

2 TEDI TREND REPORT



INDEX

**ABOUT TEDI
& THE 2ND TREND REPORT**



**TYPES
OF ANALYSED
DRUGS**



**COMPOSITION
& ADULTERATION
OF TESTED
SAMPLES**



**WARNINGS
RED ALERTS
& ALERTS**



**CONCLUSIONS
2ND TEDI TREND REPORT**



**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](#).

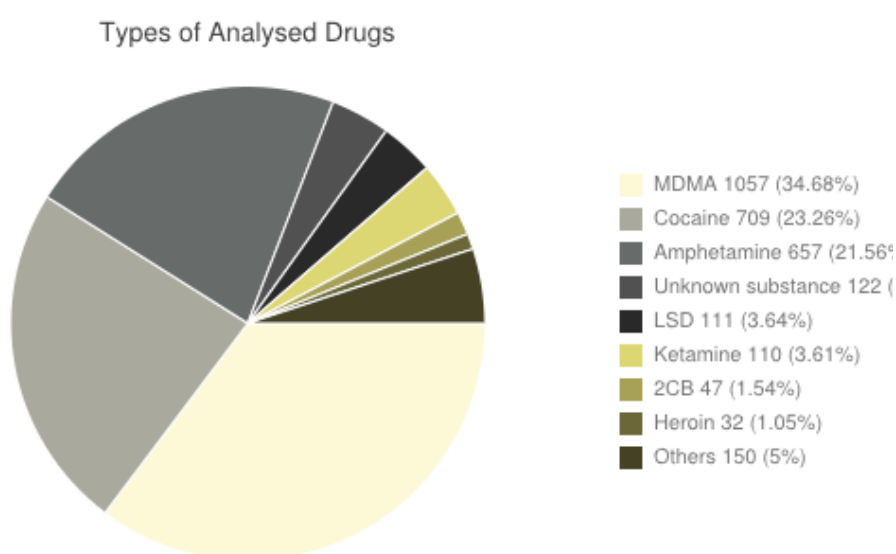
The TEDI project is committed to gathering and publishing the most relevant data from the TEDI database in its biannual trend reports. The aim of this second trend report is to present the results of the data that has been gathered, analysed and compared by six Harm Reduction groups during the seven-month 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

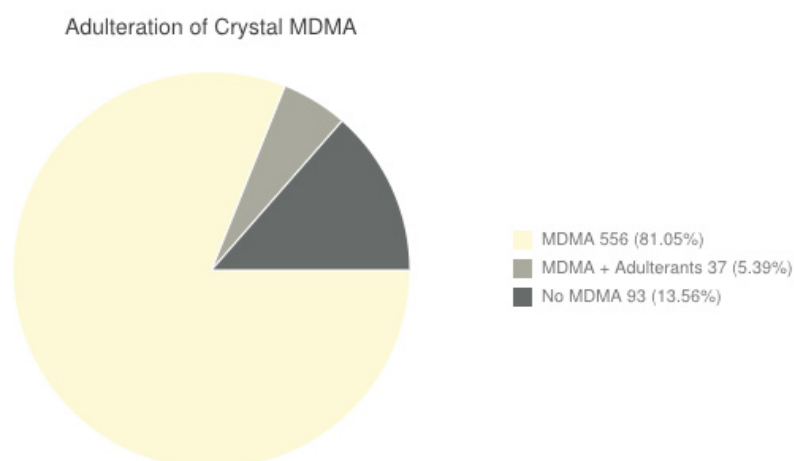
ECSTASY (MDMA)

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.

