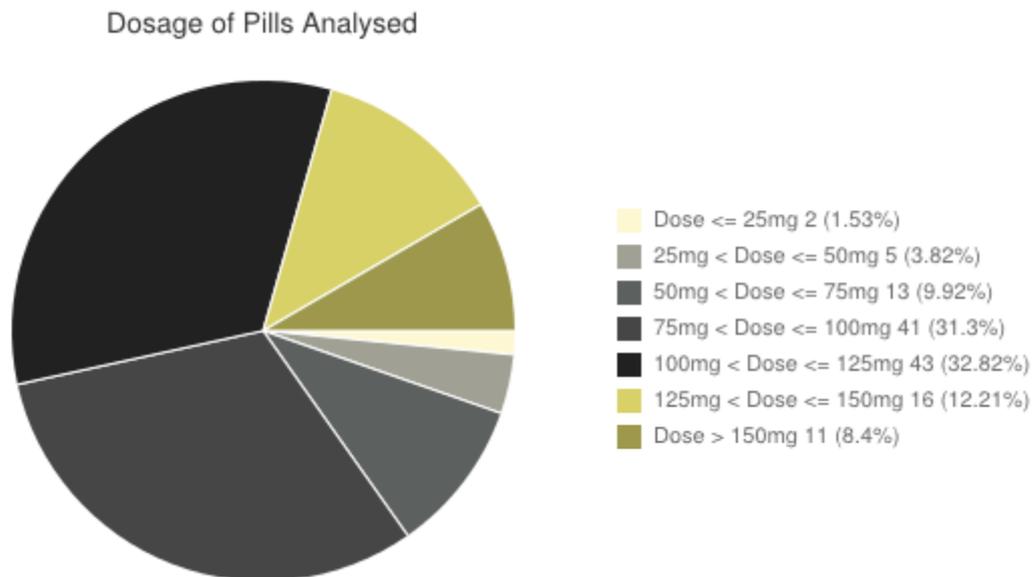


When we compare the adulterants used per country, we observe that methamphetamine was only detected in Spanish crystal MDMA, while 4-MEC was only detected in Austria. The use of methamphetamine as an MDMA adulterant first emerged as a trend in Spain in 2011.

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> MDMA IN PILLS

In the three countries involved in the study, we observe high dosages of MDMA in 196 of the pills analysed, **with an average dosage of 102 mg** of MDMA. More than 53% of the pills analysed contained 100 mg or more MDMA and 8% contained more than 150 mg of MDMA. Compared to the data from 2011, the average MDMA pill dosage of has increased significantly. According to TEDI's data, **in 2011, the average dosage of an MDMA pill was 82 mg**. A third of the pills analysed in 2011 contained at least 100 mg, with 3% containing 150 mg or more. This data confirms the ecstasy market trend, which has been very stable since 2010. In 2011, we witnessed the first increase in the average dosage of MDMA per pill since 2002 and, according to TEDI's 2012 data, this average continues to rise.

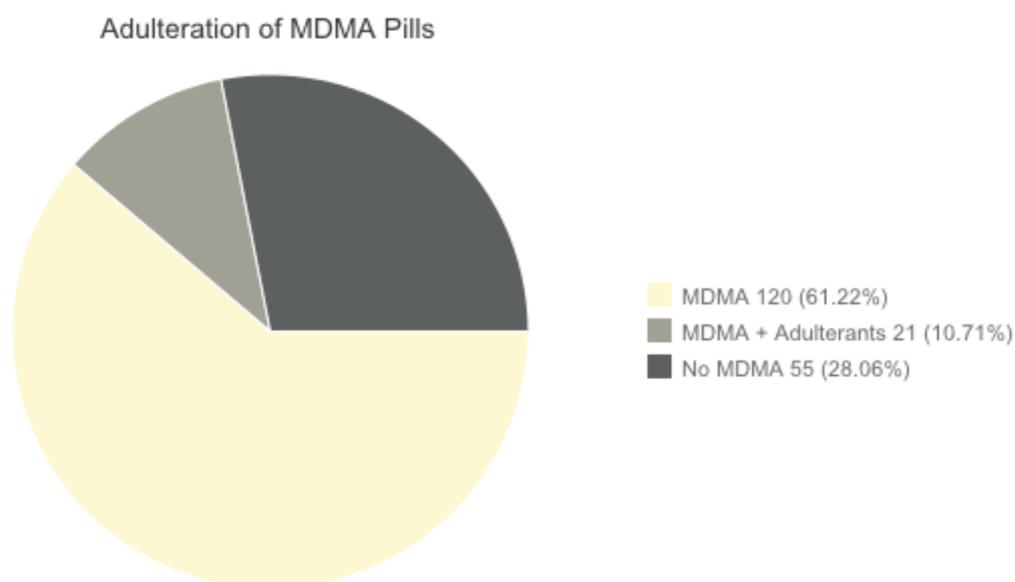


When we compare the data of the three countries, we observe that in Spain 63% of pills analysed contained 100 mg or more MDMA, with 11% of the analysed pills analysed containing more than 150 mg . In Switzerland the results showed 61% of the pills contained 100 mg of MDMA or more, while 6% of the pills contained over 150 mg of MDMA. In Austria, 31% of the

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pills analysed contained 100 mg or more while the percentage of pills with more than 150 mg represented 8% of the total.

The adulteration of the 196 samples of ecstasy sold in pill form was higher than that of the MDMA sold in crystal form. 61% of the analysed pill samples were pure MDMA, while 11% contained MDMA plus adulterants, (mostly caffeine), with a full 28% of the pills analysed containing no MDMA at all. In the pills that contained no MDMA, the chief substances detected included: m-CPP, PMA, methylone and mephedrone.

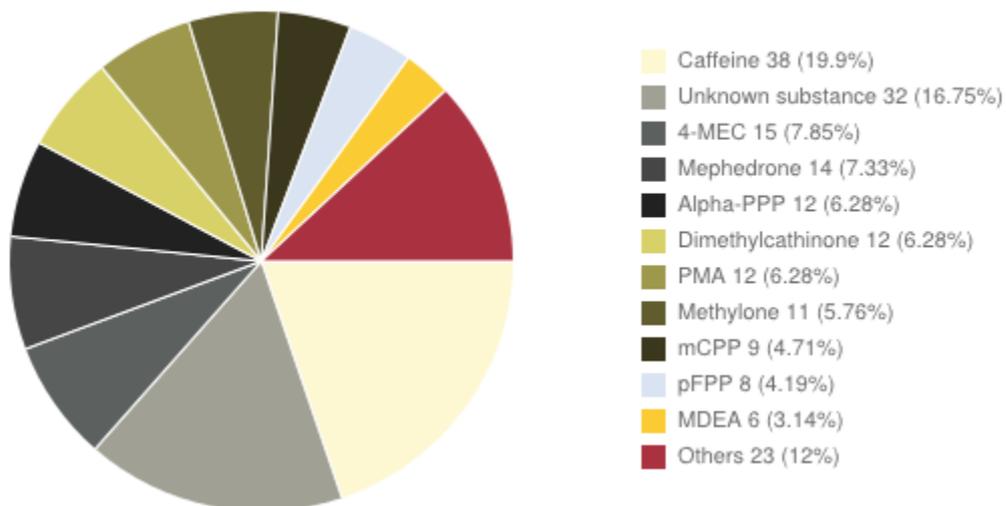


The most prevalent adulterants found in MDMA pills are caffeine (present in 20% of the total) and Research Chemicals such as 4-MEC, mephedrone, methylone, alpha-PPP and dimethylcathinone, with 34% of the analysed samples containing at least one of these chemicals. The amount of m-CPP continues to decrease in the three countries in this study compared to previous years, with only 5% of the analysed pills containing m-CPP in 2012, while 2011 data revealed a percentage of 12% of the pills analysed. However, PMA was detected in 12 samples sold as MDMA pills in Austria. These pills also contained the adulterants alpha-PPP and dimethylcathinone, which were only found in Austria. In Spain in June 2012, PMA was detected in a pill mixed with caffeine, p-FPP and dimethylcathinone. Meanwhile, the adulterant 4-MEC was detected only in Austria in both MDMA pills and crystal.

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Some unknown substances were detected but not identified (17% of total adulterants) and adulterants representing less than 3% of total pill content were classified as "Others".

Adulterants Found in MDMA Pills

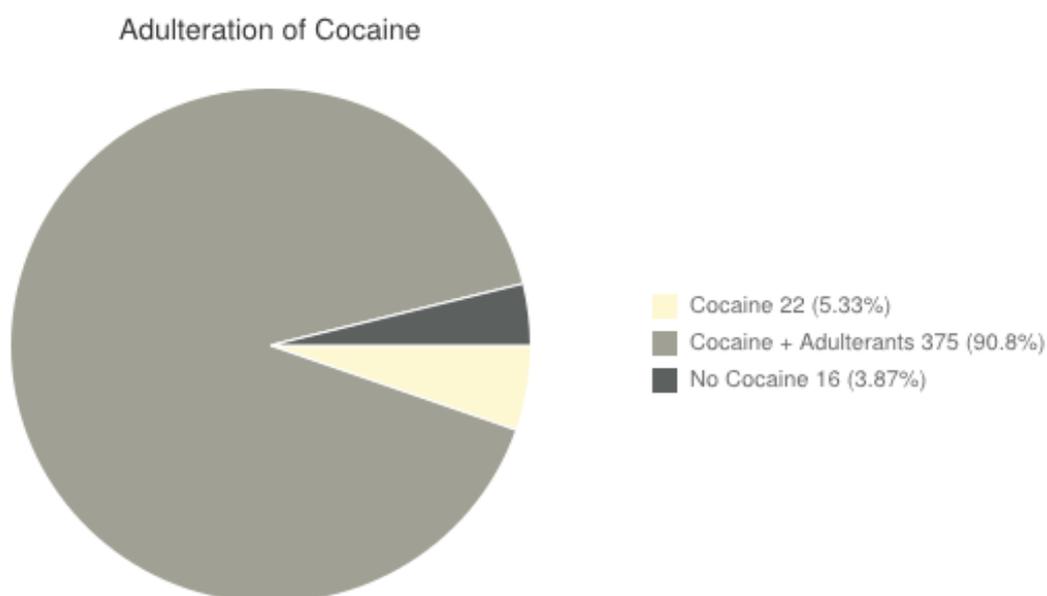


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Cocaine

In the period January–May 2012, 413 cocaine samples were analysed with most containing low dosages of actual cocaine. The average level of purity detected was 49%. Furthermore, 21% of the samples analysed contained less than 25% cocaine. These figures are almost the same as the 2011 figures when the average purity level was 48%.

The number of samples that were pure cocaine comprised only 5% of the total, while 91% contained a combination of cocaine plus adulterants. Of the total, 4% contained no cocaine at all. In some of these cases, a combination of caffeine with local anaesthetics was detected. Compared to the data from 2011, levels of adulteration have increased. In 2011, 10% of the cocaine samples were pure cocaine, while 82% consisted of a combination of cocaine and adulterants.

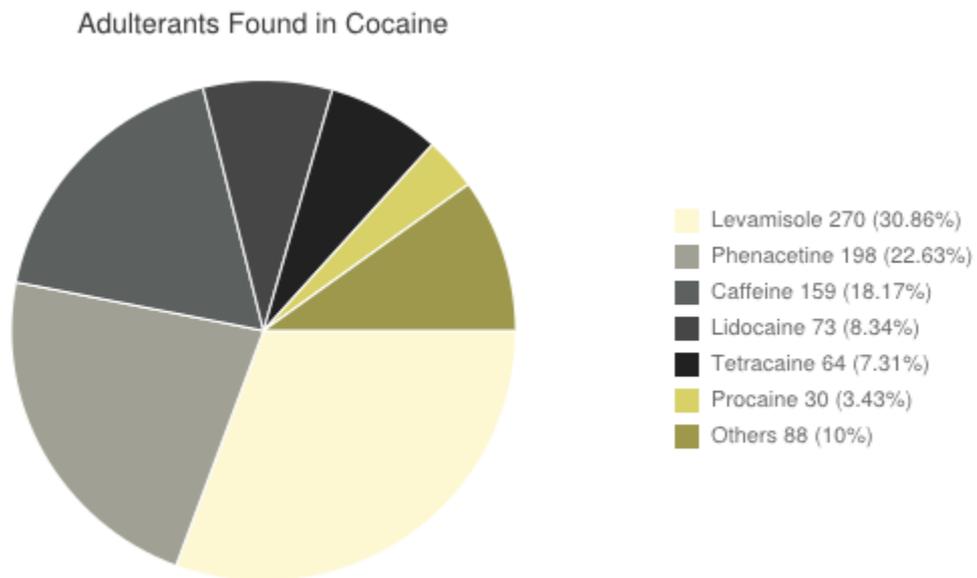


When comparing the data from the three participating countries, we observe that 10% of the analysed samples in Switzerland contained pure Cocaine, while 13% contained less than 25% cocaine. In Spain, 9% of the samples were pure cocaine, while 46% of the samples contained less than 25% cocaine. In Austria, only 2% of the analysed samples were pure cocaine, while 35% contained less than 25% cocaine.

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Cocaine, on average, contained more adulterants than other substances, with 167 cocaine samples (40% of the total) containing three or more adulterants. These figures are very similar to those from 2011, when 44% of the analysed sampled contained three or more adulterants.

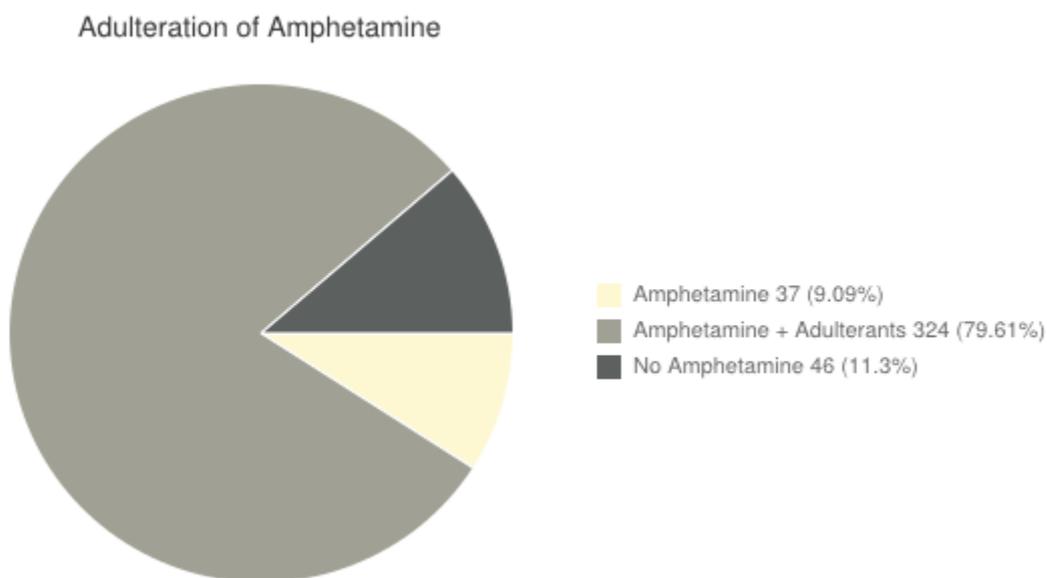
The most common adulterant remains levamisole, which is present in 29% of the total number of samples, followed by phenacetine(21%) and caffeine (17%). Other common adulterants include local anaesthetics (18%, which includes lidocaine (8%), tetracaine(7%) and procaine (3%)).



Cocaine adulterants detected during the research were very homogeneous for the three participating countries. Comparing 2012's figures with those of 2011 reveals that the types of adulterants detected remain the same, establishing a trend regarding the general composition of cocaine. However, the incidence of levamisole decreased compared to 2011, when Levamisole was still found in over half of the cocaine samples analysed.

Amphetamine (speed)

The average dosage of amphetamine in the 407 samples analysed during the period January–May 2012, was very low (14%), with 86% of the samples analysed containing less than 25% amphetamine. The purity decreased compared to figures for 2011 when the average purity level was still 20%. When we compare the data of the three countries, we see that in Spain, 16% of the analysed samples contained pure amphetamine, while 67% of the analysed samples contained less than 25%. In Switzerland, 5% contained pure amphetamine and 79% of the samples analysed contained less than 25% of purity. Meanwhile, in Austria, only 3% of the total were pure amphetamine, with 96% of the analysed samples containing less than 25% amphetamine.

