CLANDESTINE LABORATORIES AND PRECURSORS

KEY POINTS

- A record 694 clandestine laboratories were detected in Australia in 2009–10.
- The majority of clandestine laboratories continue to be detected in residential locations.
- The weight of pseudoephedrine and ephedrine detections at the Australian border decreased by 73 per cent from 2 041 kilograms in 2008–09 to 556 kilograms in 2009–10.
- The number of tablet presses seized nationally increased by 119 per cent, from 26 in 2008–09 to 57 in 2009–10.

MAIN FORMS

Clandestine drug manufacture refers to the illicit production of drugs or drug precursors within an improvised laboratory environment (Newell 2008). Clandestine laboratories range from crude, makeshift operations using simple processes to highly sophisticated operations using technically advanced equipment and facilities.

The 4 basic manufacturing processes used in clandestine laboratories are:

- **Extraction**—The raw material is extracted using a chemical solvent to produce a finished drug. Examples of extraction include hashish, coca paste and extraction from pharmaceutical preparations.
- **Conversion**—A raw or unrefined drug product is changed into a more sought after product by altering the chemical form. Examples are converting cocaine base into cocaine hydrochloride, or converting methylamphetamine base into crystalline methylamphetamine ('ice').
- **Synthesis**—Raw materials are combined in specific portions to create the finished product through chemical reactions. An example is the synthesis of methylamphetamine from ephedrine or pseudoephedrine.
- **Tableting**—The final product is converted into dosage forms or smaller, more saleable units for distribution. An example is pressing 3,4-methylenedioxymethamphetamine (MDMA, commonly known as 'ecstasy') powder into tablet form.

The majority of illicit drugs require chemicals in order to be synthesised or refined to their final, consumable form (ONDCP 2010).

Many legitimate industrial chemicals are used in the manufacture of illicit drugs. This is a challenge for law enforcement agencies, which must prevent the diversion of these chemicals from legitimate commerce to illicit drug manufacture. Due to the global nature of illicit drug precursor manufacture, a comprehensive internationally cohesive chemical control strategy will play a key role in controlling precursors (ONDCP 2010).

Globally, amphetamine-type stimulants (ATS) are the most common illicit drugs manufactured in clandestine laboratories (UNODC 2010). The different chemical processes required to produce drugs within the ATS group require different precursors. Pseudoephedrine and ephedrine are the most common precursors used in the manufacture of methylamphetamine. The 4 principal MDMA precursors are safrole, isosafrole, piperonal and 3,4-methylenedioxyphenyl-2-propanone (3,4-MDP-2-P)[1] (EMCDDA 2010).

1 Also known as PMK and MDP2P.

INTERNATIONAL TRENDS

In the 2010 *World Drug Report*, the countries reporting the largest number of clandestine laboratory detections were the United States of America (US), the Czech Republic, Australia, China, Slovakia, New Zealand, the Netherlands, Canada and Mexico. However, the number of laboratories is not representative of production levels. Many countries with lower detection rates only report large-scale laboratories (UNODC 2010).

According to the United Nations Office on Drugs and Crime (UNODC), 99 per cent of detected clandestine laboratories are producing ATS. The number of detected ATS clandestine laboratories increased by 20 per cent from 7 002 in 2007 to 8 408 in 2008. However, this number remains historically low (UNODC 2010).

In 2003, the International Narcotics Control Bureau (INCB) initiated Project Prism, which promotes the exchange of pre-export information to assist efforts to stop or seize illegal shipments of methylamphetamine precursor chemicals. Between July to October 2009, Project Prism led to 10 tonnes of bulk shipments and 31.8 million tablets of ephedrine and pseudoephedrine being suspended, stopped or seized (BINLEA 2010).