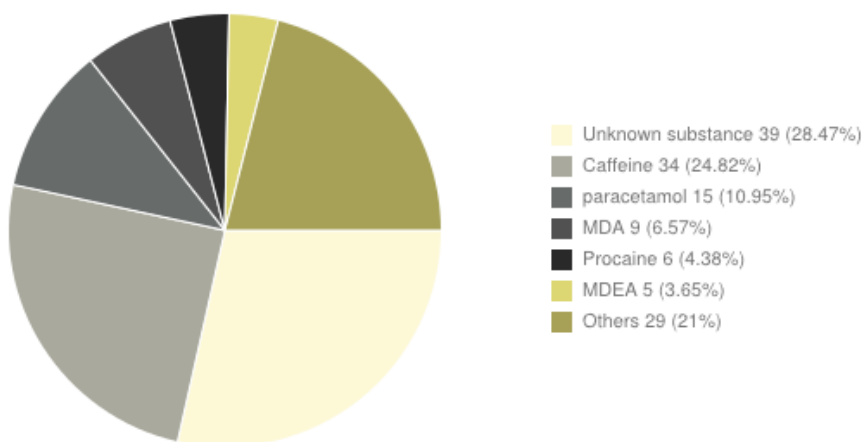
When we compare the data in three countries, we observe that 89% of Austria's samples contained some pure MDMA, compared to 87% in Switzerland and Portugal, 76% in Spain and 37% in Belgium. The percentage of samples that contained no MDMA at all was 6% in Austria, 9% in Switzerland and Portugal, 18% 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 methylone, mephedrone and 4-MEC were detected.

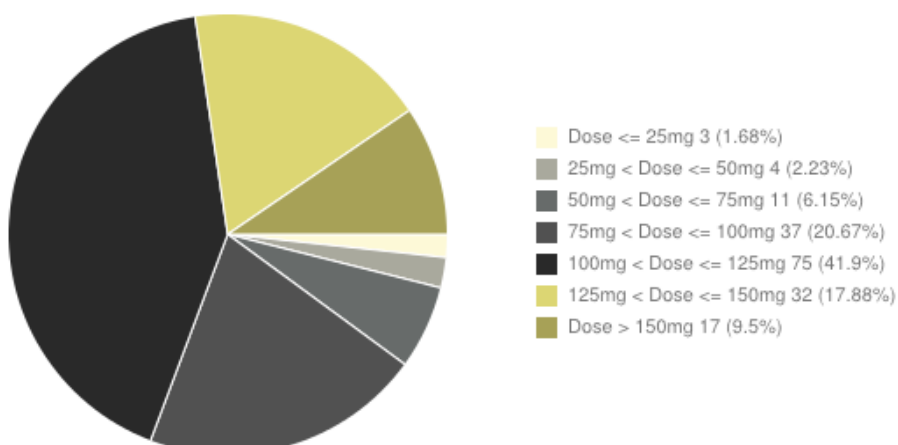
Adulterants Found in Crystal MDMA



MDMA IN PILLS

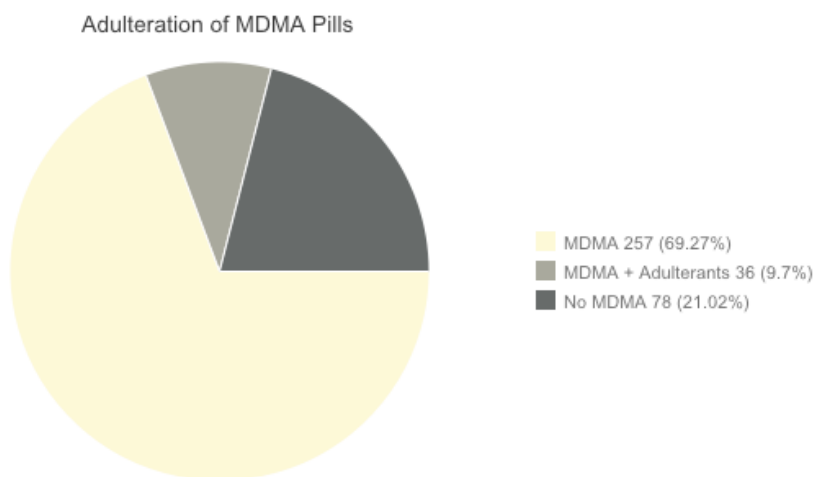
In the five countries involved in the study, we observe high dosages of MDMA in 371 of the pills analysed, **with an average MDMA dosage of 113 mg**. More than 69% of the pills analysed contained 100 mg or more MDMA and 10% contained over 150 mg of MDMA. This reveals a significant average increase in 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.

