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SOURCES OF DANGER AT THE SITE OF DISCOVERY OF SECRET LABS FOR DRUGS PRODUCTION

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“Detailed and careful observation and spotting of details can save your life”!

Abstract: Since 2003, 10 secret laboratories for the production of synthetic drugs, mainly amphetamine and methamphetamine, have been discovered in Serbia. The discovered laboratories exceeded the needs of the Serbian drug market with their production capacities, possessed highly professional equipment, and only some had very professional staff who worked there. In the future it can be expected that criminal groups will direct the production of synthetic drugs to mini-labs of so-called kitchen type, which will increase the availability of synthetic drugs in the local market and directly lower their price. Regardless of their size, these laboratories are highly risky, especially due to the presence of a variety of chemicals that are generally poisonous and flammable, and certain chemicals in contact with air or other chemicals can cause fires and lead to explosion. Also, due to the improper disposal of chemical waste, illegal laboratories pose a great danger to the environment. Police, as well as other authorities involved in suppressing these criminal activities, must be very careful during their treatment, since drug users with a high rate of infection of various infectious diseases, primarily HIV / AIDS and hepatitis, can also be the source of danger.

In this paper we discuss the sources of danger and possible consequences in case of discovery and dismantling of drug production factories.

Keywords: police, secret labs, chemicals, fires, explosions, poisons.

INTRODUCTION

Secret laboratories are not a novelty for those dealing with the problem of illegal production of synthetic drugs. Namely, an article entitled “Fire Department should know about secret drug labs”, appeared in the United States already in November 1970, in the magazine Fire-fighter National Association (Vernon, 2009), so even then, and also today, illegal production of methamphetamine, which is simple and inexpensive, is one of the key problems of the United States. According to the FBI, in some cities in the western part of United States, the number of

arrested persons involved in methamphetamine production exceeds the number of arrested persons who were driving motor vehicles under the influence of alcohol. Also, according to DEA data, in this country about 6500 methamphetamine lab incidents are reported annually. This includes laboratories, dumps for chemical waste disposal and equipment for illegal production (Vernon, 2009). It is therefore important that those who deal with the prevention and detection of secret laboratories respond correctly and professionally to the challenges they are faced with before secret laboratories cause damage to human health, the environment and people's property. From a criminalistic point of view, but also from the aspect of safety and environmental protection, it is necessary to know the method of detecting and dismantling secret labs for drug production and to standardize the security measures applied during the processing of the site of the criminal event.

The first secret laboratories for the production of synthetic drugs on the European continent were discovered in the mid-eighties, first in Germany and the Netherlands, then in Belgium, Denmark and Luxembourg, so that they are now more present in almost all European countries. Interestingly, the countries of the former eastern bloc, such as the Czech Republic, Poland and Hungary, have developed synthetic drug production (primarily amphetamine), which can be compared with production in the Netherlands, a country where amphetamine is traditionally "illegally produced". Practitioners believe that such a situation could be the result of, on the one hand, the existence of a large number of trained chemistry personnel in Eastern Europe and the police's unwillingness to adapt quickly to new circumstances, that is, the lack of legal regulation for situations that were not frequent before, and, on the other hand, inflow of mafia capital in these countries.¹

In recent times, similar laboratories have been discovered in both Serbia and in the region. For example, the first laboratory for the production of synthetic drugs in Serbia was discovered in 2003. It turns out that to this day, it is the largest illegal laboratory that was discovered in the Balkans. The main organizer of this production was the doctor of pharmacy M. Z. the owner of the company "Lenel Farm". In this police action, which lasted nearly a year, about 10 000 MDMA ecstasy tablets and about 20 tons of amphetamine sulphate - a mixture of ecstasy production was seized, which worth millions (about 10 million euros), while the value of the discovered pharmaceutical "machine" was somewhat smaller. Also, in the period from 2003 to 2017, in Serbia, 10 operational narcotics - laboratories dealing with the illegal production of synthetic drugs, 93 laboratories for the production of marijuana (different production capacities and with different quality of equipment) were discovered exclusively with the operational work of the police, and also an illegal laboratory for the production of hallucinogenic mushrooms from the family of „Psilocin“.²