Despite India implementing legislation and a system to prevent the diversion of ephedrine and pseudoephedrine, information from Project Prism reaffirmed that India was the primary source and Mexico the primary destination of ephedrine and pseudoephedrine shipments (BINLEA 2010). In August 2009, authorities seized a methylamphetamine manufacturing complex in Mexico, which comprised 22 individual facilities dispersed and concealed in an area of 240 hectares. Authorities recovered a total of 32 800 litres of chemicals associated with the manufacture of methylamphetamine (INCB 2010).

In August 2009, China announced that tighter controls were to be introduced on the manufacture of ephedrine, 3,4-MDP-2-P and 1-Phenyl-2-propanone (P-2-P). In response to the stricter controls on ephedrine, criminal networks appear to have renewed their interest in norephedrine as a potential alternative precursor to amphetamine. This is supported by findings in the 2010 INCB report, which has seen an increase in the extent of diversion of norephedrine (INCB 2010).

Canada remains a transit country for the precursor chemicals used to produce methylamphetamine, with Canadian-sourced pseudoephedrine discovered in some clandestine methylamphetamine laboratories in the US. Precursor chemicals used in the production of ecstasy in Canada are sourced from countries such as China and India on a regular basis. Also, unlike Europe, the shortage of MDMA precursor chemicals is not affecting the manufacture of ecstasy in Canada (CISC 2010).

During 2009, global MDMA border detections decreased. The World Customs Organization (WCO) reported that the weight of detections had decreased by 50 per cent and the number of detections decreased by 48 per cent in 2009. Significant decreases in the weight of MDMA detections at the Canadian border—from 215 kilograms in 2008 to 11 kilograms in 2009—contributed to decreases in the weight of global MDMA border seizures (WCO 2010). WCO attributes the decline in MDMA detections to production in regions that do not require movement across borders (WCO 2010).

DOMESTIC TRENDS

AUSTRALIAN BORDER SITUATION

In 2009–10, a total of 556.3 kilograms of ephedrine and pseudoephedrine was detected at the Australian border, a significant decrease from the 2 041 kilograms detected in 2008–09.

There were no detections of an MDMA precursor in 2009–10. However, a precursor for manufacturing paramethoxyamphetamine (PMA), a drug closely related to MDMA, was detected—consisting of 5 litres of 4-methoxyphenyl-2-propanone.

SIGNIFICANT BORDER DETECTIONS

PRECURSORS

Significant border detections of ATS precursors in 2009–10 included:

- 40 kilograms of pseudoephedrine powder detected on 17 of August 2009 in parcel post from Vietnam to Sydney. Following this detection, 3 more identical consignments—each weighing 20 kilograms—were detected on 17 and 18 August 2009. The combined weight was 100 kilograms
- 22.8 kilograms of pseudoephedrine granules detected on 8 March 2010 in parcel post from Egypt to Sydney
- 18.3 kilograms of pseudoephedrine detected on 20 November 2009 in parcel post from Cambodia to Sydney
- 18 kilograms of ephedrine powder detected on 17 May 2009 in parcel post from Egypt to Sydney

The 4 detections listed above have a combined weight of 159.1 kilograms, which accounts for 28 per cent of the total weight of ATS (excluding MDMA) precursors detected at the Australian border.

