

DrugNetAsia

Year 2000 Issue 1

A Regional Newsletter for Participating Laboratories at the UNDCP Consultative Meeting of Heads of Drug Testing Laboratories in Southeast Asia

Editorial

At the Consultative Meeting of Heads of Drug Testing Laboratories in Southeast Asia in Hong Kong SAR, China, 27-29 Sep 1999, organised by UNDCP in co-operation with The Government Laboratory of Hong Kong SAR, it was agreed that the Department of Scientific Services, Singapore, should serve as the focal point for collating and disseminating information based on contributions from regional laboratories.

It is for this purpose that the newsletter, *DrugNetAsia*, is published. We are glad to report that the response to our call for contributions is over-whelming. As a result, we have to expand the number of pages in this issue of the newsletter in order to accommodate all the contributions. A big thank you to those of you who have contributed to this first issue of the newsletter. For those who have not contributed, we look forward to receiving your contributions in the next issue of the newsletter.

We welcome any comments and suggestions to further improve the newsletter.

Happy reading!



It has been a pleasure to learn that the occasion of the UNDCP meeting of Heads of Drug Testing Laboratories in Southeast Asia last year has led to this Regional Newsletter *DrugNetAsia*, and to so much support from participating laboratories. We are encouraged by this, and very much welcome and support the publication as a means of promoting collaboration amongst regional drug testing laboratories in Southeast Asia through information sharing and networking on drug issues. This was one of the key objectives of the UNDCP meeting held in Hong Kong. We hope that, in the context also of UNDCP's aims to enhance capacity in drug testing worldwide, this will be the first of many such initiatives in the sub-region.

May I also add our appreciation of the efforts of the Department of Scientific Services, Singapore, that was given the responsibility to serve as a focal point for collating and disseminating information on technical and analytical issues, and drug trends, and, as a result, has been able to launch this Newsletter.

We wish Newsletter *DrugNetAsia* every success, and a bright and active future.

Dr Howard Stead
Chief
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Summary of the Common Drugs of Abuse Encountered in the Government Laboratory, Hong Kong SAR in 1999

Introduction

Historically, the drug problem in Hong Kong has been firmly connected to the abuse of opiates. Today as an international city with free communication with other parts of the world, the pattern of drug abuse is inevitably keeping track with global trends. It is not uncommon that new types of abused drugs emerging in other parts of the world will often appear here after a short time. Below is a summary of the major types of abused drugs encountered in the work of the Government Laboratory in 1999 with reference to the trends of 1998.

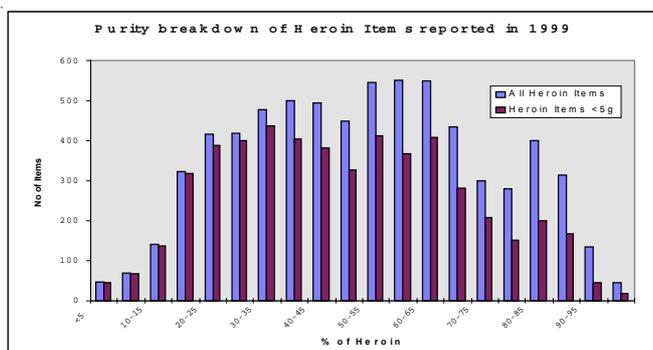
Opiates

In 1999, the major abused drug within this group continued to be heroin hydrochloride (simply referred to as heroin). About 65% of the cases submitted involved the analysis of heroin. Table 1 shows the breakdown of the various types of opiate substances examined in 1998-1999.

Table 1
Opiate Drugs Examined in 1998-1999

	1998		1999	
	Cases	Quantity	Cases	Quantity
Heroin hydrochloride	6313	189.5 kg	5079	239.3 kg
Raw Opium	1	1.0 kg	-	-
Prepared Opium	6	0.7 kg	5	0.1 kg
Opium Dross	4	0.06 kg	1	0.3 kg

Illicit heroin sold at street level is almost entirely in the form of hydrochloride salt and appears as an off-white powdery mixture. The distributions of the purity of heroin found in heroin-containing items seized in 1999 are shown in the figure below.