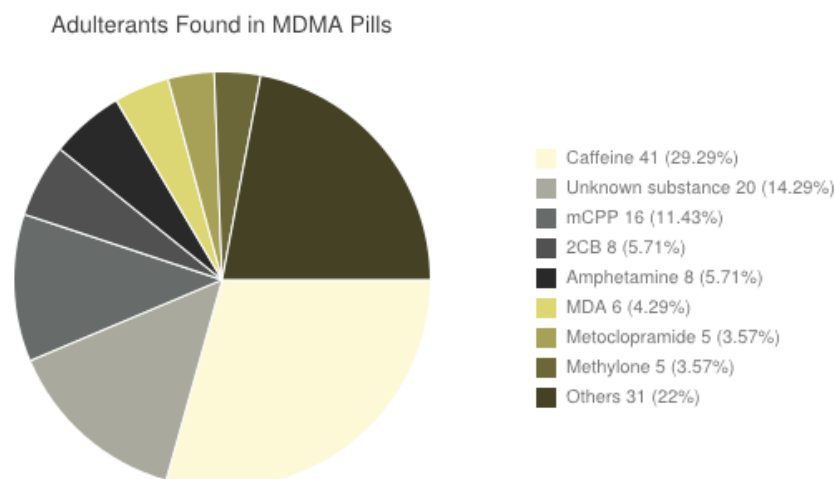
When we compare data per country, we see that in Spain, 77% of the pills analysed contained 100 mg of MDMA or more, with 8% of the analysed pills analysed containing more than 150 mg. In Switzerland, 69% of the pills contained 100 mg of MDMA or more, while 9% of the pills contained over



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 methyone (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.

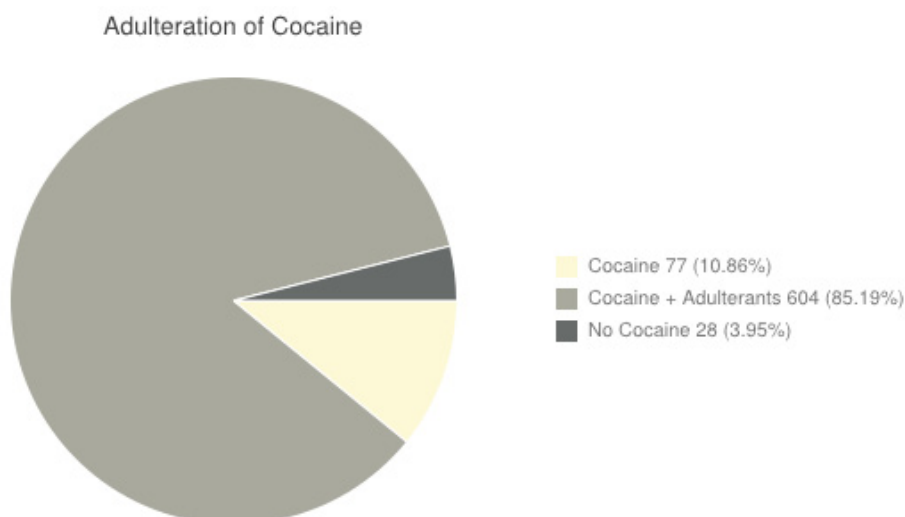
Some unknown substances (14% of total adulterants) were detected but never properly identified. Adulterants representing less than 3% of total pill content were classified as “Others”.

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.

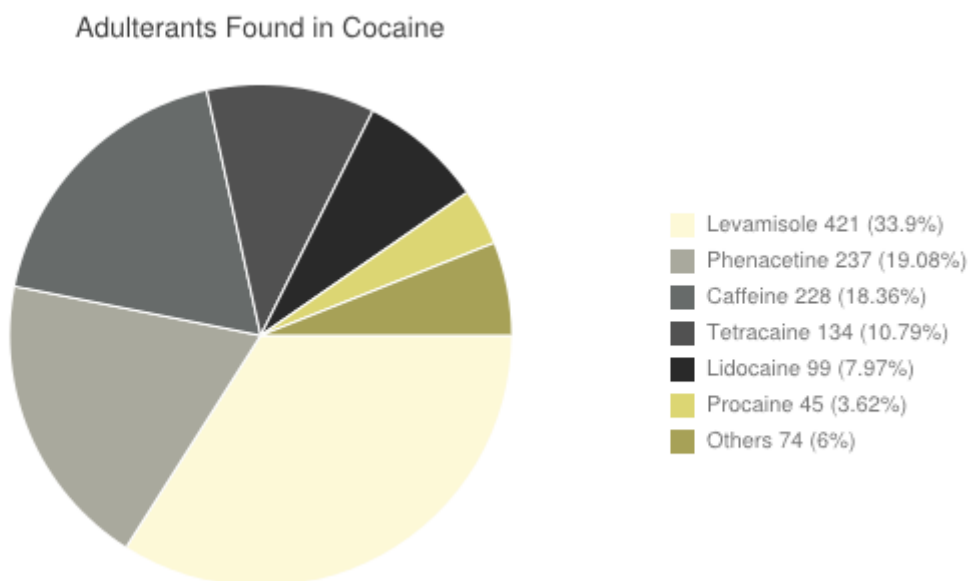
When comparing the data from the five participating countries, we observe that 44% of the analysed samples in Belgium contained pure cocaine, while 11% contained no cocaine at all.