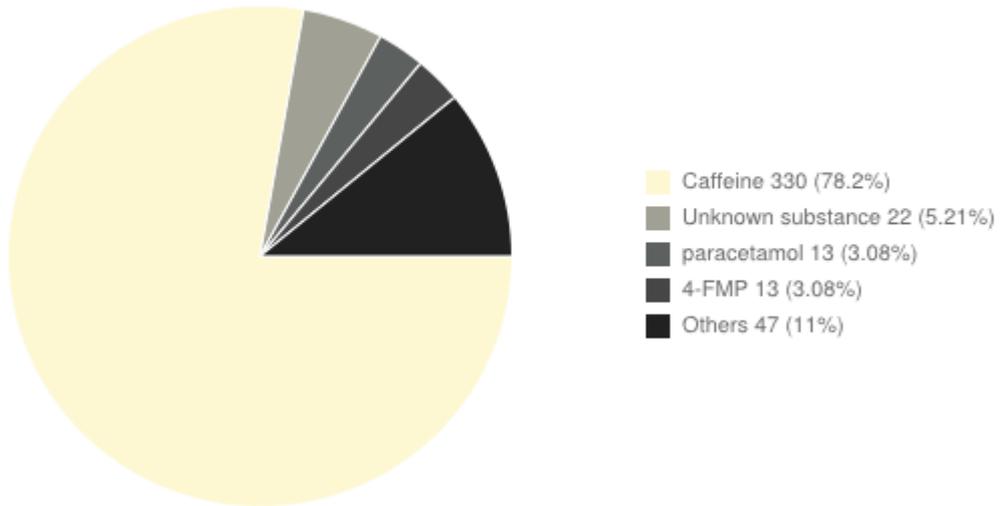


Amphetamine, like cocaine, was also commonly adulterated with other substances, with **only 9% of the samples being pure amphetamine**. Of these samples, 80% contained a combination of amphetamine plus adulterants. In most of these cases, the amphetamine was mixed with caffeine. This mixture represents a classic trend that has been detected by all of the Drug Checking services for several years now. The remaining 11% of the samples contained amphetamine at all; instead we found substances such as 4-FMP and caffeine replacing any

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trace of amphetamine. Amphetamine adulteration has thus far increased in 2012, compared to figures from 2011, when 16% of the analysed samples were still pure amphetamine and 74% were comprised of amphetamine plus other substances.

Adulterants Found in Amphetamine



In all three countries, the main adulterant remains caffeine, which was found in a total of 68% of the analysed samples. We also detected 4-FMP in 3% of the samples and unknown substances in 5% of the samples. In the category of “Others,” **it is important to emphasise that we detected 4-methylamphetamine in six samples in Austria, in three samples in Switzerland and one in Spain.**

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Newly Detected Substances

During the period January–May 2012, 33 new substances were detected by the participating Drug Checking services. Some of them include research chemicals such as: ethylmethcathinone, 4-methylmethcathinone, 4-flourphenylpiperazine, flephedrone and RCS-4. Three of these substances were not yet detected by EMCDDA the [European Monitoring Centre for Drugs and Drug Addiction \(EMCDDA\)](#): 2-methylmethcathinone, 3-methylquinoline, and N-methyl-2-phenyl-1-propylamine. Several other substances known to be used as medical drugs were found in psychoactive substances as adulterants recently: [phenazone](#), [griseofulvin](#), [alprazolam](#) and [pheniramine](#).

Warnings

RED ALERTS

During the research period January–May 2012, PMA and PMMA were detected in all 3 countries. PMA was detected in pill format in Austria and in a powder form in Spain in March 2012. [Read here for more information](#). In June 2012, PMA was detected in a Spanish pill. [Click here](#) for further information in Spanish.

Photos of pills containing PMA analysed in Austria:



Photo of the pill containing PMA detected in Spain:



In May 2012, PMMA mixed with MDMA was detected in a single pill in Switzerland.

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Photo of the Swiss pill containing PMMA:



Another substance called 4-methylamphetamine (4-MA) was detected during the research period in some samples sold as speed. There is very little available information on 4-MA. But last year, there were some unexplained deaths in the Netherlands, Belgium and the United Kingdom that were reportedly linked to 4-MA use. Thus it remains difficult to accurately assess its toxicity and in what dosage it begins to represent a serious health risk.

For more information on 4-MA (in German) and access to the Checkit warning [click here](#).

ALERTS

In addition to warnings about substances which are more toxic and therefore have a higher risk to lead to overdose and life-threatening situations, it's also important to note the high dosage of MDMA currently being found in many ecstasy pills. This trend was first detected in 2011 and has remained stable during the 2012 research period in the three involved countries.

It's also crucial that we note the presence of psychoactive drugs that have adulterated some of the cocaine samples. Levamisole remains one of the most common cocaine adulterants in and continues to raise concern because the regular consumption of levamisole may cause a significant decrease in the number of white blood cells in the body of a user, which makes him or her more vulnerable to infections. Further information on the side effects of levamisole is available at the [EMCDDA website](#).

Phenacetine, currently the second most frequently used adulterant found in cocaine, is another adulterant that has raised concern about its health risks. A regular or high dose of phenacetine has been linked to serious kidney problems. When used in combination with alcohol, it may cause significant damage to the liver.

Local anaesthetics such as lidocaine or procaine have also been used as adulterants, but on a much smaller scale. These substances are, however, potentially very dangerous if injected together with cocaine.

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Conclusions

The main substances used in recreational settings continue to be MDMA, amphetamines and cocaine. Each of these substances varies greatly with regard to their levels of purity and the number and percentage of adulterants. For users, this means not only dealing with the risks of the substance one thinks one has in hand but also increased risks associated with substances of unknown purity adulterated with other substances (adulterants). The only way to be ensured of the composition of a recreational substance is to have it tested in a Drug Checking Service and, toward this goal, TEDI's trend report has published the results of four Drug Checking systems: [AI LAKET!!](#), [Checkit!](#), [Energy Control](#) and [Saferparty.ch](#).

“Ecstasy (MDMA), in both pill or crystal form, remains the least adulterated substance”

Ecstasy (MDMA), in both pill or crystal form, remains the least adulterated substance. Despite its lower levels of adulteration, however, there are some cases where other substances such as research chemicals were sold as Ecstasy. The risks are currently related to the broad range of adulterants found in MDMA, but also the increased dosage of MDMA per ecstasy tablet.

“ The adulteration level of cocaine is currently higher than in previous years”

During the analysed period, 40% of all cocaine samples contained at least three other adulterants, such as caffeine, phenacetine, local anaesthetics and levamisole. Although all of these adulterants come with their own risks, levamisole and phenacetine are currently the subject of increased concern because of the potential toxic effects that it can produce in cocaine users.

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Amphetamine is another substance that is often adulterated. Amphetamine is usually combined with other substances in 80% of the examined cases. The main adulterant detected remains caffeine. The amphetamine and caffeine mix was quite common in the samples sold as speed and users are generally accustomed to the effects this combination causes. The risk assessment is thus more focused on the broad variety of concentrations of amphetamine that Speed samples usually as well as such lethal substances as 4-MA.

A Drug Checking service is an effective method for detecting which new substances are making the rounds in various recreational settings. During the research period 33 new substances were detected. Three of these substances were not yet detected by the EMCDDA.

“ During the research period 33 new substances were detected. Three of these substances were not yet detected by the EMCDDA”

Three substances which are more toxic and therefore have a higher risk to lead to overdose and life-threatening situations – PMMA, PMA and 4-MA – were detected by the Drug Checking services involved in our research. It’s also important to note the increasing dosage of MDMA in Ecstasy pills and the presence of some toxic adulterants inside Cocaine. Fortunately, however, the detection of lethal toxic substances remains fairly rare. Most of the information that the services provide the user involves advice regarding using caution when using high dosages or adulterants with as-yet unknown effects and side effects.

An efficient Drug Checking service that supplies an on-site, rapid detection service is an absolute necessity that can help create some level of insurance regarding the substances currently being consumed in recreational settings, and forms the basis of an effective risk-reduction strategy in Europe.

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NEWIP | TEDI

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2 TEDI TREND REPORT



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**ABOUT TEDI
& THE SECOND
TREND REPORT**

ABOUT TEDI & THE SECOND TREND REPORT

The Trans European Drug Information project ([TEDI](#)) is a network of European fieldwork Drug Checking services that share their expertise and data within a European monitoring and information system. TEDI's chief aim is to improve public health and intervention programs. Toward this goal, TEDI has developed a database system that collects, monitors and analyses the evolution of various European drug trends in recreational settings. The TEDI project operates within the European [NEWIP](#) project.

All of the organisations currently involved in Drug Checking in recreational settings share their data on the TEDI database, which was originally established in conjunction with projects that worked directly with drug users (first-line projects). These projects include: [Ai Laket!!](#), [Check In](#), [Checkit!](#), [DIMS](#), [Energy Control](#), [Jellinek](#), [Modus Vivendi](#), [Saferparty.ch](#) and [Techno plus](#).

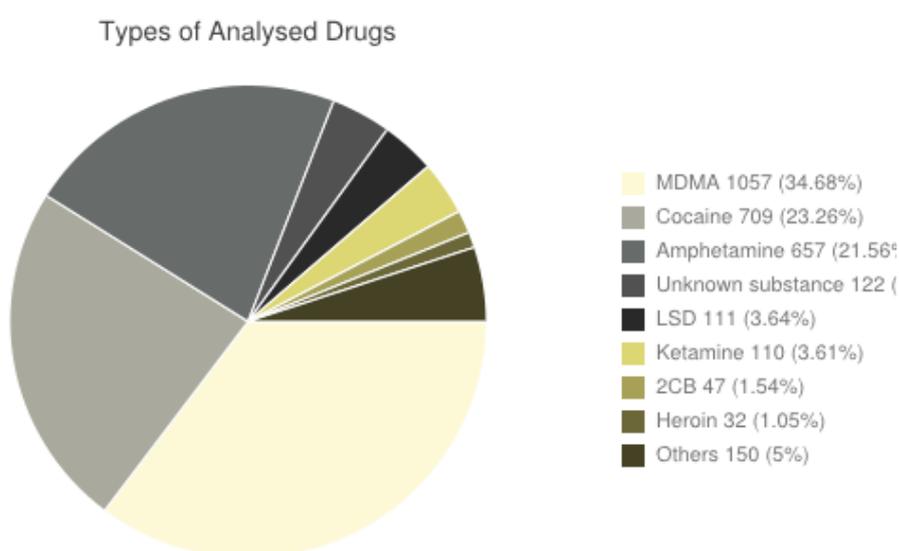
The TEDI project is committed to gathering and publishing the most relevant data from the TEDI database in its biannual trend reports. The aim of this second trend report is to present the results of the data that has been gathered, analysed and compared by six Harm Reduction groups during the seven-month period June–December 2012 in five countries. This trend report also compared these figures with those presented in TEDI's first trend report that assessed emerging trends and was generated by TEDI member organisations during the first period of 2012.

The TEDI trend report does not, however, provide any detailed information about the substances named in the report. But it does provide numerous links where more information related to specific substances can be found.

TYPES OF ANALYSED DRUGS

TYPES OF ANALYSED DRUGS

The second trend report includes **3,046 analyses from the period June–December 2012**. Of these samples, **56% were analysed on site, in a recreational setting**. These analyses were handled by six Harm Reduction groups located in five countries: Spain's [Ai Laket!!](#) analysed 486 samples and [Energy Control](#) 953 samples, Portugal's [Check !n](#) analysed 427 samples, Austria's [Checkit!](#) analysed 377 samples, Belgium's [Modus Vivendi](#) analysed 57 samples, while Switzerland's [Saferparty.ch](#) analysed 746 samples. The drug checking techniques used by the Harm Reduction groups include: TLC, GC/MS, HPLC, HPLC/MS, NMR and ultraviolet spectroscopy (UV). For more information on these techniques consult [TEDI methodology guidelines](#). For instance, the Harm Reduction groups tested 1907 samples using TLC, 335 using GC/MS, 742 using HPLC, 381 using HPLC/MS, 268 using NMR and 260 using UV.



The second trend report, like the first, discovered that **the most analysed substances remain MDMA (35%), cocaine (23%) and amphetamine (22%), which represent 80% of all analysed samples**. This further mirrors current usage trends of substances in recreational settings. However, it must also be emphasised that the number of samples of [LSD](#) (111), [ketamine](#) (110), [2C-B](#) (47) and [heroin](#) (32) were also not insignificant. Moreover, the number of ketamine samples has almost doubled as compared to the data published in the first trend report.

Of the total number of samples analysed, a total of 4% of the substances were unknown to the users.

Besides the readily identified substances noted above, the chart above breaks down the “others” category which involved less-popular substances that were all analysed just a few times including: [methamphetamine](#) (13), [methoxetamine](#) (12), [methyldone](#) (9), [mephedrone](#) (9), [DMT](#) (8), [MDA](#) (8), [GHB](#) (5) and [4-MEC](#) (3).

The majority of these samples were of so-called legal highs, which includes several groups of substances. The most popular of these are the research chemicals, or substances that are pop-

ularly referred to as bath salts, bong cleaner, plant feeder, etc. Drug Checking research reveals two facts concerning this issue: (1) the aforementioned substances are used mainly as adulterants for more typical illegal drugs, such as ecstasy (Methylone and Mephedrone), Amphetamines (4-FA and 4-Methamphetamine, which is also known as 4-MA)); and (2), even when a research chemical is sold as being 100% pure, its contents often do not include the substances that a user expects, as is revealed by the following two examples:

Example 1:

Declared substance: Dichloropane

Result: MDPV (23.8%); Caffeine (22.4%); Lidocaine (23.4%)

Example 2:

Declared substance: MDAI

Result: Caffeine (44.1%); 3-TFMPP (5.9%); Methiopropamine; Methylphenidate

These types of examples show that Drug Checking is an appropriate measure even when it involves typical legal highs. Drug Checking results provide analytical facts, which improve the ability of a user to make a more accurate risk assessment. This strategy encourages users to turn to a Drug Checking service even when the substances have been declared legal. It also puts them into contact with prevention centre services.

**COMPOSITION
& ADULTERATION
OF TESTED
SAMPLES**

COMPOSITION & ADULTERATION OF TESTED SAMPLES

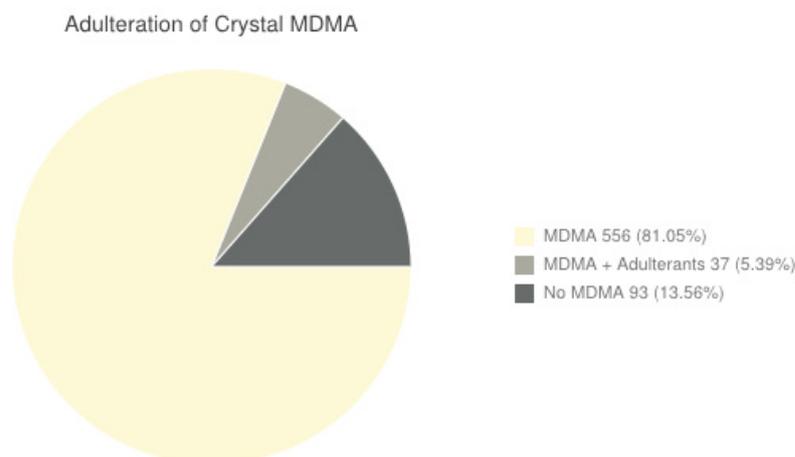
ECSTASY (MDMA)

The general observation over the past few years is that MDMA's composition tends to vary depending on how it is produced – as a pill or as crystal.

In the period June–December 2012, **1057 samples of MDMA were analysed, 65% of which were sold as crystal and 35% in pill form.**

MDMA in Powder or Crystal Form

The purity of the MDMA in the 686 analysed crystal samples was generally high, with over 64% of the analysed samples achieving a purity level of between 75 and 100%. The average purity level of the samples analysed was 73%, but this percentage varied per country. In Switzerland, the purity level was 93%, while in Spain it was 72%, in Belgium 71% and in Austria 63%. Compared to the previous report's data, which showed 54% of the analysed samples achieving a purity level of between 75 and 100%, the crystal MDMA used in the second period of the year was slightly more pure, which reflects the current trend – the purity of crystal MDMA has been gradually increasing.



Of the total 686 samples, 81% contained pure MDMA with no adulterants, while 5% contained MDMA plus an adulterant. The remaining 14% did not contain any MDMA at all. These powders or crystals contained other substances, some of which were not even psychoactive. This mirrors the trend revealed in the first trend report, where 79% of the samples contained some pure MDMA and 17% actually contained no MDMA at all.

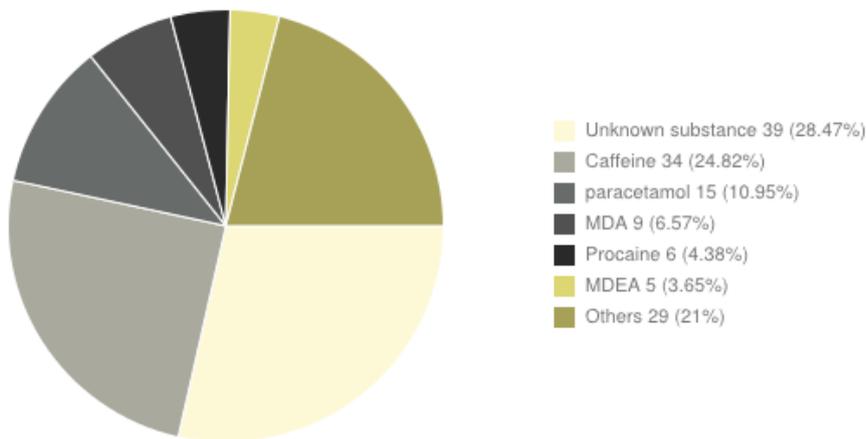
When we compare the data in three countries, we observe that 89% of Austria's samples contained some pure MDMA, compared to 87% in Switzerland and Portugal, 76% in Spain and 37% in Belgium. The percentage of samples that contained no MDMA at all was 6% in Austria, 9% in Switzerland and Portugal, 18% in Spain and 55% in Belgium.