In the above-mentioned period, the highest number of illegal laboratories for the production of synthetic drugs was discovered in Belgrade and its surroundings (Stara Pazova) in total of 8, and one illegal laboratory in Novi Sad and Dimitrovgrad. Of the total of ten discovered laboratories, 7 engaged in illegal production of amphetamine, 2 in illegal production of ecstasy and 1 production of synthetic drug metakvalon. Out of a total of 8 discovered illegal laboratories in Belgrade, only two were discovered in the narrower city core, while 6 were discovered in the outskirts of the city. Two laboratories were installed in an apartment and 8 in specially equipped rooms (Otašević, Atanasov, Dostić, 2018:80). The laboratories were very profitable and their production capacities exceeded the needs of the Serbian narcotics market. All detected laboratories possessed professional equipment and could be characterized as "super labs". It is not surprising that the level of sophistication of discovered laboratories is directly proportional to their production capacities. Police and judicial data on how to obtain recipes

1 See more: *Droge i opojnasredstva*, Priručnik Instituta bezbednosti, Beograd, 2005.p. 83.

2 Data of the Department for Analytics of the Ministry of Interior of the Republic of Serbia.

for the production of syringes is very difficult to obtain, but in over 80% of cases, during the raids in the laboratory, recipes for production and internet instructions were found, while in 50% of cases the manufacturers had prior chemical or pharmaceutical experience.

The flexible nature of recipes that involve the illegal production of synthetic drugs has enabled the use of various chemicals used in the illegal production of synthetic drugs. In fact, based on the seized chemicals, we can conclude that the final product (drug) can be obtained by various combinations of precursors, reagents and solvents. Bearing in mind the above, we think that it is necessary to understand the chemical processes that take place in illegal laboratories in order to develop strategic preventive measures that have lasting effects on reducing the harmful effects that result from illegal drug production.

The amount of seized drugs is different, but if we compare the ratio of the quantity of seized drugs and the production capacity of the discovered laboratory, it can be concluded that the producers did not leave the “goods” standing for long, which indicates a high fluctuation rate. Also, equipment and chemicals for production are located in the immediate vicinity or in the same place where the laboratory is installed.

TYPES OF SECRET LABS

Secret laboratories are places where illegal substances, most common drugs, are produced. However, they can also produce explosives, biological and chemical weapons. In criminal practice, there is a wide range of equipment in these spaces. This is influenced by a number of factors: first of all, whether it is organized crime groups or individuals; whether they have competent or less competent persons; the kind of drugs that are produced in them; financial possibilities of criminal groups; availability of equipment and chemicals, and so on. Such laboratories can be installed in various locations such as apartments, houses, basements, garages, auxiliary rooms, sheds, attics, means of transport, trailers (Nin Chiu et al., 2011: 356), and it is equally possible to form them in urban and rural areas. Regardless of their size, the production principle is the same for all.

In a study conducted in the United States based on a review of the dossier on discovered laboratories for the production of synthetic drugs, containing data on the type of facilities in which the laboratories were installed, the following conclusions were drawn: 52% of the discovered laboratories were installed in private homes, while only two houses were rented, 6% were installed in flats: other laboratories were housed in constructed buildings 15% (some kind of halls) and 15% were the so-called “boxing laboratories” that were mobile in character, installed in motor vehicles. When it comes to commercial facilities, 6% of laboratories were in containers intended for storage, while the rest were stored in warehouse spaces. The results of this research have shown that the level of sophistication of these laboratories is directly linked to their production capacities. For example, in only 16% of cases, laboratory equipment was handmade, while in other 22% used equipment was a mixture of handmade and professional items, while in the remaining 62% of cases the equipment used was professionally produced (Diplock, et al 2005: 6).

Secret drug-producing laboratories can be classified in relation to the type of drugs they produce, such as laboratories for the production of (semi) natural drugs, synthetic drugs and drug designers, in relation to production capacities and quality of production, to “kitchen laboratories” and laboratories for mass line production.

Kitchen Laboratories

Kitchen laboratories are the most frequent laboratories in Western European countries, above all in the Netherlands. They employ amateurs and persons with little chemical education, which usually find their drug recipes on the Internet. These are mostly drug users who use their own product, but they also sell it to be able to finance new production and ensure their survival. Laboratories are usually located in one location, where all stages of the production process are performed.