The local mode of heroin manufacture continued to be the simple act of adulterating relatively high purity

heroin (an arbitrary term with no clearly defined limits) with various chemicals such as caffeine, paracetamol, theophylline, antipyrine, chlorpheniramine and carbetapentane to produce relatively low purity heroin.

Cannabis

As in previous years, cannabis continued to be the most widely abused non-opiate drug with 992 cases involving herbal cannabis received during 1999 against 1232 cases in 1998. The weight of the herbal material examined significantly dropped from 1146 kg in 1998 to 81.7 kg in 1999. Cases involving cannabis resin decreased from 45 in 1998 to 42 in 1999 and the weight decreased from 52.9 kg to 10.6 kg.

Benzodiazepines

Among the abuse of these sedative-hypnotic drugs, midazolam was the prevalent. Midazolam was observed to be frequently used concurrently with low purity heroin by addicts in order to make up for any effect lost. The number of cases involving estazolam continued to rise. Table 2 refers.

Table 2
Midazolam, estazolam and flunitrazepam examined in 1998 -1999

	1998		1999	
	Cases	Quantity	Cases	Quantity
Midazolam	1095	65622	893	33661
Estazolam	60	15313	86	21112
Flunitrazepam	19	255	20	733

Methylamphetamine (ICE)

Quantities of methylamphetamine examined in 1999 showed a significant decrease nearly by 56% over those of 1998, from 233.7 kg to 102.9 kg, although the number of cases only marginally dropped from 681 in 1998 to 632 in 1999. The drug is almost entirely encountered as methamphetamine hydrochloride in the crystalline form (commonly known as ICE). ICE is largely smoked using some forms of homemade inhaling devices resembling water pipes. Illicitly made methamphetamine tablets, embossed with various logos and/or letters and sold as Ecstasy tablets, were increasingly encountered.

Phenethylamine type stimulants

3,4-methylenedioxymethamphetamine (MDMA) was the most commonly encountered substance of this

class of compounds. A sharp upward turn in case numbers of this group of compounds was observed from 28 cases (180 tablets) in 1998 to 142 cases (20300 tablets) in 1999. Nearly all of the seizures were in the form of tablets –in various colours and usually imprinted with logos and/or letters. A collection of the images of the analysed tablets will be given in another article in the next issue of the newsletter.

Cocaine

The number of cases remained static in 1999 (37 cases) but the quantities increased sharply from 12.6 kg in 1998 to 167.2 kg. The sharp increase was accounted for by a single record seizure of about 155 kg cocaine blocks.

Codeine and dextromethorphan

The total number of cases involving codeine-

containing cough syrup dropped from 113 in 1998 to 77 in 1999. The number of samples submitted for the examination of dextromethorphan increased substantially, from 10,859 in 51 cases to 56661 in 27 cases.

Ketamine

There was an alarming increase in the seizure of ketamine. 1999 saw the submission of 40 cases as compared with 2 in 1998. Ketamine was normally seized in the form of white powder in its pure state and wrapped in paper. Each packet contained between 0.1 – 0.3 gm powder. There were cases involving ketamine mixed with midazolam and estazolam. 

Contributed by the Government Laboratory, Hong Kong SAR

METHAMPHETAMINE in wet underwears and towels

Methamphetamine hydrochloride, also known as “syabu” in Malaysia has shown an alarming increase during the last 2 years. Most of these drugs brought into this country were in the form of white crystalline substance or illicit tablets. The purity of these white crystalline methamphetamine hydrochloride can be as high as 90% while the illicit tablets are normally diluted with cutting agents to about 30%. Unlike illicit heroin and cannabis, methamphetamine hydrochloride is colourless and highly soluble and this makes the trafficking of this drug relatively easier. A substantial amount of methamphetamine hydrochloride can be easily dissolved in a bottle of mineral water. The resultant solution will remain clear and hence, will not give rise to any suspicion. The drug can then be recovered by evaporating off the water.