When we analyse crystal MDMA adulterants, we discover that most of the adulterants were never properly identified (representing 28% of the total amount of adulterants by weight found

in the MDMA. It's also important to emphasise the use of caffeine (25%) (which is mostly used in combination with MDMA) as well as paracetamol (11%), MDA (7%), MDEA (4%) and procaine (7%). Adulterants representing less than 3% of total substance were categorised as "Others".

When we compare the use of adulterants per country, we observe that MDA as a crystal MDMA adulterant, mostly in combination with MDMA, was only detected in Austria and Switzerland, while paracetamol was detected only in Belgium, Portugal and Spain. The use of research chemical's as MDMA adulterants of was detected mainly in Austria and Switzerland, where methyllone, mephedrone and 4-MEC were detected.

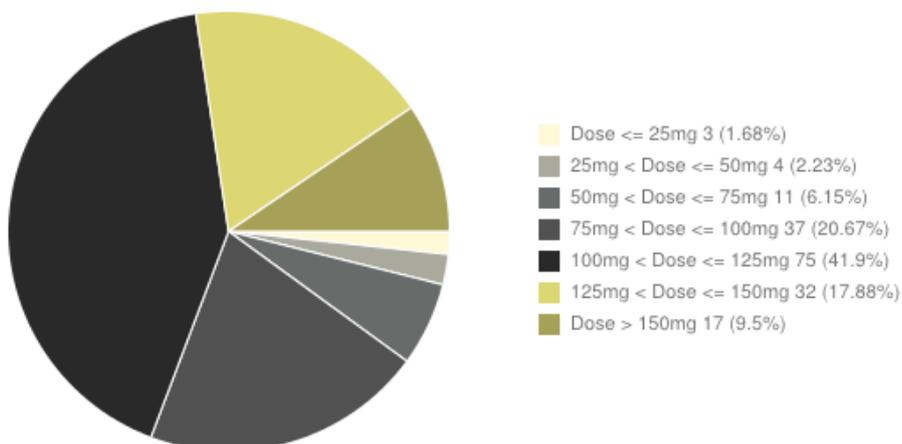
Adulterants Found in Crystal MDMA



MDMA IN PILLS

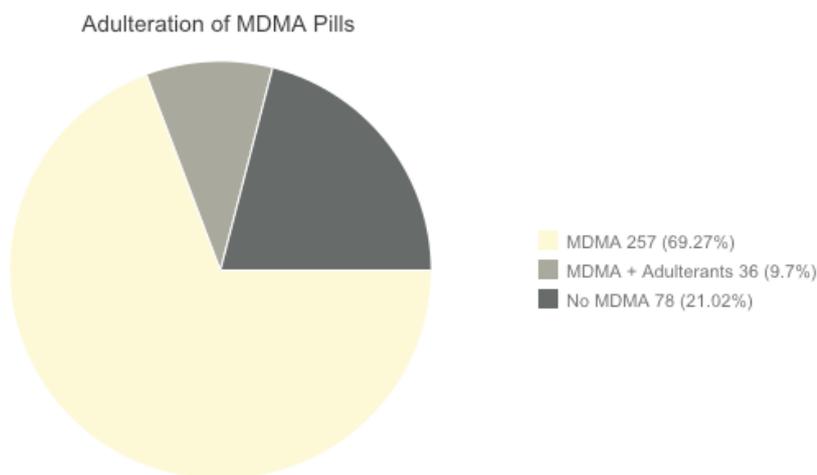
In the five countries involved in the study, we observe high dosages of MDMA in 371 of the pills analysed, **with an average MDMA dosage of 113 mg**. More than 69% of the pills analysed contained 100 mg or more MDMA and 10% contained over 150 mg of MDMA. This reveals a significant average increase in MDMA pill dosage when compared to the first period of 2012 as presented in the first trend report. According to TEDI's data, **the average dosage of an MDMA pill was 102 mg in the first reporting period of 2012**. More than 53% of the pills analysed in

Dosage of Pills Analysed



the first trend report contained at least 100 mg, with 8% containing 150 mg or more. This data confirms the ecstasy market trend, which has been very stable since 2010. In 2011, we witnessed the first increase in the average dosage of MDMA per pill since 2002 and, according to TEDI's 2012 data, this average continues to rise.

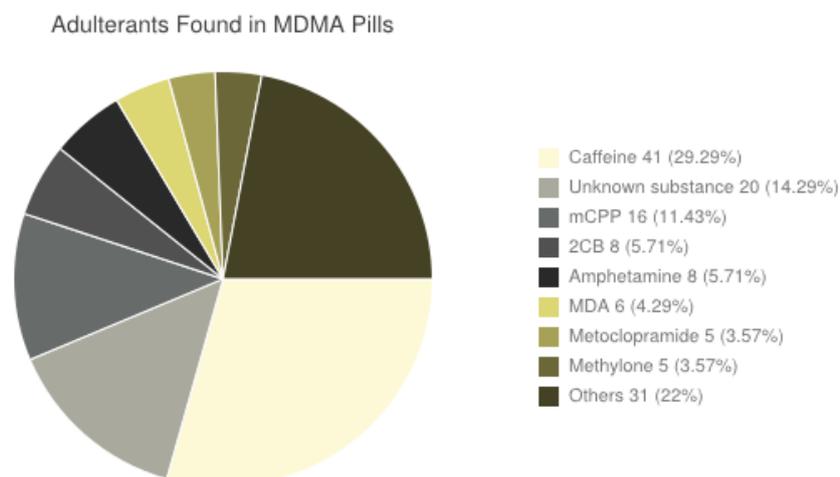
When we compare data per country, we see that in Spain, 77% of the pills analysed contained 100 mg of MDMA or more, with 8% of the analysed pills analysed containing more than 150 mg. In Switzerland, 69% of the pills contained 100 mg of MDMA or more, while 9% of the pills contained over



150 mg of MDMA. In Belgium, 50% of the pills analysed contained 100 mg or more while no pill analysed contained over 150 mg. Finally in Austria, 42% of the pills analysed contained 100 mg or more while the percentage of pills with more than 150 mg represented 25% of the total.

The adulteration level of the 371 samples of ecstasy sold in pill form was higher than that of the MDMA sold in crystal form. 62% of the analysed pill samples were pure MDMA, while 10% contained MDMA plus adulterants, (mostly caffeine), with a full 21% of the pills analysed containing no MDMA at all. The chief substances detected in pills that contained no MDMA included: m-CPP, 2C-B, amphetamine and methydone (alone or mixed with ephedrine and caffeine).

The most common adulterant found in MDMA pills was caffeine (present in 30% of the total).



The prevalence of research chemicals such as 4-MEC, mephedrone and methylone in this period shows a decrease compared to data found in the first trend report. However, the number of pills that contained 2C-B instead of MDMA increased compared to data found in the first trend report. Moreover, the amount of m-CPP increased during the second period of 2012 compared to first period data, with only 5% of the analysed pills containing m-CPP in the first period of 2012, while in the second, the percentage rose to 11%. Fortunately, 4-methoxyamphetamine (PMA) was detected in only one pill and that was in Spain in early June.

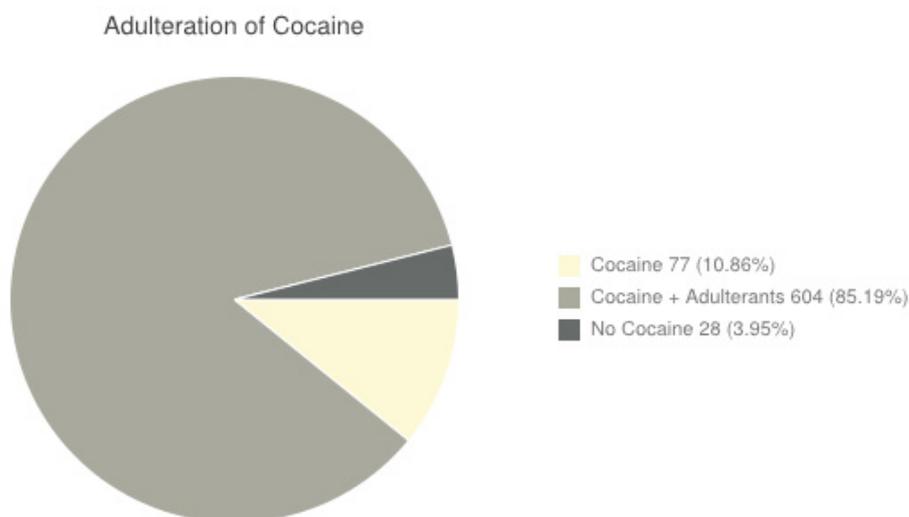
Some unknown substances (14% of total adulterants) were detected but never properly identified. Adulterants representing less than 3% of total pill content were classified as “Others”.

COCAINE

In the period June–December 2012, 709 cocaine samples were analysed with most containing low dosages of actual cocaine. The average level of purity detected in cocaine salt was 49% with a maximum purity of 99%. Furthermore, 21% of the samples analysed contained less than 25% cocaine. These figures match those found in the first trend report.

The number of pure cocaine samples comprised only 11% of the total, while 85% contained a combination of cocaine plus adulterants. Of the total, 4% contained no cocaine at all. In some of these cases, a combination of caffeine plus local anaesthetics was detected. Adulteration levels have shown a decrease when compared to data from the first trend report. In the period January through May 2012, 5% of the cocaine samples contained pure cocaine, with 91% consisting of a combination of cocaine plus adulterants.

When comparing the data from the five participating countries, we observe that 44% of the analysed samples in Belgium contained pure cocaine, while 11% contained no cocaine at all.

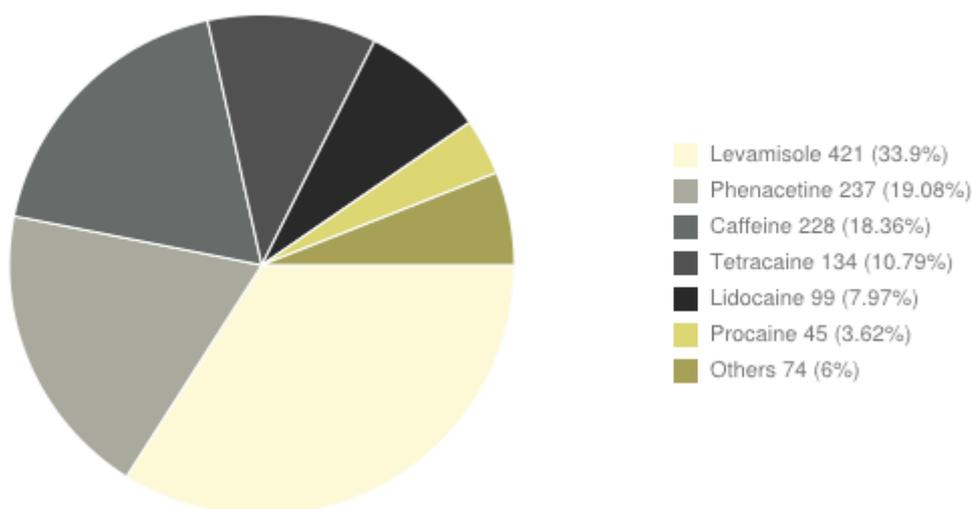


In Switzerland, 12% of the samples were pure cocaine, while only 1% contained no cocaine at all. In Spain, 10% of the samples were pure cocaine, while 3% contained no cocaine. In Portugal, 9% of the samples were pure cocaine, while a high number of samples analysed (45%)

contained no cocaine at all. In Austria, only 2% of the analysed samples were pure cocaine and only 3% of the analysed samples contained no cocaine revealing, in Austria's case, that almost all of the samples analysed were adulterated.

Cocaine, on average, contained more adulterants than other recreational drugs. For instance, 212 of the cocaine samples (30% of the total) contained three or more adulterants. These figures are similar to those found in the first trend report, where 40% of the analysed samples contained three or more adulterants.

Adulterants Found in Cocaine



The most common adulterant remains levamisole, which is present in 34% of the total number of samples, followed by phenacetine (19%) and caffeine (18%). Other common adulterants include local anaesthetics (18%, which includes tetracaine (11%), lidocaine (8%) and procaine (4%)).

Cocaine adulterants detected during the research were very homogeneous in three of the participating countries. **Comparing the two trend reports for 2012, we see that the types of adulterants detected remain the same, which establishes a trend for the general composition of cocaine.** However, the incidence of levamisole increased slightly during the second half of 2012 compared to figures for the first half.

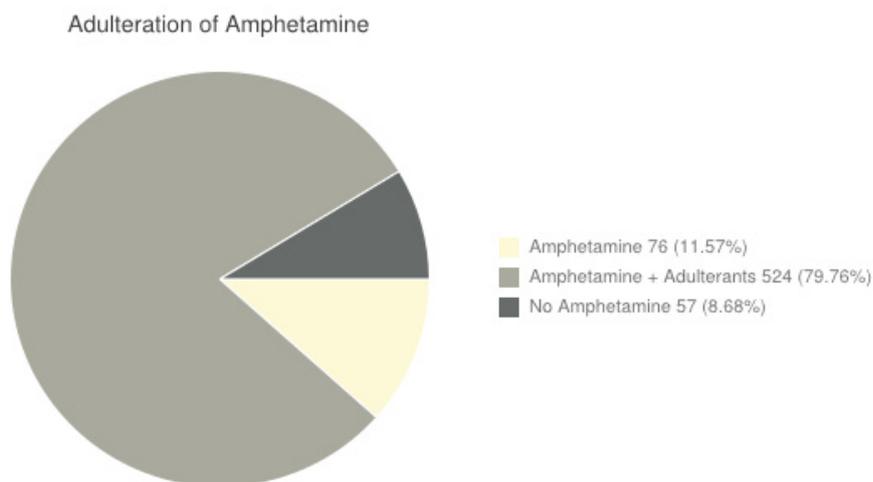
AMPHETAMINE SULPHATE (SPEED)

The average dosage of amphetamine salt in the 657 samples analysed during the period June–December 2012, was very low (19%), but revealed a slight increase compared to 14% in the first period of 2012. 79% of the samples analysed contained less than 25% amphetamine.

Amphetamine, like cocaine, is often adulterated with other substances, with **only 12% of the samples being pure amphetamine, which is up slightly from 9% during the first period of 2012.** Of the total, 80% contained a combination of amphetamine plus adulterants, which, in most cases was caffeine. This mixture represents a trend that all of the Drug Checking services have been noting for several years now. The remaining 9% of the samples contained no amphetamine at

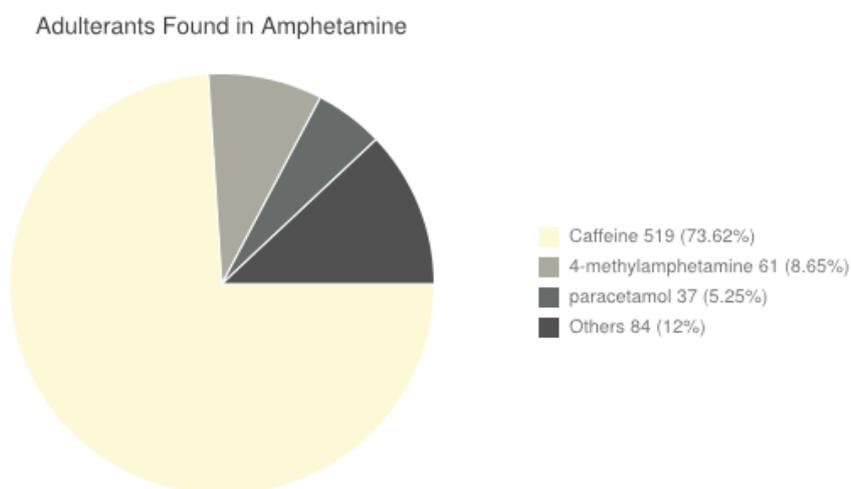
all, with substances like 4-FMP and caffeine replacing all traces of amphetamine. This reveals a slight decline from 11% in the first period down to 9% in the second period of 2012.

When we compare the data of the five participating countries, we see that 27% of Belgium’s analysed samples contained pure amphetamine and all of the samples contained at least some amphetamine. In Switzerland, 18% of the samples contained pure amphetamine and 5% contained no amphetamine at all. In Austria, 11% of the analysed samples contained pure amphetamine, while 13% of the analysed samples contained no amphetamine. In Portugal, 10% of



samples were pure amphetamine and 25% contained no amphetamine. Meanwhile, only 9% of Spain’s total were pure amphetamine, while 9% contained no amphetamine.