The equipment used in such laboratories is a mixture of glassware and the most common kitchen equipment. These spaces often do not deserve to be labeled as labs, because it is sometimes sufficient to have only plastic bottle and little luck for the one who is “mixing substances” to make illegal psychoactive substances. Chemicals needed for the production of drugs “operators” are supplied in pharmacies, through friends working in the chemical industry, as well as in consumer goods stores. Also it happens that shops and pharmacies are burgled in which precursors needed to produce a certain drug. The chemicals needed for production are purchased in relatively small quantities, which makes it very difficult to locate them. Such laboratories are located in family rooms, and manufacturers are also drug dealers. We think that the time of those who produce and sell drugs themselves has passed. Today, due to the thorough work of the police in all developed countries, only large and well-organized criminal groups can deal with the production of drugs, because only powerful gangs can handle the strength of an organized state. (Otašević, Golubović, 2009:179). In our country, kitchen laboratories are usually those laboratories that produce cannabis in controlled conditions (*Cannabis Sativa*) and synthetic cannabinoids which are contained in the same plant.

Laboratories for mass line production

Laboratories for mass production are well-organized laboratories, with highly professional equipment and professional staff. Criminal groups that install this kind of secret labs, deal with drug production exclusively to gain huge financial profits. Persons who work in them are usually not drug users. The work of such illegal laboratories can only be provided by highly organized criminal groups, which have huge amounts of initial raw materials or a certain precursor which is the basis of a synthetic drug. Also, enormous amounts of money are needed to procure professional chemical equipment, but also to pay the persons of the chemical and pharmaceutical profession that manages illegal drug production (Milošević, 2010:125). The production process of these drugs can be seen through four separate phases: the extraction phase, the conversion phase, the synthesis phase, and the tableting phase. Typically, all phases of the production process take place at different locations, with the aim of preventing the detection of the work of an illegal laboratory. In these laboratories, there is usually a person who oversees all phases of production, the so-called “lab-technician”, who has excellent chemical and pharmaceutical education. Also, there are staff who keep the laboratory away from detection, which have nothing to do with the production process itself.

Criminal groups which organize work in such laboratories have a built-in network that enables the purchase of the necessary chemicals and equipment. Here is a separate distribution network of the final product from the production process itself. Drug makers never participate directly in street sales.

The number of large laboratories involved in mass production is in huge increase everywhere in the world, so their detection is a priority in the fight against narcotics crime. The largest amounts of semi-natural and synthetic drugs, especially marijuana and methamphetamine, are generated precisely from these “super labs”, as they are named by some experts (Weisheit, 2008: 26).

SOURCES OF DANGER

The production of synthetic drugs in illegal laboratories is a difficult, serious and dangerous job. It is a serious business because in hidden and inadequate conditions, a small number of people need to organize chemical production, procurement and storage of chemicals and equipment. It's a dangerous job because those who stay in them are directly involved in different stages of production and therefore have short or long-term health consequences. Namely, many of the chemicals used in these processes are carcinogenic or can damage the heart, lungs, liver, and blood. Inhalation of chemicals and gases that are the product of the production process can cause: cough, chest pain, rapid breathing, poisoning, nausea, fainting and disorientation.³ Also, the punishments in case of detection are very severe and all who participate in illegal drug production are aware of that.

The degree of risk is particularly increased if it is known that secret laboratories are often run by people with little knowledge of chemistry - only rare individuals have some kind of formal chemical education. Most of them learn through the so-called underground sources and networks (Pennell, et al.1999: 20) Many of these chemicals are dangerous for one reason or another, but they become even more dangerous when they are used by chemists - amateurs working in essentially improvised laboratories (without adequate ventilation, temperature control and other protective measures). As we have already mentioned, secret labs for mass production are different from small "kitchen laboratories" by location, equipment and expertise of the staff involved in illegal production. Therefore, in small laboratories, there is a much greater likelihood of fire and explosion coming out, because they have objectively less qualified personnel, using primitive equipment and facilities, which has a direct impact on the amount of gas released during the production process. However, this is not the rule, because in the criminal practice there are findings of a wide range of equipment in these areas. This is influenced by a number of factors, and everything is different from state to state, whether it is an organized criminal group or an individual, whether it is about experts or people who are experimenting, the type of drug produced, the financial possibilities of the criminal group, etc.

Table 1 shows the most frequent sources of danger and possible consequences in cases of installation of secret labs.