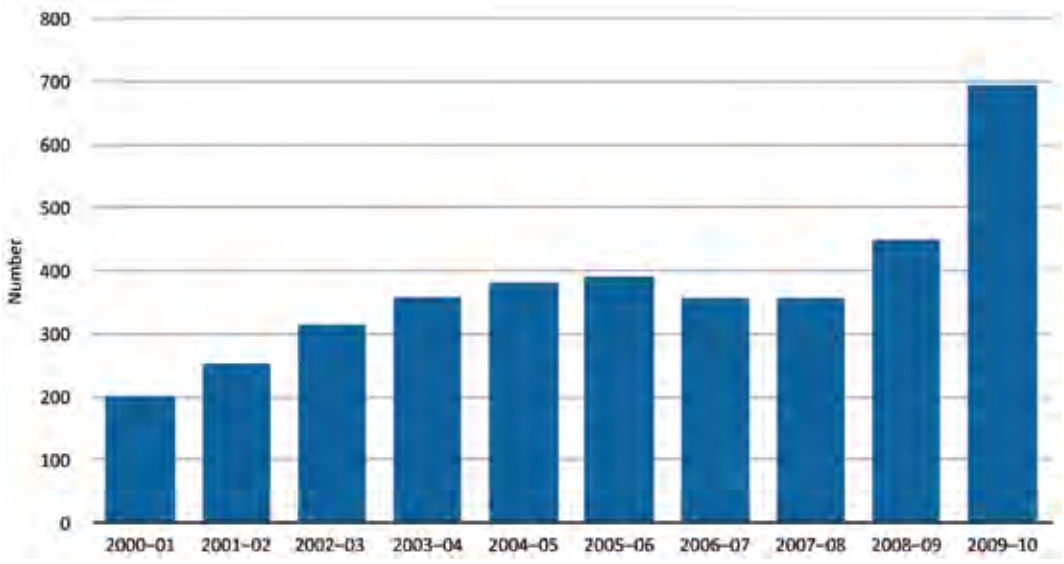
DOMESTIC MARKET INDICATORS

The number of clandestine laboratories detected nationally has increased by 245 per cent over the last decade, from 201 in 2000–01 to 694 in 2009–10. In August 2007, the Pharmacy Guild of Australia initiated a national roll out of Project STOP. Project STOP aims to reduce the diversion of pharmaceutical products containing pseudoephedrine into the illicit market. As of 30 June 2010, 81 per cent of pharmacies Australia wide were registered with Project STOP[2], an increase from the 73 per cent registered in 2008–09.

DETECTIONS

In 2009–10, a record 694 laboratories were detected in Australia. This represents a 55 per cent increase from the 449 detections in 2008–09 (see Figure 56).

FIGURE 56: Total national clandestine laboratory detections, 2000–01 to 2009–10



With the exception of the Australian Capital Territory, clandestine laboratory detections increased in all jurisdictions in 2009–10. The Australian Capital Territory was the only jurisdiction to report no detections during the reporting period (see Table 19).

2 Percentage based on number of pharmacies registered with Project STOP at COB 30 June 2010, as a proportion of the number of 'Approved Pharmacies' at 30 June 2010, as reported in Appendix 6 of the *Pharmacy Guild Of Australia Annual Report 2010*.

TABLE 19: Number of clandestine laboratory detections, by state and territory, 2000–01 to 2009–10

Year	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Total
2000–01	42	32	77	24	22	1	3	0	**201**
2001–02	32	24	138	32	22	3	1	0	**252**
2002–03	47	19	171	34	36	2	3	2	**314**
2003–04	61	20	189	48	33	1	6	0	**358**
2004–05	45	31	209	25	44	3	21	3	**381**
2005–06	55	47	161	50	58	5	12	2	**390**
2006–07	49	72	132	51	37	9	1	5	**356**
2007–08	51	76	121	69	30	2	1	6	**356**
2008–09	67	84	148	65	78	0	7	0	**449**
2009–10	82	113	297	71	118	1	12	0	**694**

In 2009–10, Queensland reported nearly 300 clandestine laboratory detections, while Western Australia and Victoria both reported over 100. Queensland reported the greatest increase in detections from 148 in 2008–09 to 297 in 2009–10, an increase of 101 per cent. Other percentage increases of note include the Northern Territory, which increased by 71 per cent and Western Australia, which increased by 51 per cent.

DRUG TYPES AND METHODS OF PRODUCTION

In 2009–10, clandestine laboratories manufacturing ATS continued to be the most common type of laboratory detected in Australia. Where the drug produced at a clandestine laboratory was identified, 90 per cent were producing ATS (see Table 20).