In three of the countries, the main adulterant remains caffeine, which was found in a total of 74% of the analysed samples. **It is important to emphasise that the presence of 4-MA is increasing and was detected in 9% of the analysed samples. We also detected paracetamol in 5% of the samples.** The category of “Others” includes classified adulterants, which represent less than 3% of the amphetamine samples analysed. This category also includes PMA, which was detected in several samples of speed in Spain.



NEWLY DETECTED SUBSTANCES

During the period June–December 2012, the participating Drug Checking services detected 33 new substances. Most of which were either research chemicals or legal highs such as: 25I-NBOMe, 3-MEC, 5-fluoro-AKB48, AH-7921, AKB48, JWH-203 and XLR11. One of these substances (3-MEC) has not yet been detected by the EMCDDA the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). Several other substances known as medical drugs were recently used as adulterants in psychoactive substances including: Bromazepam, Butalbital, Chloroquine and Pentobarbital.

WARNINGS
RED ALERTS
& ALERTS

WARNINGS

RED ALERTS

Red Alert is a term used to indicate the appearance of very dangerous drugs on the illicit market or other highly risky situations involving drugs. The appearance of these substances requires serious reactions from health care institutions and addiction care facilities but also from potential drug users, health professionals, and the mass media.

During the research period June–December 2012, 25I-NBOMe was detected in blotters being sold as LSD in Spain. In high doses, 25I-NBOMe is linked to instances of death. For more information in Spanish on 25I-NBOMe click [here](#).

Photos of blotters containing 25I-NBOMe in Spain:



Some amphetamine samples contain 4-MA, which has been on the increase since the beginning of 2012, increasing from 14 during the first period of 2012 to a total of 61 in the second period.

A maximum 4-MA concentration of 23% was detected in Austria in 2012, this despite the fact that there is little available information on 4-MA and its effects. Its actual toxicity thus remains difficult to assess; and it remains equally difficult to gauge at what dosage it begins to represent a serious health risk. However, in 2012, there were some unexplained deaths in the Netherlands, Belgium and the United Kingdom that were reportedly linked to 4-MA use.

For more information on 4-MA (in German) and access to the Checkit warning [click here](#). For more information in Spanish and access to the Energy Control warning [click here](#).

PMA was also detected in 10 samples sold as speed in Spain. The maximum concentration detected here was just under 4%. This tendency differs from the one detected in TEDI's first trend report, where PMA was detected mainly in samples sold as ecstasy.

ALERTS

In addition to warnings about substances that are more toxic and therefore present a higher overdose risk and other potentially life-threatening situations, it's also important to note the high dosage of MDMA currently being found in many ecstasy pills. This trend was first detected in 2011 and remained stable throughout 2012 in the five involved countries.

Several pills containing new substances were also detected during the second period of 2012, including some pills containing 2C-E plus a mixture of MDMA and methoxetamine, which was detected in one pill in Spain.

Photos of pills containing a mixture of MDMA plus methoxetamine:



Photos of pills containing 2C-E:



It's also crucial to note the presence of psychoactive drugs that have been used in the adulteration of some cocaine samples. Levamisole remains one of the most common cocaine adulterants. It continues to raise concern because the regular consumption of levamisole may cause a significant decrease in the number of white blood cells in the body of a user, which makes him or her more vulnerable to infections. Further information on the side effects of levamisole is available at the [EMCDDA](http://www.emcdda.europa.eu) website.

Phenacetine, currently the second most frequently used adulterant found in cocaine, is another adulterant that has raised concern about its health risks. A regular or high dose of phenacetine has been linked to serious kidney problems. When used in combination with alcohol, it may cause significant damage to the liver.

Local anaesthetics such as lidocaine or procaine have also been used as adulterants, but thus far on a much smaller scale. These substances are, however, potentially very dangerous if injected together with cocaine.

CONCLUSIONS

2ND TEDI

TREND REPORT

CONCLUSIONS

The main substances used in recreational settings continue to be MDMA, amphetamines and cocaine. Each of these substances varies greatly with regard to their levels of purity and the number and percentage of adulterants. For users, this means not only dealing with the risks of the substance one thinks one has in hand but also increased risks associated with substances of unknown purity adulterated with other substances (adulterants). The only way to be ensured of the composition of a recreational substance is to have it tested in a Drug Checking Service and, toward this goal, TEDI's trend report has published the results of six Drug Checking systems: [Ailaket!!](#), [CheckIn](#), [Checkit!](#), [Energy Control](#), [Modus Vivendi](#) and [Saferparty.ch](#).

Ecstasy (MDMA)

In both pill and crystal form, remains the least adulterated substance. Despite its lower levels of adulteration, however, there are some cases where other substances such as research chemicals were sold as ecstasy. The risks are currently related to the broad range of adulterants found in MDMA, but also the increased dosage of MDMA per ecstasy tablet.

Cocaine

The adulteration level is currently higher than in previous years. During the second period of 2012, 30% of all cocaine samples contained at least three other adulterants, such as caffeine, phenacetine, local anaesthetics or levamisole. Although all of these adulterants come with their own risks, levamisole and phenacetine are currently the subject of increased concern because of the potential toxic effects that they may produce in cocaine users.

Amphetamine

Is another substance that is often adulterated, in fact, this was the case in 80% of the tested samples. The main adulterant remains caffeine. The amphetamine-caffeine mix was quite common in the samples sold as speed and users are generally accustomed to the effects this combination causes. The risk assessment is thus more focused on the broad variety of concentrations of amphetamine, which includes Speed as well as such potentially lethal substances as 4-MA and PMA, which has produced symptoms commonly associated with hyperthermia.

New substances, Warnings & Drug Checking Service

A Drug Checking service is an effective method for detecting which new substances are making the rounds in various recreational settings. During the research period, 33 new substances were detected, one of these substances, 3-MEC, as noted earlier, has not yet been detected by the EMCDDA.

Three substances that have proved more toxic than the usual recreational substances and thus present a higher overdose risk and other potentially life-threatening situations 25I-NBOMe, 4-MA and PMA have already been detected by the Drug Checking services involved in our research. It's also important to emphasise the trend toward increased dosages of MDMA in ec-

stasy pills. Moreover, there has also been an increase of toxic adulterants in some cocaine that were tested. Fortunately, however, the detection of potentially lethal toxic substances remains fairly rare. Most of the information that the services provide the user involves advice: use caution when taking increased dosages or when the substance contains adulterants with as-yet unknown effects and side effects.

An on-site Drug Checking service can offer users the ability to quickly identify a substance and analyse its composition, which offers users the opportunity to make a more informed decision about potential dangers or the unexpected additives associated with the involved substance. Furthermore, an effective Drug Checking service that supplies an on-site, rapid detection service is an absolute necessity because it can help create a certain level of insurance regarding the substances currently being consumed in recreational settings, and forms the basis of an effective European risk-reduction strategy.



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NEWIP | TEDI

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TTR3

TEDI TREND REPORT



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**CONCLUSIONS
3RD TEDI TREND REPORT**



**ABOUT TEDI
& THE THIRD
TREND REPORT**

The Trans-European Drug Information project (TEDI) is a network of European fieldwork Drug Checking services that share their expertise and data within a European monitoring and information system. TEDI has developed a database system that collects, monitors and analyses the evolution of various European drug trends in recreational settings. The TEDI project operates within the European NEWIP project.

All of the organisations currently involved in Drug Checking in recreational settings share their data on the TEDI database, which was originally established in conjunction with projects that worked directly with drug users (first-line projects). These projects include: AiLaket!!, Check !n, Checkit!, DIMS, Energy Control, Jellinek, Modus Vivendi, Saferparty.ch and Techno Plus.

The TEDI project is committed to gathering and publishing the most relevant data from the TEDI database in its biannual trend reports. The aim of this third trend report is to present the results of data gathered, analysed and compared in four countries by five Harm Reduction groups during the six-month period January–June 2013. This trend report also compared these figures with those presented in TEDI's second trend report that assessed emerging trends and was generated by TEDI member organisations during the second half of 2012.

The TEDI trend report does not, however, provide any detailed information about the substances named in the report. But it does provide numerous links where more specific substances information can be found.

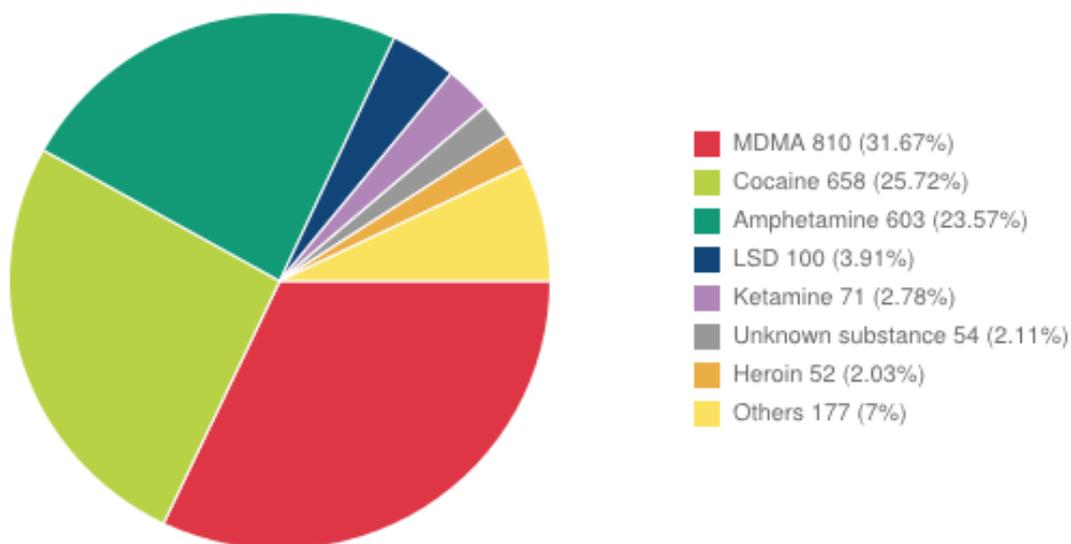
TYPES OF ANALYSED DRUGS

The third trend report includes 2,558 analyses from the period January–June 2013. Of these samples, 31% were analysed on site, in a recreational setting. These analyses were handled by five Harm Reduction groups in four countries: In Spain, AiLaket!! analysed 124 samples and Energy Control 1253 samples, Austria’s Checkit! analysed 609 samples, Belgium’s Modus Vivendi analysed 34 samples, while Switzerland’s Saferparty.ch analysed 538 samples. The drug-checking techniques used by the Harm Reduction groups include: TLC, GC/MS, HPLC, HPLC/MS, NMR and ultraviolet spectroscopy (UV). The groups tested 1383 samples using TLC, 278 using GC/MS, 538 using HPLC, 615 using HPLC/MS, 77 using NMR and 321 using UV. For more information on these techniques consult TEDI’s methodology guidelines.

The third trend report, like the first two, noted that the most analysed substances remain MDMA (31.67%), cocaine (25.72%) and amphetamine (23.57%), which represent 81% of the total number of analysed samples. The distribution of the most analysed samples remains stable across all three trend reports. This further mirrors the current usage trends in recreational settings. However, it must also be emphasised that the number of samples of LSD (n=100), ketamine (n=71), and heroin (n=52) were also significant. Meanwhile, of the total number of samples analysed, 2% of the substances were unknown to the users.

Besides the readily identified substances noted earlier, the chart above also breaks down the “others” category of less-popular substances, which were analysed significantly less often, including: 2C-B (n=23), methamphetamine (n=16), DMT (n=13), mescaline (n=12), methoxetamine (n=11), methylone (n=8), mephedrone (n=8), MDA (n=6), GHB (n=3) and 4-MEC (n=3).

Type of Analysed Drugs (Jan-June 2013)



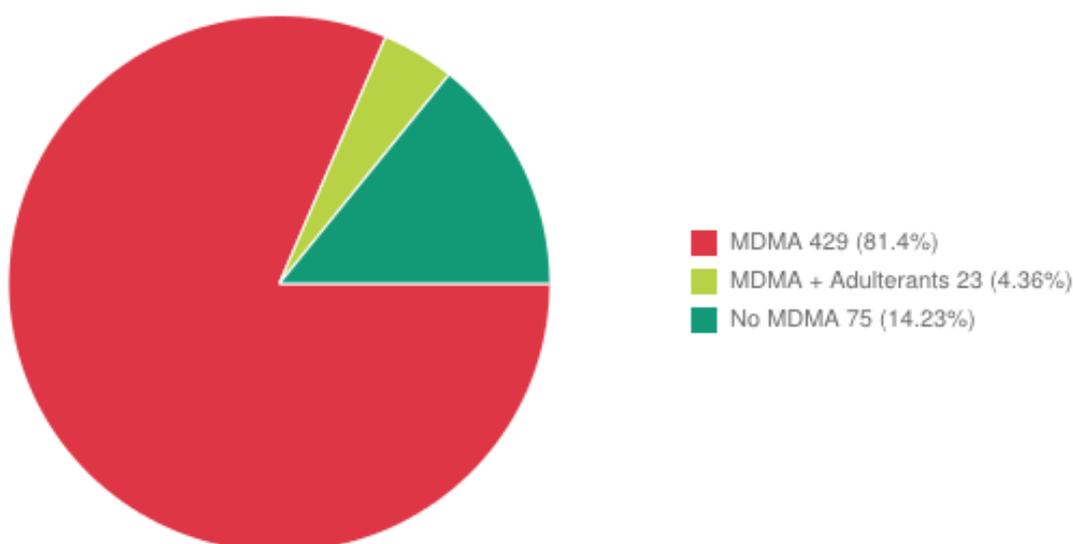
**COMPOSITION
& ADULTERATION
OF TESTED
SAMPLES**

ECSTASY (MDMA)

The general observation over the past few years has been that MDMA's composition tends to vary depending on how it is produced – as a pill or as crystal.

In the period January–June 2013, 810 samples of MDMA were analysed, 65.1% of these were sold as crystal and 34.9% in pill form.

Adulteration of Crystal MDMA



MDMA in Powder or Crystal Form

The purity of the MDMA in the 527 analysed crystal samples was generally high, with over 68% of the analysed samples achieving a purity level of between 75 and 100%. The average purity level of the samples analysed was 76.77%. Compared to the previous report's data, which revealed that 64% of the analysed samples achieved a purity level of between 75 and 100%, the crystal MDMA analysed in the first half of 2013 was slightly more pure (+ 4%), which reflects the current trend – the purity of crystal MDMA has been gradually increasing.

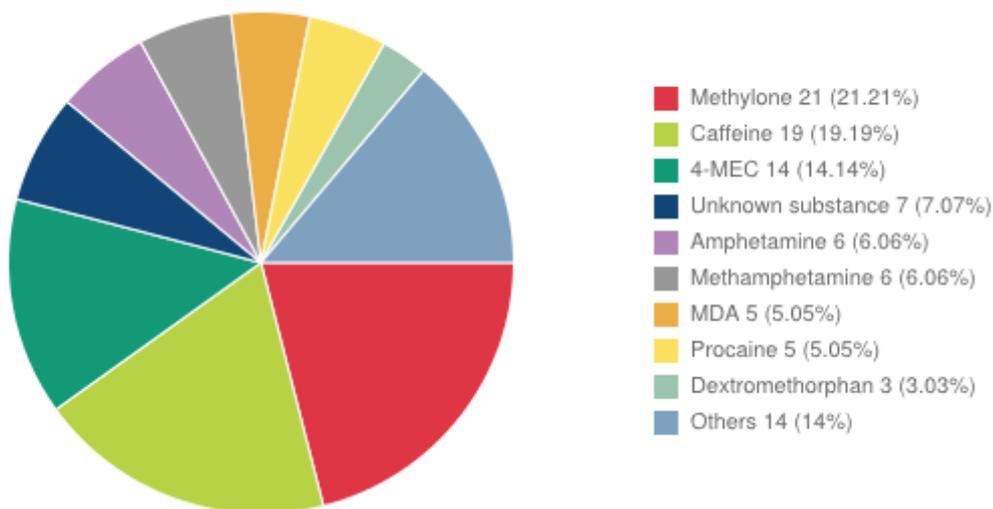
Purity levels of MDMA varied per country: 82.9% in Switzerland, 77.8% in Spain, 74.8% in Austria and only 37.4% in Belgium. But since only 5 samples of crystal MDMA were analysed in Belgium during this period we have decided not to highlight Belgium's results in the final data analysis, although the 5 samples are included in the final figures.

Of the total 527 samples 81.4% contained pure MDMA with no adulterants, while 4.36% contained MDMA plus an adulterant. The remaining 14.23% did not contain any MDMA at all, and, instead, contained other substances, some of which were not even psychoactive. This data mirrors the same trend detected in the second trend report, which showed that 81% of the samples contained pure MDMA, while 14% contained no MDMA at all.

When we compare the data in the three countries, we observe that 83.9% of Spain’s samples contained only MDMA, compared to 80.8% in Switzerland and 76.8% in Austria’s samples. The percentage of samples that contained no MDMA at all was 2.1% in Switzerland, 9.7% in Spain and 23.7% in Austria.