TableNo. 1. Sources of danger and possible consequences

Sources of Danger	Possible Consequences
Chemicals	Extremely toxic and very volatile - a very toxic atmosphere
Damage and leakage of chemicals from containers	Pollution of environment
Fire	Can produce extremely toxic and cancerous evaporation, explosions
Air- breathing	Can cause direct poisoning or cancer
Unsuitable chemical mixtures or varnishes, so-called. incompatible chemical reactions	Can cause explosions or fire
Electric installations	Can be sources of explosions or fire

³<http://methoide.fcm.arizona.edu/infocentar/index.cfm?stid=187>, accessed on 18.03.2018.

Intentional installation of chemical traps	Traps at the entrance or inside the laboratory - mini bombs, landmines, warning systems that may warn of a break in the laboratory
Drug users	Very often infected with infectious diseases HIV/AIDS, tuberculosis, various skin changes

According to the FBI data, at least three illegal producers are killed in secret laboratories in the United States annually due to incidents caused by poisoning or explosion, while many others suffer injuries or burns (Vernon, 2009: 6). The above data is confirmed by the results of the research carried out in the USA, where in 33% of the cases the containers were punctured, which caused the uncontrolled leakage of chemicals, while in 64% of cases there was a risk of burning. Therefore, it is not surprising that in 33% of cases the fire occurred during attempts to install the laboratories (Diplock, et al 2005: 10).

In addition to the risk of fire and explosions, secret labs pose a danger to the environment due to improper disposal of chemicals and equipment. It is unlikely that chemicals necessary for production and chemical waste will be disposed in accordance with regulations governing the storage of hazardous substances, bearing in mind the criminal nature of these activities. Therefore, secret laboratories pose a health risk not only to those who work in them, but also to people who are in the immediate vicinity of the secret laboratory, as well as to personnel involved in their discovery and dismantling. In these cases, the pollution of the environment is both large and long-lasting, and in addition, after the cleaning of the polluted site, it will not be suitable for resettlement. It must be borne in mind that cleaning of the site is extremely expensive and highly risky. Materials from the laboratory can be absorbed through the skin. Chemicals and fumes penetrate the walls, wood, plaster, carpet and surrounding floors and can cause cancer, brain damage and immune problems (Snell, 2001).

An interesting example is from May 2013 when the members of the Criminal Police Directorate, the Service for Combating Organized Crime of the Serbian Ministry of Internal Affairs in Nova Pazova, discovered a secret laboratory for the production of synthetic drugs, a methaqualone⁴, which until then was rare in the Serbian narcotics market. In this police action, three persons were deprived of their liberty - H.S. (1970) and H.B. (1963), both from Nova Pazova and M.G. (1957), from Belgrade. The laboratory was installed in the basement of the family house of H.S. Police entered the courtyard of the house, at the very entrance of the secret laboratory, at the time when the process of producing narcotic drugs was ongoing, and arrested H.B. and M.G. In this police action, laboratory equipment, utensils and chemicals necessary for the production of the drug were discovered, among other things, and also 50 kilograms of anthranilic acid were detected, as well as about 50 liters of "benzylmethyl ketone BMK"⁵, placed in a plastic and unmarked barrel. A search of their houses and other premises, as well as inspection of the vehicle, it was found and seized 10,000 euros, a computer, lap top, paper with chemical formulas and a recipe for the production of synthetic drug "methaqualone", litmus paper for determining PH value during chemical reactions, two passports and personal documents issued in Venezuela in the name of HB.

The above example from the police practice confirms that if in a secret laboratory an anthranilic or acetylantranilic acid and toluidine are found, or if some individuals illegally procure these chemicals, it is almost certainly planned to synthesize the methaqualone.

⁴ Methaqualone is a very popular synthetic drug all over the world, causing sedatives soothing effects. As a pure chemical (base), with temp. 113-115°C, it is insoluble in water, but it is soluble in alcohol, chloroform and ether. In synthesis, instead of anthranilic acid, acetylantranilic acid can be used, making simple synthesis even more simplified.

⁵ Precursor of first category used for production of synthetic drugs.

It is interesting to note that the very process of drug production in this laboratory itself could cause significant pollution of the environment and serious health consequences for the population itself, due to the unsuccessful handling of chemicals, and due to improper disposal of chemical waste.⁶

These dangers are becoming more and more apparent today, and many laboratory operators release toxic waste into drains of households, yards, fields, and rural roads. Cleaning of such contaminated space is very expensive, so it is unlikely that the owners of the facilities in which the laboratory was installed will preserve evidence of its existence and report the case to the police or other competent authorities. Knowing how expensive decontamination of polluted space is, they will remove evidence from their property by illegally transporting waste to legal or illegal landfills and thus transfer the costs of cleaning to other entities (Vernon, 2009).

