

# DRUG CHECKING SERVICE ACTIVITY REPORT – 2010

## ENERGY CONTROL



Source: results of the Drug Checking Service of 2010

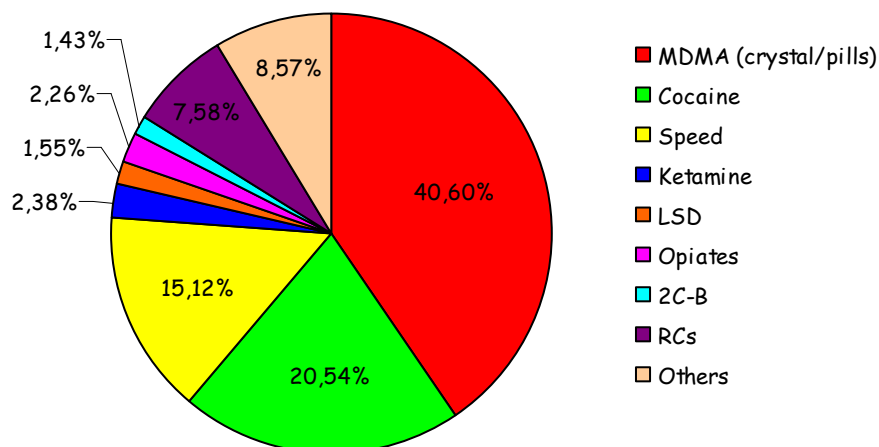
## Types of analysed substances

During 2010 we have analyzed in our Drug Checking Service a total of **1.680 samples of psychoactive substances**. As it has been frequent, most samples analyzed were MDMA, cocaine and speed – which is coherent with the fact that these are the main drugs on the recreational contexts. However, we can also stand out the number of ketamine, opiates, LSD and 2C-B.

As a phenomenon that we have seen in recent years, in 2010 we analyzed 127 samples of the so called *Research Chemicals* (RCs), especially **mephedrone** (34 samples). The analysis allowed us to see how in 11 cases, mephedrone had been sold as MDMA.

As shown in the chart below, in addition to these substances, we find a category of "others", which includes substances of minority use and that are analyzed sporadically (ephedrine, mescaline, meth, etc.).

**Analyzed Substances 2010**

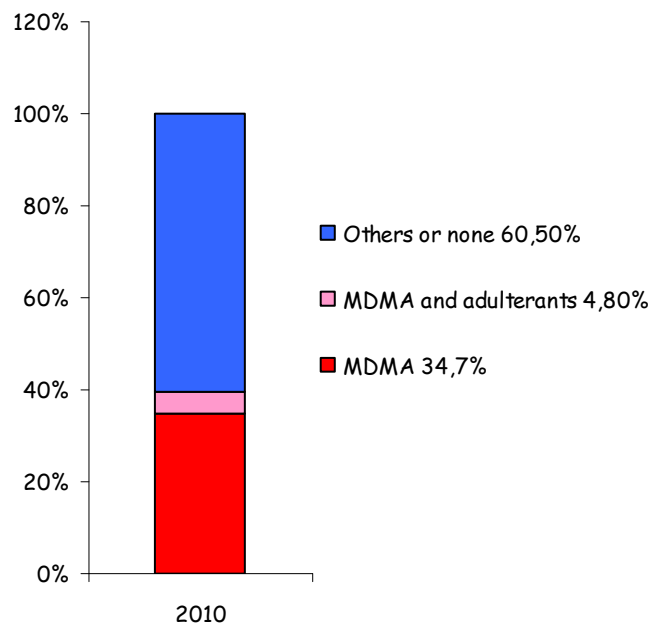


## Composition and adulteration of analysed substances

### MDMA pills

In 2010 we examined **167 tablets sold as MDMA**, of which **only 56 (35%) contained only and exclusively MDMA** and **8 (5%) contained MDMA with some adulterant added**.

The rest (61%) contained no MDMA at all, but another substance, sometimes not even psychoactive. In this way, **ecstasy tablets show one of the highest levels of adulteration of those found in the past years in the market of MDMA**.



Regarding the adulterants we found in tablets, the most common were: **m-CPP** (present in 35% of the tablets analyzed), **caffeine** (at 17%), **metoclopramide** (13%) and almost anecdotally, 2C-B (2.4%).

At the end of this report you will find a brief glossary with the descriptions of the most found adulterants in 2010.