TABLE 20: Number of clandestine laboratory detections, by drug production types and state and territory, 2009–10

State territory	ATS (excluding MDMA)	MDMA	Homebake heroin	Cannabis oil extraction	PSE/[a] ephedrine extraction	Other[b]	Unknown[c]	Total[d]
NSW	59	12	0	0	3	3	8	**85**
Vic	101	0	0	0	11	2	0	**114**
Qld	248	3	3	0	24	9	13	**300**
SA	55	2	0	1	5	2	13	**78**
WA	112	0	1	0	0	2	5	**120**
Tas	1	0	0	0	0	0	0	**1**
NT	9	0	0	2	1	0	0	**12**
ACT	0	0	0	0	0	0	0	**0**
Total[c]	**585**	**17**	**4**	**3**	**44**	**18**	**39**	**710**

a. Pseudoephedrine.
b. 'Other' may include detection of chemicals, apparatus or other drugs.
c. 'Unknown' includes seized drugs which have not been identified or are awaiting analysis.
d. Total may exceed the number of clandestine laboratory detections due to multiple drug production types being identified at single laboratories.

In 2009–10, the number of ATS (excluding MDMA) laboratory detections increased by 97 per cent, from 297 in 2008–09 to 585 in 2009–10. Since 2000–01, Queensland has consistently reported the highest number of ATS (excluding MDMA) clandestine laboratory detections.

MDMA laboratory detections decreased from 19 in 2008–09 to 17 in 2009–10. The majority of these continue to be detected in New South Wales. In this reporting period, New South Wales accounted for 70 per cent of the total MDMA laboratories detected. Queensland detected 18 per cent and South Australia detected 12 per cent.

The number of homebake heroin laboratories has remained relatively stable since 2007–08, with 4 laboratories detected in 2009–10. The jurisdictions reporting homebake heroin production have remained stable since 2008–09, however the number of detections reported within the jurisdictions has changed. Queensland detected 1 homebake heroin laboratory in 2008–09 and 3 in 2009–10 while Western Australia detected 4 laboratories in 2008–09 and 1 in 2009–10.

Cannabis extraction laboratories continue to be detected but numbers remain low, with 3 detections recorded each reporting period since 2007–08. In 2009–10, 2 laboratories were located in the Northern Territory and 1 in South Australia, which differs from 2008–09, when 2 laboratories were located in New South Wales and 1 in Queensland.

Pseudoephedrine extraction from cold and flu pharmaceutical products continues to be a common method of obtaining ATS precursors. The extraction of ephedrine or pseudoephedrine was identified in 44 clandestine laboratories in 2009–10 and was the sole drug-related activity identified in 41 of these detections. The number of jurisdictions detecting PSE/ephedrine extraction laboratories in 2009–10 doubled from 2 in 2008–09 to 4 in 2009–10. While the number of detected P2P laboratories decreased from 16 in 2008–09 to 13 in 2009–10, it remains historically high.

While the number of clandestine laboratory detections by production type classified as 'other' increased from 5 in 2008–09 to 18 in 2009–10, it accounted for less than 3 per cent of the total number of detections. Queensland reported the greatest increase in detections of these laboratories, from 1 in 2008–09 to 9 in 2009–10.

The hypophosphorous method remains the most common method of manufacture detected in ATS (excluding MDMA) clandestine laboratories, followed by Nazi/Birch, red phosphorous and phenyl-2-propanone (P2P) (see Table 21).

TABLE 21: Method of ATS (excluding MDMA) production in clandestine laboratory detections, by state and territory, 2009–10

State/ territory	Hypo-phosphorous	Red-phosphorous	Nazi/Birch	Phenyl-2-propane	Other[a]	Unknown[b]	Total
NSW	31	1	1	2	17	4	**56**
Vic	34	10	14	6	0	37	**101**
Qld	140	26	0	3	35	93	**297**
SA	39	7	0	0	2	23	**71**
WA	2	7	97	2	1	9	**118**
Tas	1	0	0	0	0	0	**1**
NT	2	0	0	0	0	8	**10**
ACT	0	0	0	0	0	0	**0**
Total[c]	**249**	**51**	**112**	**13**	**55**	**174**	**654**

a. 'Other' may include detection of chemicals, apparatus or other drugs.
b. 'Unknown' includes unidentified methods or laboratories awaiting analysis.
c. Total may exceed the number of ATS (excluding MDMA) clandestine laboratory detections due to multiple methods of production being identified at single laboratories.