When we analyse the composition of crystal MDMA adulterants, we see that for first time in the three trend reports, the main adulterant was methylone, a New Psychoactive Substance

Adulterants Found in Crystal MDMA



(NPS), which was detected in 21.21% of the analysed samples. The second most detected adulterant was caffeine (19.19%), mostly in combination with MDMA. The mean value detected for caffeine was 24.6%. Another NPS such as 4-MEC was identified as adulterant in 14.14% of MDMA samples. NPS as adulterants comprised more than 35% of the adulterants detected. Other adulterants identified include methamphetamine and amphetamine (6.06%) and MDA (5.05%), procaine (5.05%) and dextrometorphan (3.03%). Adulterants representing less than 3% of total substance were categorised as “Others”.

When we compare the inclusion of adulterants per country, we observe that MDA as an adulterant in crystal MDMA – but always in combination with MDMA – was only detected in Switzerland, while, amphetamine was sometimes used as an adulterant in both Switzerland and Austria.

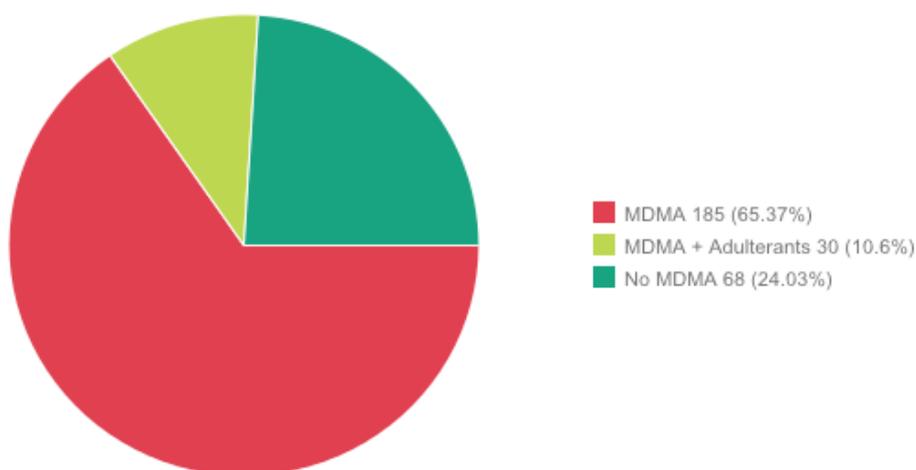
NPS as MDMA adulterants were detected in both Austria and Switzerland, where methylone and 4-MEC were identified. However, in most of these cases, the NPS totally replaced the MDMA as the primary active substance, meaning that NPS were sold as MDMA. Other substances including methamphetamine were also found to have been sold as crystal MDMA in both Austria and Spain, while dextrometorphan was only sold as MDMA in Spain.

MDMA IN PILLS

In the four countries involved in the study, we observe high dosages of MDMA in most of the pills analysed, with 73% of the pills containing 75 mg or more MDMA, and 9.2% containing over 150 mg, for an average MDMA dosage of 100.2 mg. Furthermore, some pills contained dramatically high amounts of MDMA, with a maximum of 224 mg detected in the first period of 2013, confirming that the maximum ecstasy pill dosages continue to increase.

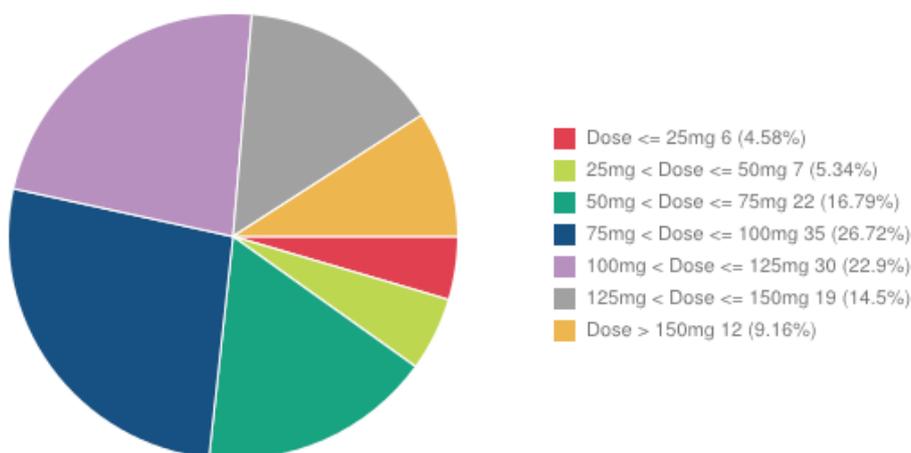
However, according to TEDI's data, this represents a slight average decrease in MDMA pill dosage compared to the second half of 2012, when the average dosage per MDMA pill was 113 mg (-12.8mg). The second trend report also showed that more than 91% of the pills analysed contained at least 75 mg (-18%), with 7.7% containing 150 mg or more (+1.5%).

Adulteration of MDMA Pills



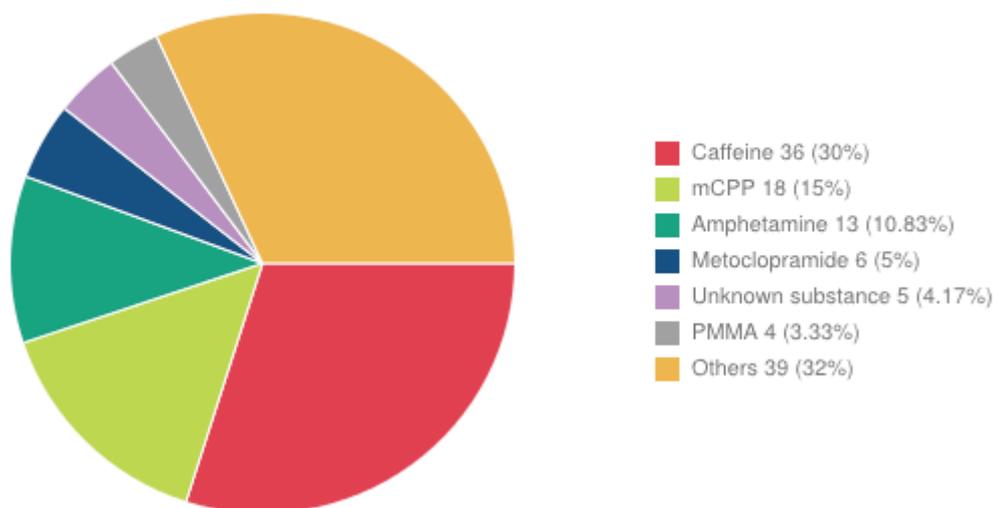
When we compare data per country, we see that in Spain, 82.5% of the pills analysed contained 75 mg of MDMA or more, but none of the analysed pills contained more than 150 mg. In Switzerland, 78.9% of the pills contained 75 mg of MDMA or more, with 12.3% of the pills containing over 150 mg. In Austria, 52.9% of the pills analysed contained 75 mg of MDMA or more, with 14.7% containing more than 150 mg.

Dosage of Pills Analysed



The adulteration level of the 283 samples of ecstasy pills was higher than that of the MDMA sold in crystal form. While 65.4% of the analysed pill samples were only MDMA, 10.6% contained MDMA plus adulterants, (mostly caffeine) and 24% contained no MDMA at all. The main substances detected in these pills were 2-CB, amphetamine, m-CPP and methylene.

Adulterants Found in MDMA Pills



The most common adulterant found in MDMA pills was caffeine (present in 30% of the total number of adulterated pills). The amount of m-CPP found in MDMA pills increased from 5% in the first period of 2012 to 11% in the second period and further increased to 15% during the first half of 2013. In five samples, the m-CPP was combined with metoclopramide. Amphetamine was the third most frequent adulterant, but it was detected only in Switzerland and Austria. Unfortunately, the third trend report again detected toxic adulterants such as 4-methoxyamphetamine (PMA) and 4-methoxymethylamphetamine (PMMA), this time in two pills in Austria, while small amounts of PMMA were detected in four pills in Switzerland.

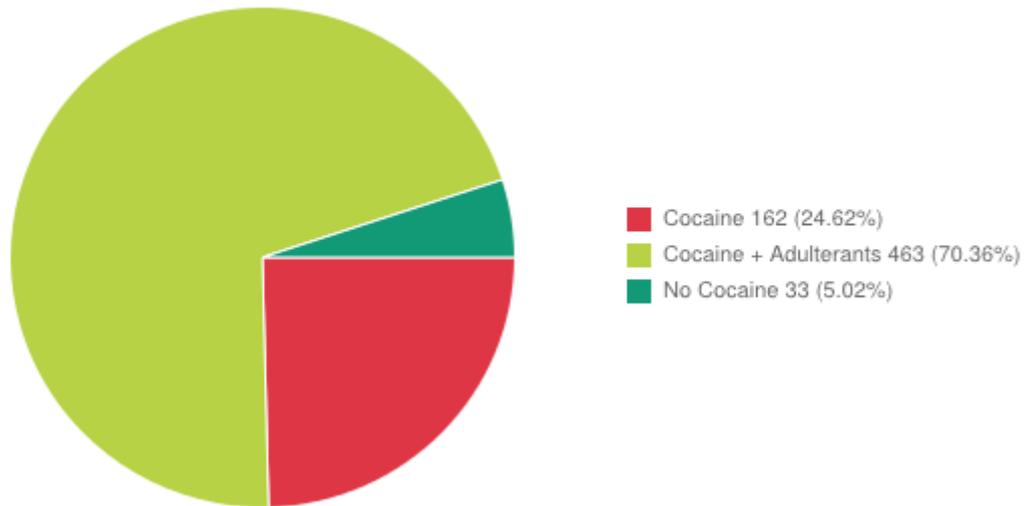
Some unknown substances (4% of total adulterants) were also detected but they have yet to be properly identified. Again, adulterants representing less than 3% of total pill content were classified as "Others".

COCAINE

In the period January–June 2013, 658 cocaine samples were analysed, with most of the samples containing low dosages of cocaine. The average purity of the cocaine salt was 57.6% with a few samples showing a maximum purity of 100%. Furthermore, 13.4% of the samples analysed contained less than 25% cocaine, which is a lower percentage than was noted in the second trend report, where 21% of the cocaine samples contained less than 25% actual cocaine (-7.6%).

Meanwhile, the percentage of samples that contained only cocaine was 24.62% of the total, 70.36% contained a combination of cocaine plus adulterants and 5.02% contained no cocaine at all, some of which consisted of a combination of caffeine plus local anaesthetics. Adulteration levels decreased, compared to 2012, with 8.6% of the 2012 cocaine samples containing pure cocaine (+16.02%), and 87,2% containing a combination of cocaine plus adulterants (-16.84%).

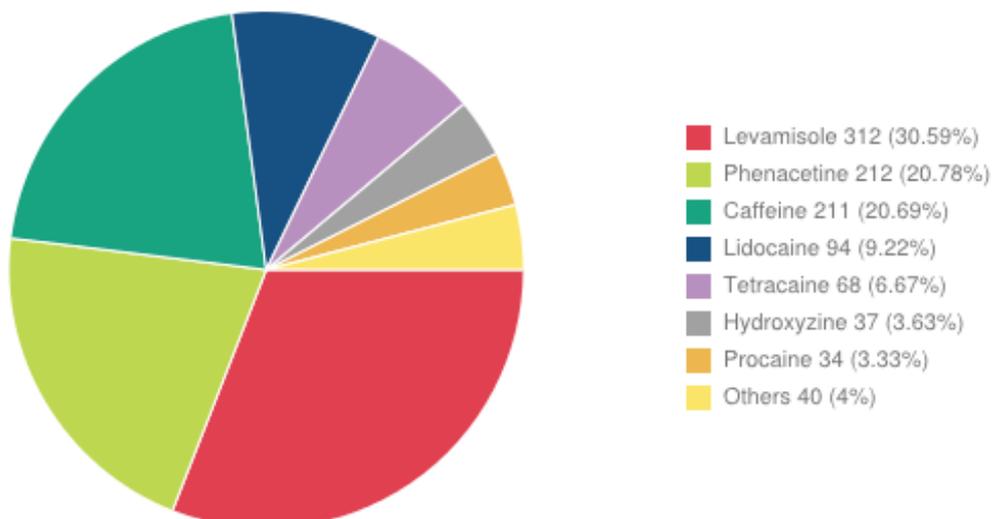
Adulteration of Cocaine



When we compared the data of the three participating countries, we observe that 12.9% of Switzerland’s analysed samples contained only cocaine, while 3.9% contained no cocaine. In Spain, 33.7% of the samples were found to be only cocaine, while 4.3% contained no cocaine. In Austria, 22.4% were only cocaine and 13.8% contained no cocaine.

Cocaine, on average, contained more adulterants than other recreational drugs. For instance, 274 of the cocaine samples (44% of the total) contained three or more adulterants. This figure is 14% higher than the 30% noted in the second trend report.

Adulterants Found in Cocaine



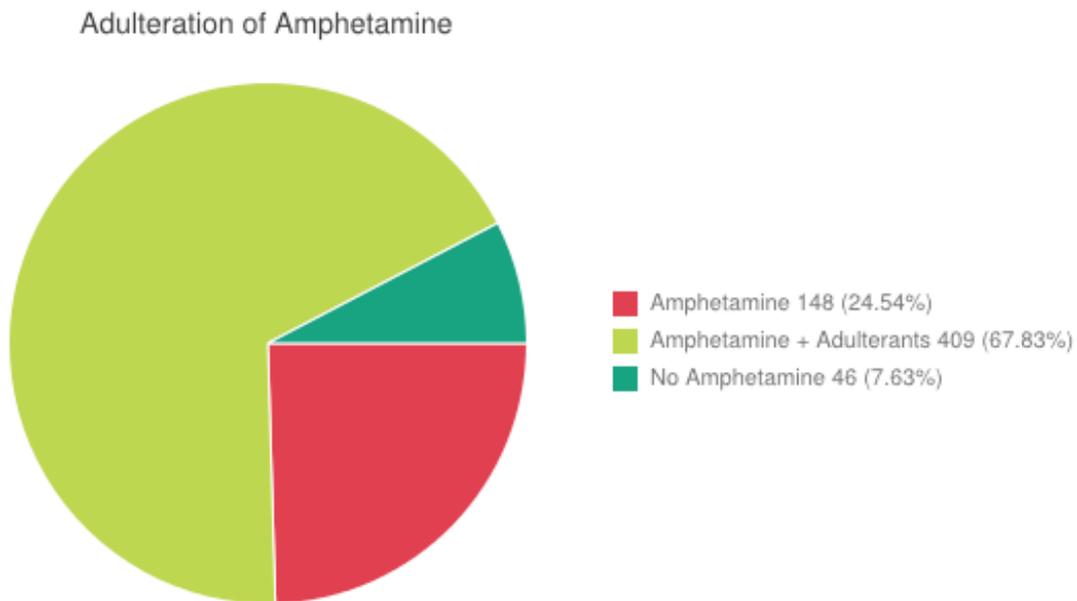
The most common adulterant remains levamisole, which is present in 30.59% of the total number of samples, followed by phenacetine (20.78%) and caffeine (20.69%). Other common adulterants include local anaesthetics (19.2%, such as lidocaine (9.22%), tetracaine (6.67%) and procaine (3.33%)). During this period, the use of hydroxyzine as cocaine adulterant increased when compared to the previous two periods.

The amount of cocaine adulterant varied widely: the highest mean value was for phenacetine (20.2%) while the lowest mean value was for hydroxyzine (4.3%). Levamisole's mean value was 9.6%.

The figures for detected cocaine adulterants during the January–June 2013 research period were very similar for all three of the participating countries and when we compare the data for all three trend reports, we notice that the types and dosages of adulterants detected have basically remained stable.

AMPHETAMINE SULPHATE (SPEED)

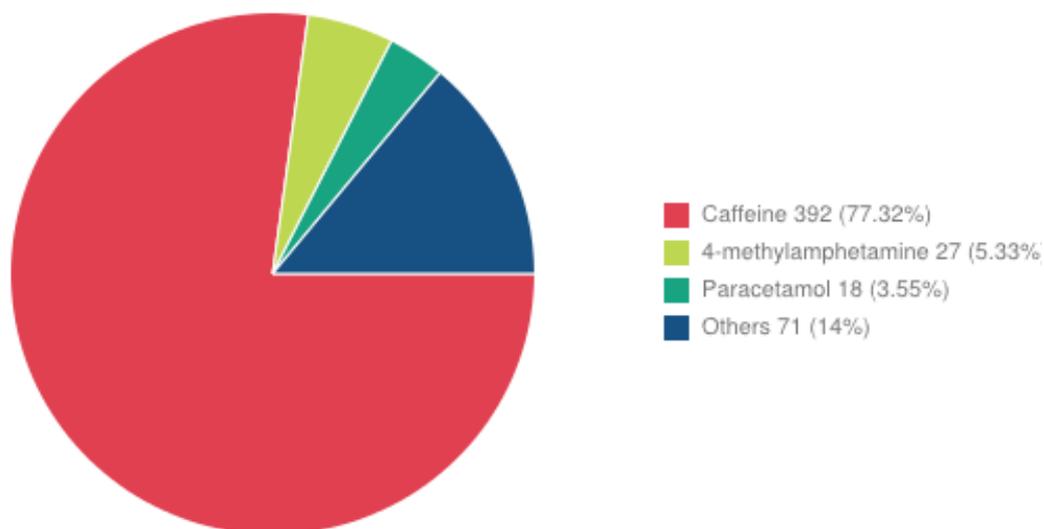
The average dosage of amphetamine salt in the 603 samples analysed during the period January–June 2013 was very low (28.4% amphetamine). However, the data did reveal an increase of 9.4% over the 19% reported in the second period of 2012. 79.8% of the samples analysed contained less than 25% amphetamine.