A peculiar way in which methamphetamine hydrochloride was brought into this country is described below:

A suspicious man was detained at the arrival hall of Kuala Lumpur International Airport. The narcotics officers found in his travelling bag among other things, some wet underwears and towels kept in a plastic bag. These items were later sent to the Narcotic Laboratory, Department of Chemistry for analysis. The photograph on the right shows the condition of these items.



The wet underwears and towels

There was nothing unusual about these wet items except for the soapy feeling. Marquis test and TLC showed the presence of methamphetamine which was confirmed by GC-MS. These items were then extracted with 3 x 10 litres of distilled water and quantitative analysis of methamphetamine hydrochloride was then carried out on the combined water extract. The wet items were found to contain not less than half a kilogram of methamphetamine hydrochloride. 

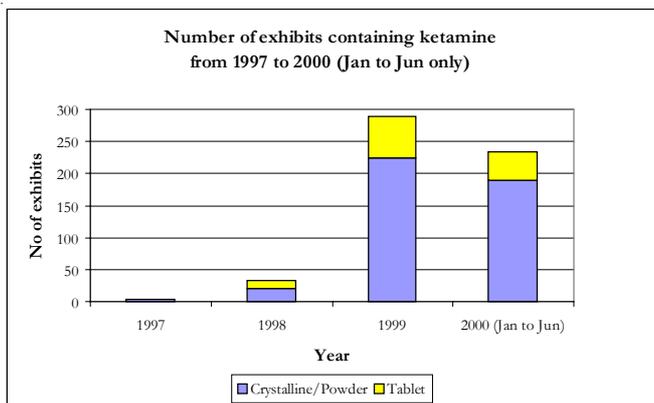
Contributed by the Department of Chemistry, Malaysia

KETAMINE

a new drug of abuse in Singapore

Ketamine, or 2-(2-chlorophenyl)-2-methylamino-cyclohexanone, is marketed as an anaesthetic for veterinary use. It is often called “K” or “Special K” on the street and is reported to produce effects similar to those produced by phencyclidine (PCP) with the “visual” effects of LSD. The drug can be snorted, smoked or consumed in drinks.

The Narcotics Laboratory encountered its first ketamine exhibit sometime in 1997. Since then, the number of exhibits containing ketamine has been steadily on the rise. Starting with only 4 cases in 1997, the number escalated to 289 in 1999. For the period of January to June 2000, the laboratory has analysed over 233 ketamine exhibits.



The majority of the ketamine analysed by the laboratory occurred in the form of a white crystalline or a white powdery substance. In some cases, ketamine came in the form of tablets that were usually found to contain methamphetamine as well.



To curb the rising trend of ketamine abuse in Singapore, the drug was included as a Class B Controlled Drug under the Misuse of Drugs Act in September 1999. 

Contributed by the Department of Scientific Services, Singapore

Information a

Popular Drugs

In Indonesia, the rate of drug abuse has increased rapidly. Following are some of the drugs which are gaining popularity at the moment:

1. “Putauw” is a white powder that usually contains heroin. It comes in small paper packages called “cekak”.
2. “Shabu-shabu” or ice, is a white coloured crystal. However, it may sometimes be orange, blue, green or pink in colour. “Shabu-shabu” contains methamphetamine and its usual method of administration is by heating the crystal on an aluminum foil and inhaling its fumes; or burning by a means called “Bong”. Usually, “Bong” consists of a glass bottle and a plastic pipe for inhalant fumes.
3. Most of the Cannabis is grown locally in Indonesia and comes mainly from the Aceh region.
4. In the illicit traffick of “Ecstasy”, Indonesia has come across many kinds with different marking, colour and shape. Sometimes the tablet comes in the shape of a peanut, a strawberry fruit or a heart. “Ecstasy” is often produced locally.