With the exception of the P2P method, there has been a substantial increase across all ATS laboratory production types during 2009–10. The number of red phosphorous laboratories increased by 219 per cent, from 16 in 2008–09 to 51 in 2009–10.

While Western Australia and Tasmania experienced decreases in detections of hypophosphorous clandestine laboratories in 2009–10, overall there was a 40 per cent increase. A notable increase was reported in Queensland (71 per cent).

Nazi/Birch laboratories increased by 67 per cent, from 67 in 2008–09 to 112 in 2009–10. Western Australia remains the prominent state for this type of production, accounting for 87 per cent of detections.

As an indication of the broadening in manufacturing processes for ATS (excluding MDMA) the number of clandestine laboratories described as 'other' increased by 450 per cent, from 10 in 2008–09 to 55 in 2009–10.

TABLET PRESSES

On 14 December 2009, the Governor-General amended the *Customs (Prohibited Imports) Regulations 1956*, making tablet presses a prohibited import. The new regulations commenced on 1 March 2010. Regulating the importation of tablet presses at the border complements existing domestic legislation making it an offence to possess tablet presses without lawful excuse (AGD 2010).

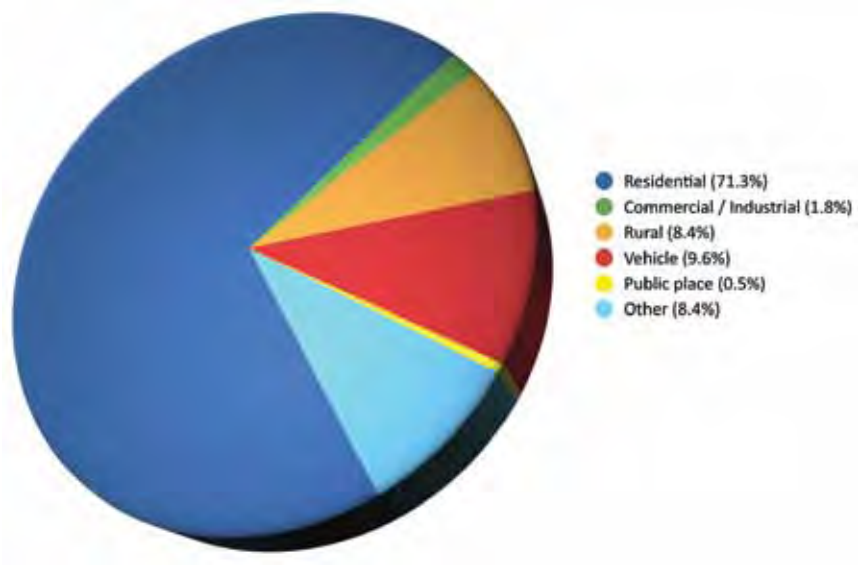
In 2009–10, a total of 57 tablet presses were seized by law enforcement. This is a 119 per cent increase from the 26 presses seized in 2008–09. Both manual and automatic tablet presses were seized. In New South Wales 30 tablet presses were seized, accounting for 53 per cent of national tablet press seizures this reporting period. A further 16 were seized in South Australia, 6 in Queensland, 3 in Victoria and 2 in Western Australia.

LOCATION AND CATEGORY

Irrespective of their size or level of sophistication, the corrosive and hazardous nature of many of the chemicals used in clandestine laboratories pose significant risks to the community. Many of the chemicals used are extremely volatile and can contaminate the soil, water and air in close proximity to the laboratory.

The majority of clandestine laboratories continue to be detected in residential areas. In 2009–10, 71.3 per cent of laboratories were located in residential areas, followed by vehicles (9.6 per cent) and rural areas (8.4 per cent) (see Figure 57).