Amphetamine, like cocaine, is often adulterated, with only 24.5% of the samples containing pure amphetamine. This is an increase of 12% over the second period of 2012. 67.8% of the amphetamine samples contained a combination of amphetamine plus adulterants, mostly caffeine. The amphetamine-plus-caffeine mixture represents a trend that all of the participating Drug Checking services have detected over the past few years. The remaining 7.6% of the

samples contained no amphetamine at all, with substances like 4-FA and caffeine replacing the amphetamine as the active ingredient. This reveals a slight decline of 1.4% compared to the 9% reported in the second period of 2012.

Adulterants Found in Amphetamine



When we compare the data of three participating countries, we see that 28.1% of Spain's samples contained only amphetamine while 5.2% contained no amphetamine. In Switzerland, 21% of the analysed samples contained only amphetamine, with only 2.42% containing no amphetamine. Meanwhile, in Austria, 18% of the analysed samples contained only amphetamine, while 11% contained no amphetamine.

The main adulterant in these three countries remains caffeine, which was found in a total of 77% of the analysed samples. Moreover, the presence of 4-methylamphetamine (4-MA) decreased slightly to 5,3%, compared to the 9% detected in the second trend report. We also detected paracetamol in 3.6% of the samples. The "Others" category includes PMA, which was detected in one speed sample in Spain, as well as numerous other classified adulterants that represent less than 3% of the amphetamine samples analysed.

WARNINGS
RED ALERTS
& ALERTS

NEWLY DETECTED SUBSTANCES

During the period January–June 2013, the participating Drug Checking services detected 11 new substances, including NPS such as: 3-Methylmethcathinone, 3,4-DMMA, TMA-2 and W-15 (1-Phenylethylpiperidylidene-2-(4-chlorophenyl)sulphonamide). The W-15 has since been reported to the European Monitoring Centre for Drugs and Drug Addiction ([EMCDDA](#)). Several other adulterants known as prescription medications have recently been detected in psychoactive substances such as Bisoprolol, Chlorprothixene, Lansoprazol and Lormetazepam.

Warnings RED ALERTS

“Red Alert” is a term used to indicate the emergence on the illicit market of very dangerous drugs or other highly risky combinations of drugs. Their appearance demands a swift and resolute reaction from involved health care institutions and addiction care facilities, as well as from potential drug users, health professionals, and representatives from the mass media.

During the research period January–June 2013, 25I-NBOMe was detected in four blotters that were sold as LSD in Spain and in three blotters sold as LSD in Austria. 25C-NBOMe was detected in two blotters sold as LSD in Spain. In high doses, 25x-NBOMe substances are linked to an increased risk of death. For more information in English about the adulteration of LSD blotters with 25x-NBOMe substances click [here](#). For information on 25I-NBOMe in Spanish, click [here](#).

Two photos of blotters containing 25I-NBOMe detected in Spain

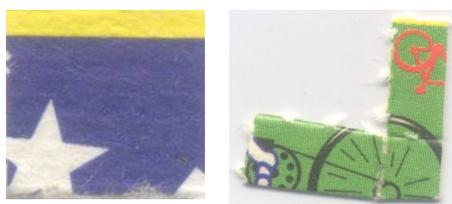


Photo of a blotter containing 25I-NBOMe detected in Austria



Some amphetamine samples contained 4-MA, an adulterant that seems to be on the decline, having been detected only 27 times during the first period of 2013, compared to 61 during the second half of 2012 (-50%).

A maximum 4-MA concentration of 25.1% was detected in Switzerland in 2013. This is troubling because there is currently little available information on 4-MA and its effects. 4-MA is, however, suspected of inducing a serotonin syndrome that can be lethal if not treated properly.

Without more data, its actual toxicity and at what dosage it begins to pose a serious health risk remain difficult to gauge.

For more information on 4-MA in German and access to the Checkit warning [click here](#). For more information in Spanish and access to the Energy Control warning [click here](#).

PMA was meanwhile detected in 1 sample sold as speed in Spain with a concentration of 0.7%. PMA in a dosage of 7% was also detected in two pills sold in Austria, as was also reported in TEDI's first trend report

Photo of pill containing PMA detected in Austria



ALERTS

Besides the warnings about potentially toxic substances with a higher overdose risk and other health risks, it's also important to note the high dosage of MDMA currently being found in ecstasy pills on the European market. This trend was first detected in the four involved countries in 2011 and remained stable through 2012 and the first half of 2013.

Several pills containing new substances were also detected during the first period of 2013, including some pills containing 2C-B, 2C-E and methoxetamine.

Photo of pill containing 2C-E detected in Spain



Photo of pill containing 2-CB and an unknown substance detected in Austria



Photo of pill containing methoxetamine detected in Austria



Photo of pill containing methoxetamine and caffeine detected in Austria



It's also crucial to note the presence of various psychoactive drugs that have been used as adulterants (70.36%) in cocaine samples. As noted earlier, levamisole remains one of the most common cocaine adulterants (30.6%), which continues to cause concern because the regular, high-dosage consumption of levamisole leads to a significant decrease in the number of white blood cells. This leaves the cocaine addict more vulnerable to infections. Recently, the first cases of dermal necrosis were reported in several Swiss hospitals.



Photo courtesy of www.medscape.com

Further information on the side effects of levamisole is available at the [EMCDDA Website](#).

Phenacetine, currently the second most common cocaine adulterant, has raised considerable concern about its health risks. Regular and/or high dosages of phenacetine have been linked to serious kidney problems. When used in combination with alcohol, it may cause significant liver damage.

Local anaesthetics such as lidocaine or procaine have also been used as cocaine adulterants, but on a much smaller scale thus far. These substances are, however, potentially very dangerous when cocaine adulterated with these local anaesthetics is injected intravenously.

CONCLUSIONS

3RD TEDI

TREND REPORT

CONCLUSIONS

The main substances used in recreational settings continue to be MDMA, amphetamines and cocaine. Each of these substances varies greatly with regard to their levels of purity and their numbers and percentages of adulterants. For users, this means not only dealing with the risks of the substance but also means dealing effectively with the risks associated with its adulterants. The only way to learn about the actual composition of a recreational substance is to have it properly tested by a Drug Checking Service and learn about the trends related to this substance. The goal of TEDI's biannual trend report is to publish the results of the six involved Drug Checking services ([Ailaket!!](#), [Check!n](#), [Checkit!](#), [Energy Control](#), [Modus Vivendi](#) and [Saferparty.ch](#)).

Ecstasy (MDMA)

Our research shows that ecstasy (MDMA), in both pill and crystal form, remains the least adulterated substance. However, despite lower levels of adulteration, there have been some reported cases of ecstasy with, for instance, NPS and sold as pure ecstasy. Currently, however, the main risk involves the increased dosage of MDMA per ecstasy tablet. But it's also important to understand that a broad range of adulterants are still being detected in MDMA samples and that the number of pills adulterated with m-CPP has shown a slight increase.

Cocaine

Meanwhile, the adulteration level of cocaine has increased over the past few previous years. During the second half of 2012, 44% of all cocaine samples contained at least three other adulterants such as caffeine, phenacetine, local anaesthetics and levamisole. Although these adulterants come with their own risks, levamisole and phenacetine are currently the subject of increased concern because of the potential harmful effects associated with their ingestion.

Amphetamine

Amphetamine is meanwhile adulterated to the tune of 67.8% of the total analysed samples. The main adulterant remains caffeine, with the amphetamine-caffeine mixture being common among samples sold as speed. speed users are generally accustomed to the effects and the risks of this combination. The risk assessments are thus more generally focused on the broad variety of amphetamine dosages and potentially lethal adulterants such as 4-MA and PMA, which has reportedly induced serotonin syndrome with symptoms resembling hyperthermia.

New substances, Warnings & Drug Checking Service

A Drug Checking service is an effective resource that can help detect new substances making the rounds in various recreational settings. During the research period, 11 new substances were detected, one of these substances, W-15 (1-Phenylethylpiperidylidene-2-(4-chlorophenyl)sulphonamide), as noted earlier, has not yet been detected by the EMCDDA.

The five substances known as 25I-NBOMe, 25C-NBOMe, 4-MA, PMMA and PMA have already been detected by the Drug Checking services involved in the TEDI project. This is important because they may be potentially more toxic than any of the more common recreational substances, and may thus pose a higher overdose risk and expose users to other potentially life-threatening situations. It's also important to emphasise that the trend toward increased dosages of MDMA in ecstasy pills may prove harmful as well. Moreover, there has also been a notable increase in toxic adulterants detected in numerous cocaine samples. Fortunately, however, the detection of potentially lethal toxic substances remains fairly rare and substances such as rat poison or strychnine have yet to be detected.

The most important advice that the Drug Checking services can provide is to use caution, ingest only a small dosage of any recreational substance because of the wide variety of dosages of active substances and the presence of adulterants with as-yet unknown effects and side effects.

An on-site Drug Checking service can offer users the ability to quickly identify a substance and analyse its composition, which offers users the opportunity to make a more informed decision about the potential dangers or unexpected additives associated with the involved substance. The available Drug Checking data leads to the increased awareness of the risks among recreational drug users. Furthermore, an effective Drug Checking service that supplies an on-site, rapid detection service is an absolute necessity because it figures as a type of insurance regarding the substances currently being consumed in recreational settings, which forms the basis of an effective European risk-reduction strategy.



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NEWIP | TEDI

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TTR4

TEDI TREND REPORT



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**ABOUT TEDI
& THE FOURTH
TREND REPORT**

The Trans-European Drug Information project (TEDI) is a network of European fieldwork Drug Checking services that share their expertise and data within a European monitoring and information system. TEDI has developed a database system that collects, monitors and analyses the evolution of various European drug trends in recreational settings. The TEDI project operates within the European NEWIP project.

All of the organisations currently involved in Drug Checking in recreational settings share their data on the TEDI database, which was originally established in conjunction with projects that worked directly with drug users (first-line projects). These projects include: AiLaket!!, Check !n, Checkit!, DIMS, Energy Control, Jellinek, Modus Vivendi, Saferparty.ch and Techno Plus.

The TEDI project is committed to gathering and publishing the most relevant data from the TEDI database in its biannual trend reports. The aim of this fourth TEDI trend report (TTR4) is to present the results of data gathered, analysed and compared in four countries by five Harm Reduction groups during the five month period, July–November 2013. This trend report also compares these figures with those presented in TEDI's trend report 3 (TTR3), which was based on data gathered for the period January–June 2013, and with the total figures gathered over the three-year period since the TEDI project (2011-2013) was launched.

The TEDI trend report does not, however, provide any detailed information about the substances named in the report. But it does provide numerous links where more specific substance information can be found.

TYPES OF ANALYSED DRUGS

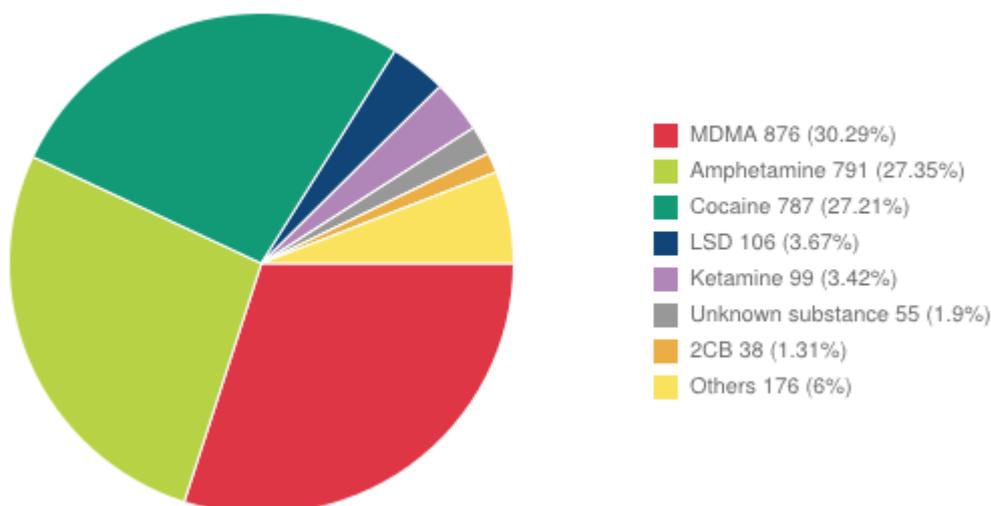
TYPES OF ANALYSED DRUGS

TTR4 includes data from 2,892 analyses gathered over the period July–November 2013. Of these samples, 45% were analysed on site, in a recreational setting. The data were gathered and analysed by five Harm Reduction groups in four countries: In Spain, AiLaket!! analysed 714 samples and Energy Control 1005 samples, Austria's Checkit! analysed 323 samples, Belgium's Modus Vivendi analysed 63 samples, while Switzerland's Saferparty.ch analysed 787 samples. The drug-checking techniques used by the Harm Reduction groups include: TLC, GC/MS, HPLC, HPLC/MS and NMR. The groups tested 1743 samples using TLC, 222 using GC/MS, 787 using HPLC, 329 using HPLC/MS, 343 using NMR. For more information on these techniques, consult TEDI's methodology guidelines.

TTR4, like the other three, noted that the most analysed substances remain MDMA (30.29%), cocaine (27.21%) and amphetamine (27.31%), which represents almost 85% of the total number of analysed samples. The distribution of the most analysed samples remains stable across all four trend reports. This further mirrors the current usage trends in recreational settings. However, it must also be emphasised that the number of samples of LSD (n=106), ketamine (n=99), and 2C-B (n=38) were also significant. Meanwhile, of the total number of samples analysed, 1.9% of the substances were unknown to the users.

The category “others” includes substances that were analysed significantly less often such as: heroin (n=26), methamphetamine (n=18), DMT (n=8), mescaline (n=5), methoxetamine (n=3), methylone (n=7), mephedrone (n=9), MDA (n=6) and 2C-I (n=5).

Type of Analysed Drugs (July-Nov 13)



**COMPOSITION
& ADULTERATION
OF TESTED
SAMPLES**

ECSTASY (MDMA)

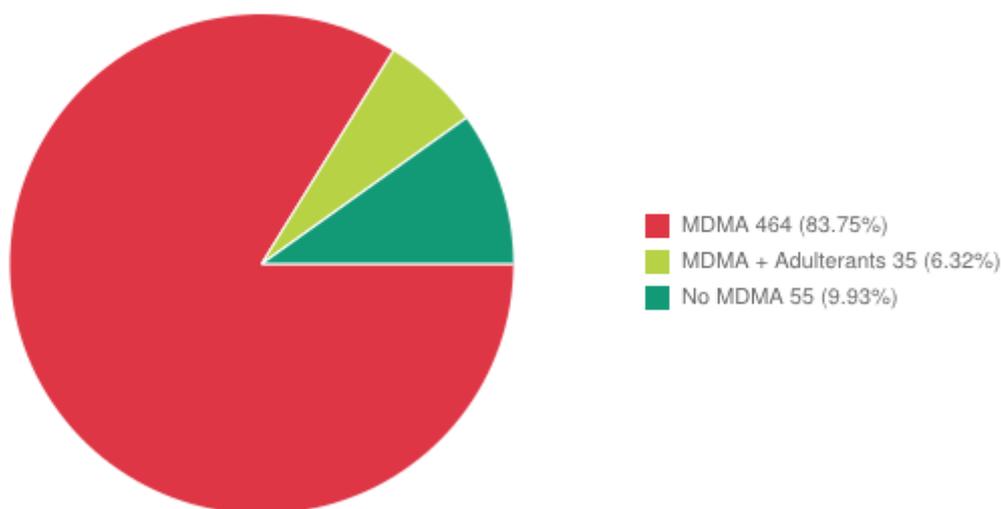
The general observation over the past few years has been that MDMA's composition tends to vary depending on how it is produced – as a tablet or as crystal.

In the period July–November 2013, 876 samples of MDMA were analysed, 63.2% of these were sold as crystal and 36.8% in tablet form.