For

The forensic laboratory of Lao PDR was established in September 1997 with the support of US \$285,400 from UNDCP. The laboratory began with only 3 staff, 2 of whom were trained in Malaysia for 3 months and one was trained in Hong Kong for 2 months and Thailand for 1 month.

The laboratory uses analytical techniques such as TLC, GC and HPLC for the analysis of the suspected drugs sent in by law enforcement officers. Equipped with the necessary chemicals and reference standards, together with the well-trained laboratory officers, the laboratory has helped the law enforcement agency in



About Drugs & Precursors in Indonesia

Inhalants

Towards the end of 1999, a new case surfaced in Indonesia. Known as the "Pens Case", it is so called because the pen has a shape and colour with interesting pictures and a pleasant odour. As a result, it is popular with many students (children up to teenagers). When a person sniffs the pen, he/she will get dizzy.

When the pen ink was analysed, it was found to contain *benzyl alcohol*, *linalool* and *benzaldehyde*. As these substances posed a danger to a person's health, the Government has banned them.

Other inhalants that are also abused include *glue (aica aibon)* and *nail polish*.

Drug Trends and Precursors

The number of cases seen in Indonesia is in the following order:

1. Heroin
2. Methamphetamine
3. Cannabis

Precursors such as *ephedrine*, *pseudoephedrine* and *Xalol* have also been found in evidence. It is interesting to note that ketamine, an anesthetic, have also been found to be present in tablets that were analysed.

The Health Department is responsible for a drug programme based on a monthly report from the pharmacy, hospital and Indonesian Science Agency on the legal issues of narcotic and psychotropic substances. However, there is no control on precursors yet.

The analysis of drug and precursors are performed in the following manner: 

Raw Material	Body Fluids
1. Screening - Presumptive test or colour test to classify drugs of unknown samples - TLC to identify unknown samples when the group is known. The standard or the reference spot is compared with the Rf of the unknown.	1. Screening - EMT - TLC
2. Confirmation - TLC using several mobile phases - GC/MS	2. Confirmation - TLC - GC/MS

Contributed by the Central Forensic Laboratory, Indonesia

Forensic Laboratory in Lao PDR

the prosecution of drug traffickers. In addition, the forensic laboratory is upgrading its current ability to include urine analysis.

Illicit drug trafficking within all countries and across borders in the South East Asia area is steadily increasing. Lao PDR, being a small country, and sharing borders with 5 other countries (China, Myanmar, Thailand, Cambodia and Vietnam), has also been affected by the situation. In order to counter such rising trend in drug trafficking, the government of Lao PDR has implemented regulations aimed at reducing drug

trafficking especially among youth groups, students and workers.

We hope that the UNDCP will continue to assist and support this forensic laboratory by providing essential chemicals and equipment, and that the forensic laboratories of neighboring countries will provide assistance in continuing staff training. 



Contributed by the Food and Drug Quality Control Center, Lao PDR

The Trend of Abused Drugs in Macao SAR

Preface: The Macao SAR Forensic Laboratory is a department administered by the Macao SAR Judiciary Police. It consists of five sections all of which provide a wide range of scientific services to the community. One of the operational sections is the Controlled Drugs Section which is responsible for undertaking a broad range of drug analyses including heroin, cannabis, methamphetamine and other psychotropics, in support of the criminal justice system. Being staffed with two analysts, the section deals with approximately 200 cases a year and is therefore considered to be the most demanding section of all. Statistical data of abused drugs in Macao is shown below.

Trend: With Macao SAR situated close to PR China and HKSAR, it is observed that the abused drugs patterns in these places are very similar. (This information is derived from the Consultative Meeting of Heads of Drug Testing Laboratories in South East Asia). As in PR China and HKSAR, heroin in-take in Macao SAR outnumbers all other drug in-take and this can be observed over a period of nine and a half years (1991-2000).