### MDMA in power/crystal

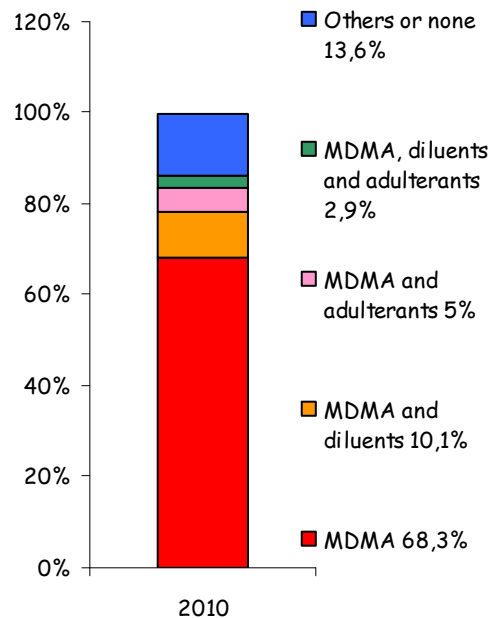
As we have observed for some years, MDMA's composition varies due to its presentation; that is, depending on whether it's sold as a pill or in the form of powder.

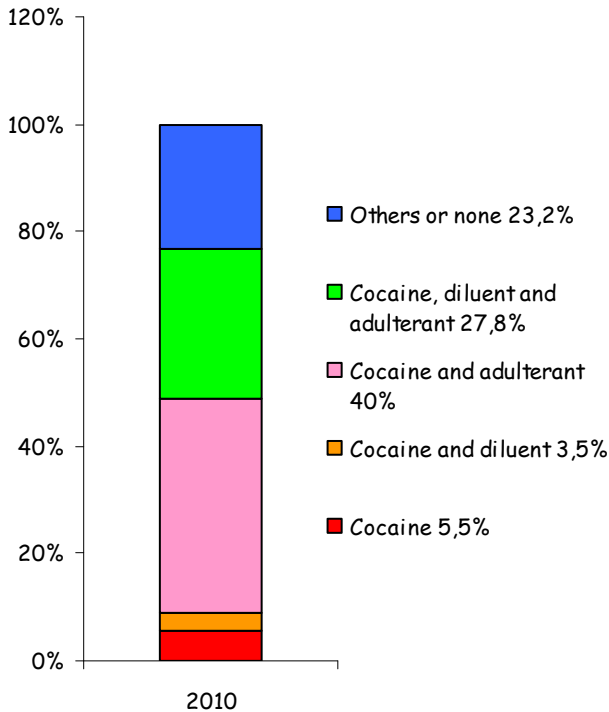
Of the **515 samples of crystal or powder** of MDMA that we analyzed in 2010, **68%** contained **only and exclusively MDMA, without any adulterant added** (compared to 35% of the tablets without adulteration).

In addition, 15% of the analyzed samples contained MDMA plus **diluents** (10%) or plus an **adulterant** (5%). Although diluents are inactive substances, they are used to give more volume to samples, reducing ecstasy's purity, forcing people

that use it to increment the amount of ingested product. Only about 3% of the analyzed samples had MDMA plus adulterants and diluents. Finally, 14% of the crystal or powder samples that had been sold as MDMA were in fact other substances, compared to the 47% found in 2009.

Among the adulterants found in MDMA's crystal/powder samples we found **caffeine** (present in 9% of the total), **m-CPP** (in 33%) and **dextromethorphan** (2%).





## Cocaine

During 2010 we've analyzed **345 samples of cocaine**, and like we have seen in the previous years, **there were very few samples that contained exclusively just cocaine: 6% of the total**. In fact, samples analyzed in 2010 had a combination of products: 40% contained cocaine plus adulterants, 28% contained cocaine plus adulterants and diluents, 4% contained cocaine and diluents and 23% directly didn't have cocaine at all. In this last case, most samples were composed by caffeine and local anesthetics.

Compared to others, cocaine samples are the ones where we found the greatest number of adulterants. The most present adulterant was **levamisole**, found in 59% of all samples, followed by **phenacetine** (53% of total) and **caffeine** (35%). Other observed