MDMA in Powder or Crystal Form

The purity of the MDMA in the 554 analysed crystal samples was generally high, with nearly 70% of the analysed samples achieving a purity level of between 75 and 100%. The average purity level of the samples analysed in salt form was 79.8%. Compared to 2012's data, which revealed that 59.64% of the analysed samples achieved a purity level of between 75 and 100%, the crystal MDMA analysed in 2013 was slightly more pure, with 67.42% of the samples attaining a purity level of between 75 and 100%. This slight increase (+ 7.78%) reflects the current trend; the purity of crystal MDMA has continued to gradually increase.

Adulteration of Crystal MDMA (July-Nov 13)

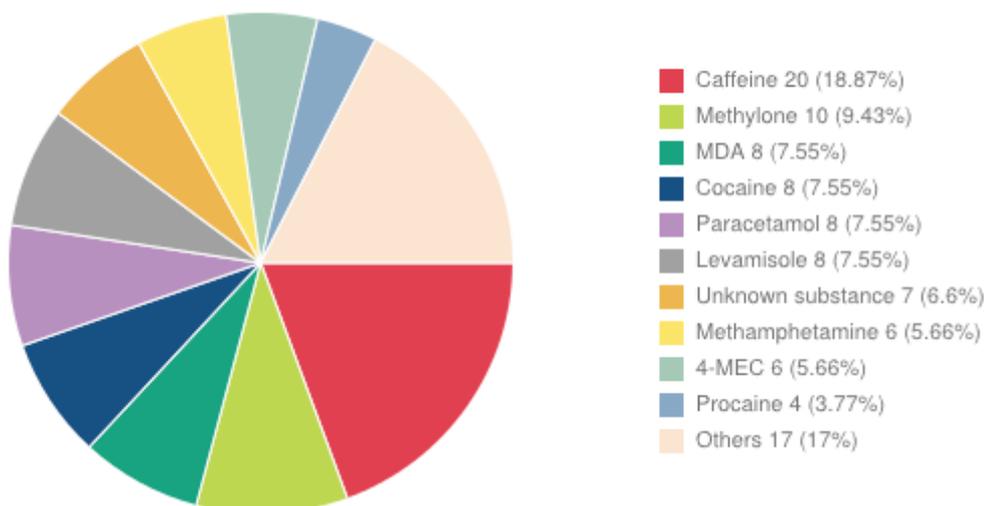


The average purity levels of MDMA varied per country: 88.61% in Switzerland, 81.64% in Spain, 68.57% in Austria and only 48.77% in Belgium.

Of the total 554 samples, 83.75% contained pure MDMA with no adulterants, 6.32% contained MDMA plus an adulterant. The term adulterant used in this trend report refers to the addition of psychoactive substances. Non-psychoactive additives such as milk powder, sugar, etc. are not included under the term “adulterants”. The remaining 9.93% of the samples did not contain any MDMA at all. Instead, they contained numerous other substances, some of which were not

even psychoactive. This data shows a decreased adulteration in crystal MDMA compared to the figures in TTR3, where 81.4% of the samples contained pure MDMA (-2.35%), while 14.23% contained no MDMA at all (-7.91%).

Adulterants Found in Crystal MDMA (July-Nov13)



When we compare the data of the four countries we observe that 88.51% of Austria’s samples contained pure MDMA, compared to 84.1% of Spain’s samples, 80.73% in Switzerland’s samples and 66.67% of Belgium’s samples. The percentage of samples that contained no MDMA at all was 3.67% in Switzerland, 10.34% in Austria, 11.27% in Spain and 25% in Belgium.

When we analyse the composition of crystal MDMA adulterants, we see that the main adulterant was caffeine, which was detected in 18.87% of the analysed samples, mostly in combination with MDMA. The mean value detected for caffeine was 21.86%. The second most detected adulterant was methylone, a New Psychoactive Substance (NPS), which was detected in 9.43% of tested samples. Another NPS known as 4-MEC was identified in 5.66% of MDMA samples. NPS adulterants comprised more than 15% of the total adulterants detected, a sizeable decline compared to the 35% detected in the first half of 2013. Other identified adulterants include MDA (7.55%), methamphetamine (5.66%) and procaine (3.77%). Curiously, eight samples of MDMA adulterated with cocaine and levamisole were detected in Switzerland. The mean value detected for these adulterants was 8.11% and 0.79% respectively. Adulterants representing less than 3% of total substance are categorised as “Others”.

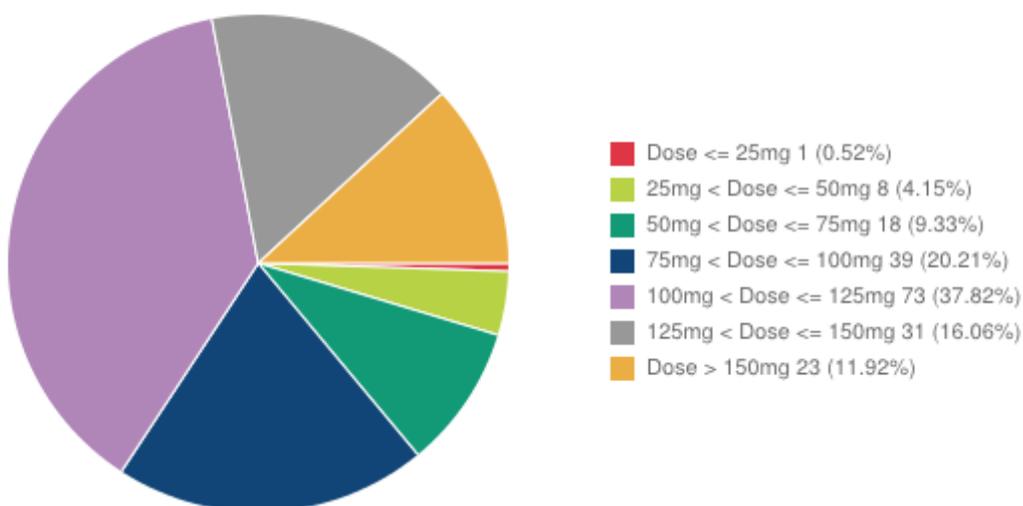
When we compare the inclusion of adulterants per country, we observe that MDA as an adulterant in crystal MDMA – but always in combination with MDMA – was detected in two countries, Belgium and Switzerland. Meanwhile, amphetamine and methamphetamine were sometimes used as an adulterant, in Austria, Spain and Switzerland. These samples were sold as MDMA although they contained no trace of MDMA.

NPS as MDMA adulterants were detected in Austria and Spain, where methylone and 4-MEC were identified. However, in most of these cases, the NPS totally replaced the MDMA as the primary active substance, meaning that a New Psychoactive Substance was sold as MDMA. The purity mean value that was detected for these adulterants were 70.38% and 67.85% respectively.

MDMA IN TABLETS

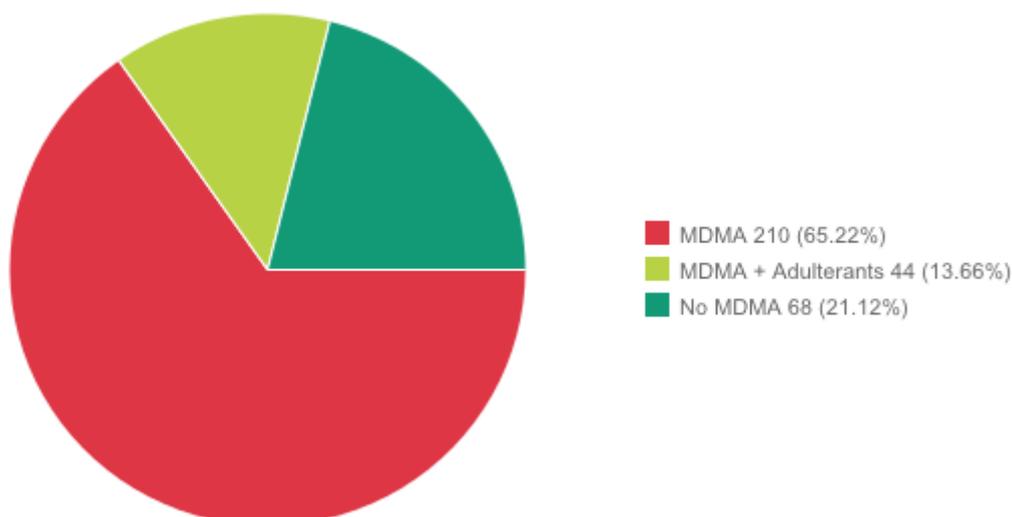
In the four countries involved in the study, we observe high dosages of MDMA in most of the tablets analysed: 83% of the tablets containing 75 mg or more MDMA, and 11.92% containing over 150 mg, contained an average MDMA dose of 112.44 mg. Furthermore, some tablets contained dramatically high amounts of MDMA, with a maximum of 271 mg detected in a tablet during the second half of 2013, confirming the trend toward increases in the maximum dosages of ecstasy tablets. However, according to TEDI's data, the average detected in the second half of 2013 mirrors the trend of the second half of 2012, when the average dosage was 113 mg. This means that the amount of MDMA per tablet has remained stable since 2012.

Dosage of Pills Analysed (July-Nov13)



When we compare data per country, we see that in Spain 89.46% of the tablets analysed contained 75 mg of MDMA or more and 5.77% of the analysed tablets contained more than 150 mg. In Switzerland, 88.78% of the tablets contained 75 mg of MDMA or more, with 13.79% of the tab-

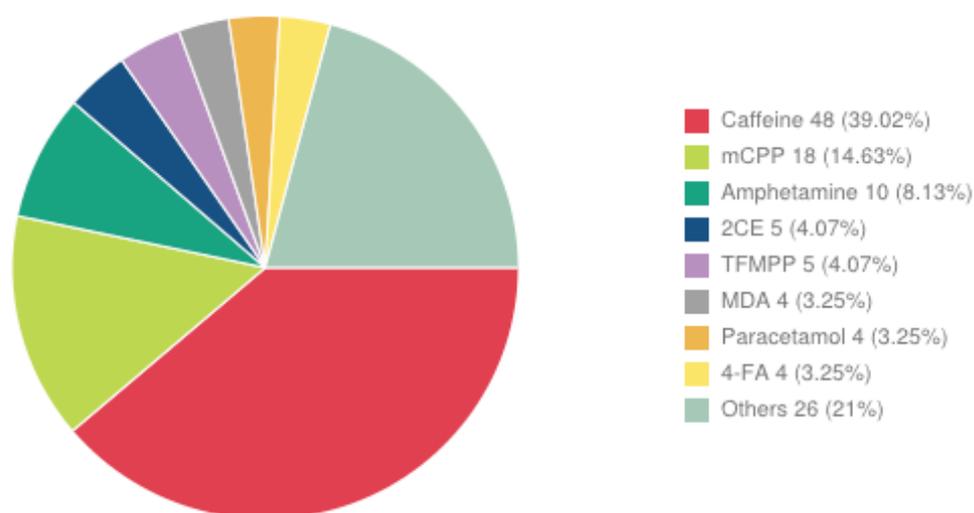
Adulteration of MDMA Pills (July-Nov13)



lets containing over 150 mg. In Austria, 68% of the tablets analysed contained 75 mg of MDMA or more, with 16% containing more than 150 mg. Available quantitative data for Belgium’s tablets during the involved period were insufficient to be included in the tablet dosage data.

The adulteration level of the 322 samples of ecstasy tablets was higher than that of the MDMA sold in crystal form. While 65.22% of the analysed tablet samples were unadulterated MDMA, 13.66% contained MDMA plus adulterants (mostly caffeine) and 21.12% contained no MDMA at all. The main substances detected in tablets sold as MDMA that contained no MDMA were 2-CE, 4-Fluoroamphetamine (4-FA), caffeine and m-CPP.

Adulterants Found in MDMA Pills (July-Nov13)



The most common adulterant found in MDMA tablets was caffeine (present in 39.02% of the total number of adulterated tablets). m-CPP was the second most common adulterant in MDMA tablets with 14.6% of the analysed samples containing this adulterant. During a period in 2009 when MDMA was not readily available, m-CPP served as a regular adulterant, often to the point where it totally replaced any trace of MDMA in the tablets. In 2009, it was detected in 44% of analysed tablets and was still detected in high doses in 40% of analysed tablets in 2010. In 2011, this figure declined to 17.5%, with its frequency of use continuing to decrease in 2012 to 8.55%. However, in 2013, the percentage spiked upward, with a detection rate of 15.38% of tested samples.

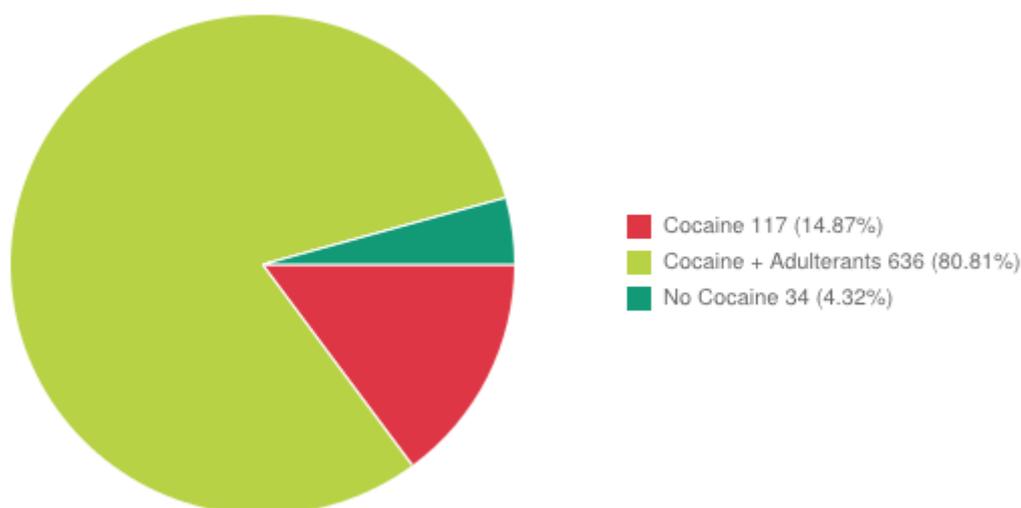
Amphetamine forms the third most frequently detected adulterant. It was detected in three of the four surveyed countries: Switzerland Spain and Austria. Other NPSs that served as adulterants such as 2C-E, 2C-P, TFMPP and 4-FA, represent 12% of the total amount of adulterants detected. These substances were detected in Austria, in Spain and in Switzerland. Unfortunately, a highly toxic adulterant such as 4-methoxyamphetamine (PMA) continues to be periodically detected, this time in one tablet in Switzerland, in a very small amount of 1.2 mg, which, luckily, is not enough to have any significant negative effect on the user. Fortunately, it appears PMA use has continued to decline over 2013. Adulterants found less frequently than in 3% of the samples were classified as “Others”.

COCAINE

In the period July–November 2013, 787 cocaine samples were analysed. The average purity of the cocaine salt was 59.78% with a broad scope of purity ranging from between 1.2% to a maximum of 99%, which was detected in one cocaine sample. Furthermore, 10.38% of the samples analysed contained less than 25% cocaine, which was a decrease of 3.02% compared to the TTR3.

Meanwhile, the percentage of samples that contained only cocaine (no other adulterants) plus some non-psychoactive substances such as milk powder or sugar was 14.87% of the total. 80.81% of the analysed samples contained a combination of cocaine plus adulterants, while 4.32% contained no cocaine at all. When no cocaine was detected, the most frequent combination of detected substances was caffeine plus local anaesthetics. Meanwhile, adulteration levels increased compared to the first half of 2013, with 24.62% of the cocaine samples containing pure cocaine (-9.75%), and 70.36% containing a combination of cocaine plus adulterants (+10.45%).

Adulteration of Cocaine (July-Nov13)

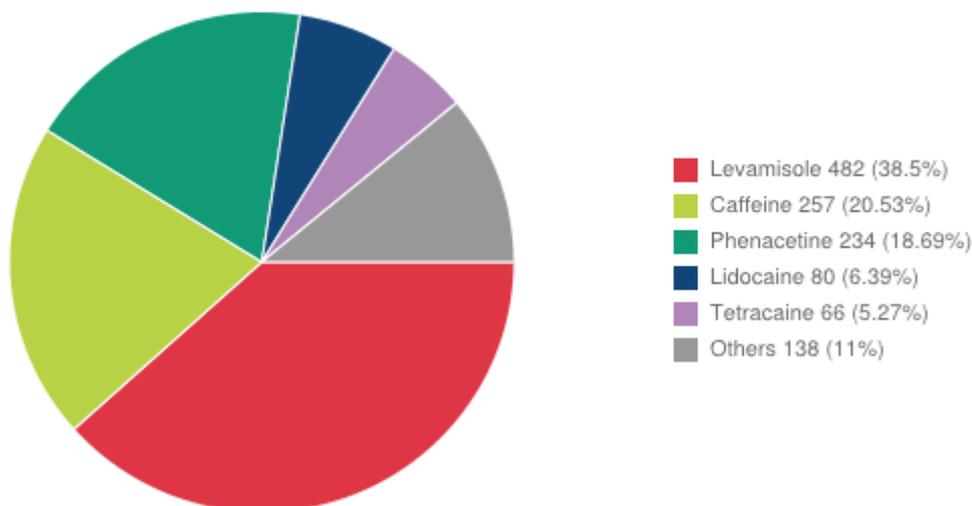


When we compare the data of the four participating countries, we need to take into consideration that the number of analysed samples sometimes varies dramatically between countries and thus the data provided should only serve as a basic guide and should never serve as irrefutable evidence of a general trend in the country studied. For example, we observe that 66.67% of the seven analysed cocaine samples in Belgium contained pure cocaine, while 16.67% contained no cocaine at all. In Spain, 16.55% of the samples contained pure cocaine, while 7.09% contained no cocaine. In Switzerland 12.03% were pure cocaine, with only 0.32% of the samples containing no cocaine at all. In Austria, 22.4% were pure cocaine, with 13.8% containing no cocaine.