Distribution of Drug Types

Year	Total no. of cases	Heroin	Cannabis	Methamphetamine	Others
1991	74	45	6	2	15
1992	102	68	9	1	19
1993	113	71	25	1	11
1994	257	154	9	0	102
1995	206	90	14	2	110
1996	218	110	33	2	96
1997	262	96	40	4	137
1998	186	77	63	6	66
1999	197	68	50	9	90
2000*	93	23	26	9	57

Table above shows the total number of drug cases in Macao over a period of nine and a half years.

* Data collected from Jan to June

What can be said about the above Table is that over a period of nine and a half years, heroin is still considered to be the most popular abused drug amongst local drug addicts. As shown, the number of heroin cases increased until 1994 and began to decrease after 1996. During that same period of time, the number of methamphetamine cases increased. Indeed, there is an

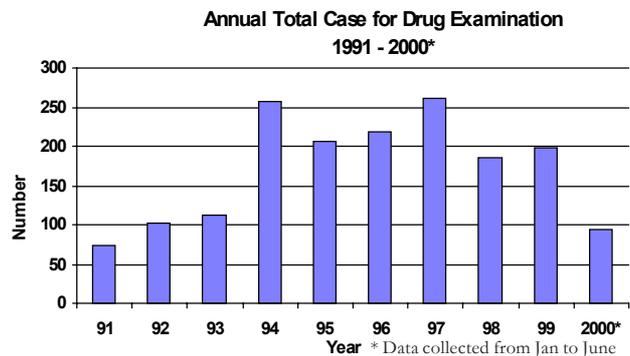
indication that methamphetamine is getting more and more popular since a half-a-year data of 2000 equals a yearly data of 1999. As with cannabis, the trend seems to follow a pattern of increase and decrease. What is observed is that the number of cannabis cases increased until 1993 and then decreased in 1994. Since then, cannabis cases increased again, reaching its peak in the year 1998.

Notice that the trend of each drug type does not correspond with each other. In other words, their abuse pattern peak at different times. For instance, the number of heroin cases reached a maximum of 154 in the year 1994 whereas the number of cannabis cases reached a maximum of 63 in the year 1998. As for methamphetamine, there is a tendency for it to peak in the year 2000. This kind of peak pattern suggests that different types of drugs differ in their popularity in different period of time.

Meanwhile, the column "others" refers to several kinds of psychotropical drugs which are mainly Benzodiazepine such as Midazolam, Diazepam, Triazolam and Estazolam.

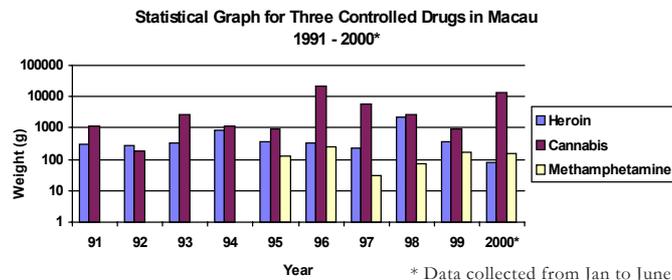
As far as the total number of annual cases is concerned, the following chart shows a clearer picture of the trend.

It can be seen that after the year 1994, the number of cases submitted for drug analysis remained more or less the same. This is surprising in a way because it has



always been suggested that the opening of the Macao International Airport, in November 1995, will considerably increase the drug cases in Macao. The airport was once suggested to be one of the useful route to trade drugs into Macao. What can be told, however, from the chart above is that the Macao International Airport does not seem to play a role in drug trafficking as the number of cases remained more or less steady.

Although the number of drug cases remained more or less the same after the year 1994, it does not necessarily mean that the amount of drugs seized followed the same pattern. In fact, the following bar chart shows that the amount of drugs submitted for drug analysis fluctuated quite considerably regardless of the total number of drug cases.