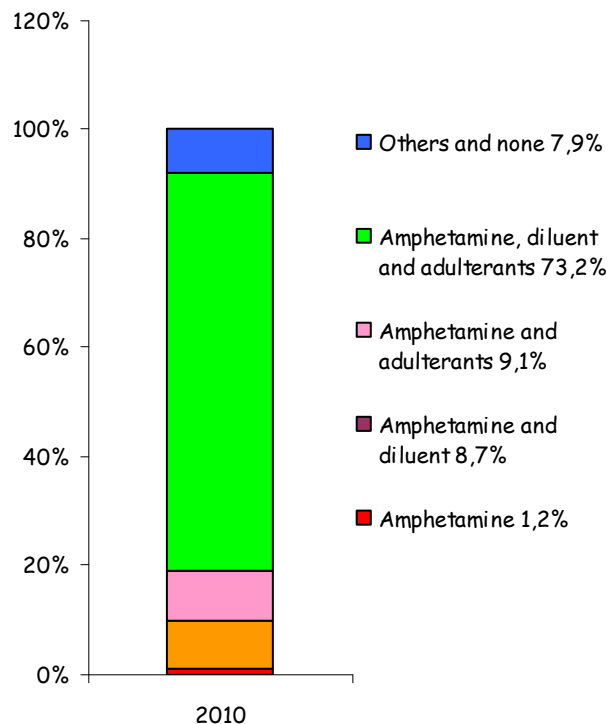
adulterants which presence is also common, were the **local anesthetics**, like tetracaine (19%), procaine (13%) and lidocaine (12%). Although all of these adulterants can present risks (see attachment), levamisole is the one who's raising more concern because of the potential toxic effects that can have on the users of cocaine, and specially the ones who use it frequently and that inject it and/or have some sort of vulnerability towards the toxic effects of levamisole<sup>1</sup>.

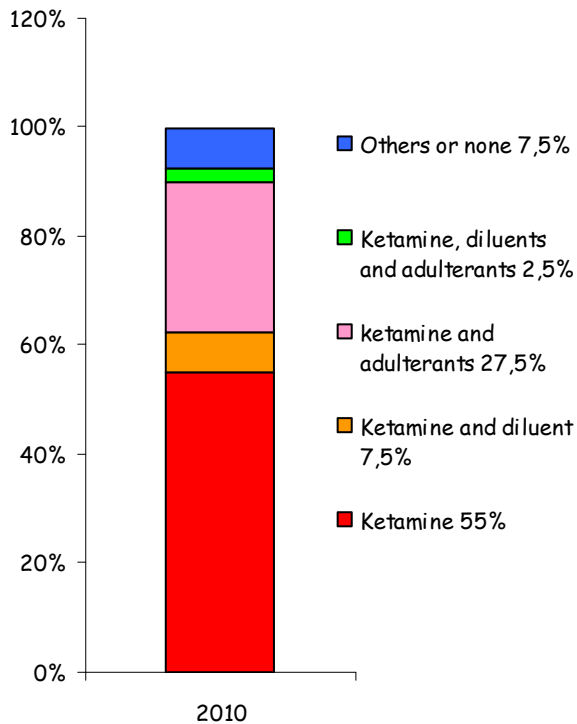
<sup>1</sup> For further information: Ventura, M.; Caudevilla, F.; Vidal, C., y Grupo Investigadores SELECTO (2011). Cocaína adulterada con levamisol: posibles implicaciones clínicas. Medicina Clínica, 136(8), 365-368.

### Amphetamine (speed)

Speed is another substance where we found high levels of adulteration. From the **254 samples** of speed analyzed, **only 1% contained only amphetamine as the only active component**. In the rest we found a combination of amphetamines and/or diluents. In 8% of the cases we didn't find amphetamine or it was simply just another substance.

In 81% of the samples, **caffeine** was used as the main adulterant and in 32% of the cases we detected the presence of **DPIA**. For last, **paracetamol** was detected in 4% of the samples.





13 samples (32%).

### Ketamine

We believe the use of ketamine is in expansion, ceasing to be a drug of minority use limited to specific contexts. In 2010 we analyzed **40 samples** that represent 2% of all analysis. Therefore, the data we provide should be read with precaution.

From the 40 analyzed samples of ketamine, 22 were just and only ketamine. The others were combinations of ketamine with an adulterant (28%) or diluent (7%). Just 1 sample revealed to have a combination of ketamine with both an adulterant and a diluent.

The only adulterant found in 2010 in samples of ketamine was the **azosemide**, present in

## Summary

- ☒ All substances found in the black market are susceptible of being adulterated.
- ☒ The only way to know with security the composition of a substance acquired in the black market is to analyze them in a laboratory. In Spain, there are 3 organizations that offer this type of service: [Ailaket](#) (Basque Country), [Hegoak](#) (Navarra) and [Energy Control](#) (Catalonia).
- ☒ The adulteration rates of pills sold as MDMA is one of the highest found in the past years in the ecstasy market.
- ☒ In 2010, most cocaine samples analyzed contained cocaine and a combination of substances such as caffeine, phenacetine, local anesthetics and levamisole. This last adulterant is the one who's raising more concern by its toxic effects.
- ☒ Speed, almost in 100% of the cases, is presented like a mixture of amphetamine and caffeine.
- ☒ Caffeine is the adulterant more used in a large number of different substances.
- ☒ The labels "RC" or "legal highs" do not guarantee that the substance in question is pure, synthesized properly and that doesn't have negative effects. The legal status of a substance doesn't indicate that this is a more or less dangerous substance. We have analyzed samples of RC's which were adulterated or that were simply just another substance. We shouldn't forget the cases of the miss labeling samples of [Bromodragonfly sold as 2C-Bfly](#) or 2C-E.
- ☒ The adulteration of illegal substances doesn't imply that one should forget the risks associated to each main component. We should always consider the effects of interaction between components in one sample.