How much illegal production of synthetic drugs has a serious impact on the environment is sufficiently explained by the fact that the production of one pound of methamphetamine releases toxic gas in the atmosphere and creates 5 to 7 kilograms of toxic waste.⁷

Another danger associated with laboratories are frequent cases of intentional installation of explosive "traps" in order to injure police officers. Because of this, during the raid it is necessary to take into account the hidden traps that can be placed in the laboratory, such as: landmines, acid bombs, warning systems that are in progress, etc. These hidden traps are sometimes designed to protect the lab when there is no one in it or for warning and timely escape from a secret laboratory when it is discovered. Criminal practice also knows other methods of security that were applied by criminal groups, including electronic surveillance, the use of closed rolling shutters on doors, guard as physical control, etc.

It can be concluded that the place where the secret laboratory is installed is very often a combination of various danger for incidents, primarily caused by the dangerous chemicals present there. Therefore, police officers who are not trained to detect and dismantle secret laboratories and who do not carry the means of protection should not enter the premises suspected of having such laboratory in it. When entering the laboratory, it is necessary to:

- Position personnel and vehicles for intervention opposite from the direction of wind blowing.
- Ensure air flow in order to reduce the risk of possible explosion.
- Turn off all sources of heating apparatus and equipment. This must not be done in such a way that the electricity in the entire facility is turned off.
- If cooling of apparatus is turned on, it should be left on. Cooling is done with water flowing through the cooling pipe. The rule is not to close water tapst if they are open until their function is determined.
- Electric mixers that mix chemicals in balloons or other vessels, if caught in work, must not be turned off.
- Preserve the structure of the site in order not to damage the evidence that is relevant to the criminal proceedings.
- Disable access to themedia and strictly prohibit sightseeing (Donnell, 2004:37).
- Carry out decontamination of the official person - body and clothes, do thorough wash of face and hands.
- When detecting and disassembling a secret laboratory, police officers should never:

⁶ Data of the Department for Analytics of the Ministry of Interior of the Republic o Serbia.

⁷ Pound is a mass unit in some countries of the English speaking region, especially in the United States. An international pound is equal to 0.45359237 kg that is about 453 grams.

- spend a long time in the laboratory;
- Touch or test equipment or substances in the laboratory, move containers with chemicals;
- smell objects and chemicals;
- turn on and off switches and use equipment that can be found on site;
- use flash devices or any type of flash,
- use the radio inside the building;
- Smoke, eat and drink on the spot.

CONCLUSION

Illegal production of synthetic drugs in secret laboratories is a serious and dangerous business, both for those who reside in them, and for those involved in the process of detecting and proving these illegal activities. Chemicals used in the manufacturing process can cause cancer, brain damage, and immunological problems. The process itself can cause fires, explosions, higher pollution of the environment and serious health consequences for the population itself, due to the incompetent handling of chemicals, as well as due to improper disposal of chemical waste. In small laboratories there is a much greater likelihood of incidents (fire and explosions), because they have objectively less qualified personnel, use primitive equipment and facilities, which has a direct impact on the amount of gas released during the production process. These laboratories are not dangerous because of the amount of drugs they produce, so from the point of view of the spread of narcotics, mass-production labs should have priority in detection compared to small ones. However, from the aspect of human safety and health and from the aspect of environmental protection, the detection and dismantling of mini laboratories is very important.

Police officers who are not trained to detect and dismantle secret laboratories and who do not carry the means of protection should not enter the space suspected of having such a laboratory in it. In the case of a larger laboratory, it is reasonable for the participants in the action to be equipped with appropriate protective equipment. In the police of developed countries, this equipment has multiple levels of protection, and which equipment will be used is decided by the manager of the action in accordance with the risk assessment made on the basis of available intelligence data. The priority for all those involved in the discovery and dismantling of secret labs is security. However, we must be aware of the fact that it is not always possible to anticipate and solve all security issues that may arise during the laboratory raid and dismantling of labs, which is why the main rule to be followed is that only respecting basic security procedures, injuries and other unwanted consequences will be reduced to a minimum.

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