What can be said of this is that although the total number of heroin cases reached its peak in 1994, it is only in 1998 that the greatest amount of heroin was seized. The same can be said of cannabis that the year 1998 only witnessed the maximum number of cases but not the maximum amount of cannabis seized. By just looking at the above bar chart, it is predicted that the amount of cannabis seized will peak by the end of the year 2000. As far as methamphetamine is concerned, the amount seized only became significant in 1995. Before this year, the amount was so small that it cannot be recorded in the bar chart above.

Additional information: Apart from dealing with the mentioned abused drugs, the Macao SAR Forensic Laboratory also deals with other abused drugs such as MDMA, MDA etc. - the kind of XTC which are used

amongst youth in most night lives and rave parties.

Concerning cocaine, the Macao SAR Forensic Laboratory first encountered this drug in 1999. It is fortunate enough that the total number of cases involving cocaine continues to remain at a low level. For instance, in 1999 and 2000, the total number of cases of cocaine is four.

What can also be provided as an additional information is that during the past three years, the Laboratory has witnessed a significant increase in the total number of ketamine (an anaesthetic) cases. Because this drug is not controlled by the law of Macao SAR, we predict that the trend of ketamine abuse will continue to go up in Macao SAR. An important point here to be made is that ketamine is generally involved with the abuse of MDMA, Methamphetamine and Cannabis and this is worrying.

International Cooperation: The Macao SAR Forensic Laboratory has long been exchanging scientific knowledge through conferences and training programmes with countries like PR China, Hong Kong and Singapore.

Moreover, the Laboratory has experience in training local forensic medical staff as well as chemists from abroad such as Cabo Verde. We have also been providing drug information to Microgram and other relevant journals to share valuable data with other institutes abroad.

Contributed by the Forensic Laboratory, Macao SAR

Trend of new drugs and their precursors in Vietnam

In January 1999, the Vietnam Government issued a decree to forbid chopping of the wood, *cinanomum parthenoxylon*, Laureceac, which can produce safras oil containing safrol and isosafrol. Safrol and isosafrol are well known in Vietnam as the precursors to produce amphetamine-type drugs, such as, MDMA, MDA, MDE, N-OH MDA, etc. Cases involving the illicit diversion of safras oil have been reported.



In 1999, a total of 6025 methamphetamine tablets were seized in Vietnam. These tablets were red, yellow or green in colour and marked "CU", "U", "P", "XO" or "WY" on their

surfaces (see picture on the left). Recently, tablets containing MDMA or MDA and MDMA were also seized.

Small heroin cakes of size 1 cm x 5 cm x 7 cm and weighed 60 gm were seized. Their surfaces were embossed with "999" and "AAA" (see picture below). The purity of the street heroin is often low, around 10 to 30 %. Fake heroin samples are found to contain many pharmaceutical substances including cloramphenicol, paracetamol and sunfonamide.



Contributed by the Institute of Forensic Science, Vietnam

New Drugs in Macau SAR

Recently a variety of XTC tablets which were impressed with the same "P" mark was found (See picture on the right). Some of these tablets were orange in colour and some green. However, after analysis, two kinds of chemical compositions were found within the orange tablets. One of them contains "MDMA" and "Ketamine" and the other contains "Methamphetamine". The green tablets contain only "MDMA" and "Ketamine".



Both types of tablets were more or less of the same shape, size and weight as mentioned in the following table:

	Orange	Green
Shape	Round	Round
Weight	379±10mg	359±10mg
Diameter	8.02mm	7.1mm
Thickness	5.8mm	5.6mm

Contributed by the Forensic Laboratory, Macao SAR

Representatives of participating countries at the Consultative Meeting of Heads of Drug Testing Laboratories in Southeast Asia Hong Kong SAR, China, 27-29 September 1999

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