Cocaine, on average, contained more adulterants than other recreational drugs. For instance, 192 of the cocaine samples (24.39% of the total) contained three or more adulterants. However, this figure is 20% lower than the one noted in TTR3, where 44.4% of the total cocaine samples contained three or more adulterants.

The most common adulterant remains levamisole which is present in 38.5% of the total number of samples, followed by caffeine (20.53%) and phenacetine (18.69%). Other common adulterants include local anaesthetics (11.64%, such as lidocaine (6.39%) and tetracaine (5.25%)). During this period, the use of hydroxyzine as a cocaine adulterant increased over the previous two periods.

Adulterants Found in Cocaine (Jul-Nov13)



The amount of psychoactive cocaine adulterants varied widely: the highest mean purity value for an adulterant was 17.49% for phenacetine while the lowest mean purity value was for tetracaine (6.27%). Levamisole’s mean purity value was 11.61%.

The figures for detected cocaine adulterants during the July–November 2013 period were very similar for the four participating countries. Furthermore, when we compare the data in the previous three TTRs, we notice that the types and dosages of adulterants detected have basically remained stable. The only adulterant during the past three years that has shown a decline is phenacetine: In 2011, 25.12% of the analysed cocaine samples contained phenacetine; by 2012, it had declined to 20.55%; and, in 2013, we saw its use decline even further to 19.96%.

AMPHETAMINE SULPHATE (SPEED)

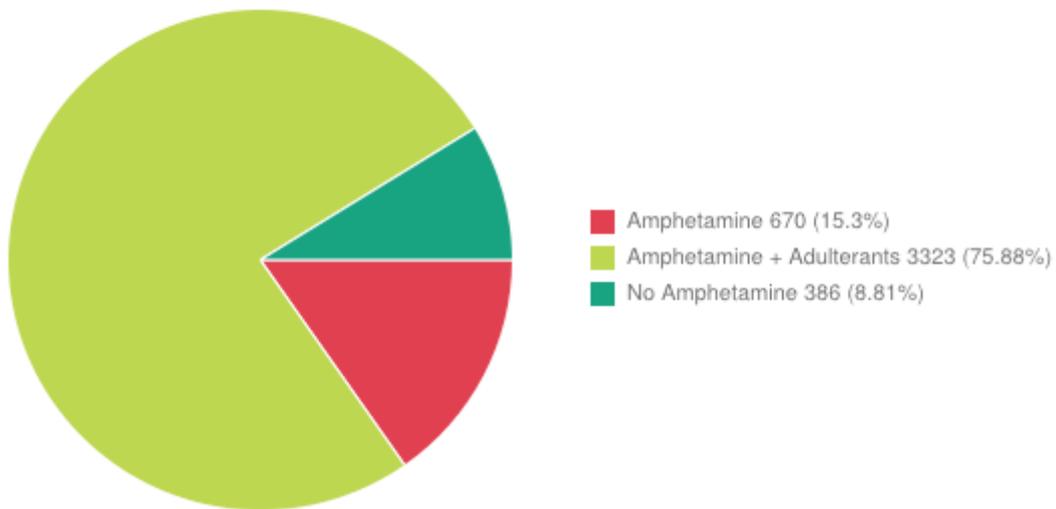
The average dosage of amphetamine salt in the 791 samples analysed during the period July–November 2013 was 32.75% amphetamine. This data revealed an increase of 4.35% over the 28.4% reported in the first half of 2013. In addition, little more than half of the analysed samples (53.19%) contained less than 25% amphetamine. According to TEDI’s data, the mean purity value of amphetamine since reporting began has increased, from 19.98% in 2011 to 20.16% in 2012 and 30.76% in 2013.

Amphetamine, like cocaine, is often adulterated with psychoactive substances and only 15.3% of the amphetamine samples contained pure amphetamine. This is a decrease of 9.2% over the first period of 2013. Of the total number of amphetamine samples, 75.88% contained a combination of amphetamine plus adulterants, mainly caffeine. The amphetamine-plus-caffeine mixture represents a trend that all of the participating Drug Checking services have observed over the past few years. The remaining 8.81% of the samples contained no amphetamine at all, with substances such as 4-FA and caffeine replacing the amphetamine as the active ingredient. This reveals a slight decline of 1.21% compared to the 7.6% reported in the first period of 2013.

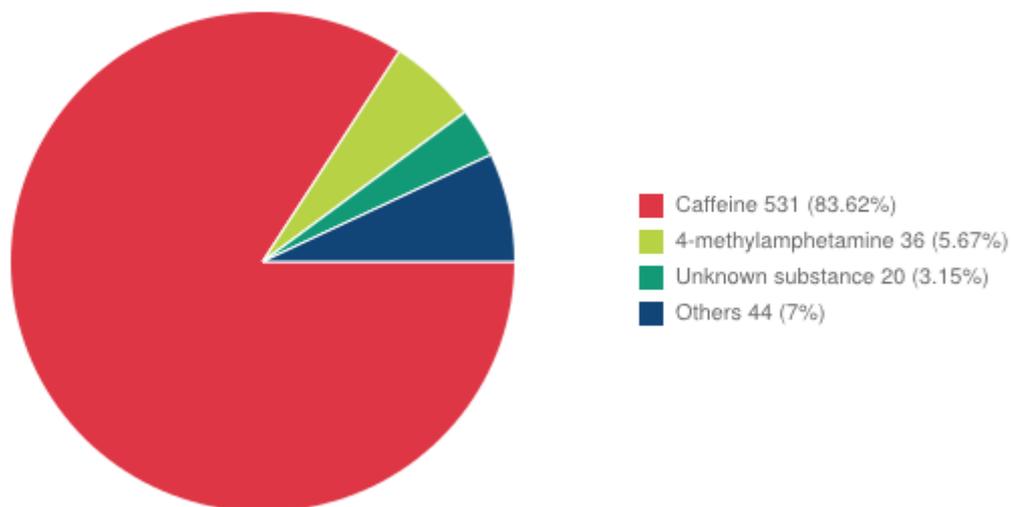
When we compare the data of the four participating countries, we see that 44.94% of Belgium’s samples contained pure amphetamine, while 17.98% contained no amphetamine. In

Switzerland, 15.76% of the analysed samples contained unadulterated amphetamine and only 3.11% contained no amphetamine at all. In Spain 15.54% of the amphetamine samples contained unadulterated amphetamine and 7.4% contained no amphetamine. Finally, in Austria, 11.96% of the analysed samples contained unadulterated amphetamine, while 14.3% contained no amphetamine at all.

Adulteration of Amphetamine (July-Nov13)



Adulterants Found in Amphetamine (Jul-Nov13)



The main adulterant in these four countries remains caffeine, which was found in a total of 83.62% of the analysed samples. Moreover, the presence of 4-methylamphetamine (4-MA) remains stable at 5.67%, compared to the 5.3% noted in the TTR3. The amounts of these adulterants varied widely: the mean purity value of caffeine was 52.75% and the one for 4-MA was 4.49%. We also detected unknown substances in 3.15% of the analysed samples. The “Others” category contained various classified adulterants that each represent less than 3% of the amphetamine samples analysed. Moreover, by-products from the synthesis of amphetamine are not included in the category of adulterants, because these are not added intentionally, but have become more present in more amphetamine samples over the last few years.

**NEW
SUBSTANCES
& WARNINGS
RED ALERTS
& ALERTS**

NEWLY DETECTED SUBSTANCES

During the period July–November 2013, the participating Drug Checking services detected 11 new substances, including NPS such as: 25B-NBOMe, 4-ACO-DET, 5-MABPB and β k-MDDMA (Dymethylone). Dymethylone has been detected in both Spain and Switzerland and this information has been forwarded to the [European Monitoring Centre for Drugs and Drug Addiction \(EMCDDA\)](#). Several other adulterants known as prescription medications and an anabolic steroid have recently been detected in psychoactive substances such as methandienone, nimesulide and yohimbine.

WARNINGS RED ALERTS

“Red Alert” is a term used to signal the emergence of very dangerous drugs or other highly risky combinations of drugs on the illicit market. Their appearance demands a swift and resolute reaction from involved health care institutions and addiction care facilities, as well as potential drug users, health professionals, and representatives in the mass media.

During the period July–November 2013, 25I-NBOMe was detected in five blotters that were sold as LSD in Spain and one in Austria. In Austria, 25B-NBOMe mixed with amphetamine was detected in one blotter. Moreover, a blotter with 25C-NBOMe mixed with 25I-NBOMe was found in another sample. In high doses, 25x-NBOMe substances have been linked to increased risks of death. For more information in English on the adulteration of LSD blotters with 25x-NBOMe substances click [here](#). For information on 25I-NBOMe in Spanish, click [here](#).



Photo of blotter containing 25B-NBOMe detected in Austria

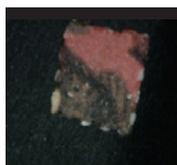


Photo of blotter containing 25I-NBOMe, 25C-NBOMe and unknown substance detected in Austria

Moreover, the hallucinogenic phenethylamines DOB (2 times), DOC (5) and DOI (1) were detected in several blotters during the TTR4 period. Most of the samples were detected in Spain with one blotter containing DOC being detected in Belgium. These compounds are like LSD because in high doses they cause hallucinations. But, unlike LSD, they have a potent stimulatory effect and a much longer duration. Hallucinogenic amphetamines have been associated with the process of organic poisoning as a result of organism stimulation, as well as arterial vasoconstriction and other metabolic disorders. Contrary to LSD, which, in practice has a relatively low level of toxicity, an overdose of hallucinogenic amphetamines may lead to the above-mentioned complications and, ultimately, even death.



Photo of blotter containing DOB, DOI and DMA detected in Spain



Photo of blotter containing DOC detected in Spain

Some of the tested amphetamine samples contained the adulterant 4-MA, the use of which seems fairly stable; it was detected 36 times in the second period of 2013, compared to 27 during the first half of 2013.

The highest 4-MA concentration (22.8%) thus far detected was in Austria in 2013. This is worrisome because there is currently little available information on 4-MA and its effects. 4-MA is, however, suspected of inducing a serotonin syndrome that can be lethal if not treated properly. Without more data, its actual toxicity and at what dosage it begins to pose a serious health risk remain difficult to gauge.

For more information on 4-MA in German and access to the Checkit warning [click here](#). For more information in Spanish and access to the Energy Control warning [click here](#).

Meanwhile, PMA in a low dosage (1.2 mg) was detected in one sample sold as MDMA in Switzerland.



Photo of tablet containing PMA detected in Switzerland

ALERTS

Besides the warnings that focus on potentially toxic substances with a higher overdose risk and other health risks, it's also important to note the high MDMA dosages currently being found in ecstasy tablets on the European market. This trend was first detected in the four involved countries in 2011 and the incidence levels remained stable through 2012 and 2013.



Photo of tablet containing 207 mg of MDMA detected in Switzerland



Photo of tablet containing 178 mg of MDMA detected in Switzerland



Photo of tablet containing 271 mg detected in Spain

Several tablets containing new substances were also detected during the second period of 2013, including some tablets containing 2C-B, 2C-E and methoxetamine.



Photos of two tablets containing 2C-E detected in Spain

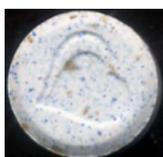


Photo of tablet containing 2-CB detected in Spain



Photo of tablet containing caffeine, ephedrine, TFMP and benzaldehyde detected in Spain

It's also crucial to note the presence of various psychoactive drugs that have been used as adulterants (80.81%) in cocaine samples. As noted earlier, levamisole remains one of the most common cocaine adulterants (38.5%), which continues to cause concern because the regular, high-dosage consumption of levamisole leads to a significant decrease in the number of white blood cells. This can lead to an increase in vulnerability to infections among cocaine addicts. Further information on the side effects of levamisole is available at the [EMCDDA Website](#).

Phenacetine, currently the second most common cocaine adulterant, has also raised considerable concern about its health risks. Regular and/or high dosages of phenacetine have been linked to serious kidney problems. When used in combination with alcohol, it may in fact cause significant liver damage.

Local anaesthetics such as lidocaine or procaine have also been used as cocaine adulterants, but on a much smaller scale thus far. These substances are, however, potentially very dangerous when injecting cocaine that has been adulterated with these local anaesthetics.

In addition, in Spain during the studied period, one sample of cocaine was detected with a high amount of sodium carbonate used as filler. Although this substance is not psychoactive, the high amount detected increased the pH to a level considered quite harmful (between 9-11).

CONCLUSIONS

4TH TEDI

TREND REPORT

CONCLUSIONS

The main substances used in recreational settings continue to be MDMA, amphetamines and cocaine. Each of these substances varies greatly with regard to their levels of purity, their numbers and their adulterant percentages. For users, this means not only dealing with the risks of the substance but also means dealing effectively with the risks associated with its adulterants. The only way to learn about the actual composition of a recreational substance is to have it properly tested by a Drug Checking Service and learn about the trends related to this substance. The goal of TEDI's biannual trend report is to publish the results of the involved Drug Checking services ([AiLaket!!](#), [Checkit!](#), [Energy Control](#), [Modus Vivendi](#) and [Saferparty.ch](#)).

Our research shows that ecstasy (MDMA), in both tablet and crystal form, remains the least adulterated substance. However, despite lower levels of adulteration, there have been some reported cases of tablets sold as ecstasy with, for instance, NPS as the chief psychoactive substance. Currently, however, the main risk involves the increased dosage of MDMA per ecstasy tablet. But it's also important to understand that a broad range of adulterants are still being detected in MDMA samples and that the number of tablets adulterated with m-CPP showed a slight increase in 2013.

Meanwhile, the adulteration level of cocaine has increased over the past few years. During the second half of 2013, 24.4% of all cocaine samples contained at least three other adulterants such as caffeine, phenacetine, local anaesthetics or levamisole. Although these adulterants come with their own risks, levamisole and phenacetine are currently the subject of increased concern because of the potential harmful effects associated with their ingestion.

The mean purity value of amphetamine has continued to increase since 2011; in the second half of 2013 this value was 32.75%. Meanwhile amphetamine samples are currently being adulterated to the tune of 75.9% of the total analysed samples. The main adulterant remains caffeine, with the amphetamine-caffeine mixture being common among samples sold as speed. Speed users are generally accustomed to the effects and the risks of this combination. The risk assessments are thus more generally focused on the broad variety of amphetamine dosages and potentially lethal adulterants such as 4-MA, which has reportedly induced serotonin syndrome with symptoms resembling hyperthermia in high doses.

A Drug Checking service is an effective resource that can help in the detection of new substances making the rounds in various recreational settings. During the research period, 11 new substances were detected, one of these substances, β k-MDDMA (Dymethylone), as noted earlier, has been reported to the EMCDDA.

The following eight substances: 25B-NBOMe, 25C-NBOMe, 25I-NBOMe, 4-MA, DOC, DOB, DOI and PMA, have already been detected by the various Drug Checking services involved in the TEDI project. This is important because they may be potentially more toxic as they could pose a higher overdose risk and expose users to other potentially life-threatening situations. It's also important to emphasise that the trend toward increased dosages of MDMA in ecstasy tablets can prove harmful as well. Moreover, there has also been a notable increase in harmful adulterants detected in numerous cocaine samples. Fortunately, however, other potentially lethal toxic substances such as rat poison or strychnine have, since the inception of the TEDI project in 2011, never been detected in any samples.

The most important advice that the Drug Checking services can offer is to use caution by ingesting only small dosages of any recreational substance as a small way to better manage or counteract the wide variety of purity levels and the presence of adulterants with as-yet unknown effects and side effects.

An on-site Drug Checking service can offer users the ability to quickly identify a substance and analyse its composition. This offers users the opportunity to make a more informed decision about the potential dangers or unexpected additives associated with the involved substance. Moreover, the presence of NPS as adulterants in the most common illicit drugs such as ecstasy, amphetamine, LSD and ketamine, is a growing phenomenon in all of the TEDI-member countries and thus warrants sharper monitoring. Available Drug Checking data allows users to become more aware of the potential risks of using any recreational substance. Furthermore, an effective Drug Checking service has become an absolute necessity in the nightlife scene because it serves as a kind of health insurance policy for users who consume these substances in recreational settings. Drug Checking data is already beginning to serve as the essential basis for an effective European risk-reduction strategy.

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