FIGURE 57: LOCATION OF CLANDESTINE LABORATORY DETECTIONS, 2009–10

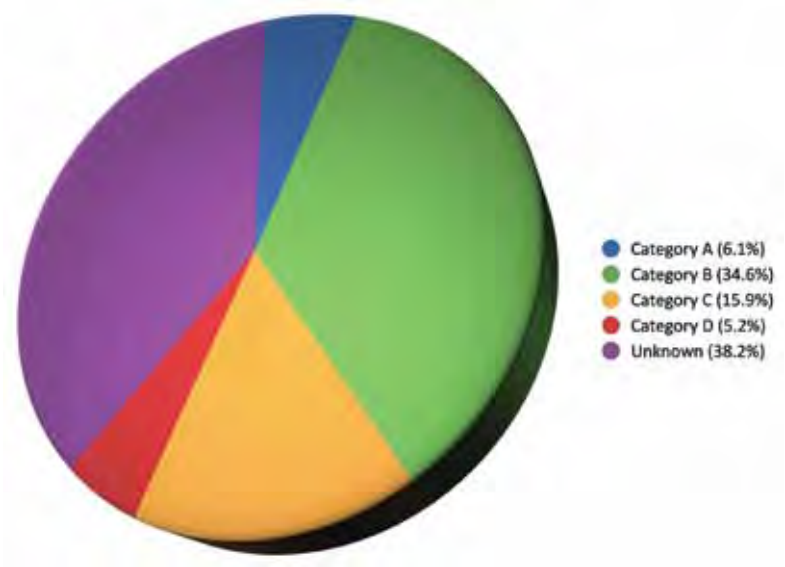


There are 4 distinct categories of clandestine laboratories:

- category A—active (chemicals and equipment in use)
- category B—stored/used (equipment or chemicals)
- category C—stored/unused (equipment or chemicals)
- category D—historical site.

The majority of clandestine laboratories detected in Australia in 2009–10 were classed as category 'B' (stored/used) and accounted for 34.6 per cent of laboratories able to be classified. This is in contrast to 2008–09, when 49.4 per cent of detected laboratories were classed as category 'C' (stored/unused). In 2009–10, Category C laboratories accounted for just 15.9 per cent of laboratories detected (see Figure 58).

FIGURE 58: CATEGORY OF CLANDESTINE LABORATORY DETECTIONS, 2009–10



PRECURSOR SEIZURES

In Australia, legislative changes are making it increasingly difficult to obtain precursors, however, domestic seizures continue to occur. For example, in March 2010, a joint operation between the New South Wales Police Force and Victoria Police resulted in the seizure of 120 kilograms of pseudoephedrine (NSW Police 2010).

NATIONAL IMPACT

The number of clandestine laboratories detected in Australia continued to increase, with a record 694 laboratories detected in 2009–10. Factors such as the size of a laboratory, method of manufacture, amount and type of precursor chemicals used and the skill of the 'cook' can effect the quantity and purity of drugs produced. As such, increases in clandestine laboratory detections may not directly translate into increased manufacture and availability of illicit drugs.

The majority of clandestine laboratories continue to be located in residential areas, accounting for 71.3 per cent of all laboratories detected. Clandestine laboratories producing ATS continue to account for the greatest proportion of detections. The number of ATS (excluding MDMA) laboratories detected in Australia increased from 297 in 2008–09 to 584 in 2009–10. The number of MDMA clandestine laboratory detections decreased from 19 in 2008–09 to 17 in 2009–10.

In 2009–10, the weight of pseudoephedrine and ephedrine detected at the Australian border decreased by 73 per cent, from 2041 kilograms in 2008–09 to 556.3 kilograms in 2009–10. No MDMA precursor detections were made at the Australian border in 2009–10.

While border detections of ATS still occur, national seizure and clandestine laboratory detection statistics continue to provide evidence that the Australian ATS (excluding MDMA) market is largely supplied by domestic production.

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