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.



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.

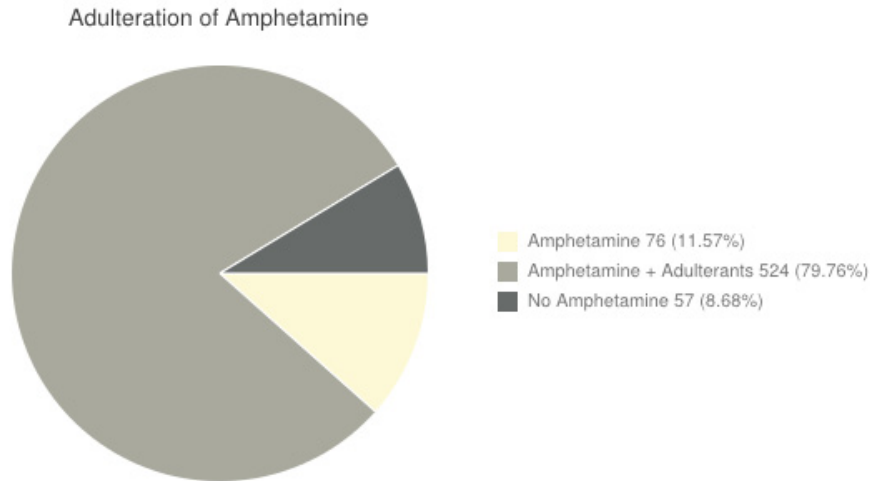
AMPHETAMINE SULPHATE (SPEED)

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

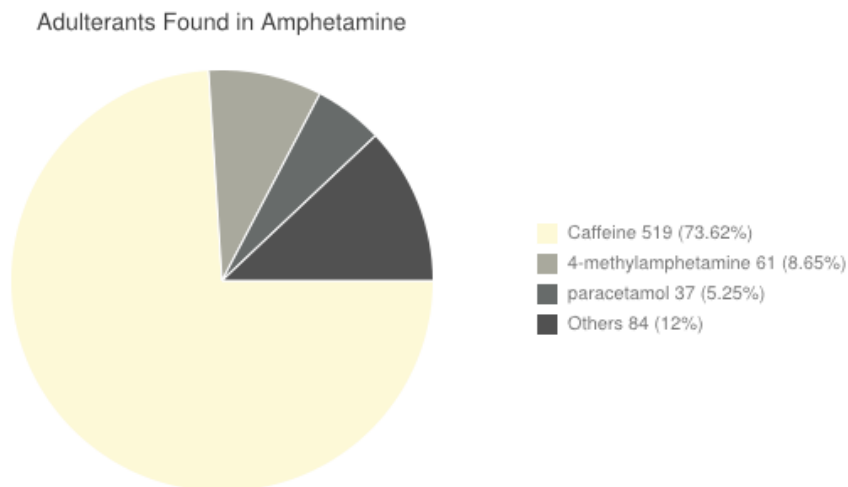
all, with substances like 4-FMP and caffeine replacing all traces of amphetamine. This reveals a slight decline from 11% in the first period down to 9% in the second period of 2012.

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.org) 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.



Funded by
the Health Programme
of the European Union

NEWIP | TEDI

This publication arises from the TEDI work package inside the Nightlife, Empowerment & Well-being Implementation Project which has received funding from the European Union in the framework of the Health Program