## Most found adulterants - description and risks

**Caffeine**: stimulant. Acts on the central nervous system raising brain activity and the awaking state. **Associated risks**: slightly raises body temperature, breathing rhythm and gastric acid secretion. High amounts can cause anxiety, irritability, insomnia, sweating, tachycardia and diarrhea.

**m-CPP**: piperazine. Experimental antidepressant with stimulant, **empathogens**, hallucinogens and euphoric effects. **Associated risks**: Stomach and kidney pain, headache, nausea, vomiting, anxiety, dilated pupils with difficulty focusing. Strong hangovers.

**Metoclopramide**: Antiemetic. Drug used to treat nausea and vomiting. Also promotes intestinal motility. **Associated risks**: It is often found in pills with mCPP, likely to decrease side effects. However, despite this combination, vomiting tends to persist, the adverse effects of m-CPP are enhanced and tend to last longer.

**Dextromethorphan**: Opioid, antitussive. Used in pills and syrups (Romil ®) to relieve cough. **Associated risks**: At high doses causes blood pressure to decrease, slow, superficial or even absence of breathing, blurred vision, spasms in the stomach and intestines, nausea, vomiting, constipation, drowsiness, hallucinations.

**Paracetamol**: this is a commonly used analgesic and antipyretic. **Associated risks**: In high doses it is toxic to the liver. Because alcohol is metabolized in the liver, it is unadvised to combine it with paracetamol, increasing the risk of liver toxicity.

**DPIA**: amphetamine derived. Residual substance from the synthesis of amphetamine.

**Associated risks**: UNKNOWN.

**Phenacetin**: analgesic widely used in the past and removed from the Spanish market due to its toxicity. **Associated risks**: presents liver toxicity. Like paracetamol, should be avoided mixed with alcohol. In a small group of people it damages the red blood cells, causing a lack of oxygen to the tissues that can cause loss of consciousness, respiratory depression or cardiac arrest.

**Procaine, lidocaine, tetracaine**: local anesthetics. Drugs that block the transmission of nerve impulses by decreasing the pain sensation. Lidocaine is the most common anesthetic in dentistry and the duration of its effect is approximately 1  $\frac{1}{2}$  hours. Procaine also produces an antihistamine effect. **Associated risks**: depend on the route of administration, but tend to affect the nervous system (agitation, disjointed speech, strong will to talk, restlessness, euphoria, nausea, vomiting, disorientation, tremors, convulsions, coma or respiratory arrest).

**Levamisole**: Drug used in veterinary medicine as an antiparasitic. Acentuates the specific effects of cocaine. **Associated risks**: In humans may cause a significant drop in the number of white blood cells and make the person more vulnerable to get infections.

## Summary table of found adulterants

(frequency regarding the total number)

	MDMA pills	MDMA crystal	Cocaine	Speed	ketamine
<b>Number of analyzed samples</b>	167	515	345	254	40
<b>Adulterants found</b>	Caffeine: 29 2CB: 4 mCPP: 57 metoclopramide: 21 Buflomedil: 3 TFMPP: 2 BZP: 3	Caffeine: 46 Procaine: 3 Piperonal: 1 Lidocaine: 3 mCPP: 13 dextromethorphan: 12 Ibuprofen : 1	Caffeine : 122 Procaine : 44 Phenacetin : 184 Lidocaine : 42 Tetracaine : 67 Buflomedil : 3 Levamisole: 202 Ibuprofen : 1 Norcocaine : 3 Metamizole : 1	Caffeine: 206 Ephedrine: 1 Paracetamol: 11 4-FMP: 4 DPIA: 81 N-formilanfetamina : 1	Azosemide : 13

### For more information:

- On the Drug Checking Service: <http://www.energycontrol.org/analisi-de-sustancias.html>
- On substances: <http://www.energycontrol.org/infodrogas.html>
- On adulterants: <http://www.energycontrol.org/analisi-de-sustancias/resultados/adulterantes.html>

### For further information about the present report:

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Iván Fornis (representative of the Drug Checking Service).

### Acknowledgments

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Without them, Energy Control – and specially the Drug Checking Service – wouldn't be possible.

Thank you all!

### Financed by:

