INTERNATIONAL NARCOTICS CONTROL BOARD

Precursors

and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances

2019

UNITED NATIONS

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Reports published by the International Narcotics Control Board for 2019

The *Report of the International Narcotics Control Board for 2019* (E/INCB/2019/1) is supplemented by the following reports:

Narcotic Drugs: Estimated World Requirements for 2020—Statistics for 2018 (E/INCB/2019/2)

Psychotropic Substances: Statistics for 2018—Assessments of Annual Medical and Scientific Requirements for Substances in Schedules II, III and IV of the Convention on Psychotropic Substances of 1971 (E/INCB/2019/3)

Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances: Report of the International Narcotics Control Board for 2019 on the Implementation of Article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 (E/INCB/2019/4)

The updated lists of substances under international control, comprising narcotic drugs, psychotropic substances and substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances, are contained in the latest editions of the annexes to the statistical forms ("Yellow List", "Green List" and "Red List"), which are also issued by the Board.

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Report of the International Narcotics Control Board for 2019 on the Implementation of article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988

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Foreword

It is my sincere pleasure to introduce the report on precursors for 2019 of the International Narcotics Control Board (INCB). The annual report on precursors has established itself over the years as a reference for professionals and government authorities in monitoring and analysing the latest trends in precursor control, but also as a practical tool for addressing emerging challenges.

In the three decades since the adoption of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, the global landscape of drugs has indeed changed significantly. Governments around the world are increasingly concerned about the misuse of non-scheduled precursors used in the manufacture of dangerous substances. Today, designer precursors of synthetically engineered and harmful drugs are made on demand and easily ordered online.

Given the diversity and almost infinite number of substances that could possibly be made, traditional scheduling, both nationally and internationally, represents the minimum among measures needed. Governments need to design new tools to address these continuously changing trends. To that end, this year's report highlights the possibilities offered under article 13 of the 1988 Convention, as a complementary tool in the fight against illicit drug manufacture.

Furthermore, through its global initiatives Project Cohesion and Project Prism, INCB has been successful for many years in facilitating operational cooperation, both bilateral and multilateral, among Member States to counter the diversion of and trafficking in precursors.

To effectively respond to the complex landscape of drug control matters, INCB has both developed and expanded practical and innovative partnerships. With the committed support of Governments, INCB is encouraging public-private partnerships in various industries to counter diversion and trafficking. A core element of the Board's approach is the provision of online communication platforms, such as the Precursors Incident Communication System (PICS), for the sharing of information and intelligence in real time.

I would like to thank Governments for supporting the Board's activities in the area of precursor control.

Cornelis P. **de Joncheere**
President of the International
Narcotics Control Board

Preface

The United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 requires the International Narcotics Control Board to report annually to the Commission on Narcotic Drugs on the implementation of article 12 of the Convention and requires the Commission to periodically review the adequacy and propriety of Tables I and II of the Convention.

In addition to its annual report and other technical publications on narcotic drugs and psychotropic substances, the Board has prepared its report on the implementation of article 12 of the 1988 Convention in accordance with the following provisions, contained in article 23 of the Convention:

1. The Board shall prepare an annual report on its work containing an analysis of the information at its disposal and, in appropriate cases, an account of the explanations, if any, given by or required of parties, together with any observations and recommendations which the Board desires to make. The Board may make such additional reports as it considers necessary. The reports shall be submitted to the Economic and Social Council through the Commission, which may make such comments as it sees fit.

2. The reports of the Board shall be communicated to the parties and subsequently published by the Secretary-General. The parties shall permit their unrestricted distribution.

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*The annexes are not included in the printed version of the present report but are available on the website of the International Narcotics Control Board (www.incb.org).

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The boundaries and names shown and the designations used on the maps in the present publication do not imply official endorsement or acceptance by the United Nations.

The designations employed and the presentation of the material in the present publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Countries and areas are referred to by the names that were in official use at the time the relevant data were collected.

Multiple government sources of data were used to generate the present report, including form D (information on substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances); the Pre-Export Notification Online (PEN Online) system; the Precursors Incident Communication System (PICS); results achieved under Project Prism and Project Cohesion, which are the international operational initiatives regarding chemicals used in the illicit manufacture of, respectively, synthetic drugs, and cocaine and heroin; and official communications with competent national authorities and official national reports on the drug and precursor control situation.

Unless otherwise specified, data provided on form D are referred to by the calendar year to which they apply; the cut-off date for reporting the data is 30 June of the following year. The reporting period for data from the PEN Online system and PICS is from 1 November 2018 to 1 November 2019, unless otherwise specified. Where PEN Online system data are used for multiple years, calendar years are used. Additional information was provided through regional and international partner organizations, as indicated in the report.

With regard to data on seizures, readers should bear in mind that reported seizures generally reflect the corresponding level of regulatory and law enforcement activity at that specific time. In addition, as seizures are often the result of law enforcement cooperation among several countries (e.g., through controlled deliveries), the occurrence of seizures and the volumes seized in a given country should not be misinterpreted or used as an overestimation in assessing that country's role in the overall situation of trafficking in precursors.

Reference to "tons" is to metric tons, unless otherwise stated.

The following abbreviations have been used in the present report:

ANPP	4-anilino-*N*-phenethylpiperidine
4-AP	4-anilinopiperidine (*N*-phenylpiperidin-4-amine)
APAA	*alpha*-phenylacetoacetamide (2-phenylacetoacetamide)
APAAN	*alpha*-phenylacetoacetonitrile
GBL	*gamma*-butyrolactone
GHB	*gamma*-hydroxybutyric acid
MAPA	methyl *alpha*-phenylacetoacetate (methyl 3-oxo-2-phenylbutanoate)
MDMA	3,4-methylenedioxymethamphetamine
3,4-MDP-2-P	3,4-methylenedioxyphenyl-2-propanone
3,4-MDP-2-P methyl glycidate	methyl ester of 3,4-MDP-2-P methyl glycidic acid
NPP	*N*-phenethyl-4-piperidone
P-2-P	1-phenyl-2-propanone
PEN Online system	Pre-Export Notification Online system
PICS	Precursors Incident Communication System

Summary

In 2019, the year set as the target date in the Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem of 2009, the international community took stock of the achievements and remaining challenges in addressing the world drug problem, including in the area of precursor control. With the accession of Palau as the 190th State party to the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, adherence to that Convention is now nearly universal. A total of 164 countries and territories are using the International Narcotics Control Board's online pre-export notification system to cooperate in the monitoring of international trade in controlled precursors, and a number of countries have strengthened their legislation or introduced other practical measures to monitor the movement of chemicals both in international trade and domestic distribution.

However, trafficking attempts continue to be identified in all regions of the world, involving chemicals under international control, such as acetic anhydride, as well as chemicals not controlled internationally. Trafficking trends observed in the period 2018–2019 provided further evidence of the illicit manufacture of amphetamine-type stimulants in regions and countries not previously associated with such manufacture. This included evidence of the large-scale illicit synthesis of amphetamine, the active ingredient in "captagon" tablets, from non-scheduled pre-precursors in the Middle East; the illicit manufacture of methamphetamine in Afghanistan from ephedra growing wild in the mountainous regions of that country; and illicit methamphetamine manufacture in Europe, using the same manufacturing methods as for amphetamine, as well as ephedrines-based methods. Information available to the Board also suggests that organized criminal groups in Mexico have turned to another, new method to synthesize methamphetamine from non-scheduled chemicals.

For chemicals used in the illicit manufacture of heroin, namely acetic anhydride, not many new cases of diversion were identified in 2018, although the amount seized globally remained relatively high. The Board actively facilitated a number of ongoing investigations into suspicious transactions and seizures involving acetic anhydride that have been identified since 2016. As a result, links between what appeared to be isolated cases were identified, suggesting a much larger network of criminal activities than previously thought. The main source of potassium permanganate, the key chemical used in the illicit manufacture of cocaine, continued to be domestic diversion, i.e., diversion within the country of final use, or within the region, with subsequent smuggling into the country of final use. Colombia also continued to report the illicit manufacture of potassium permanganate. Other chemicals used for illicit cocaine processing were typically diverted from domestic sources.

Since 2018, and just over a year after NPP and ANPP were placed under international control under the 1988 Convention, traffickers have started to seek alternatives to the two precursors of fentanyl and a few of its analogues. This has included the use of alternative manufacturing methods that do not require the two precursor chemicals and the use of non-scheduled pre-precursors. Trafficking trends are difficult to discern because of the potency of the end products and the correspondingly small size of precursor consignments. In response to these developments, which follow the pattern observed among other controlled precursors, some countries have strengthened national controls on fentanyl precursors. Several of these controls have been generic in nature, a development that the Board acknowledges, given the rapid evolution of precursors, including the increased availability of designer precursors with no known, or very limited, legitimate uses. To facilitate the work of competent regulatory and enforcement authorities, the Board has amended its limited international special surveillance list of non-scheduled chemicals to include additional fentanyl precursors and has highlighted those for which it is not aware of any legitimate uses.

The proliferation of non-scheduled chemicals, including designer precursors and other series of closely related chemicals, remains an issue of concern to the Board and requires a wider policy discussion about the options available to ensure that there is a common global framework within

which authorities can cooperate effectively to prevent such chemicals from reaching illicit laboratories. This policy discussion must continue, in particular in the light of recent developments related to fentanyl precursors.

At the same time, the Board's observations related to diversion attempts and cases of diversion and seizures of precursors under international control suggest that the existing legal framework may need to be enforced more rigorously at the national level and/or that Governments should explore practical ways of addressing evidentiary challenges associated with proving instances of precursor-related crime. Observations made during the reporting period have also shown that voluntary cooperation between Governments and different sectors of industry beyond the manufacturing industries is a valuable complement to any regulatory framework.

From the Board's perspective, the least satisfactory elements in its cooperation with Governments on precursor-related matters in the period 2018–2019 were the level of reporting through form D, in particular the timeliness of the reports received and their quality and comprehensiveness, especially in relation to the suspected origin or point of diversion of seized chemicals. This has limited the ability of the Board and Governments alike to analyse and address weaknesses in existing control measures in a timely manner, although improved information-sharing through PICS and improved case cooperation, in particular in relation to acetic anhydride, have partly offset the reporting limitations.

A new area of engagement for the Board is essential equipment used in illicit drug manufacture. Specifically, and in the light of the increased sophistication of the illicit manufacture of drugs, new psychoactive substances and pre-precursors, activities in this area are aimed at developing effective cooperation mechanisms to prevent and investigate the diversion of equipment in the context of article 13 of the 1988 Convention.

I. Introduction

1. The present report summarizes the action taken by Governments and by the International Narcotics Control Board (INCB), since the publication of the 2018 report on precursors,[1] to prevent chemical diversion and implement the provisions of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988.

2. Chapter II begins with an account of the activities carried out during the reporting period with regard to the scheduling of substances. The remainder of chapter II contains statistical data and other information on action taken by Governments and the status of implementation of the tools and mechanisms provided or coordinated by the Board to assist Governments in implementing the provisions of article 12 of the 1988 Convention.

3. Chapter III provides an overview of the major trends and developments in licit trade and trafficking in and illicit use of individual chemicals. It contains a summary of seizures, cases of suspicious and stopped shipments, diversions or attempted diversions, and activities associated with illicit drug manufacture.

4. As has been the practice since 2011, one precursor-related theme is addressed in greater depth in the report. In this year's report, the theme explored in chapter IV is article 13 of the 1988 Convention as a complementary tool in addressing illicit drug manufacture. Throughout the report, specific recommendations and conclusions are highlighted to facilitate the taking of specific actions by Governments to prevent diversion.[2]

5. Annexes I to XI contain updated statistics and practical information for use by competent national authorities. The annexes are not included in the printed copies of the present report but are available on the INCB website.

[1] E/INCB/2018/4.

[2] A compilation of the recommendations relating to international precursor control made by INCB in previous years is available on the Board's website (www.incb.org).

II. Action taken by Governments and the International Narcotics Control Board

A. Scope of control

6. The responsibilities of the Board under article 12 of the 1988 Convention include the assessment of substances for possible inclusion in Table I or Table II, or for rescheduling from one table to another, of the Convention. Furthermore, in accordance with article 12, paragraph 2, of the 1988 Convention, if a party or the Board has any information which, in its opinion, may require the scheduling or rescheduling of a substance in Table I or Table II, it should notify the Secretary-General and furnish him with the information in support of that notification.

Inclusion of three precursors of amphetamine-type stimulants in Table I of the 1988 Convention

7. On 19 March 2019, the Commission on Narcotic Drugs decided, in accordance with the Board's recommendation, to add three precursors of amphetamine-type stimulants to Table I of the 1988 Convention and not to include hydriodic acid in the tables of that Convention. The three substances added to Table I of the 1988 Convention were APAA, 3,4-MDP-2-P methyl glycidic acid, and 3,4-MDP-2-P methyl glycidate, the methyl ester of 3,4-MDP-2-P methyl glycidic acid.

8. As no request to review the decisions of the Commission was submitted to the Economic and Social Council, the scheduling decisions became fully effective on 19 November 2019, 180 days after being communicated by the Secretary-General to the parties. INCB has updated the relevant documentation, including form D and the red list, with information about the three newly scheduled chemicals. The updated documents are available on the website of the Board (www.incb.org).

9. **The Board urges all Governments to introduce the required controls as soon as possible and to inform it accordingly. The Board wishes to remind all Governments that pre-export notifications, as provided for under article 12, subparagraph 10 (a), now apply to any transactions in international trade in the three chemicals.**

Recommendation to include MAPA in Table I of the 1988 Convention

10. Pursuant to its responsibilities under article 12 of the 1988 Convention, INCB also carried out the following activities in 2019:

(a) It submitted a notification to the Secretary-General in May 2019, informing him that it had information at its disposal suggesting the potential need to include MAPA, yet another designer precursor suitable for the illicit manufacture of P-2-P and subsequently amphetamine and methamphetamine, in Table I or Table II of the 1988 Convention;

(b) It concluded its assessment of MAPA in November 2019 and submitted its scheduling recommendation to the Commission on Narcotic Drugs for consideration at its sixty-third session, in March 2020.

11. MAPA is chemically related to APAA and incidents of its use in illicit manufacture have been reported, in particular after the scheduling process for APAA was initiated, in late 2017. Similar to APAA, APAAN and other designer precursors, MAPA does not have any known legitimate use and is therefore not traded widely and regularly, although it is advertised by a number of online suppliers.

12. As with other recently scheduled precursors, MAPA does not currently have a unique Harmonized System (HS) code.[3] Nevertheless, if traded legitimately, the applicable HS group code should be used, otherwise any shipment containing MAPA could be considered misdeclared (HS classifications of non-scheduled chemicals used in the illicit manufacture of drugs are available to competent national authorities on a secure page of the INCB website). INCB works with the World Customs Organization to establish unique HS codes. **Until such time as MAPA is assigned a unique HS code, INCB recommends that Governments adopt, on a voluntary basis, interim, discrete codes based on Harmonized System nomenclature**.

B. Adherence to the 1988 Convention

13. As at 1 November 2019, following the accession of Palau on 14 August 2019, the 1988 Convention had been ratified, acceded to or approved by 190 States and formally confirmed by the European Union (extent of competence: article 12). Details on the status of accession by region are provided in annex I. **The Board urges the remaining States in Africa (Equatorial Guinea, Somalia and South Sudan) and Oceania (Kiribati, Papua New Guinea, Solomon Islands and Tuvalu) that are not yet parties to the Convention to implement the provisions of article 12 and to become parties to the Convention without further delay**.

C. Reporting to the Board pursuant to article 12 of the 1988 Convention

14. Under article 12, paragraph 12, of the 1988 Convention, parties are required to submit annually to INCB information on: *(a)* the amounts seized of substances included in Tables I and II of that Convention and, when known, their origin; *(b)* any substance not included in Table I or Table II that is identified as having been used in the illicit manufacture of narcotic drugs or psychotropic substances; and *(c)* methods of diversion and illicit manufacture. Parties are required to submit the information on the form, known as form D, made available by INCB.[4] The deadline for submission of the 2018 data was 30 June 2019, although INCB continued to encourage earlier submission (by 30 April) to allow sufficient time for any necessary clarification of the information received.

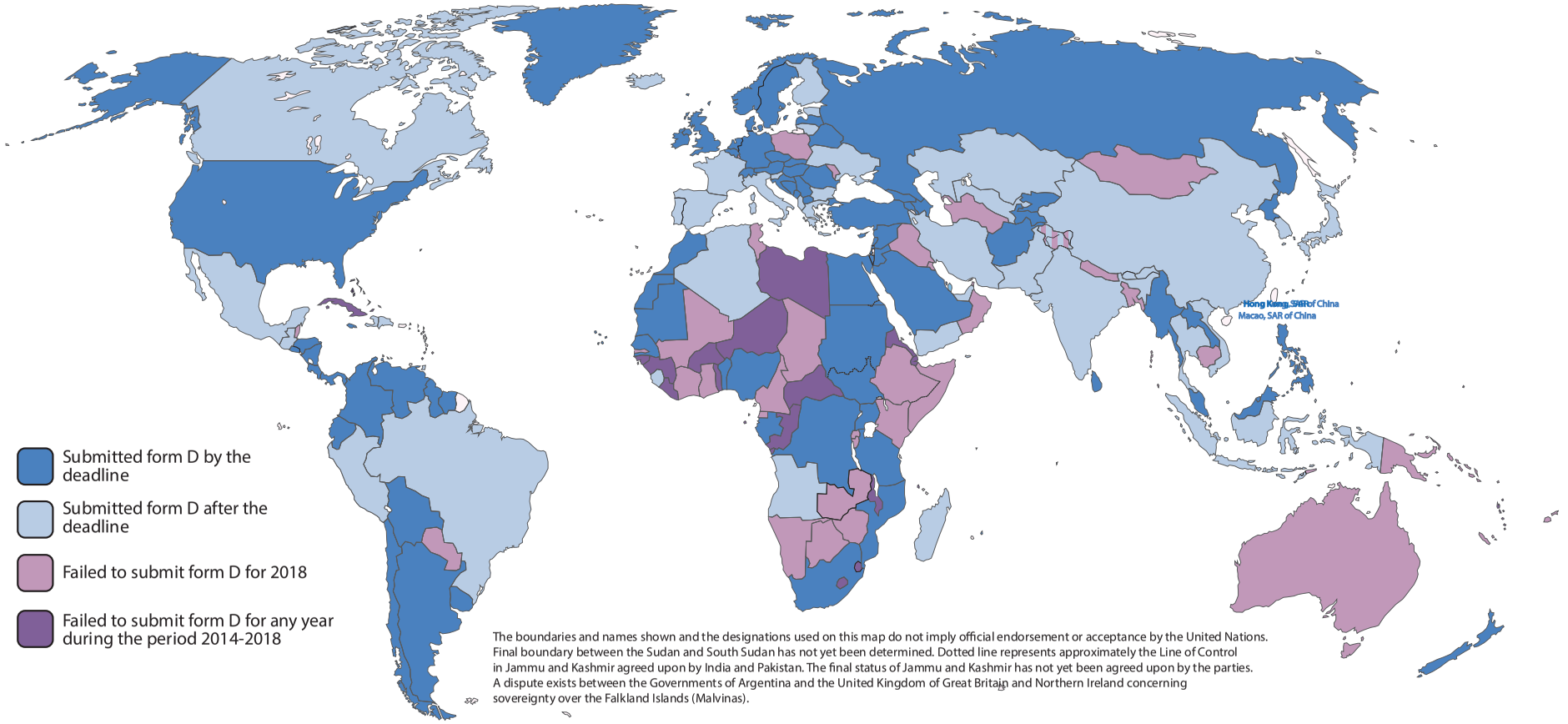
15. As at 1 November 2019, a total of 126 countries and territories had submitted form D for 2018, up from 62 as at 30 June 2019. Both the submission rate as at 30 June and the rate as at the end of the reporting cycle were among the lowest in recent years. Gabon submitted form D for the first time. INCB welcomes the fact that, of the States parties that had failed to submit form D for five years or more, Mauritius, North Macedonia, Sierra Leone, Suriname and Yemen have resumed doing so. Nevertheless, 66 States parties to the 1988 Convention failed to submit form D for 2018. Of those, 32 have not done so for the past five years (see map 1). Viet Nam submitted form D for both the previous reporting cycle (calendar year 2017) and the current reporting cycle. Comprehensive information about the submission of form D by all Governments is included in annex II.

16. In 2019, the Board's analysis of the global precursor situation continued to be affected by the low rate of submission of form D, late submission, the submission of incomplete or entirely blank forms, and the inability of certain Governments to gather information at the national level and consolidate it in a single form. **INCB reiterates its call to Governments to submit form D on time and to make every effort to confirm and provide details of seizures in a timely manner, when so requested by the Board**.

[3] See World Customs Organization, *Harmonized Commodity Description and Coding System*, 6th ed. (Brussels, 2017).

[4] For the 2018 reporting cycle, INCB introduced an Excel form in an effort to streamline and expedite the reporting process and to minimize the potential for data entry errors. The latest version of form D is available on the INCB website in the six official languages of the United Nations.

Map 1. Submissions of form D for 2018 (as at 1 November 2019)



Note: See also annex II.

17. With regard to the seizures of substances listed in Tables I and II of the 1988 Convention that were effected in 2018, 73 Governments reported mandatory information on the amounts seized (for details on the reported seizures by region, see annex III). Information on the origin of seized substances was rarely provided, although such information is critical for identifying emerging trends and initiating backtracking investigations. In addition, only a few of the submitting Governments supplemented their reports with the additional information required on: *(a)* seizures of substances not included in Tables I and II and identified as having been used in illicit drug manufacture; *(b)* methods of diversion and illicit manufacture; and *(c)* stopped shipments. More often, the information provided was presented in the form of aggregated figures and did not provide sufficient details to enable the Board to identify new and emerging trends in illicit drug manufacture and trafficking in precursors. INCB regrets that, as in the past, only 50 Governments (or 40 per cent of the 126 submitting Governments) provided the required information on seizures of substances not listed in Table I or Table II, and only 28 Governments (or 22 per cent) provided information on methods of diversion and illicit manufacture. **INCB commends those Governments that provided the required information and urges all other Governments to make every effort to collect and report complete information as mandated in article 12, paragraph 12, of the Convention. Only through the sharing of such information can emerging trends in trafficking in precursors be determined and the underlying weaknesses in control systems be identified and successfully addressed. That knowledge, in turn, is essential for preventing future diversions worldwide**.

D. Legislation and control measures

18. Establishing and strengthening appropriate national control measures constitutes the basis for effective monitoring of the movement of precursors both in international trade and domestic distribution. Although there is no reporting requirement to the Board in this regard, since 1 November 2018, the following changes in control measures have come to the attention of INCB.

19. Following seizures of chloroephedrine in the Philippines in 2016, in January 2018, the Dangerous Drugs Board of the Philippines amended the regulations concerning ephedrine and pseudoephedrine by including the isomers and salts of isomers of the two substances, as well as their halogenated and alkylated forms, and reclassifying all those forms and any preparations containing them as dangerous drugs. Furthermore, in February 2018, the Dangerous Drugs Board issued Board resolution No. 5, series of 2018, on the drafting of guidelines to enhance the control and monitoring of new psychoactive substances and of chemicals considered as substitutes for substances listed in Tables I and II of the 1988 Convention.

20. In December 2018, the Government of Mexico reduced the thresholds for domestic distribution of and international trade (import and export) in acetic anhydride and potassium permanganate, from 1,000 kg to 1 kg.

21. As part of efforts to ensure that drug policy is based on scientific evidence, the Government of Mexico began implementing a drug profiling programme to help determine trends in illicit drug manufacture and the precursors used. Initial results included the identification of a non-scheduled pre-precursor of fentanyl (see also para. 60) and the finding that the same method of synthesis identified in 2009 was still being used for the illicit manufacture of methamphetamine.

22. In April 2019, Serbia amended its existing legislation on precursors. In the same year, the Government also passed a comprehensive set of bylaws concerning precursor control-related procedures, including on licensing, import and export authorizations, and statements concerning the end user of a traded precursor.

23. Effective 1 May 2019, China introduced the group scheduling of fentanyl-related substances. Unlike similar group definitions for fentanyl-related substances in the legislation of other countries, the Chinese legislation also covers a group of substances that could be used as precursors of fentanyls (i.e., the group of benzylfentanyls).

24. In May 2019, the Government of Canada placed three precursors of fentanyl and fentanyl analogues (ANPP, NPP and benzylfentanyl) under national control. All three precursors were listed under an extended scope of control that also included their derivatives and analogues and the salts of those derivatives and analogues. At the same time, the Government extended the scope of control in a similar manner for several precursors already listed in the relevant schedules of the Controlled Drugs and Substances Act of Canada. This applied to 3,4-MDP-2-P and P-2-P, both of which are precursors of amphetamine-type stimulants, and to norfentanyl.

25. The Government of the Netherlands was in the process of amending the Abuse of Chemical Substances Act. Specifically, this involved the compilation of a list of chemicals that are not included in Regulation (EC) No. 273/2004 of the European Parliament and of the European Council, and European Council Regulation (EC) No. 111/2005, and that can be easily converted into a

drug or drug precursor and for which no legitimate industrial uses are known, with a view to prohibiting the possession or transport of such chemicals without a permit. The bill amending the Abuse of Chemical Substances Act was expected to be sent to parliament at the end of 2019. **The Board welcomes the approaches taken by Canada and the Netherlands as means to proactively address the proliferation of chemicals used in illicit drug manufacture. The Board invites both Governments to carefully monitor the implementation of the measures and to share relevant experiences with it so as to encourage other Governments to consider similar innovative and proactive approaches**.

26. The European Union was in the process of amending its precursor legislation by adding a number of designer precursors to its category 1 list of chemicals. In addition to the chemicals that the Commission on Narcotic Drugs decided to add to Table I of the 1988 Convention, and MAPA, which the Board recommended to be placed under international control in November 2019 (see paras. 7–12), this also included two additional precursors of amphetamine and methamphetamine, namely, P-2-P methyl glycidic acid and its methyl ester. The amended legislation was expected to enter into force in the first half of 2020. **The Board welcomes the scheduling of derivatives of P-2-P methyl glycidic acid in Europe, the region most affected by their illicit use, and will closely examine the impact of this regional scheduling on the extent of use of these chemicals in the manufacture of illicit amphetamine and methamphetamine, with a view to determining whether there is still a need for global action**.

27. In response to encountering new fentanyl preprecursors (see para. 219), the Government of the United States of America initiated a process to nationally control such chemicals, namely 4-AP, including some of its "chemically protected" derivatives, as well as benzylfentanyl and norfentanyl.

28. Effective 26 November 2019, by its Decree No. 593/2019, Argentina improved the administrative controls related to the licit use of precursors and updated the list of chemicals under national control. Butyl alcohol and sodium nitrite, which can be used for the illicit manufacture of alkylnitrite inhalants, were placed under surveillance.

29. The Inter-American Drug Abuse Control Commission amended its model legislation in November 2019 to, inter alia, address non-scheduled chemicals, including designer precursors.

30. Over the last few years, the Government of Colombia conducted a series of technical studies to shed light on the sources of chemicals used in illicit cocaine processing. The results show that the supply of such chemicals is mainly fed by diversion from legitimate domestic industry or by illicit manufacture. The Government has identified a number of priority actions that are to be pursued over the next few years. They include enhancing public-private partnerships, investing in financial intelligence, enhancing national cooperation, in particular between regulatory and customs authorities, and a greater focus on regulating transport, foreign trade activities and the obtaining of natural resources that constitute fundamental chemical inputs, as well as interventions at the level of national movements of controlled substances, so as to prevent chemical precursors from reaching the main illicit manufacturing areas, including by using real-time mapping mechanisms. **The Board welcomes these activities and encourages the Government of Colombia to share relevant findings, lessons learned and successful approaches with the Board and through other existing cooperation mechanisms, such as the Inter-American Drug Abuse Control Commission, so as to support similar action by other countries concerned**.

31. In accordance with resolution 1992/29 of the Economic and Social Council, the Board compiles information on the systems of authorization that Governments apply to the import and export of the substances listed in Tables I and II of the 1988 Convention, as well as on control measures applied to additional chemicals under national control. Competent national authorities can access this information on the Board's secure website. To ensure that the INCB information is up to date at all times, **INCB encourages all Governments to inform it regularly of relevant changes to their national precursor legislation**.

Measures at the international level to address the proliferation of non-scheduled chemicals, including designer precursors

32. In its 2018 report on precursors, the Board drew attention to the need to address the proliferation of non-scheduled chemicals and designer precursors that are chemically closely related with each other and with a controlled chemical. The Board noted that many of these chemicals have no known legitimate use and are often designed specifically to circumvent existing legislation.

33. To advance the discussion and assist Governments in preventing designer precursors from reaching illicit laboratories, in 2019, the Board conducted the activities described below.

Limited international special surveillance list of non-scheduled substances

34. The limited international special surveillance list of non-scheduled substances was updated to include a non-scheduled fentanyl pre-precursor and two non-scheduled precursors of amphetamine-type stimulants, expand on the extended ("generic") definitions that capture derivatives, intermediates and other chemicals closely related to controlled precursors, and provide examples of chemicals already being used in the illicit manufacture of amphetamine-type stimulants, fentanyl and fentanyl-related substances. In addition, the updated list highlights those chemicals which do not have any known legitimate uses. The updated list is included as part of the information package on precursor control available on the Board's secure website. **INCB encourages competent national authorities to make full use of the international special surveillance list and alert relevant sectors of industry to the possible misuse in illicit drug manufacture of chemicals on the list**.

Policy discussion during the sixty-second session of the Commission on Narcotic Drugs

35. In response to the Board's call for a policy discussion on options to address the proliferation of non-scheduled chemicals and designer precursors at the international level, the Commission on Narcotic Drugs, at its sixty-second session, devoted some time to the subject. Following an opening statement by the President of INCB, speakers shared information on domestic approaches and expressed their agreement with the Board's assessment of the situation and the need for a broader discussion. As a result, an item on the topic will be on the agenda for subsequent sessions of the Commission, starting in March 2020.

Circular letter: measures to address the use of non-scheduled chemicals in illicit drug manufacture

36. In March 2019, a circular letter was sent to all Governments to enquire about the different national approaches and regulatory and law enforcement measures that are currently being taken to address the use of non-scheduled chemicals in illicit drug manufacture, including their level of implementation and related challenges, experiences and lessons learned. The Board would like to acknowledge the responses of 62 Governments that provided details on their existing legislative frameworks and the means and extent to which they are able to cooperate and exchange information and intelligence with counterparts abroad, as well as other relevant innovative approaches.

37. It is clear that emerging chemicals that are not under national control pose challenges for Governments. The challenges range from limitations on the extent to which such cases can be investigated and the type of sanctions that can be applied, to difficulties in identifying and establishing voluntary cooperation mechanisms with relevant operating partners and companies. **INCB therefore encourages all Governments to share successful national approaches to addressing the challenges associated with non-scheduled chemicals and designer precursors**.

E. Submission of data on licit trade in, uses of and requirements for precursors

38. In accordance with Economic and Social Council resolution 1995/20, INCB requests Governments to voluntarily provide data on licit trade in, uses of and requirements for substances listed in Tables I and II of the 1988 Convention. Such data greatly enhance the ability of INCB and Governments to understand the underlying patterns of regular trade, identify suspicious activity and prevent diversion.

39. As at 1 November 2019, the Governments of 115 countries and territories had submitted data on the licit movement of substances included in Table I or Table II of the 1988 Convention and 109 Governments had furnished data on the licit uses of and/or requirements for one or more of those substances (see annex IV). The total figures for both data sets are lower than in previous years. **INCB wishes to thank all Governments that furnished data on the licit movement of substances included in Table I or Table II of the 1988 Convention, which provide the Board with a means to identify weaknesses in precursor control and international cooperation to that end**.

40. For example, according to information on licit trade provided on form D for 2018, the Governments of China, Ecuador, Myanmar, Nigeria, the Republic of Korea and the United States – each of which requires pre-export notification for shipments of acetic anhydride – reported having received shipments of acetic anhydride from China, India, the Republic of Korea, Saudi Arabia and/or Thailand.[5] However, those shipments were not pre-notified by means of the PEN Online system by the authorities of the respective exporting countries, making it difficult to monitor the supply chain. In addition, the Board notes that Saudi Arabia has not yet used the PEN Online system

[5] On the basis of information provided by importing countries on form D, INCB is also aware of significant exports of acetic anhydride and ephedrines from Taiwan Province of China.

for any export. **The Board therefore reminds Governments of exporting countries of their obligation under article 12 of the 1988 Convention to provide notification regarding exports of chemicals before such exports depart from their territory. Using the PEN Online system is the most efficient and effective way to provide such notification**.

41. Another example is the monitoring of trade in ephedrine, pseudoephedrine and other controlled precursors in the form of pharmaceutical preparations, as the latter are not under international control and the sending of pre-export notifications for such preparations, although highly recommended,[6] is not mandatory. **The Board commends the 30 Governments, namely, those of Australia, Yemen and the 28 States members of the European Union, that require the sending of pre-export notifications to the authorities of importing countries prior to a proposed export of preparations, as well as the 24 Governments that requested to be notified prior to a shipment to their territory and/or that apply another system of authorization to imports of preparations, as such measures help to maintain a closed loop of monitoring**.

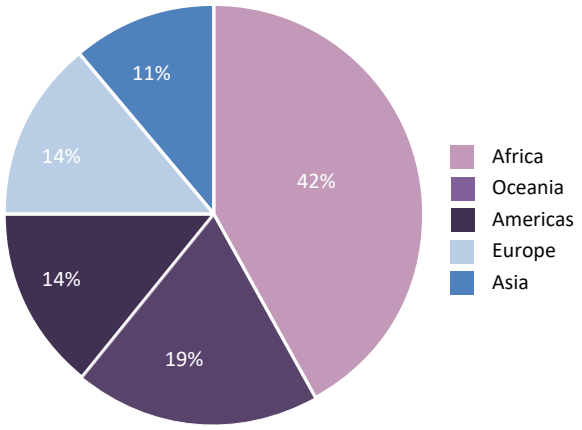
42. Additionally, INCB commends Governments that voluntarily report on trade in ephedrines in any form, as such information serves to ensure a comprehensive picture of global trade and the potential for diversion. **INCB wishes to reiterate its view on the importance of gathering information and hard evidence to prove any diversion and actual use of a particular pharmaceutical product in the illicit manufacture of drugs, so as to provide the authorities of the countries concerned with a factual basis for denying shipments of such products**.

F. Annual legitimate requirements for imports of precursors of amphetamine-type stimulants

43. In the light of widespread illicit manufacture and abuse of amphetamine-type stimulants since the mid-1990s, the Commission on Narcotic Drugs, in its resolution 49/3, requested Member States to provide to INCB estimates of their annual legitimate requirements for precursors of four amphetamine-type stimulants, namely, 3,4-MDP-2-P, pseudoephedrine, ephedrine and P-2-P, and, to the extent possible, estimated requirements for preparations containing those substances. Since then, the Board has compiled those estimates, which are used by INCB and exporting countries to put the size of proposed shipments of these substances into context. Often, estimates of annual legitimate requirements are the very first – and sometimes the only – tangible point of reference to assess the legitimacy of a proposed import. The estimates are presented in annex V to the present report. Regular updates are available on the INCB website.

44. As at 1 November 2019, 169 Governments had provided at least one such estimate. This figure includes the Governments of Sierra Leone, South Sudan and Suriname, which submitted their estimates for the first time. It also includes a number of territories and States that are not yet parties to the 1988 Convention. However, there are still 36 States parties to the Convention that have not yet provided any estimates. Of those, 42 per cent are in Africa; 19 per cent in Oceania; 14 per cent in the Americas; 14 per cent in Europe, and 11 per cent in Asia (see figure I).

Figure I. Percentage of States parties that have not yet provided, pursuant to Commission on Narcotic Drugs resolution 49/3, any estimated annual legitimate requirements for precursors of amphetamine-type stimulants, by region, 2019



45. On form D for 2018, more than 95 Governments reconfirmed or updated their estimated annual legitimate requirements. However, there are still Governments worldwide that have never updated their requirements or have not updated them for several years. Forty-six per cent of those are in Africa. **INCB recommends that Governments review their annual legitimate requirements for individual precursors at least once a year and inform the Board of any necessary changes. Such changes can be communicated to the Board on form D by the deadline or by official correspondence at any time during the year**.

[6] See, for example, resolution 54/8 of the Commission on Narcotic Drugs.

46. INCB continues to be concerned about the number of regions with comparatively high estimated annual legitimate requirements for, and sometimes also comparatively high imports of, ephedrines, yet the Board has not been able to fully determine the end uses of these substances in such large quantities in the countries concerned or, if the shipments are destined for export, in the countries of destination. This applies in particular to countries in Africa (see paras. 87–88) and West Asia. Since the Board's previous report on precursors, significant increases in estimated requirements for ephedrine and/or pseudoephedrine have been reported by Bolivia (Plurinational State of), Bosnia and Herzegovina, Chile, Greece, the Republic of Korea, Saudi Arabia, the Sudan and Uganda. Notable decreases in estimated requirements, typically for pseudoephedrine as a raw material, were reported by Afghanistan; Argentina; France; Hong Kong, China; Israel; the Lao People's Democratic Republic; Romania; and Turkey. INCB is in the process of clarifying relevant significant revisions of estimates with the Governments concerned.

47. Over the last two years, the Board has made the following additional observations in relation to requirements for ephedrine and/or pseudoephedrine:

(a) Several proposed shipments of notable size were destined for countries that had never estimated their needs for the substances;

(b) In some cases, proposed imports exceeded estimated needs; conversely, some Governments had built in substantial safety margins by making estimates of requirements that were far higher than actual imports;

(c) Major increases in estimated annual legitimate requirements have sometimes been justified by the need to meet the demand of a new customer within the country, or even abroad (re-export) (see box 1).

48. INCB reiterates that, although the submission of estimated annual legitimate requirements to the Board is voluntary, knowledge of national needs for precursors, and related import requirements, remain key factors in preventing diversion. Therefore, **INCB reiterates its recommendation that importing Governments regularly assess their annual legitimate requirements for individual precursors to ensure that they always reflect the most recent market conditions. Furthermore, INCB encourages the competent authorities of exporting countries to use the published estimates of importing countries and suspend exports until initial doubts about their legitimacy have been dispelled or actual discrepancies have been resolved**.

49. Information on methodologies to establish estimated annual legitimate requirements is available in the *Guide on Estimating Requirements for Substances under International Control*, developed by INCB and the World Health Organization, as well as in the document entitled "Issues that Governments may consider when determining annual legitimate requirements for ephedrine and pseudoephedrine".[7] **INCB continues to encourage Governments to develop tailored approaches and methodologies and to inform it of those that they have found useful in preparing estimates of their annual legitimate requirements for precursors**.

G. Pre-export notifications and utilization of the Pre-Export Notification Online system

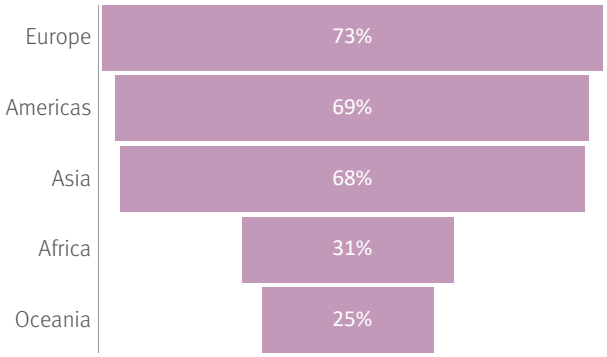
50. One of the most effective measures to identify suspicious transactions and prevent diversions continues to be the real-time exchange of information between Governments of exporting and importing countries and territories about planned individual shipments of precursors. In that regard, the international precursor control system offers countries two complementary tools: invoking article 12, subparagraph 10 (a), of the 1988 Convention, which makes it mandatory for the exporting country to send pre-export notifications, and registering with the Board's PEN Online system to exchange pre-export notifications online and in real time. Upon receiving pre-export notifications, importing countries can verify the legitimacy of individual transactions and identify suspicious shipments.

1. Pre-export notifications

51. As at 1 November 2019, 113 States and territories had formally requested pre-export notifications pursuant to article 12, subparagraph 10 (a), of the 1988 Convention, a number that has remained unchanged since the Board's 2018 report on precursors (see annex VI). By region, the percentage of countries that had invoked article 12, subparagraph 10 (a), were as follows: Europe, 73 per cent; the Americas, 69 per cent; Asia, 68 per cent; Africa, 31 per cent; and Oceania, 25 per cent (see figure II). In some regions, in particular Africa and Oceania, Governments have continued to leave it to the discretion of the authorities of exporting countries and territories to inform them of planned shipments of controlled precursors. **The Board encourages Governments that have not yet done so to invoke their right to be pre-notified of all precursor exports destined for their territory**.

[7] Both documents are available on the INCB website.

Figure II. Percentage of countries that invoked article 12, subparagraph 10 (a), of the 1988 Convention, by region, 2019



2. Pre-Export Notification Online system

52. PEN Online, the Board's automated online system for exchanging pre-export notifications, launched in March 2006, ensures that Governments receive real-time information about all planned shipments of chemicals destined for their territory. The receipt of such pre-export notifications enables importing Governments to verify in a timely manner the legitimacy of individual shipments in international trade in precursors, to identify suspicious transactions and to prevent diversion into illicit channels.

53. Registration for the PEN Online system has continued steadily. As at 1 November 2019, 164 exporting and importing countries and territories had been authorized to access the system. That number includes Angola and North Macedonia, which have been registered since 1 November 2018. **The Board encourages the remaining 33 Governments that have not yet registered as users of the PEN Online system to do so without delay**.[8]

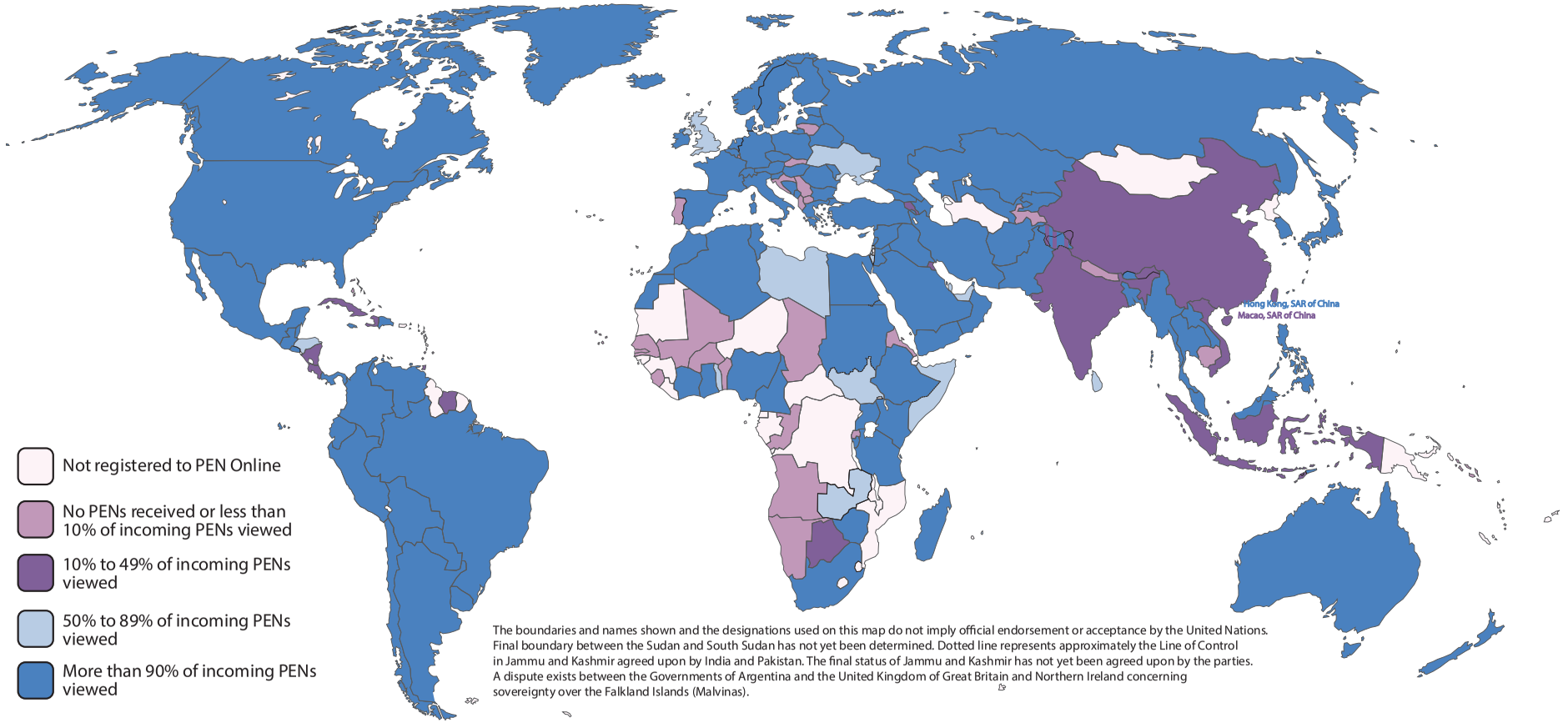
54. Africa and Oceania remain two regions of concern. The low percentage of Governments in those regions that have invoked article 12, subparagraph 10 (a), and that have thus officially requested to receive pre-export notifications, make them prone to traffickers' diversion attempts. Countries, in particular, non-traditional trading countries, where a systematic precursor control mechanism is non-existent or weak, are at a greater risk of being targeted by traffickers. **In this regard, INCB wishes to point out that only an established control mechanism will place Governments in a position to comply with their treaty obligations under the 1988 Convention. The Board furthermore draws the attention of Governments to, and urges them to review, the minimum action for international trade monitoring through the PEN Online system, summarized in its 2015 report on precursors**.[9]

55. Since the cut-off date for the Board's 2018 report on precursors, more than 35,000 pre-export notifications have been submitted through the PEN Online system. Although the Board is generally pleased with the number of registered Governments and the number of those that view and respond to pre-export notifications received through the system, it is still concerned about the remaining number of importing Governments (approximately 30 per cent of the total) that very rarely or never view any notifications, despite having officially requested to be pre-notified (see map 2). Since the previous reporting period, users of the system in Uzbekistan and Yemen have been among those that have utilized the system more actively to view pre-export notifications. By contrast, INCB has noted a decrease in activity by users in, among other countries, India, Indonesia, Nicaragua, Rwanda, Sierra Leone, Suriname and Viet Nam. Therefore, **INCB reiterates its recommendation to importing Governments that are registered as users of the PEN Online system to make active use of the system for all transactions involving precursors and to respond to exporting authorities in a timely manner where necessary**.

[8] Those countries are: Antigua and Barbuda, Central African Republic, Comoros, Democratic People's Republic of Korea, Djibouti, Dominica, Equatorial Guinea, Eswatini, Fiji, Gabon, Guinea, Guinea-Bissau, Guyana, Kiribati, Lesotho, Liberia, Malawi, Mauritania, Monaco, Mongolia, Mozambique, Nauru, Niger, Palau, Papua New Guinea, Saint Kitts and Nevis, Samoa, San Marino, Sao Tome and Principe, Tonga, Turkmenistan, Tuvalu and Vanuatu.

[9] E/INCB/2015/4, box 1.

Map 2. Use of the PEN Online system, by percentage of pre-export notifications viewed, 2019



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Final boundary between the Sudan and South Sudan has not yet been determined. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

56. Less than 6 per cent of proposed exports were objected to during the reporting period, similar to previous years. Although many of those objections were raised for administrative reasons, it was noted that many of the shipments that were objected to had subsequently been permitted to be released by the importing authorities. This might be due to the fact that, in many cases, importing Governments convey their objections too rapidly, before having concluded their process of verifying the legitimacy of the respective shipment. **The Board therefore recommends that competent authorities utilize the online conversation tool available in the PEN Online system to communicate to the trading partner any issues regarding a specific shipment and to only use the "objection" or "non-objection" function to convey the importing authority's final decision, in order to avoid confusion among exporting Governments**.

57. Parties are obliged under article 12, paragraph 9, of the 1988 Convention to notify, as soon as possible, the competent authorities of the Parties concerned if there is reason to believe that the import, export or transit of a substance listed in Table I or Table II is destined for the illicit manufacture of narcotic drugs or psychotropic substances. While the authorities of importing countries and territories may do so by objecting to a proposed import or communicating any issues regarding a specific shipment through the PEN Online communication tool, **the Board also encourages exporting countries to systematically use the PEN Online system to provide notification of shipments even in cases where they have concerns about their legitimacy, and if they do so, to clearly indicate that the shipments will not proceed unless the authorities of the importing country or territory indicate their explicit approval**.

H. Other activities and achievements in international precursor control

1. Project Prism and Project Cohesion

58. Project Prism and Project Cohesion are the two international initiatives led by INCB that bring together operational focal points worldwide to address the diversion of chemicals used in the illicit manufacture of synthetic drugs (Project Prism), and heroin and cocaine (Project Cohesion).

59. In 2019, more than 75 Governments reviewed and updated their nominations of focal points for the two initiatives, bringing the number of countries and territories that have nominated at least one operational focal point to 144 for Project Prism and 112 for Project Cohesion. **To ensure that the contact details of the focal points remain up to date, INCB encourages all Governments to regularly review the focal point lists available on the Board's secure website and inform it of any changes in a timely manner**.

60. Multilateral mechanisms established under Project Prism and Project Cohesion and steered by the INCB Precursors Task Force[10] have brought about identifiable results. Participating Governments have provided and received information on emerging trafficking trends, identified modi operandi and exchanged data on activities related to the diversion of precursors and non-scheduled chemicals. The Board continued to assist those Governments on a regular basis by serving as a focal point for the exchange of such information,[11] including through PICS (see sect. 2 below) and through the dissemination of special alerts, as required. During the reporting period, three special alerts were circulated to all participating Governments informing them about a fentanyl pre-precursor and a precursor of ANPP, about the extension of the ban on issuing import authorizations for pseudoephedrine in the Syrian Arab Republic, and about a suspicious exporting address associated with consignments of new psychoactive substances, fentanyls and precursors.

61. Following a limited survey in 2018 on specialized equipment used in the illicit manufacture of drugs, which provided an overview of the types of equipment most widely encountered, in 2019, a tailored intelligence-gathering activity on the types and sources of tableting and encapsulating machines used for illicit drug manufacture was conducted jointly with Project Ion (which focuses on new psychoactive substances) and the Board's Operational Partnerships to Interdict Opioids' Illicit Distribution and Sales (OPIOIDS) Project. The activity was conducted in connection with the greater focus the Board has started to place on article 13 of the 1988 Convention, to complement its work under article 12, with the aim of disrupting illicit drug manufacture (see also chapter IV). **INCB wishes to thank the Governments that cooperated with it on matters relating to article 13 and encourages Governments to continue to participate actively in activities under Project Prism and Project Cohesion and to provide feedback and timely responses to related enquiries by the Board and other project focal points**.

[10] The current members of the INCB Precursors Task Force are Australia, China, Colombia, France, Germany, India, Mexico, the Netherlands, Nigeria, the Russian Federation, South Africa, Switzerland, Turkey, and the United States, supported by INCB, the International Criminal Police Organization (INTERPOL), the World Customs Organization, the European Commission and the Inter-American Drug Control Commission.

[11] A summary of the minimum action needed for international multilateral cooperation under Project Prism and Project Cohesion is available in the INCB 2015 report on precursors (E/INCB/2015/4), box 2 (p. 9).

62. In 2019, in the framework of Project Cohesion, several operational meetings and informal consultations were held on the subject of trafficking in acetic anhydride and other precursors of heroin. The events brought together case officers from countries in Europe and West Asia that have been affected by recent cases of diversion and trafficking. For example, consultations with the competent national authorities of the United Arab Emirates focused on issues relating to operational case cooperation and information exchange and/or issues of specific interest, such as the review of procedures involved in the physical inspection of shipments and investigations into suspected diversions of and trafficking in precursors in or through free-trade zones. Furthermore, experts from regulatory, law enforcement and judiciary authorities in the Islamic Republic of Iran reviewed recent cases of diversion and trafficking in precursors of heroin, including acetyl chloride, and analysed practical solutions for investigations of suspected diversion attempts involving legitimate online trading platforms.

63. The INCB Precursors Task Force met twice in 2019, in March and in October, to discuss progress and plan future activities.

2. Precursors Incident Communication System

64. PICS continued to facilitate global operational cooperation in precursor-related matters by offering registered users a platform for the real-time exchange of information on seizures and other incidents, such as shipments stopped in transit, suspicious shipments and seizures of clandestine laboratories, involving substances listed in Tables I and II of the 1988 Convention and substances not under international control, as well as drug manufacturing equipment (see also chapter IV).

65. As at 1 November 2019, PICS had more than 500 registered users from 117 countries and territories, representing more than 270 agencies.[12] More than 2,700 incidents had been communicated through PICS since its establishment in 2012, an average of 350 incidents per year. The level of usage of the system demonstrates the interest of PICS users and case officers in identifying and sharing actionable information and intelligence in a timely manner. The Board notes with appreciation the active utilization of PICS and the continued exchange of intelligence with foreign counterparts, including, in particular, by users from countries whose contributions are critical to understanding current patterns of trafficking in acetic anhydride, such as Afghanistan and Iran (Islamic Republic of) (see also chap. III, sect. C).

66. During the reporting period, PICS once again provided an important tool to support cross-border investigations and identify trafficking routes, ways of misdeclaration, modi operandi and new non-scheduled precursor chemicals. INCB continued to act as a moderator and facilitator, establishing direct contact between competent authorities to exchange information on specific incidents and, where sufficient information was available, pointing them to possible links between incidents. The leads that PICS provided to national authorities enabled them to initiate backtracking investigations and, on several occasions, to conduct further seizures or prevent diversion attempts.

3. Voluntary cooperation with industry

67. Public-private partnerships and voluntary cooperation with industry remain key elements of an effective strategy to confront chemical diversion. However, the information INCB had about the level of voluntary partnerships worldwide continued to be incomplete. A survey on national responses to non-scheduled chemicals provided some insight into the voluntary cooperation arrangements in place among relevant authorities and sectors of industry, as well as such arrangements in general, and the Board wishes to thank all Governments who participated in that survey.

68. To advance knowledge of the concept of public-private partnerships, INCB, in cooperation with the Government of the United Republic of Tanzania, held a workshop on the topic for countries in East Africa in October 2019. The workshop, which brought together Government officials and industry representatives from nine countries, was facilitated by experts from France and Nigeria and resulted in a set of recommendations that participating countries committed themselves to implementing.

69. During the reporting period, INCB continued to focus on raising awareness about the need to extend the scope of cooperation with industry, both within the manufacturing industries, by including, for example, companies specialized in customized synthesis, and beyond the manufacturing industries, by including online vendors and platforms. Successes with the latter are described in chapter III, sect. C, box 3.

[12] Governments that have not yet registered PICS focal points for their national authorities involved in precursor control may request an account by writing to incb.pics@un.org.

70. **INCB wishes to reiterate the importance of engaging relevant sectors of industry to ensure the successful and sustainable prevention of chemical diversion. INCB also wishes to reiterate that, although determining the nature and extent of such cooperation is the prerogative of individual countries, it is important that competent national authorities share information about suspicious requests, orders and transactions with INCB in order to prevent "company shopping", i.e., the shifting from one supplier to another, across borders.**

4. Tracking of precursor chemicals to prevent their diversion

71. In response to Commission on Narcotic Drugs resolution 62/1, entitled "Strengthening international cooperation and comprehensive regulatory and institutional frameworks for the control of precursors used in the illicit manufacture of narcotic drugs and psychotropic substances", INCB, in cooperation with the Government of Turkey, convened an expert working group to explore the possibility, practicability and effectiveness of innovative methods to track precursor chemicals, in particular acetic anhydride, to prevent their diversion.

72. The working group, which was to be attended by experts and representatives of private entities, was to prepare a report for submission to the Commission on Narcotic Drugs in March 2020. In addition to focusing on tracking in general, the expert working group was to analyse the pros and cons of tagging.

III. Extent of licit trade and latest trends in trafficking in precursors

73. The present chapter is based primarily on data provided by Governments on form D. Other sources of information include the PEN Online system, Project Prism, Project Cohesion, PICS, and national reports and other official information from Governments. The analysis covers the period up to 1 November 2019. **INCB would like to remind Governments that comprehensive and timely information on seizures of substances and on shipments of substances that have been stopped on the basis of sufficient evidence that the substances may have been diverted into illicit channels, is essential to addressing emerging trafficking trends at an early stage and globally. INCB also wishes to remind Governments that thwarted attempts to divert a given substance should receive the same investigative attention that would be afforded to a seizure of the same substance, since such cases provide valuable intelligence that, if shared internationally, could prevent attempts to divert the substances from other sources.**

A. Substances used in the illicit manufacture of amphetamine-type stimulants

1. Substances used in the illicit manufacture of amphetamines

(a) Ephedrine and pseudoephedrine

74. Ephedrine and pseudoephedrine are used in the illicit manufacture of methamphetamine. They are also both used legitimately for medical purposes and are therefore among the most frequently and widely traded substances included in Table I of the 1988 Convention, in the form of both raw material and pharmaceutical preparations. P-2-P, phenylacetic acid, APAAN and a number of non-scheduled substances (see also subsects. (c) and (d) below, and annex VIII) may be used as substitutes for ephedrine and pseudoephedrine in the illicit manufacture of methamphetamine.

Licit trade

75. Between 1 November 2018 and 1 November 2019, Governments sent more than 5,100 pre-export notifications for planned shipments of ephedrine and pseudoephedrine through the PEN Online system. The shipments consisted of approximately 1,500 tons of pseudoephedrine and 120 tons of ephedrine. The shipments originated in 39 exporting countries and territories and were destined for 178 importing countries and territories. The table below presents the 10 largest importers and exporters of ephedrines, ranked in terms of volume notified through the PEN Online system, in the period 2016–2018.

Table. The 10 largest importers and exporters of ephedrines, by volume, 2016–2018

Ranking	*Importers*	*Exporters*
1	United States	India
2	Switzerland	Germany
3	Republic of Korea	Switzerland
4	Egypt	China
5	France	Singapore
6	Turkey	France
7	Pakistan	United States
8	Singapore	United Kingdom
9	Indonesia	Jordan
10	Jordan	Belgium

76. Re-exports constitute a significant proportion of legitimate trade in ephedrines and there are a number of countries that are major traders in the substances. This makes licit trade monitoring more complex and requires that the authorities of both exporting and importing country take full responsibility for making sure that each transaction is legitimate and meets the uses and needs of the importing country.

77. An important tool to help put licit trade into context are the estimated annual legitimate requirements for ephedrines, which INCB compiles and makes available on its website, pursuant to Commission on Narcotic Drugs resolution 49/3 (see also chap. II, sect. F and annex V). Major increases in annual legitimate requirements and/or in actual imports are important signals for intervention by the authorities of exporting countries and the Board.

78. Over the past several years, following bans on the issuance of import authorizations for pseudoephedrine in the Syrian Arab Republic,[13] imports of the substance by several countries in Central and West Asia have increased significantly. These include Iraq (Kurdistan region), Kyrgyzstan and the United Arab Emirates.

79. In the past, the Board has alerted the Government of Jordan to the unprecedented pattern of imports of pseudoephedrine and subsequent exports of preparations containing that substance to the Kurdistan region of Iraq. Although proposed exports of those preparations from Jordan declined significantly in the first 10 months of 2019 (see figure III), the Board is concerned that companies in other countries may now be targeted by traffickers as potential sources of those substances. For example, at the time of writing, INCB was in the process of following up on a single proposed shipment of more than 36 million tablets containing pseudoephedrine (2 tons) from the United Arab Emirates to the Kurdistan region of Iraq. As in the past, the competent authority of Iraq objected to all proposed exports destined for the Kurdistan region of the country that were notified through the PEN Online system.

Figure III. Preparations containing pseudoephedrine notified through the PEN Online system for export to Iraq, 2015–2019

[a]No data available for Jordan.
[b]Data only cover the first 10 months of 2019.

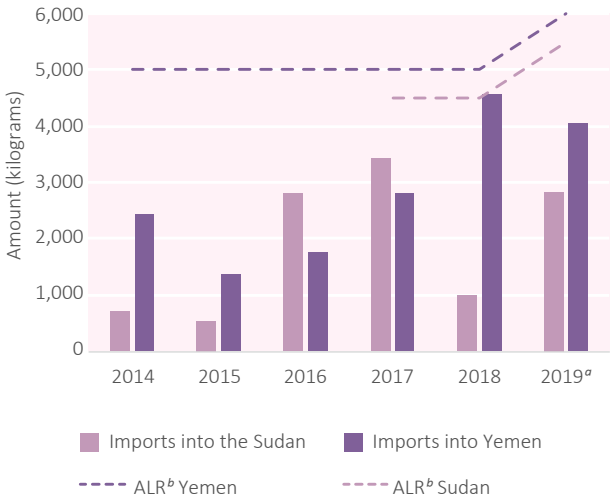
80. Other countries for which INCB has noted increases in proposed shipments of pseudoephedrine notified through the PEN Online system include the Sudan and Yemen (see figure IV). **INCB encourages the authorities of exporting countries to be vigilant about pseudoephedrine shipments to those countries, within the limits of their responsibility, and to ensure that the pseudoephedrine supply remains adequate while preventing its diversion into illicit channels.** In 2019, the estimated annual legitimate requirements for imports of pseudoephedrine (both raw material and in the form of pharmaceutical preparations combined) amounted to 5.5 tons for the Sudan and 6 tons for Yemen.

[13]In 2019, the Government of the Syrian Arab Republic again extended the moratorium on the approval of pseudoephedrine imports, until the end of 2019. As in the past, INCB has disseminated information about the moratorium to competent national authorities worldwide.

Box 1. Risk factors for diversion

INCB has previously expressed concern about the risk that traffickers might exploit the lack of effective government control of certain territories in order to divert precursors. However, conflict and limited government control are not the only risk factors for diversion. At the national level, competing incentives and interests between different national authorities, excessive levels of bureaucracy and inadequate capacity to enforce existing legislation also present significant risks to effective precursor control. In addition, a major loophole in monitoring international trade in ephedrines remains the lack of systematic control of pharmaceutical preparations containing those substances. The Board has observed that competent national authorities, in the absence of clear national regulations, sometimes face difficulties objecting to exports even when those exports are suspicious. The Board has also observed several instances of imports of raw materials for the manufacture of pharmaceutical preparations that were subsequently exported without the necessary scrutiny, often to countries with limited regulatory oversight. In some cases, the countries importing the raw material for processing into preparations increased their estimated requirements for the sole purpose of meeting the demand of an alleged new export market. **INCB once again urges all Governments to make every effort to address loopholes of this kind in international precursor control efforts.**

Figure IV. Imports of pseudoephedrine into the Sudan and Yemen notified by exporting countries through the PEN Online system, 2014–2019



[a] Data only cover the first 10 months of 2019.
[b] ALR = Estimated annual legitimate requirements.

Trafficking

81. The use of ephedrines in the illicit manufacture of methamphetamine is predominant in Asia and Oceania, Africa and some regions in Europe. In North America, the bulk of illicitly manufactured methamphetamine is made using P-2-P-based methods.

82. Seizure reports for 2018 continued to substantiate the global spread of illicit methamphetamine manufacture. In 2018, seizures of almost 40 tons of ephedrine and pseudoephedrine were reported to INCB by 35 countries and territories in all regions. Nevertheless, reported seizures of precursors continued to fall short of explaining the amount of end products seized.

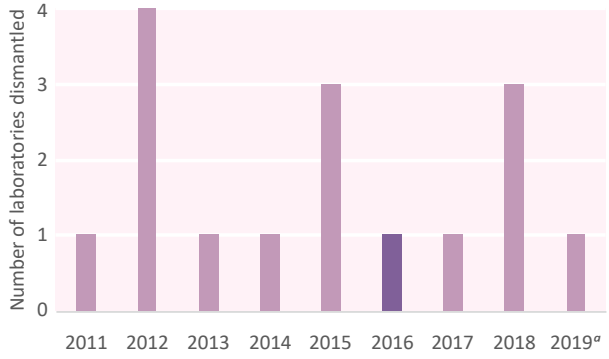
Africa

83. On form D for 2018, four Governments in Africa reported seizures of ephedrine or pseudoephedrine, of which two were in West Africa. Specifically, these were Nigeria, which reported 16 seizures of ephedrine, totalling almost 330 kg, and Benin, where a negligible amount of pseudoephedrine preparations was seized. However, from other sources, the Board is aware of seizures of ephedrine in Ghana in 2018, as well as the suspected diversion of ephedrine from Ghanaian companies and its smuggling into Nigeria, a development that is believed to have started in 2017.

84. Illicit methamphetamine manufacture has been encountered in the West African subregion since 2011, when the first operational laboratories were dismantled in Nigeria. Since then, a total of 16 illicit methamphetamine laboratories have been uncovered in different parts of Nigeria (see figure V). With the exception of one laboratory dismantled in 2016 in which P-2-P was manufactured from non-scheduled, off-the-shelf chemicals by means of the so-called nitrostyrene method,[14] illicit manufacture in all other laboratories has employed ephedrine-based methods.

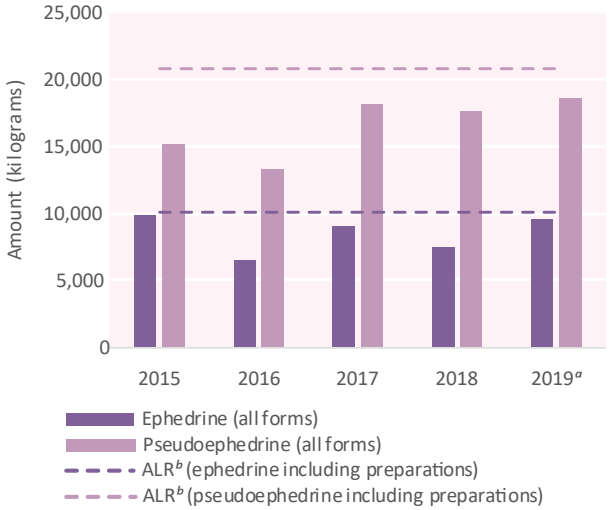
[14] E/INCB/2016/4, para. 67.

Figure V. Methamphetamine laboratories dismantled in Nigeria, 2011–2019



[a]Data only cover the first 10 months of 2019.

Figure VI. Proposed imports of ephedrines into Nigeria and corresponding estimated annual legitimate requirements, 2015–2019



[a]Data only cover the first 10 months of 2019.
[b]Estimated annual legitimate requirements.

85. The modi operandi for obtaining ephedrine for illicit purposes mostly involved diversion after importation, i.e., within the countries concerned in West Africa. As the Board has previously noted, under increased scrutiny related to imports of ephedrine into Nigeria, traffickers appear to have exploited neighbouring countries to divert the substance from domestic distribution channels after it was cleared for importation, subsequently smuggling it into Nigeria.[15]

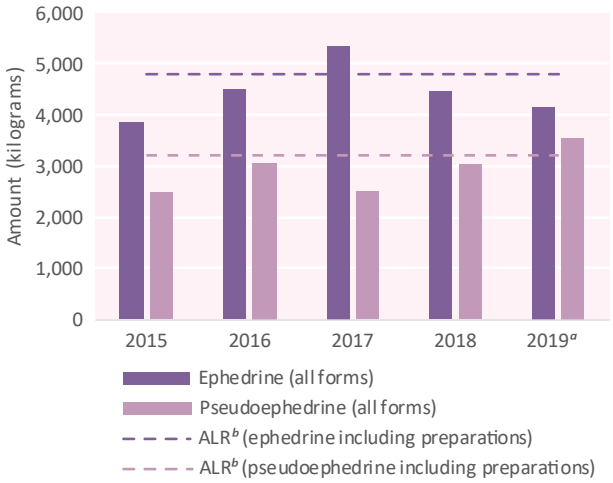
86. In 2019, the follow-up on a controlled delivery and seizure of 100 kg of ephedrine smuggled from Ghana, via Togo and Benin, led to the latest discovery of an illicit methamphetamine laboratory in Nigeria, in March 2019. The chemicals and equipment recovered from the illicit lab had been procured on the licit market.

87. An analysis of data from the PEN Online system for the past five years shows that the volume of proposed imports of both ephedrine and pseudoephedrine into Nigeria was already higher in the first ten months of 2019 than in the previous entire years (see figure VI). INCB is aware that the Government of Nigeria, with assistance from UNODC, is in the process of assessing the country's needs for certain medications, including ephedrines. However, to date, the annual legitimate requirements for ephedrine and pseudoephedrine have not been revised.

88. The Board also notes that Nigeria, with an annual legitimate requirement for ephedrines of almost 31 tons, ranked among the 20 countries with the highest annual legitimate requirements for those substances (the combined annual legitimate requirements for raw materials and preparations). Ghana, with an annual legitimate requirement of 8 tons, ranked 32nd, and both countries' annual legitimate requirements were well above the global median of 1.1 tons (see annex V for annual legitimate requirements globally). Countries in Africa with estimated annual legitimate requirements equal to or greater than the median also included, in descending order, Egypt, Algeria, South Africa, Uganda, Kenya, the Sudan, the United Republic of Tanzania, Tunisia, Morocco, South Sudan, the Democratic Republic of the Congo and Ethiopia. Mali is the only country in Africa that has prohibited the import of ephedrines, a measure implemented by Mexico, and by many countries in Central America, after that region was targeted by traffickers for large-scale diversions of ephedrines (see also para. 97)

[15]E/INCB/2018/4, para. 94.

Figure VII. Proposed imports of ephedrines into Ghana and corresponding estimated annual legitimate requirements, 2015–2019



[a]Data only cover the first 10 months of 2019.
[b]Estimated annual legitimate requirements.

89. Against this background, and considering that the most recent diversions in countries of West Africa occurred after imports had been cleared by the importing countries' authorities, i.e., within the importing country, **the Board recommends increased scrutiny of the specific end uses of and actual needs for ephedrines, whether as raw material or in the form of pharmaceutical preparations, for final consumption, export or re-export**.

90. Moreover, in 2018, an incident of domestic diversion was reported in the United Republic of Tanzania. It involved 8 kg of pseudoephedrine that was diverted from the manufacture of cough syrup. A total of 10,000 litres of syrup containing less of the active ingredient were also seized. Investigations are ongoing.

91. Nigeria continued to be a source for ephedrine smuggled abroad, mostly to Mozambique and South Africa, although Cameroon and the United Republic of Tanzania were also destination countries.

92. Mozambique reported seizures of 62 kg of ephedrine, smuggled from India. The Board is also aware of ephedrine smuggling using falsified labels from a manufacturer in India. Such incidents were encountered in Egypt, the Syrian Arab Republic and Turkey. Although the falsification of the labels was proved, the source or sources of the smuggled ephedrine were still unknown at the time of writing.

93. South Africa remained a destination for small-scale ephedrine shipments (up to 15 kg in an individual consignment). Smuggling was reported to have occurred by air, using couriers or postal services, from a number of countries, including Ethiopia, Germany, India, Nigeria and the United Republic of Tanzania; the United Arab Emirates is mentioned as transit country for smuggling from India.

94. Incidents of smuggling of ephedrines involving countries in Africa and amounts of up to 200 kg also continued in 2019.

South America and Central America and the Caribbean

95. In 2018, two countries in South America reported seizures of ephedrine or pseudoephedrine. No seizures of ephedrines were reported in 2018 by any country in Central America and the Caribbean.

96. Argentina reported a seizure of 160 kg of ephedrine. The amount was seized in a single incident and is related to diversions in 2006 and 2007. INCB is aware of a similar incident in Argentina in 2016, when 250 kg of ephedrine were seized.[16] That amount was imported in 2011 but never collected by the importer. Both incidents appear to be linked with large-scale precursor diversions in Argentina that were already the subject of investigations some 10–12 years ago.[17] Argentina had subsequently scrutinized the verification of importing companies and the legitimacy of the end use of the substance, and as a result, subsequently reorganized its control system.

97. Also approximately 10–12 years ago, in addition to Argentina, several other countries in Central and South America were targeted by organized criminal groups for the purposes of acquiring ephedrines and subsequently smuggling them from the domestic markets of those countries into North America. The smuggling was revealed during the INCB-led Operation Ice Block and involved Guatemala, Honduras and Nicaragua. In response to the diversions, and following the ban by Mexico on imports of ephedrines in 2009, several countries in Central America strengthened their laws related to ephedrine and pseudoephedrine. According to open source information, in August 2019, related to those past diversion incidents, a New York federal court sentenced a former Honduran drug trafficker to life in prison for distributing, among other substances, 20 tons of ephedrine.

[16]E/INCB/2017/4, para. 100.
[17]E/INCB/2008/4, para. 49.

North America

98. In 2018, the situation in North America remained unchanged compared with previous years, with only small amounts of ephedrines and their preparations having been seized. The United States reported seizures totalling 1.5 kg of ephedrine and 28 kg of pseudoephedrine, partly in the form of single dosage units. These key precursors, as well as essential chemicals such as hydriodic acid, iodine, red phosphorous and lithium metal, are often diverted from legitimate markets to feed the more than 1,500 user-based clandestine methamphetamine laboratories in the country. A continuing trend has been the smuggling of methamphetamine in liquid form into the United States, which is subsequently recovered (crystallized) using a common solvent, such as acetone.

99. In May 2019, Canada seized a record amount of 700 kg of ephedrine tablets in a multi-drug seizure. Investigations are ongoing.

East and South-East Asia

100. The illicit manufacture of methamphetamine in East and South-East Asia has traditionally been ephedrines-based, but with subregional specificities. Although a method known as the Emde method, which uses thionyl chloride, and chloroephedrines as chemical intermediates, has been predominant in South-East Asia, traffickers in East Asia more typically rely on a method known as the Nagai method, which requires red phosphorous and iodine or any of their substitutes (see also paras. 150–151). More recently, experts and some limited forensic studies have identified the use of P-2-P-based methods in the illicit manufacture of methamphetamine. Nevertheless, and despite a significantly increased focus on enhancing precursor control in recent years, in particular in South-East Asia, details about the precursors identified in the region remain scarce or have not been reported to INCB, limiting the ability of the Board and of countries that are claimed to be the origin of chemicals to address any existing weaknesses.

101. In 2018, six countries and territories in East and South-East Asia reported seizures of ephedrines. Following two consecutive years of reporting seizures of between 1 and 4 tons of preparations containing pseudoephedrine, Thailand did not provide any seizure data for substances listed in Tables I and II of the 1988 Convention in 2018.

102. China seized almost 20 tons of ephedrine raw material and 6 tons of preparations, in addition to 908 kg of pseudoephedrine. Unfortunately, no further information was provided. However, the Board assumes that, as in previous years, the bulk of the ephedrine was illicitly manufactured (see para. 149). The authorities of China also noted a shift in illicit drug manufacturing activities to other places with weaker controls both within China and abroad. Within China, 268 clandestine laboratories were dismantled in 2018, approximately 15 per cent fewer than in 2017. This was due in particular to a major decline in Guangdong province, one of the provinces most heavily affected by illicit manufacture in the past.

103. The second largest seizures of ephedrines reported by a country in East and South-East Asia in 2018 were reported by the Philippines. They totalled more than 11 tons of ephedrine, the largest amount ever reported by that country. No further details were provided; the origin was unknown.

104. Seizures of ephedrine in Malaysia amounted to nearly 200 kg. The substance was seized in illicit methamphetamine laboratories and was suspected to have been diverted domestically. Myanmar reported seizures of almost 140 kg of ephedrine preparations, suspected to have originated in China, and 7.6 kg of pseudoephedrine preparations, from India. The amounts fell short of the suspected manufacturing capacity of methamphetamine laboratories dismantled in Myanmar in 2018.

105. Hong Kong, China, reported the seizure of approximately 11 kg of ephedrine in two outbound ephedrine consignments pending export to the United Kingdom of Great Britain and Northern Ireland. Both cases occurred in 2017 but were only confirmed in 2018 and involved the trans-shipment of misdeclared express mail packages, a modus operandi also encountered in New Zealand.

106. The Board now understands from forensic impurity profiling studies in China of seized methamphetamine smuggled from the Golden Triangle in the second half of 2018 that the proportion of methamphetamine that was manufactured using P-2-P-based methods increased to approximately 20 to 30 per cent (from an estimated 10 per cent previously). Profiling data further suggest that benzyl cyanide (also known as phenylacetonitrile), a chemical not included in Table I or Table II of the 1988 Convention but included in the limited international special surveillance list, might be used as starting material to synthesize P-2-P (see also para. 146). According to the profiling results, the remaining 70 to 80 per cent of methamphetamine is manufactured from ephedrine using the Emde method. Most of the ephedrine is synthesized illicitly from 2-bromopropiophenone or its precursors and pre-precursors (see para. 149).

107. Given the continued scarcity of information from, and the Board's difficulties communicating with several countries in, East and South-East Asia, **INCB once again**

urges the Governments in the region to cooperate with each other and with the Board with a view to identifying the types of precursors, their points of diversion and the modi operandi used by traffickers, as well as to addressing their diversion, investigating precursor-related incidents and allowing criminal activities to be prosecuted. INCB also once again calls on the United Nations Office on Drugs and Crime to support countries in the region in fulfilling their obligations under the 1988 Convention and in preventing and investigating precursor-related cases, including by enhancing the capacity for the field detection and identification of emerging precursors.

West Asia

108. In 2018, two countries in West Asia, Afghanistan and Georgia, reported seizures of ephedrines. Overall, the amounts seized, and the information provided to INCB remained insufficient for a meaningful assessment of the situation with regard to methamphetamine precursors in West Asia. At the same time, the estimated annual legitimate requirements for ephedrines in several countries in the subregion remained comparatively high. Pakistan, the Syrian Arab Republic, Jordan, Saudi Arabia, Turkey and Iraq, in that order, ranked among the 20 countries with the highest annual legitimate requirements for ephedrines (combined annual legitimate requirements for raw materials and preparations containing ephedrines); Pakistan ranked among the 10 countries with the highest such requirements.

109. A development of concern is the rise in illicit methamphetamine manufacture in Afghanistan, to which the Board has drawn attention since 2015.[18] Initially, ephedrines from pharmaceutical preparations, including in the form of syrup, were believed to have fuelled illicit manufacture. In 2018, INCB became aware of seizures of the *Ephedra* plant, which grows wild in the mountains of Afghanistan. Although it is a new development of concern in Afghanistan, the use of wild grown ephedra in illicit methamphetamine manufacture is not a new phenomenon and has been observed in the past, for example, in countries in Central Asia. Given the conducive growing conditions in the mountainous areas of Afghanistan, it is becoming increasingly important to understand the extent of the availability of ephedra in the country, how it reaches illicit methamphetamine laboratories, and which other key chemicals and equipment are used, and their sources, so as to quickly develop strategies to disrupt at an early stage the supply from what appears to be a new, growing illicit drug industry in Afghanistan.

110. Afghan authorities did not report any ephedra seizures on form D for 2018. Seizures of pseudoephedrine were comparatively small (50 kg), with an alleged origin in the Islamic Republic of Iran.

South Asia

111. Seizures of ephedrines in India in 2018 totalled more than 330 kg. Through PICS, INCB is aware of the amounts seized in individual seizures, which ranged from 20 grams to more than 120 kg, and from 1,000 to 1.12 million tablets, but which were typically small (less than 15 kg). The seized substance typically originated in India and was destined for countries in Africa (Ethiopia, Malawi, Nigeria, South Africa, United Republic of Tanzania, Zambia and Zimbabwe), East and South-East Asia (Malaysia) and West Asia (Oman and Saudi Arabia). One seizure of 123 kg originated in Myanmar. Seizures communicated through PICS in 2019 followed the same pattern with regard to the amounts seized and the destination countries, with the exception of Australia and the Congo, which were new destination countries in 2019. Follow-up investigations into interception of 25 kg of pseudoephedrine at an airport resulted in the seizure of more than 1.8 tons of the substance and of an illicit laboratory.

Europe

112. In 2018, 18 countries in Europe reported seizures of ephedrines, totalling approximately 180 kg of ephedrine and 270 kg of pseudoephedrine. This represented a significant increase from 2017, although from low levels. Between 60 and 70 per cent of the amounts seized was in the form of preparations. The increase may be due to two developments: *(a)* the use of European countries as transshipment points to disguise the origin of ephedrines from Asia destined for Africa and Oceania; and *(b)* an increase in illicit methamphetamine manufacture in Europe. Although such manufacture in the past was largely confined to small-scale, user-based laboratories in Czechia and countries bordering Czechia, there are now concerns among authorities about the growing indications of organized criminal groups' interest in illicit methamphetamine manufacture in Europe more widely.

113. In recent years, the authorities of Czechia have observed an increase in large, industrial-scale laboratories, typically run by organized criminal groups, to meet demand abroad. In addition, in 2018, there was at least one laboratory that focused purely on extracting pseudoephedrine from tablets. The authorities of Czechia also noted a shift of larger-scale laboratories to other countries, namely to Poland, Germany or the Netherlands, as well as a trend towards each facility being used for one or two cycles only.

[18] E/INCB/2015/4, para. 73.

Access to chemicals, the avoidance of detection and differing levels of punishment are suspected driving factors for this development.

114. Polish authorities have confirmed this development, having observed a significant increase in dismantled methamphetamine manufacturing sites in recent years. Whereas before 2015, a maximum of three methamphetamine laboratories had been dismantled in Poland annually, five such laboratories were dismantled in 2016, nine in 2017 and seven in 2018.

115. In 2019, authorities in Belgium dismantled a fully equipped methamphetamine laboratory that contained notable amounts of chemicals, and authorities in the Netherlands dismantled a "floating" methamphetamine laboratory on board a large cargo ship, from which more than 300 litres of methamphetamine oil and drug-manufacturing equipment were also seized.

116. In terms of precursors, in 2018, nearly 60 kg of pseudoephedrine preparations, twice the amount reported in 2017, were seized in Czechia. Individual seizures involved small amounts, i.e., there were nearly 100 seizures, of which 76 (in the amount of 55 kg) involved Poland as a country of origin. Countries in South-Eastern Europe were also mentioned.

117. Authorities in Hungary seized almost 125 kg of preparations containing ephedrine, in individual amounts ranging from less than 100 grams to more than 60 kg. According to the authorities of Hungary, the modus operandi of the trafficking often involved citizens of Czechia who were paid to purchase and/or smuggle the tablets. The majority of incidents occurred at the border between Serbia and Hungary. Some of the preparations were purchased in Bulgaria and the consignments were often destined for Czechia. Some incidents involved tablets without imprints that may have been illicitly compressed solely for the purposes of smuggling and evading controls. The authorities of Hungary also reported the dismantling of one illicit methamphetamine laboratory.

118. Seizures of ephedrine in Ireland (10 kg) and the United Kingdom (12 kg) appear to have been trans-shipments destined for Australia or New Zealand. **To help determine whether there are any weaknesses in the control system for ephedrine, or whether the seized ephedrine was illicitly manufactured (requiring a different approach), the Board encourages the countries where seizures of ephedrine are made to subject the seized substance to forensic profiling analysis**.

119. On form D for 2018, Ukraine reported a number of small seizures of pseudoephedrine preparations, totalling just 3.5 kg, with the substance originating in a range of countries, including Israel (10 seizures), Turkey (5 seizures), Egypt, the Syrian Arab Republic and a number of countries in Europe. In addition, the authorities of Ukraine noted a steady flow of preparations containing pseudoephedrine in individual amounts of 5,000 to 35,000 60-mg tablets from or through European countries during 2018.

120. Through PICS, INCB is also aware of a number of incidents that occurred between October and December 2018 and in May 2019 involving the smuggling of pseudoephedrine from Egypt to Ukraine via Germany. The incidents involved pseudoephedrine raw material in individual amounts ranging from 3 kg to almost 10 kg. It is the Board's understanding that investigations are ongoing. Similarly, in 2018 and 2019, Germany intercepted a number of ephedrine shipments in transit from India to countries in Africa (Malawi, South Africa and Zambia), and from Liberia and Nigeria to Australia and New Zealand.

Oceania

121. In 2018, the situation regarding ephedrines in Oceania remained unchanged, with limited information about seizures and diversions of those substances, and their sources. Over the last several years, ephedrine has almost entirely replaced pseudoephedrine as the main methamphetamine precursor seized in Australia and New Zealand. This trend is likely linked with the emergence of illicitly manufactured ephedrine in China, which has made the diversion of pseudoephedrine and preparations containing pseudoephedrine less lucrative.

122. According to the Australian Criminal Intelligence Commission, the number of detections of methamphetamine precursors at the Australian border decreased by nearly 40 per cent, while the weight of intercepted shipments increased by more than 200 per cent, indicating fewer but larger interceptions.[19] This trend continued in 2019, when Australian authorities seized 1.3 tons of ephedrine from a container in Melbourne harbour, following a tip-off from the National Narcotics Control Commission of China. The container was labelled as containing ceramic tiles and glue. It is likely that the ephedrine was of illicit origin, an important aspect of the case that the Board is still verifying with the authorities concerned.

[19] Australian Criminal Intelligence Commission, *Illicit Drug Data Report 2017–2018* (Canberra, July 2019).

123. In the period 2017–2018, the majority of methamphetamine precursors detected were encountered in the international mail stream (53 per cent); by weight, sea cargo accounted for the greatest proportion of border detections (85 per cent). In terms of total weight of seized precursors, Thailand was the main embarkation point. Increases in precursor seizures indicate that the domestic manufacture of methamphetamine, as well as the importation of methamphetamine as a final product, may be on the rise. Specifically, authorities believe that large-scale clandestine laboratories may exist throughout Australia.

124. On form D for 2018, New Zealand reported seizures of 412 kg of ephedrine. This was a significant decrease from 2017, when 723 kg was seized, and represented a continued downward trend since 2016. It is unclear what has prompted this decline; however, the authorities of New Zealand suspect that it might be more cost-effective for traffickers to import methamphetamine as a finished product, rather than precursors, for use in domestic illicit manufacture. From 1 January 2019 until mid-2019, police and customs officials had seized more than 150 kg of ephedrines.

125. Since most chemicals are imported into New Zealand in bulk then repacked within the country in unmarked containers, the identification of the actual source country is often not possible. This applied to the majority of incidents, totalling 285 kg, in 2018; 9 per cent, respectively, could be traced to China, including Hong Kong, China (approximately 55 kg), and to the United Kingdom (approximately 45 kg). The routing through the United Kingdom indicates the utilization of that country as a trans-shipment point in an attempt to disguise the actual origin of the ephedrine and avoid detection through the use of established risk profiles (see also para. 118).

126. In early 2019, France communicated through PICS the dismantling of two small-scale clandestine methamphetamine operations in its overseas territory French Polynesia. Approximately 2,000 tablets of pseudoephedrine, and chemicals indicative of the manufacturing method known as the Birch method, in which anhydrous ammonia and lithium metal are used to produce methamphetamine, were seized.

(b) Norephedrine and ephedra

Licit trade

127. Between 1 November 2018 and 1 November 2019, 12 exporting countries notified through the PEN Online system a total of 210 exports of norephedrine, a substance that can be used in the illicit manufacture of amphetamine. These exports were destined for 35 importing countries and territories and amounted to more than 27 tons of raw material and more than 10 tons of pharmaceutical preparations. Compared with the previous reporting period, imports of norephedrine (in all forms) into countries in East and South-East Asia increased by nearly 50 per cent. As in the past, small-scale trade in ephedra was only reported by Germany.

Trafficking

128. On form D for 2018, the United States was the only country to report a seizure of norephedrine, albeit in an insignificant amount (7 kg). No seizure of ephedra was formally communicated to INCB. However, in the light of the anecdotal information from Afghanistan (see para. 109), **the Board wishes to remind Governments to remain alert with regard to ephedra and other natural sources of ephedrine, and to consider adopting adequate measures to reduce the risk of their use in illicit drug manufacture**.

(c) 1-Phenyl-2-propanone, phenylacetic acid and *alpha*-phenylacetoacetonitrile

129. Phenylacetic acid, P-2-P and APAAN are precursors of amphetamine and methamphetamine. While phenylacetic acid and P-2-P are traded legitimately, albeit with differences in the extent of their trade, APAAN is a designer precursor and trade in the substance is almost non-existent. Non-scheduled substitutes for P-2-P, pre-precursors and designer precursors used in the illicit manufacture of amphetamine and methamphetamine are discussed in subsection (d) below.

Licit trade

130. Between 1 November 2018 and 1 November 2019, there were 30 pre-export notifications involving P-2-P, from five exporting countries to eight importing countries. During the same period, there were no transactions involving APAAN, while there were approximately 650 proposed shipments of phenylacetic acid pre-notified through the PEN Online system, from 14 exporting countries to 47 importing countries and territories.

131. In January 2019, the Board inquired about a proposed import of 500 kg of P-2-P by a company in Azerbaijan. The authorities of Azerbaijan eventually stopped the import, as the importing company, which had a valid import authorization, did not respond to repeated inquiries by those authorities about the end use of the substance. The authorities of the exporting country were requested to share copies of all relevant documentation about the shipment, as well as copies of administrative

and commercial documents received from the exporting company, to enable follow-up investigations in Azerbaijan and stop any possible future attempts to import the substance to the country.

Trafficking

132. Seizure data for P-2-P often reflect only a few large seizures and can therefore fluctuate strongly year-on-year (see figure VIII). Compared with the previous year, on form D for 2018, more countries reported seizures of larger amounts of the substance. However, in most cases, no information other than the amount seized was provided. This lack of additional information limits the value of reported seizure data as a means of identifying and addressing weaknesses in precursor control, as it remains unclear whether the P-2-P was diverted from a legitimate source and if it was, where that source may have been, or whether the P-2-P was illicitly manufactured from other controlled precursors or from non-scheduled pre-precursors. Addressing the two scenarios – diversion from legitimate sources and illicit manufacture – requires very different approaches. **The Board reminds Governments that it is mandatory, pursuant to article 12, paragraph 12, of the 1988 Convention, to report information on methods of diversion and illicit manufacture**.

Figure VIII. Global seizures of P-2-P reported on form D, 2009–2018

133. Countries in which seizures of P-2-P were effected at the border often claimed China as the source. This included a number of countries in Europe, as well as Myanmar, where approximately 3,300 litres of the substance were seized from an unattended truck that was parked at the roadside of the Mandalay-Lashio highway for some time. Authorities in China reported seizures of more than 38,000 litres of P-2-P and 6.5 tons of phenylacetic acid; no further information about the sources of the chemicals was provided.

134. Mexico seized 19,000 litres of P-2-P, the largest amount ever reported, and approximately 1.3 tons of phenylacetic acid. All of the seizures were made in clandestine methamphetamine laboratories and, in all of the seizures, both chemicals were presumed to have been illicitly manufactured. This is supported by forensic profiling analyses, which suggest that in clandestine laboratories in Mexico phenylacetic acid is now made by means of a new process that uses benzyl chloride and sodium cyanide to produce benzyl cyanide and subsequently phenylacetic acid (see para. 145).

135. In 2018, notable seizures of phenylacetic acid were also reported by Myanmar (4,000 kg, in one incident, with a presumed origin in China) and the Netherlands (132 kg, in three incidents). In 2019, through PICS, additional incidents involving P-2-P were communicated by the Netherlands (totalling nearly 2,500 litres) and the United Kingdom (totalling 64 kg). While incidents in the Netherlands almost exclusively involved illicit laboratories, suggesting that the P-2-P was illicitly manufactured, incidents in the United Kingdom involved airmail shipments from China, including Hong Kong, China.

136. On form D for 2018, seizures of APAAN were reported by eight countries. The largest amount was reported by Jordan, seized in a "captagon"[20] laboratory where amphetamine was synthesized from benzyl cyanide, a non-scheduled amphetamine pre-precursor.[21] APAAN and P-2-P were seized from the laboratory as chemical intermediates in the synthesis process that started with benzyl cyanide (see para. 146). The findings illustrate that non-scheduled chemicals and trends in illicit manufacturing methods spread quickly and across regions. **Therefore, the Board urges all Governments to remain alert in regard to the possible use of non-scheduled pre-precursors in illicit drug manufacture, to keep themselves up to date and to consult available tools, such as the Board's limited international special surveillance list of non-scheduled chemicals, and PICS**.

[20] The term "captagon" is used to refer to the product currently available on the illicit market in countries in the Middle East. The composition of the product has nothing in common with that of Captagon, a pharmaceutical product that became available in the early 1960s and that contained fenethylline.

[21] E/INCB/2018/4, para. 109.

137. In addition to Jordan, seven countries in Europe reported seizures of APAAN on form D for 2018, several of which had previously been communicated through PICS. Notably, the two largest shipments intercepted at points of entry had originated in or transited Viet Nam. This included a seizure of 4.4 tons of APAAN in the seaport of Varna in Bulgaria and a seizure of 500 kg at Amsterdam airport in the Netherlands. A seizure of 25 kg at the seaport of Antwerp in Belgium in May 2019 could also be traced to Viet Nam. **INCB calls on the Governments concerned to cooperate with each other and the Board to determine the modi operandi used to traffic APAAN, and to prevent future shipments of the substance, which has been under international control since October 2014, from reaching illicit laboratories**.

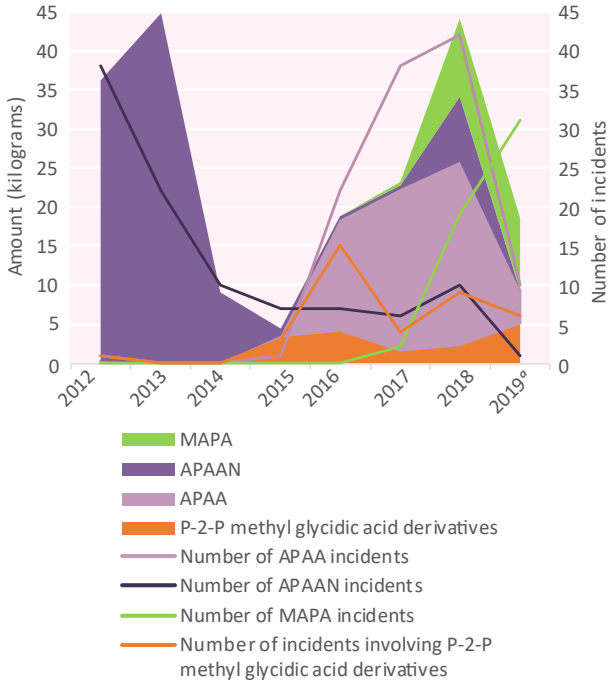
138. In March and April 2018, Germany dismantled two of the largest illicit amphetamine laboratories ever encountered, in a rural area near the border with the Netherlands. Both laboratories had produced amphetamine base using P-2-P, which itself had been illicitly manufactured from APAAN, although a large quantity of other designer precursors was also found, such as APAA, as well as designer precursors of MDMA. All labels on the drums had been removed. One of the laboratories was determined to have had a capacity of 150 to 200 litres of amphetamine base weekly and was estimated to have possibly produced more than 9 tons of amphetamine since its installation in January 2018.

(d) Use of non-scheduled substances and other trends in the illicit manufacture of amphetamine and methamphetamine

Alpha-*phenylacetoacetamide, methyl* alpha-*phenylacetoacetate and P-2-P methyl glycidic acid derivatives*

139. **APAA**, **MAPA** and **P-2-P methyl glycidic acid derivatives** are precursors of P-2-P and pre-precursors of amphetamine and methamphetamine. They are designer precursors that emerged after APAAN was brought under international control in October 2014 (see figure IX). Effective 19 November 2019, APAA was to be included in Table I of the 1988 Convention. The Commission on Narcotic Drugs is to vote in March 2020 on the Board's recommendation to place MAPA under international control. P-2-P methyl glycidic acid derivatives have not as yet been placed under international control.

Figure IX. Incidents involving APAAN, APAA, MAPA and P-2-P methyl glycidic acid derivatives communicated through the Precursors Incident Communication System, 2012–2019



[a] Data only cover the first 10 months of 2019.

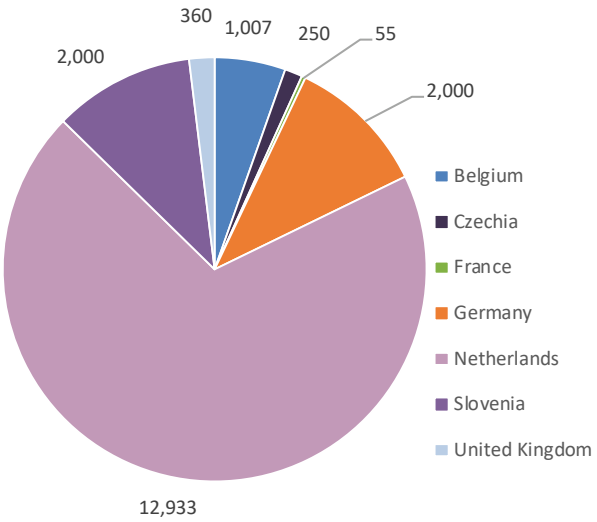
140. In 2018, as in previous years, the overwhelming majority of seizures of these three designer precursors occurred in European countries. The largest amounts were seized in the Netherlands, almost exclusively in illicit laboratories. Seizures of the three substances totalling more than 1 ton were also made in Belgium, Bulgaria, Croatia, Czechia, Denmark, Germany, Portugal and the United Kingdom, typically at airports or seaports.

141. On form D for 2018, the only seizure outside of Europe was reported by authorities in Lebanon and involved a shipment of nearly 250 kg of the sodium salt of P-2-P methyl glycidic acid from Hong Kong, China, which was intercepted at the Beirut airport. The Board is also aware of an incident involving MAPA in Australia, as well as at least one instance of the use of MAPA in a clandestine laboratory in Asia. The Canada Border Services Agency reported APAA and MAPA as being among the new substances identified in 2018.

142. In the first 10 months of 2019, almost 50 seizures of the three substances were communicated through PICS, amounting to more than 18 tons. All incidents were communicated by countries in Europe (see figure X). The single largest seizure of an inbound shipment in that period

was a seizure of 2,000 kg of MAPA at a seaport in Slovenia. However, the Netherlands communicated the largest number of seizures and the largest total amount seized. In the 16 incidents for which information about the origin of the shipments was available, China was identified as the country of origin. Reported destination countries included Belgium, Czechia, France, Germany, the Netherlands, Poland and the United Kingdom.

Figure X. Seizures of APAA, MAPA and P-2-P methyl glycidic acid derivatives communicated by countries in Europe through the Precursors Incident Communication System, in kilograms, 2019



Note: data only covers the first 10 months of 2019.

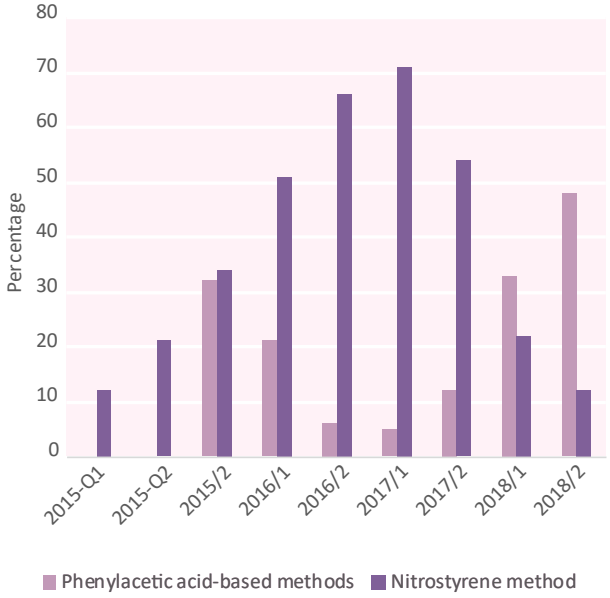
Benzaldehyde, nitroethane and 1-phenyl-2-nitropropene

143. **Benzaldehyde** and **nitroethane** are used in the so-called nitrostyrene method to manufacture P-2-P and subsequently, methamphetamine or amphetamine. **1-Phenyl-2-nitropropene** is the chemical intermediate derived from the reaction between benzaldehyde and nitroethane and may also be encountered as a starting material in illicit laboratories.

144. In 2018, the use of the nitrostyrene method, as evidenced by seizures of one or more of the above-named chemicals, was reported by countries in North America (Mexico and the United States) as having been used for the manufacture of methamphetamine, and in Europe (Estonia, Germany, Hungary, Russian Federation, and Spain), as having been used predominantly for the manufacture of amphetamine. Germany reported the detection of benzaldehyde and nitroethane in connection with the illicit manufacture of methamphetamine.

145. While use of the nitrostyrene method has dominated the illicit manufacture of methamphetamine in Mexico since 2016, the latest results of forensic profiling of methamphetamine samples of Mexican origin seized in the United States by the Special Testing and Research Laboratory of the Drug Enforcement Administration of the United States suggest that organized criminal groups in Mexico are now reverting to phenylacetic acid-based methods (see figure XI). However, unlike before, phenylacetic acid is now being illicitly manufactured from benzyl chloride and sodium cyanide, via benzyl cyanide intermediate (see para. 146).

Figure XI. Methods used in the illicit manufacture of methamphetamine, as determined by the forensic profiling of methamphetamine samples from the United States of America and Mexico, 2015–2018



Benzyl chloride, sodium cyanide and benzyl cyanide

146. Several countries reported seizures of non-scheduled chemicals that can be used in the illicit manufacture of P-2-P via APAAN or phenylacetic acid. Specifically, there were significant seizures of benzyl chloride and benzyl cyanide,[22] versatile precursors of both APAAN and phenylacetic acid, and subsequently P-2-P and amphetamine or methamphetamine. Significant seizures of **benzyl cyanide** in connection with the illicit manufacture of amphetamine were reported by Jordan (9.4 tons seized in an illicit "captagon" laboratory) (see also para. 136), Germany (7 tons) and the Netherlands (more than 2 tons). Mexico seized nearly 900 kg of benzyl cyanide in four

[22] Benzyl cyanide may also be referred to by its synonym phenylacetonitrile.

methamphetamine laboratories. There is also anecdotal forensic information indicating that benzyl cyanide is being used as the starting material to produce APAAN and subsequently methamphetamine in South-East Asia. **The Board encourages all Governments, in particular Governments in East and South-East Asia, to remain alert with regard to the use of non-scheduled chemicals in the illicit manufacture of methamphetamine**.

147. Sweden reported seizures of 6 kg of **benzyl chloride**, a precursor of benzyl cyanide. No significant seizures of **sodium cyanide**, the chemical needed to convert benzyl chloride into benzyl cyanide, were reported to INCB. In the past, such seizures had come to the attention of INCB from the border area between Thailand and Myanmar, however, the actual use of the chemical in the illicit manufacture of methamphetamine in that region has not been established.

148. Countries that reported notable seizures of other P-2-P precursors not under international control in 2018 included the Netherlands, where almost 1.5 tons of **2-phenylacetamide**, a precursor of phenylacetic acid, were seized. The United Kingdom intercepted 12 kg of **ethyl phenylacetate** shipped from China. Both chemicals can be used as precursors of phenylacetic acid.

Precursors for the illicit manufacture of ephedrine and pseudoephedrine

149. China continued to report widespread illicit manufacture of ephedrines. After the key starting material, 2-bromopropiophenone, was placed under control nationally in May 2014, the authorities in China observed a shift to other non-scheduled chemicals down the synthesis path, namely 1-phenyl-1-propanone (placed under national control in 2017) or its precursors. The authorities estimated that approximately 97 per cent of the ephedrine and pseudoephedrine in China is made from or via 2-bromopropiophenone. Importantly, although the manufacturing process results in a racemic chemical intermediate and requires the separation of optical isomers, the desired, potent form of *d*-methamphetamine is obtained with an optical purity of more than 99 per cent.

Other chemicals not under international control that were seized in relation to the clandestine manufacture of amphetamine or methamphetamine

150. Other chemicals not under international control but frequently reported on form D for 2018 were those associated with the illicit manufacture of methamphetamine using ephedrines-based methods. Reported seizures confirm the widespread use of the Nagai method or modifications thereof, which use **iodine** and **red phosphorous**, or alternate chemicals such as **hypophosphorous acid** and **phosphorous acid**. Seizures of one or more of these chemicals were reported by countries in Africa (Nigeria), Asia (Malaysia), North America (United States), Oceania (New Zealand) and Europe (Austria, Czechia, Germany, Hungary, Netherlands, Slovakia and Spain). The number of countries in Europe reporting seizures and the notable amounts seized in some of those countries, such as the Netherlands (more than 1.5 tons of iodine, 230 kg of red phosphorous and 7,000 litres of hypophosphorous acid) and Czechia (more than 160 kg of iodine and 135 kg of red phosphorous), have provided further evidence of an increase in the illicit manufacture of methamphetamine in Europe, and suggest that such manufacture may be occurring on a substantial scale.

151. **Hydriodic acid**, which is another alternate chemical used in the Nagai method, was reported to have been seized only in small amounts in 2018, for example, in the United States, providing further support for the Board's recommendation to not place the substance under international control under the 1988 Convention. With regard to chemicals indicative of the Emde method of illicit methamphetamine manufacture, which has long been the predominant method used in South-East Asia, seizures of key chemicals, such as **thionyl chloride**, fell short of the suspected capacity for illicit methamphetamine manufacturing in that subregion. In 2018, only Myanmar reported seizures of thionyl chloride, amounting to only 16 litres.

152. Seizures of separation agents, such as **tartaric acid**, that are used to increase the potency of methamphetamine manufactured using P-2-P-based methods have been reported by Mexico regularly since 2009, coinciding with that country's ban on imports of ephedrine and the subsequent shift to the use of P-2-P-based methods in the illicit manufacture of methamphetamine. On form D for 2018, Mexico reported seizures of almost 6 tons of tartaric acid. Other countries that reported seizures of separation agents in 2018 or from which the use of such agents are known included the Netherlands (875 kg of tartaric acid) and China, in connection with the illicit manufacture of ephedrine (see para. 149).

2. Substances used in the illicit manufacture of 3,4-methylenedioxymethamphetamine and its analogues

153. 3,4-MDP-2-P, piperonal, safrole and safrole-rich oils, and isosafrole are precursors that can be used in the illicit manufacture of MDMA and related substances (see annex VIII). Of these four substances, piperonal is the

most widely traded, while trade in 3,4-MDP-2-P and isosafrole is almost non-existent. In 2018, as in previous years, there was little evidence that these four controlled precursors were being used in the illicit manufacture of MDMA and related substances to any significant extent. In cases where 3,4-MDP-2-P was seized, it had usually been illicitly manufactured. By contrast, a number of non-scheduled substitutes for 3,4-MDP-2-P, often designer precursors without any known legitimate uses, such as derivatives of 3,4-MDP-2-P methyl glycidic acid, were reported to have been seized in notable amounts. They are discussed in paragraphs 158–159.

(a) 3,4-Methylenedioxyphenyl-2-propanone and piperonal

Licit trade

154. Between 1 November 2018 and 1 November 2019, 16 exporting countries and territories notified the authorities of 47 importing countries and territories of more than 670 proposed exports of piperonal amounting to more than 2,600 tons. There were no pre-export notifications for 3,4-MDP-2-P.

Trafficking

155. On form D for 2018, the only notable seizures of 3,4-MDP-2-P were reported by Spain (almost 530 litres) and the Netherlands (almost 190 litres, in eight incidents). Aggregate annual seizures of 3,4-MDP-2-P remained insignificant in other countries. Quantities of piperonal seized were insignificant.

(b) Safrole, safrole-rich oils and isosafrole

Licit trade

156. Between 1 November 2018 and 1 November 2019, four exporting countries sent 29 pre-export notifications through the PEN Online system for safrole and safrole-rich oils to the authorities of 15 importing countries and territories. Those notifications concerned a total volume of more than 1,400 litres, including 220 litres in the form of safrole-rich oils. There were no pre-export notifications for isosafrole.

Trafficking

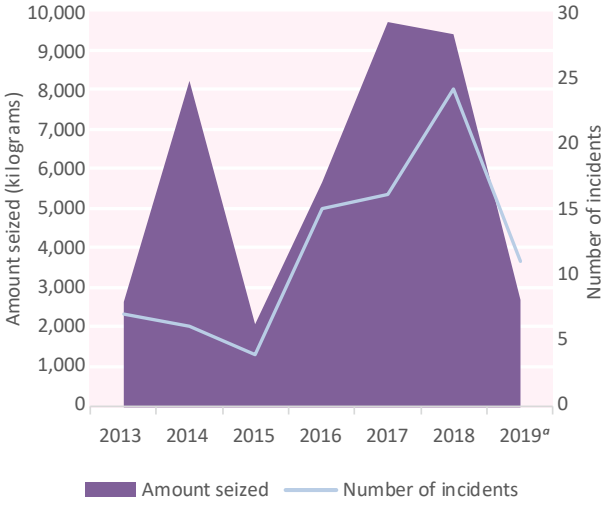
157. The total global volume of seizures of safrole and safrole-rich oils reported on form D for 2018 did not exceed 200 litres. The bulk of that volume was seized in a single incident in the Netherlands, continuing a trend observed over the past several years and reflecting the limited relevance of safrole in the illicit manufacture of MDMA, in particular in Europe. An unspecified amount of safrole, along with other chemicals and equipment, was found in the first clandestine MDMA laboratory known to have been dismantled in the Philippines. Authorities believe that the laboratory may have also been used as an experimental site for new types of amphetamine-type stimulants. No seizures of isosafrole were reported on form D for 2018, nor was any incident involving the substance communicated through PICS.

(c) Use of non-scheduled substances and other trends in the illicit manufacture of 3,4-methylenedioxy-methamphetamine and its analogues

158. Over the years, a number of substitute chemicals for 3,4-MDP-2-P and safrole have emerged, including designer precursors that are not usually available off the shelf. Of those, derivatives of 3,4-MDP-2-P methyl glycidic acid, namely, the methyl ester and the sodium salt, have been the most prevalent, especially in Europe. In March 2019, the Commission on Narcotic Drugs decided to include 3,4-MDP-2-P methyl glycidic acid and its methyl ester in Table I of the 1988 Convention. The decision was to become effective on 19 November 2019.

159. On form D for 2018, the largest seizures of 3,4-MDP-2-P substitutes were reported by the Netherlands, where more than 2.8 tons of the methyl ester, and 1.1 tons of the sodium salt, of 3,4-MDP-2-P methyl glycidic acid were seized. Portugal reported two seizures of consignments in the customs area of an international airport totalling 1.2 tons of the methyl ester. As with the majority of such consignments, they were suspected to have originated in China; one was destined for Portugal, the other for the Netherlands. Seizures of small inbound consignments of derivatives of 3,4-MDP-2-P methyl glycidic acid were also made in Belgium, Germany and the United Kingdom. Seizures of derivatives of 3,4-MDP-2-P methyl glycidic acid continued to be made in 2019 (see figure XII) and included the first reported incident in Australia. With this new development, incidents involving these substitutes have now been documented in Europe, North America, West Asia and Oceania. **The Board is aware that these chemicals are available through online vendors and trading platforms and encourages Governments to enforce any applicable regulations to prevent the misuse of the Internet for their diversion into illicit channels or, at a minimum, to use such information to generate actionable intelligence for use in further investigations**.

Figure XII. Seizures of substitutes of 3,4-MDP-2-P communicated through the Precursors Incident Communication System, 2013–2019



[a] Data only cover the first 10 months of 2019.

3. Other trends in the illicit manufacture of amphetamine-type stimulants

Methylamine and its precursors

160. Methylamine is a versatile chemical that is required in the illicit manufacture of a number of amphetamine-type stimulants (e.g., methamphetamine and MDMA) and new psychoactive substances, as well as ephedrine. Seizures of methylamine in the form of both solutions and hydrochloride salt continued to be reported.

161. On form D for 2018, notable seizures of methylamine were reported by the Netherlands (more than 11 tons), Mexico (more than 9,300 litres), and the United States (1,500 litres). Seizures in Mexico were made in clandestine methamphetamine laboratories, as in the past. In the United States, a large proportion of the amount reported (1,000 kg) was seized for having been in violation of applicable United States trans-shipment regulations. Further investigations revealed that the consignee in Canada had also had a shipment of 1,000 kg seized in 2017 for the same violation.[23]

162. In 2018, notable seizures of chemicals from which methylamine can be manufactured were again reported by Mexico. Specifically, authorities seized more than 4,500 litres of formaldehyde and more than 10.5 tons of ammonium chloride. Both chemicals were seized in clandestine methamphetamine laboratories.[24]

Hydrogen gas

163. On form D for 2018, the Netherlands reported seizures of 2 tons of hydrogen gas, which can be used as a reducing agent in the illicit manufacture of a number of synthetic drugs. Germany also continued to report thefts of steel gas cylinders containing compressed hydrogen gas, albeit in a significantly lower number than in previous years. The hydrogen stolen in Germany in 2018 amounted to 640 litres, and was stolen from a company dealing in construction materials near the border with the Netherlands. It was presumed to have been used in the illicit manufacture of amphetamines.

Other substances not under international control

164. As in previous years, substances frequently mentioned on form D for 2018 included chemicals associated with the so-called Leuckart method, which can be used to manufacture amphetamine and methamphetamine from P-2-P, or to manufacture MDMA and related substances from 3,4-MDP-2-P. As in the past, notable amounts were seized in Europe, including in the Netherlands (9.7 tons of **formamide** and 8,700 litres of **formic acid**) and Spain (more than 8.8 tons of formamide and 1,600 litres of formic acid), and in North America, notably in Mexico (more than 4,500 litres of formamide).[25]

165. None of the designer precursors in the form of previously identified masked derivatives of amphetamine-type stimulants were reported to have been seized in 2018. However, forensic scientists in Australia identified ***para*-tosyl-methamphetamine**, another chemically masked methamphetamine, in a sample from a seizure of several postal consignments originating in China in mid-2017.[26]

166. As in previous years, in 2018, several countries reported seizures of **adulterants** used in connection with the illicit manufacture of amphetamine-type stimulants. **Caffeine** continued to be one of the most frequently and widely reported adulterants. On form D for 2018, Myanmar

[23] E/INCB/2018/4, para. 151.

[24] Ammonium chloride is also required in the illicit manufacture of heroin (see para. 210), and part of the ammonium chloride seized in Mexico was found in illicit heroin laboratories.

[25] Peru seized almost 3.3 tons of formic acid in 2018. Significant seizures of the chemical have been reported in Peru since 2013, reportedly in connection with illicit cocaine manufacture.

[26] Michael Collins, Ananta Bhattarai and Helen Salouros, "Another chemically masked drug: *p*-tosyl methylamphetamine", *Drug Testing and Analysis*, vol. 10, No. 5 (May 2018), pp. 898–905.

reported having seized nearly 20 tons of caffeine, in connection with the illicit manufacture of methamphetamine ("yaba") tablets, Brazil reported having seized more than 1.6 tons of caffeine, in connection with the adulteration of cocaine, amphetamines and new psychoactive substances, Malaysia reported seizures of 320 kg of the substance, in connection with MDMA, "erimin5" and low-grade heroin, and Spain reported seizures of 121 kg of the substance. **INCB reminds Governments of the investigative value of monitoring adulterants and cutting agents in order to trace the laboratories in which drugs are illicitly manufactured. Governments may also wish to consider taking action against adulterants and cutting agents in accordance with article 13 of the 1988 Convention**.

B. Substances used in the illicit manufacture of cocaine

1. Potassium permanganate

Licit trade

167. Between 1 November 2018 and 1 November 2019, the authorities of 31 exporting countries and territories sent more than 1,500 pre-export notifications to 128 importing countries and territories relating to a total of almost 28,000 tons of potassium permanganate. The main exporter was China, accounting for approximately 20,000 tons, followed by India and the United States, accounting for more than 3,000 tons each. The main importers were countries in East and South-East Asia. Imports of the substance by the three coca-producing countries in South America – Bolivia (Plurinational State of), Colombia and Peru – continued to account for a very limited proportion of the total global amount imported (less than 1 per cent). Imports of the substance by other countries in South America amounted to approximately 3 per cent (900 tons). None of those countries exported or re-exported potassium permanganate in any significant amounts.

Trafficking

168. Potassium permanganate continued to be the principal oxidizing agent used in the illicit manufacture of cocaine, and the vast majority of seized cocaine continued to be highly oxidized.[27] In 2018, 17 countries and territories reported seizures of potassium permanganate totalling more than 80 tons. Bolivia (Plurinational State of), Bosnia and Herzegovina,[28] Chile, China, Colombia and Venezuela (Bolivarian Republic of) each seized more than 1 ton of the substance. Seizures in countries in South America were often made in illicit cocaine laboratories. Chile also reported seizures of the substance en route to Bolivia (Plurinational State of), while in Bolivia (Plurinational State of) and Colombia, as in previous years, the amount reported seized included administrative seizures following which the substance may have been returned to the owner.

169. Colombia reported the dismantling of eight illicit laboratories involved in the manufacture of potassium permanganate in 2018. In the first six months of 2019, another four potassium permanganate laboratories were destroyed and 27 tons of the substance were seized. The available information thus provides further support for the observation that most chemicals used in the illicit processing of cocaine in South America are either diverted from legitimate domestic distribution channels or are illicitly manufactured, and therefore require national or regional responses. However, it is still unclear how much potassium permanganate originates from either source. There is also insufficient understanding of the modi operandi used for domestic diversion of the substance in countries in South America. **INCB therefore reiterates its call to all Governments of countries in the region to review their domestic control mechanisms for potassium permanganate and its substitutes and precursors and to devise strategies to address the situation**.

170. Small amounts of potassium permanganate were also reported seized in Europe, namely in illicit laboratories in the Netherlands and Spain, where cocaine was recovered and refined after smuggling. Such laboratories continued to be dismantled in 2019.

2. Use of non-scheduled substances and other trends in the illicit manufacture of cocaine

171. In 2018, as in previous years, countries in South America reported seizures of a number of chemicals that are known for their potential use in connection with illicit cocaine processing and that are under national control in those countries. The majority of those chemicals were reported to have been diverted from domestic distribution channels. However, INCB notes that a significant proportion of the seizures were made for administrative reasons and in response to violations of transport regulations. **The Board encourages the Governments**

[27] According to recent results from the Cocaine Signature Program of the United States Drug Enforcement Administration Special Testing and Research Laboratory, 100 per cent of the cocaine samples examined, from 2018 seizures in the United States, were highly oxidized or reoxidized.

[28] The circumstances of the seizures were not provided; the substance allegedly originated in Slovenia.

concerned to assess the proportions of seizures that were made on the basis of suspected illicit use and those made purely for administrative reasons, with a view to assessing the effectiveness of relevant control measures, enhancing the impact of such measures on illicit manufacture and limiting the burden on law enforcement and regulatory authorities while still preventing the use of such chemicals for illicit purposes.

Precursors of and substitutes for potassium permanganate

172. On form D for 2018, notable seizures of precursors of potassium permanganate were only reported by Colombia. Specifically, in eight incidents, more than 6.8 tons of **potassium manganate**, an immediate precursor of potassium permanganate, were seized, an increase from 1.9 tons in 2017. No seizures of **manganese dioxide** (pyrolusite), a precursor of potassium manganate, were reported in 2018.

173. The Netherlands reported seizures of 25 kg of potassium manganate and 15 kg of **sodium permanganate**, a direct substitute for potassium permanganate.

174. Notable seizures of **sodium hypochlorite**, another possible substitute for potassium permanganate, were reported by Peru (almost 14 tons in 8 incidents), Bolivia (Plurinational State of) (4,300 litres in 4 incidents), and Argentina (3,700 litres in 51 incidents), although some of those seizures were made for administrative reasons, for example, because they lacked the required transport authorization.

Other substances not under international control, and trends in the illicit manufacture of cocaine

175. In addition to requiring an oxidizing agent such as potassium permanganate, the processing of cocaine requires a variety of other chemicals, including common acids, bases and solvents used in the extraction of cocaine base from coca leaves and for the conversion of cocaine base into hydrochloride. In recent years, a number of other chemicals have also been encountered in clandestine cocaine laboratories, including chemicals that help to improve the efficiency of the manufacturing process by reducing the volume of chemicals needed and/or the processing time, as well as chemicals used to illicitly manufacture ammonia, hydrochloric acid or sulfuric acid. Many of those are common chemicals that can be substituted for one another and that are legitimately traded, transported and used in large quantities. It was often those chemicals that were seized for administrative reasons. The majority of them were sourced domestically.

176. On form D for 2018, as in previous years, significant seizures of common **acids, bases and solvents** not under international control were reported by countries in South America, in particular the three coca-producing countries, Bolivia (Plurinational State of), Colombia and Peru, as well as Ecuador and Venezuela (Bolivarian Republic of). Smaller yet notable seizures were also reported by some countries situated along cocaine trafficking routes and by countries representing destination markets, such as those in Europe. In those countries, seizures were mainly made in clandestine laboratories where cocaine was being recovered from the materials in which it was incorporated for smuggling.

177. While the overall situation with regard to seizures of solvents remained largely unchanged, with a wide variety of **acetate solvents** having been seized in large amounts, forensic profiling results suggest a shift away from ethyl acetate towards other acetate solvents being used in the final crystallization step of cocaine manufacture.[29] The same profiling results also suggest that methyl ethyl ketone, a chemical under international control, remained the most prevalent solvent used to dissolve the hydrochloric acid in the crystallization step. However, in the majority of samples analysed, no solvent was utilized for that purpose.

178. Significant seizures of **calcium chloride**, a chemical that serves both as a drying agent for solvents and to produce concentrated hydrochloric acid, continued to be reported on form D for 2018. Continuing a trend noted by the Board in its previous report on precursors,[30] the largest amounts were seized in Ecuador, totalling nearly 145 tons, an increase from 80 tons in 2017 and 24 tons in 2016. According to the authorities, the substance is sourced in Peru and smuggled through Ecuador to Colombia. Seizures in Colombia and the Plurinational State of Bolivia amounted to, respectively, 75 tons and 30 tons, while Peru seized more than 14 tons, the largest amount ever reported. Indications of the use of calcium chloride for solvent drying were also reported by Chile.

179. **Sodium metabisulfite** is one of the chemicals reflecting the increased efficiency of clandestine cocaine processing. Specifically, it is a reducing agent used to standardize the oxidation level of cocaine base sourced from various extraction laboratories prior to further processing. In 2018, seizures in amounts greater than 15 tons were reported by Colombia (more than 41 tons in 132 incidents, originating in Colombia), the Plurinational State of Bolivia (nearly 24 tons in 28 incidents, of which two thirds were made in illicit laboratories) and Peru (almost 17 tons in 7 incidents).

[29] United States Drug Enforcement Administration Special Testing and Research Laboratory, Cocaine Signature Program.

[30] E/INCB/2018/4, paras. 169–170.

180. Of the three coca-producing countries, Colombia and Peru reported the illicit manufacture of a number of other chemicals needed in cocaine processing. These included ammonia, hydrochloric acid and sulfuric acid. Specifically, Colombia reported the dismantling of two illicit laboratories involved in the manufacture of **sulfuric acid** in 2018. In the first six months of 2019, eight laboratories were dismantled and more than 400,000 litres of sulfuric acid were seized. Indications of the illicit manufacture of **hydrochloric acid** were reported by Chile and Peru; the illicit manufacture of the substance is also known to have occurred in Colombia. Both Colombia and Peru reported that all chemical starting materials had been sourced domestically. Ecuador reported seizures of **nitric acid** (1,100 litres) made on the basis of its alleged use in the illicit manufacture of hydrochloric acid; the substance had been smuggled on trucks, hidden among other goods.

181. On form D for 2018, seizures of chemicals that can be used in the illicit manufacture of **ammonia** were reported by Bolivia (Plurinational State of) and Peru and included urea, ammonium nitrate and ammonium sulfate, each of which were seized in amounts totalling 1 or more tons. In addition, the illicit manufacture of ammonia from urea is known to have occurred in Colombia.

182. With regard to the size of cocaine processing operations, chemical analyses of a large seizure of cocaine that originated in the Nariño coca growing region of Colombia suggest a shift in the traditional small-batch method of cocaine processing (typically 1 kilogram at a time) to a multi-kilogram, high-throughput approach.[31]

183. As with other drugs, seizures of **cutting agents** (adulterants and diluents) continued to be reported in connection with illicit cocaine processing. Cutting is performed at the stage of initial crystallization of cocaine hydrochloride, either at points along the trafficking route, or in destination countries before retail-level distribution. Cutting agents seized in notable amounts in 2018 included caffeine (reported by Brazil), lactose (Argentina), various local anaesthetics such as lidocaine, procaine and xylocaine (Argentina and Brazil) and phenacetin (Brazil). Significant amounts of the same cutting agents were also reported by the Netherlands and Spain. Chile reported the dismantling of cutting laboratories.

[31] Jennifer R. Mallette and others, "Changes in illicit cocaine hydrochloride processing identified and revealed through multivariate analysis of cocaine signature data", *Science and Justice*, vol. 58, No. 2 (March 2018), pp. 90–97.

C. Substances used in the illicit manufacture of heroin

1. Acetic anhydride

184. Acetic anhydride is a key precursor of heroin and a frequently and widely traded chemical that is included in Table I of the 1988 Convention. Acetic anhydride is required not only in the illicit manufacture of heroin, but also in certain P-2-P-based methods used in the illicit manufacture of amphetamine and methamphetamine (see annex VIII).

185. In 2018 and 2019, the number of attempts to divert acetic anhydride from international trade remained low; as in the past, most of the known cases of diversions of the substance occurred at the level of domestic trade and distribution. The number of newly initiated or continued investigations into suspected diversion attempts and seizures of acetic anhydride identified since 2016, in particular in Europe and West Asia, has been far from negligible. Some of the investigations were unnecessarily delayed, took a long time or were inconclusive, which made it possible for traffickers to continue with their illicit activities, as illustrated in box 2.

Licit trade

186. From 1 November 2018 to 1 November 2019, the authorities of 25 exporting countries and territories used the PEN Online system to submit more than 1,700 pre-export notifications regarding shipments of acetic anhydride. The shipments were destined for 87 importing countries and territories and involved a total of approximately 530 million litres of acetic anhydride.

187. In 2019, the authorities of the importing countries objected to approximately 7 per cent of pre-export notifications related to proposed exports of acetic anhydride, mostly for administrative reasons. This was less than in the period 2016–2018, when approximately 10.5 per cent of proposed shipments of acetic anhydride were objected to.

188. In 2019, the Board was informed about a review by the authorities of Czechia of the legitimate needs for and proposed end use of more than 100,000 litres of acetic anhydride purportedly ordered by a legitimate Czech company in a country outside the European Union. Based on information received from the company, the authorities had only authorized the import of a portion of the proposed amount (less than 20,000 litres). **The Board commends all Governments that exercise the adequate scrutiny when authorizing imports and exports of acetic anhydride, as well as those that have cooperated with each other and the Board to investigate seizures and cases of diversion and diversion attempts**.

Box 2. Examples of ongoing investigations into diversion attempts involving acetic anhydride

Case 1

In mid-2017, on the basis of an unusual pattern observed in pre-export notifications, the Board inquired about the legitimacy of a pre-notified shipment of 24 tons of acetic anhydride, ordered in a third country by a legitimate importer located in a State member of the European Union. The investigations revealed that the shipment had been destined for an end user located in another European Union member State. Owing to the delayed exchange of information and the lack of coordination among the countries concerned, the investigations gradually ceased. The investigations resumed in 2019 and it was found that in 2017 the proposed end user had not received the shipment in question. Instead, companies in other European countries were identified as the likely consignees of the shipment after it had been split into smaller consignments. To date, it has not been possible to verify whether the split consignments of acetic anhydride in question had reached those consignees. Owing to the particular circumstances of the case, the possibility that the acetic anhydride had actually been diverted and "lost" during its delivery cannot be excluded.

Case 2

In July and August 2017, respectively, the competent national authorities of the United Arab Emirates and Iraq objected, through the PEN Online system, to two shipments of 24 tons and 20 tons of acetic anhydride, proposed to be exported to the two countries by a particular authorized precursor operator in Poland. In both cases, the shipments were objected to because the respective competent national authorities of Iraq and the United Arab Emirates had not authorized the import of the acetic anhydride. However, two years later, the authorities of the United Arab Emirates informed the authorities in Poland that the proposed importer in the United Arab Emirates had denied having placed an order for the shipment in question. Nevertheless, the documentary evidence that the Polish authorities collected during the investigation into the matter in Poland and later shared with their counterparts in the United Arab Emirates had clearly stated the intention of the proposed importers to purchase acetic anhydride in Poland. This was also the case with regard to the proposed shipment destined for a company in Iraq. Both shipments were eventually suspended in Poland. Despite clear indications of attempts by the two companies in Iraq and the United Arab Emirates to import acetic anhydride without the required authorization, the Board has no information as to whether or not the companies in Iraq, Poland and the United Arab Emirates have concluded, since 2017, any commercial transactions with other vendors or buyers of acetic anhydride in Poland or elsewhere.

Case 3

In 2019, authorities in Poland launched investigations into the trade activities of an authorized precursor operator in their country that had been identified as a suspected source of acetic anhydride seized in Afghanistan in September 2017 and in the Netherlands in June 2018. The investigations resulted in the identification of more than 70 tons of the substance that the Polish company had sold between 2017 and 2018 to several unauthorized companies in five European Union member States, including the Netherlands, as well as to dubious companies in Poland. Such sales continued even after the seizure of the substance in Afghanistan. Some of these unauthorized companies, or persons believed to be associated with them, were known to law enforcement agencies as a result of other criminal investigations, including drug-related investigations. Despite this evidence, the Polish company in question was still registered with the competent national authorities as a legitimate precursor operator at the time of writing.

189. The Board also wishes to remind Governments that the main objective of its queries into objected shipments made to competent national authorities is to verify whether such shipments were objected to only for administrative reasons, or whether the shipments in question might actually be diversion attempts. In 2019, INCB shared with Governments a guide comprising practical tips for follow-up investigations into shipments of precursor chemicals that were objected to through the PEN Online system. **The Board wishes to encourage all users of the PEN Online system to make the best use of the tool, which provides examples of best practices from a number of investigations into suspected diversion attempts**.

Trafficking

190. Of the 21 countries and territories that reported seizures of acetic anhydride on form D for 2018, six countries — China, Georgia, Iran (Islamic Republic of), the

Netherlands, Pakistan and Turkey— reported seizures of more than 10,000 litres. In total, 188,000 litres of acetic anhydride were seized worldwide in 2018, 61,100 litres more than in 2017. Poland, followed by China and the United Arab Emirates, in that order, were the most frequently reported sources – or the last known countries of departure – of acetic anhydride seized worldwide in 2018 and 2019. Other countries mentioned included Belgium, Czechia and the Netherlands.

191. The amounts of acetic anhydride seized in Afghanistan in 2018, as well as in 2019, were much smaller than in previous years. In 2018, 7,364 litres of the substance were seized, approximately one fifth (20 per cent) of the amount seized in 2017 (37,700 litres). Most of that amount could be attributed to a single seizure of a shipment of 7,000 litres of acetic anhydride that had originated in China and had been trafficked through the Islamic Republic of Iran. In 2019, only two seizures involving small amounts of acetic anhydride were communicated by Afghanistan.

192. In 2018, 27,680 litres of acetic anhydride were seized in the Islamic Republic of Iran, 7,000 litres (36 per cent) more than in 2017. At least 14,000 litres were seized in the first half of 2019. Shipments of the substance seized in the Islamic Republic of Iran in 2018 and 2019 originated in, or were reported to have been trafficked through, China (3 shipments), the United Arab Emirates (2 shipments), and Belgium (1 shipment). The Board notes that the seizure of 13,900 litres of acetic anhydride in the port of Bandar Abbas in the Islamic Republic of Iran in May 2019 was facilitated by a voluntary exchange of information between the competent national authorities and the private sector.

193. During the reporting period, Turkey continued to be an important transit country for shipments of acetic anhydride, believed to be sourced by traffickers in the European Union, then transported to countries in West Asia, including Afghanistan, Iran (Islamic Republic of) and Iraq. In 2018, the authorities in Turkey seized 10 consignments of acetic anhydride, amounting to 38,569 litres. The Board regrets that only 1 of those 10 seizures was communicated through PICS. The communicated seizure involved a shipment of almost 14,000 litres (15 tons) of the substance and was believed to have been sourced in the Netherlands. While the Government of Turkey provided on form D for 2017 further information regarding the suspected origin of the seized acetic anhydride, it did not submit similar information for the seizures conducted in 2018.

194. According to information shared through PICS or during case meetings, the most frequently reported modus operandi used by traffickers continued to be the concealment of acetic anhydride among spare car parts and second-hand cars, followed by the misdeclaration of acetic anhydride at customs as diverse types of liquids used for car maintenance, such as "motor oil", "windshield fluid", or "antifreeze agent". For example, in 2018, authorities in Poland and Turkey launched investigations into a seizure of approximately 450 litres of acetic anhydride in Turkey earlier that year. The substance, sourced from a Polish company co-owned by local and foreign nationals, was concealed among cargo containing second-hand cars and spare car parts and transported from Poland to Afghanistan through Turkey. Investigations further revealed that the seized shipment was only one of several shipments declared as "spare car parts and second-hand cars" that the Polish company had been sending to consignees in Afghanistan, Iran (Islamic Republic of) and the United Arab Emirates since 2016, including after the seizure of the substance in Turkey in 2018.

195. The authorities of the United Arab Emirates have not reported on form D any seizures of acetic anhydride since 2000, except for a seizure of 4,000 litres in 2009. Despite the absence of reported seizures, since 2016, the competent national authorities of the United Arab Emirates and other countries have identified several companies in the United Arab Emirates that have appeared in law enforcement investigations either as purported consignees of pre-notified suspicious shipments involving large amounts of acetic anhydride, as companies used by traffickers to transport seized shipments of acetic anhydride or as companies responsible for payments for shipments of acetic anhydride seized elsewhere. There are also indications that traffickers might have used free trade zones in the United Arab Emirates for the trafficking of precursor chemicals. **The Board wishes to encourage all countries in which free trade zones exist to review their control measures, including risk profiling of trafficking in precursors, in order to reduce the risk of such zones being used by criminal organizations for their illicit activities**.

196. In Pakistan, seizures of acetic anhydride have fluctuated significantly since 2000. In 2018, Pakistan reported seizures of a total of 19,803 litres of acetic anhydride. Most of that amount, 15,500 litres, suspected of having originated in Poland, could be attributed to a single seizure conducted in the port of Karachi in Pakistan in January 2018. Following that, the authorities of Pakistan reported three additional seizures of the substance in 2018, amounting to 4,283 litres. The Board is not aware of any seizures of acetic anhydride in Pakistan in the first 10 months of 2019. The lack of any recent major seizures of acetic anhydride in Pakistan (except for the above-mentioned seizure of 15,500 litres) may indicate a sudden change of routes used by criminal organizations for trafficking in the

substance; however, as this is unlikely, the situation may warrant a further review of the precursor control measures currently being implemented Pakistan, including the level of profiling of trafficking in acetic anhydride.

197. For the time being, the diversion of acetic anhydride from international trade involving Pakistan and its subsequent diversion from domestic distribution channels appear to be unlikely, as only one shipment of acetic anhydride destined for Pakistan, amounting to approximately 5,600 litres, has been pre-notified through PEN Online since 2017. Suspicions have been raised sporadically by some law enforcement experts about the possible illicit manufacture of heroin in the country. While these suspicions could, in part, be substantiated by past seizures of acetic anhydride, as well as seizures of sizeable amounts of opium and morphine in the country, suspicions about the possible illicit manufacture of heroin in Pakistan could not be corroborated to date. However, the recent emergence of illicit heroin manufacture in Europe, despite being at a very low level, proves that such manufacture can emerge even in countries far away from the regions where opium poppy is illicitly cultivated. **The Board wishes to encourage all countries, including those neighbouring Afghanistan, to remain vigilant and communicate through PICS, or through Project Cohesion, any incidents that might indicate the emergence of illicit heroin manufacture outside countries in which illicit cultivation of opium poppy occurs**.

198. The European Monitoring Centre for Drugs and Drug Addiction and the European Union Agency for Law Enforcement Cooperation (Europol), in the *European Union Drug Markets Report, 2016*, provided information about the emergence of a new trafficking route, the so-called Southern Caucasus route, which, in addition to being used for trafficking in opiates from the Golden Crescent, was apparently also being used for trafficking in acetic anhydride, as corroborated by a seizure of 2,500 litres of an unusual liquid mixture that, in addition to acetic anhydride, contained almost 600 kg of heroin, as well as smaller amounts of morphine and codeine. The mixture was seized in a port in Batumi, Georgia, in 2014, from a lorry that arrived in Georgia from the Islamic Republic of Iran via Azerbaijan. The mixture was purportedly destined for Ukraine and Moldova.[32]

199. Later in 2017, in the framework of the INCB-led intelligence-gathering operation "Follow me", participating countries identified a suspicious attempt by a Georgian company to secure supplies of acetic anhydride on the internal market of the European Union. In that same year, Georgia also appeared in another investigation as a proposed transit country for the trafficking of acetic anhydride from Europe. The Board is also aware of a seizure of acetic anhydride in the European Union from a truck registered in Georgia. Georgia and Azerbaijan further appeared in investigations into the suspected misuse of online trading companies by acetic anhydride traffickers. Two seizures of acetic anhydride, totalling 13,733 litres, conducted in the seaport of Poti in Georgia in 2018, further substantiated the appearance of that country on the acetic anhydride trafficking map.

200. The Board, in its 2017 report on precursors, alerted Governments to the potential misuse of online trading platforms by traffickers of precursor chemicals and has since then continued to support competent national authorities in their efforts to exchange information on investigations into the suspected misuse of legitimate online trading platforms by traffickers of acetic anhydride, in particular those operating in Europe and Asia. An example of one such investigation is presented in box 3 overleaf.

201. Since 2016, Iraq has been identified as a proposed transit or destination country in at least five follow-up investigations into seizures of acetic anhydride trafficked from Europe, conducted in Bulgaria, Iran (Islamic Republic of) and Turkey. At least 25,000 litres of the substance allegedly destined for Iraq have been seized worldwide since 2016. The last such seizure, involving 5,400 litres of acetic anhydride, misdeclared as "soya oil", was communicated by the Islamic Republic of Iran in November 2018.

202. Since 2017, the Board has identified several suspicious shipments of acetic anhydride that were pre-notified through the PEN Online system and were destined for consignees in Ukraine. Recently, Ukraine was identified as a possible transit country for a shipment of acetic anhydride seized in West Asia.

203. The Governments of a number of countries, including Azerbaijan, Georgia, Iraq and Ukraine, are encouraged to review any information related to the apparent involvement of their respective countries in recently identified cases of diversion and trafficking in acetic anhydride and to inform the Board of any findings that could assist the Board in further determining any new changes in acetic anhydride trafficking routes.

204. In the past several years, the number of seizures of acetic anhydride in Central Asia has been low. For example, Turkmenistan has not reported on form D any seizures of acetic anhydride since 2000. Uzbekistan last reported seizures of acetic anhydride in 2017, when 20 litres of the

[32] European Monitoring Centre for Drugs and Drug Addiction and the European Union Agency for Law Enforcement Cooperation, *EU Drug Markets Report: In-depth Analysis* (Luxembourg, Publications Office of the European Union, 2016), p. 88.

Box 3. Investigations into the suspected misuse of online trading platforms by traffickers

In late 2018, the authorities of India inspected the premises of a company in their country that was regularly using the services of legitimate online trading platforms to seek potential buyers of acetic anhydride in several countries, including Afghanistan, Iran (Islamic Republic of), Pakistan and the United Arab Emirates. The company was registered by the authorities in India as a trader in acetic anhydride. During the inspection of the company premises, inspectors observed the company's employees repackaging stocks of acetic anhydride into jerrycans labelled as "motor oil". The substance was purportedly destined for a consignee in Afghanistan. The inspection resulted in the seizure of almost 10 tons of acetic anhydride, the largest seizure of the substance conducted in the county since 2000.

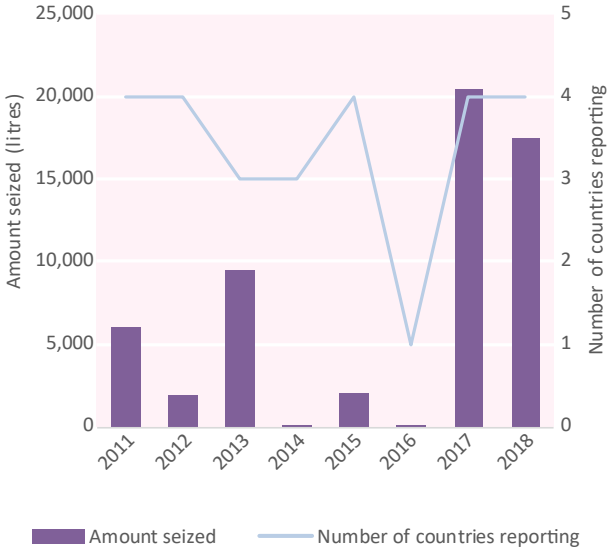
The Board commends the authorities of India for their efforts and the successful conclusion of the case and is pleased to note that the seizure was facilitated by voluntary cooperation between the authorities of India and the private sector. The Board also appreciates the sharing of information by the authorities of India with a number of other countries concerned regarding the suspected misuse of online trading platforms, thereby providing those countries with an opportunity to verify the legitimacy of proposed transactions involving acetic anhydride at their end. Regrettably, most of the countries that received that information have not provided any feedback to the authorities of India regarding any outcomes of their investigations into the matter.

substance were seized. According to open source media, in May 2019, the authorities in Kyrgyzstan seized approximately 100 litres of acetic anhydride, but no further details are available. Before that, the only reported seizures of the substance in the country were in 2007 (9 litres) and 2012 (almost 800 litres).

205. The total amount of acetic anhydride seized within the European Union substantially increased in 2017 (20,400 litres) and 2018 (17,400 litres), compared with the period from 2011 to 2016 (see figure XIII). In addition, since 2016, the authorities of countries in the European Union prevented an unprecedented number of attempts by traffickers to divert acetic anhydride, primarily from distribution channels of the internal market of the European Union. Nonetheless, the amounts of the substance known to have been diverted within and/or smuggled from the European Union were enough to enable the illicit manufacture of at least 100 tons of heroin in Afghanistan.

206. The amount of acetic anhydride that was diverted might also partly explain the emergence of illicit heroin manufacture in the past three years in some European countries, mainly the Netherlands, but also Bulgaria and Germany. According to a media report, an illicit heroin laboratory was also identified in Albania in 2019.

Figure XIII. Seizures of acetic anhydride reported by States members of the European Union on form D, 2011–2018



207. Backtracking investigations into diversion and seizures of acetic anhydride linked with European Union countries provided indications of existing links between traffickers of acetic anhydride and persons previously

known to law enforcement authorities from their involvement in other forms of serious crime, including trafficking in drugs, persons and firearms. The investigations also provided evidence of the involvement of foreign nationals, including those from West Asian countries, in precursor-related criminal activities in Europe. In addition, the investigations revealed some difficulties in preventing the diversion of and trafficking in acetic anhydride (see para. 208 and box 2). **The Board appreciates the level of cooperation of the individual countries concerned, especially Poland, as well as of the European Commission, in identifying and addressing existing weaknesses in relation to European Union legislation on precursors, in terms of both its implementation at the national level and any possible deficiencies it may have. Aware that the European Commission is currently in the process of evaluating the efficiency of European Union legislation on precursors, the Board trusts that any possible loopholes will be addressed and stands ready to assist in the evaluation process**.

208. The legal requirement stipulated in the 1988 Convention for proving an alleged offender's intent or knowledge, or more specifically, for producing evidence showing that the suspect knew that the substance in question was to be used in illicit drug manufacture, has sometimes been perceived as a possible impediment to the successful investigation, prosecution and adjudication of precursor-related crime in practice. Recent accounts of investigations into cases of trafficking in acetic anhydride have confirmed that the understanding of what may constitute proof of intent in practice, in other words, what the criminal justice system in a country may consider as acceptable evidence that a suspect knew, or did not know, that a substance was to be used in illicit drug manufacture, has led to significant disparities in the outcomes of related prosecutions and, in some jurisdictions, may have even affected the ability of law enforcement authorities to fully investigate precursor-related crime. An analysis of associated legal requirements and examples of approaches taken in some jurisdictions are provided in box 4.

Box 4. Proof of intent and knowledge in precursor-related crime

Article 3, paragraph 1, subparagraph (a) (iv), of the 1988 Convention requires States parties to the Convention to establish as criminal offences under their domestic law, when committed intentionally, the manufacture, transport or distribution of equipment, materials or of substances listed in Tables I and II, knowing that they are to be used in or for the illicit cultivation, production or manufacture of narcotic drugs or psychotropic substances. Similarly, under subparagraph (c) (ii), subject to their constitutional principles and the basic concepts of their legal systems, States parties are also required to criminalize the possession of substances listed in Tables I and II, knowing that they are being or are to be used in or for the same purposes.

Paragraph 3 of the same article further provides that knowledge, intent or purpose required as an element of an offence set forth in paragraph 1 may be inferred from objective factual circumstances.

In practice, producing proof of intent or knowledge at the time the offence was committed may be challenging, irrespective of the evidentiary rules that may apply in a given national legal system. Defendants commonly deny the requisite intent or degree of knowledge of the relevant elements necessary for the establishment of their conduct as criminal, yet tribunals must be satisfied, on the basis of admissible evidence, that the defendants possessed the knowledge that they deny they had in order to reach a verdict.[a] In order to be admissible, however, such evidence is not required to be in the form of direct proof, such as a confession or documentary evidence explicitly confirming actual knowledge.[b] The Convention does not impose, but explicitly permits, the inference of intent from circumstantial evidence.[c]

At the same time, the requirement of proving intent in precursor-related crime serves an important purpose. Precursors are traded and used widely for licit purposes, and criminal responsibility for their diversion into illicit channels must not be inadvertently extended to bona fide operators without adequate proof.[d] Care must therefore be exercised by examining all evidence rigorously and fully while also ensuring that legal requirements are not interpreted in an unduly narrow way, bearing in mind the objectives of the Convention to prevent the diversion of precursors.

Box 4. Proof of intent and knowledge in precursor-related crime *(continued)*

The Convention recognizes, in article 3, paragraph 11, that "the description of offences (...) and of legal defences thereto is reserved to the domestic law of a Party and that such offences be prosecuted and punished in conformity with that law". However, recent examples from various jurisdictions have shown that disparate standards of what may constitute adequate proof of intent or knowledge at different stages in the investigation and adjudication of precursor-related crime have sometimes led to vastly different outcomes of similarly constituted cases, and have, in some cases, even created challenges already at the stage of investigating potential crime. The Board is aware of cases where proof of intent or knowledge was de facto treated as a requirement for justifying the opening of criminal investigations, which could not be satisfied and thus may have led to suspicious activity not being investigated fully, ultimately resulting in impunity for the alleged perpetrators.

In this context, the Board wishes to refer to the Commentary on the 1988 Convention, which acknowledges that a rigorous analysis of "knowledge", for example, has to address circumstances of "wilful blindness", where the actor "closes his eyes to the obvious"; cases of *dolus eventualis*, where the offender takes an obvious risk; and circumstances in which any person in the actor's position would have had the requisite knowledge.[e] An all too narrow interpretation of "knowledge", or of what may constitute acceptable proof of its presence (or absence) in practice, may effectively derail attempts to hold perpetrators accountable for precursor-related crime.

The Board further wishes to recall that the Convention permits States parties to adopt more strict or severe measures than those provided by it if, in the party's opinion, such measures are desirable or necessary for the prevention or suppression of illicit traffic. For example, Australia amended its criminal laws in 2015 and, applying a system of strict liability, no longer requires proof of mental elements of the crime such as knowledge or intent to be proven in the case of persons who engaged in the import or export of "border-controlled precursors" (a category of precursors defined in Australian law) that have ended up being used in illicit drug manufacture.

In the light of the foregoing discussion, the Board wishes to highlight that the provisions of the Convention provide sufficient flexibility for States parties to adopt national criminal legislation on precursor-related offences in a way that meets minimum international requirements yet remains responsive to the requirements of their respective national legal systems and the realities on the ground. Even without necessitating changes in legislation, criminal procedure or evidentiary rules, criminal justice practitioners at all levels can contribute to curbing impunity for precursor-related crime by being mindful of their interpretation and application in practice of existing laws in line with the objectives of the Convention and the safeguards and allowances built into it.

[a] See also the Commentary on the 1988 Convention, para. 3.97.
[b] Ibid., para. 3.98.
[c] Ibid., para. 3.100.
[d] Ibid., para. 3.38.
[e] Ibid., para. 3.97.

209. Despite the significant need for acetic anhydride in the illicit manufacture of heroin, the number of seizures of the substance in Colombia, Mexico and Myanmar has been low for many years. Although Mexico seized sizeable amounts of acetic anhydride in the past, those seizures were likely linked with the manufacture of synthetic drugs rather than heroin.

2. Use of non-scheduled substances and other trends in the illicit manufacture of heroin

210. The illicit manufacture of heroin requires, in addition to acetic anhydride, a variety of other common chemicals not under international control, in particular chemicals used in the extraction of morphine from opium. One of the most frequently encountered of those

chemicals is **ammonium chloride**. Afghanistan, where the chemical is under national control, has, since 2008, regularly reported seizures of ammonium chloride, albeit in widely varying amounts, ranging from just 350 kg in 2009 to almost 45.5 tons in 2016. Seizures in 2018 amounted to approximately 2.5 tons.

211. In addition to the non-scheduled chemicals used in the extraction of morphine from opium, there are also non-scheduled acetylation agents that can be substituted for acetic anhydride in the conversion of morphine to heroin, although actual seizures of substitutes for acetic anhydride have been rare. The acetylation agent most frequently seized in this context is **acetyl chloride**. It has important legitimate applications; however, it is more hazardous to handle and use than acetic anhydride because it is corrosive, strongly irritating to the eyes, nose and skin and reacts violently with water.

212. In 2018, notable seizures of acetyl chloride were reported by the Islamic Republic of Iran and the United Arab Emirates. The first seizure occurred in the Jebel Ali seaport in Dubai, United Arab Emirates, and involved almost 2,800 litres of the substance. The contraband had been concealed among other legitimate commodities and had been destined for a consignee in the Islamic Republic of Iran that could not be located in the country. The second seizure involved nearly 20,000 litres of acetyl chloride and was conducted in the port of Bandar Abbas in the Islamic Republic of Iran, only a few days after the seizure in the United Arab Emirates. The substance had been destined for a consignee in Afghanistan. The seizures may indicate partial changes in the modus operandi used in trafficking in heroin precursors. Countries in West Asia where acetyl chloride is under national control include Afghanistan and Pakistan.

213. The Board wishes to remind Governments that both ammonium chloride and acetyl chloride are included in the limited international special surveillance list of non-scheduled substances owing to their possible use in the illicit manufacture of heroin. In the light of the significant seizures of acetyl chloride in 2018, **the Board further encourages countries, in particular in West Asia, to remain vigilant against attempts to divert and smuggle acetyl chloride through the region and to communicate any seizures of the substance through PICS. Seizures should be duly investigated to prevent future trafficking in the substance involving the same companies**.

D. Substances used in the illicit manufacture of other narcotic drugs and psychotropic substances

1. Ergot alkaloids and lysergic acid

214. On form D for 2018, seizures of the three precursors of lysergic acid diethylamide, ergometrine, ergotamine and lysergic acid, were reported in all regions except Africa and Oceania. As in previous years, aggregated annual seizures of ergot alkaloids, namely ergotamine, reported by individual countries were typically small, not exceeding 150 grams; the seizures were mostly made for administrative reasons. China reported seizures of almost 450 grams of ergometrine. Where the origin was known, it was domestic, within the country where the seizure was made. Seizures of lysergic acid were reported by the Russian Federation (2 kg) and the United States (nearly 600 grams), however, no additional information was provided.

2. *N*-Acetylanthranilic acid and anthranilic acid

215. The situation regarding the illicit manufacture of methaqualone remained unchanged in 2018 in comparison with 2017 and previous years: no instances of illicit manufacture of the substance were reported. However, South Africa reported having stopped three incoming shipments totalling more than 64 tons of **acetanthranil**, a possible precursor of methaqualone that is not under international control. The shipments were detected by sniffer dogs, but it remained unclear why they were stopped.

216. The largest seizures of methaqualone precursors under international control were reported by Myanmar, the first such seizures to be reported by the country. They amounted to 1,000 litres of *N*-acetylanthranilic acid and 2.1 tons of anthranilic acid, as well as 2,800 litres of the latter substance in solution form. In all instances, the seized substances had allegedly originated in China. No further information was provided that could help to put these seizures into context. Circumstantial information was also not provided in the case of Mozambique, which reported instances of domestic diversion and seizures of 83 litres of *N*-acetylanthranilic acid.

3. Precursors of fentanyl, fentanyl analogues and other synthetic opioids

Licit trade

217. In the two-year period following the international scheduling of the two precursors of fentanyl, NPP and ANPP, as at 1 November 2019, 31 pre-export notifications

had been sent for NPP and 24 for ANPP by seven exporting countries to 21 importing countries. Amounts larger than those required for limited research and analytical purposes were proposed for import into a number of countries known to manufacture fentanyl legitimately, including Brazil, Germany, Slovakia, South Africa and the United States. Moreover, at least 20 countries and territories that provided such information voluntarily explicitly stated on form D for 2018 that they had no need for either NPP or ANPP, or only needed the substances for limited research and laboratory analytical purposes. Among those countries was Mexico, which had declared on several other occasions that there was no legitimate manufacture of fentanyl in the country.

218. Belgium and India reported having stopped shipments of NPP in 2018. Nevertheless, INCB has become aware of exports in 2018 of NPP from India that lacked the required no-objection certificates, i.e., that were effected without the knowledge of the competent national authorities, even though NPP and ANPP have been under national control in India since 28 February 2018. Although the authorities in India made an arrest and are investigating the incidents, which allegedly involved the same modus operandi, INCB has determined that, in at least one instance involving 400 kg of the substance, the consignee in Europe was legitimate and authorized to import NPP and ANPP. **The Board reminds all Governments that NPP and ANPP are included in Table I of the 1988 Convention, thus consignments containing those substances require the sending of pre-export notifications prior to their export. The Board furthermore encourages Governments to put the necessary systems in place nationally to ensure that their competent national authorities are informed of any planned export, that the manufacture and distribution of NPP and ANPP are adequately monitored, and that all diversions and attempted diversions are fully investigated with a view to gathering relevant intelligence and preventing future diversions using the same modus operandi**.

Trafficking

219. On form D for 2018, four countries reported seizures of either NPP or ANPP. The largest amount (275 kg) was reported by the United States, which also reported the dismantling of two fentanyl laboratories. In addition, France communicated through PICS one incident involving the seizure of approximately 0.5 kg of ANPP in a clandestine laboratory. The substance was allegedly ordered in China on the darknet. France also communicated two additional incidents that occurred in June and July 2019 involving a few grams of ANPP smuggled from the United States through the postal system.

220. During 2018, it also became apparent that traffickers had started to seek alternatives to NPP and ANPP:

(a) In September 2018, India dismantled the first illicit fentanyl laboratory discovered in its territory. Approximately 11 kg of fentanyl were recovered; the fentanyl had been synthesized from non-scheduled pre-precursors via NPP and subsequently ANPP;

(b) Between mid-2018 and mid-2019, INCB became aware of at least 30 incidents involving 4-AP, a fentanyl pre-precursor not under international control (see also para. 60) that was included in the limited international special surveillance list. All of the incidents occurred in Mexico and involved amounts between 0.3 kg and 1.8 kg, and had originated in either China, including Hong Kong, China, the Netherlands or Singapore. A significantly larger consignment of 4-AP was intercepted in August 2019 at the port of Lázaro Cárdenas in Mexico, involving 275 kg of the substance among bags of calcium chloride amounting to a total weight of 23 tons;

(c) Other alternatives to NPP and ANPP not under international control that were reported as having been encountered included precursors and chemical intermediates used in the synthesis of fentanyl by means of the so-called Janssen method, the originally patented method of fentanyl manufacture, as well as chemically masked fentanyl pre-precursors (such as *t*-BOC 4-AP); such chemical masking is a modus operandi also seen in relation to precursors of other types of drugs;[33]

(d) In June 2019, authorities in Mexico dismantled a clandestine laboratory site in which a variety of controlled and non-controlled fentanyl precursors and pre-precursors, but no end products, were found. Authorities believe that the site had been used to experiment with the synthesis of NPP and ANPP from their precursors. If substantiated, the purpose of the laboratory, together with border seizures of fentanyl pre-precursors, may also indicate a shift from trafficking in fentanyl precursors to their possible manufacture within Mexico;

(e) Results from forensic impurity profiling of samples of fentanyl seized in the United States in 2018 suggested that the Janssen method, which does not rely on NPP and ANPP, had become the predominant synthesis method; 70 per cent of the powder exhibits analysed and 52 per cent of the tablet exhibits analysed supported this conclusion.

[33] E/INCB/2018/4, box 5.

221. The Canada Border Services Agency reported a number of potential precursors of fentanyl and of fentanyl analogues among the new substances identified in 2018. In fact, five out of the seven newly identified fentanyl-related substances can be classified as precursors; all of them are known chemical intermediates used in the synthesis of the respective fentanyls or are their masked analogues. In June 2019, the Royal Canadian Mounted Police seized an unspecified amount of **aniline**, a chemical central to the synthesis of various fentanyls by different synthesis routes, yet also widely used in legitimate industries. Aniline is included in the limited international special surveillance list of non-scheduled substances because of its possible use in the illicit manufacture of fentanyls.

222. Several of the above-mentioned developments appear to be the result of tightened controls in China. **The Board welcomes the measures taken by China in the spirit of shared responsibility. It also notes the generic approach taken by Canada in controlling some precursors of fentanyls** (see para. 24). Other countries where additional precursors of fentanyls, specifically precursors of 3-methyl fentanyl, are under national control include Belarus and the Russian Federation, which imposed such control in response to earlier outbreaks of misuse of those substances.[34]

223. The Board is concerned that information about the sources of non-medical fentanyls and their precursors is still limited. The Board is also concerned that Governments are unable to quickly address shifts to non-scheduled pre-precursors, in particular in cases where those substances have legitimate uses, and **reminds Governments, at a minimum, to cooperate with each other and with the Board in exchanging actionable information, preferably through PICS. The Board also wishes to remind Governments of the updated limited international special surveillance list, which includes a number of chemicals used in the illicit manufacture of fentanyls and highlights those for which INCB is not aware of any legitimate use**.

E. Substances not listed in Table I or Table II of the 1988 Convention that are used in the illicit manufacture of other narcotic drugs and psychotropic substances or substances of abuse not under international control

1. Precursors of *gamma*-hydroxybutyric acid

224. Seizures of **GBL** continued to be reported on form D for 2018, typically, as in the past, by countries in Europe. Amounts ranged from less than 1 litre (reported by Italy) to more than 27,500 litres (reported by Lithuania). According to the Australian Criminal Intelligence Commission, 22 clandestine laboratories manufacturing GHB and/or GBL were detected in Australia in the period 2017–2018, an increase of 100 per cent compared with the previous reporting period.[35] Outside Europe, only the United States reported seizures of GBL. Hungary and Spain were the only countries to have reported seizures of **1,4-butanediol**, a precursor of GBL and a pre-precursor of GHB, on form D for 2018.

2. Precursors of new psychoactive substances, including substances recently scheduled under the Single Convention on Narcotic Drugs of 1961 or the Convention on Psychotropic Substances of 1971

225. On form D for 2018, a number of European countries continued to report instances involving precursors of new psychoactive substances and of recently scheduled substances. Frequently reported chemicals included:

- **2-Bromo-4'-methylpropiophenone**, a mephedrone precursor, which was seized in France, the Netherlands and Belgium (in descending order of amounts seized). Destination countries included the Netherlands, Spain and the United Kingdom. Where information about the origin was provided, China was identified as the suspected country of origin. Seizures in all countries totalled 60 kg.

[34] Information about pre-precursors and other chemicals under national control is available to competent national authorities as part of the information package on the control of precursors provided on the Board's secure website.

[35] Australian Criminal Intelligence Commission, *Illicit Drug Data Report 2017–18* (Canberra, July 2019).

- **2,5-Dimethoxybenzaldehyde**, a precursor for 2,5-dimethoxyamphetamine (DMA), brolamfetamine (DOB) and the 2C-series of controlled psychotropic substances, as well as for new psychoactive substances, reported by the Netherlands (5 kg) and Belgium (1 kg).

- **4-Methoxy-P-2-P**, a precursor of *para*-methoxy-*alpha*-methylphenethylamine (PMA) and *para*-methoxymethylamphetamine (PMMA), reported by Spain (52 kg).

226. Through PICS, incidents involving **2-bromo-4'-chloropropiophenone**, a precursor of various 4-chloro-substituted cathinone derivatives, such as 4-CMC (clephedrone), were communicated. Luxembourg seized 500 kg of the substance in August 2018. The consignment was confiscated because both the supplier and the consignee were already known in connection with shipments of other precursors of new psychoactive substances. It originated in India, transited Qatar, Luxembourg and Germany and was destined for a consignee in Poland. A consignment of 300 kg of the substance was confiscated by customs authorities in Germany in December 2018. The suspected destination was Poland. In April 2018, customs authorities in Czechia communicated a seizure of a consignment of 100 kg, which had originated in India and was destined for Czechia.

227. Incidents involving precursors of new psychoactive substances, in particular synthetic cathinones, also continued to occur and be communicated through PICS in 2019, by the Netherlands (120 kg) and Czechia (575 kg). Open media sources referred to a seizure of nearly 2.5 tons of 2-bromo-4'-methylpropiophenone in an illicit laboratory or warehouse in Taiwan Province of China.

228. **The Board commends countries that voluntarily report seizures of precursors of new psychoactive substances and substances recently scheduled under the 1971 and 1961 Conventions, as such reporting helps to identify emerging trends and establish links between cases, which often involve both scheduled and non-scheduled chemicals. To make the best possible use of available information and intelligence, all Governments are encouraged to communicate relevant incidents through PICS in real time**.

IV. Article 13 of the 1988 Convention as a complementary tool in addressing illicit drug manufacture

229. The clandestine manufacture of narcotic drugs and psychotropic substances, new psychoactive substances and precursors is not possible without the input of chemicals, materials and equipment. While the control of chemicals has long been a focus of the authorities worldwide, pursuant to the provisions in article 12 of the 1988 Convention, much less attention has been given to equipment and materials and article 13 of that Convention, which provides a basis for international action and cooperation in such control efforts (see box 5).

230. Concern about the use of equipment, including tableting machines, specialized glassware and other essential laboratory equipment, in illicit drug manufacture is not new, but the spread of fentanyl-related substances and other synthetic opioids, with their often high potency and their role in fatal overdose cases in some parts of the world, has raised new concerns among Governments and the Board.

231. As early as 1998, the General Assembly specifically requested national authorities to monitor sales of laboratory equipment, pursuant to article 13 of the 1988 Convention.[36] In 2002 and 2003, the Equipment Working Group of Project Prism convened two meetings in The Hague, Netherlands, and Bangkok to discuss the matter. As a tangible result, in 2004, the Europol Illicit Laboratory Comparison System was established. In 2010, the Inter-American Drug Control Commission developed a concept paper on the regulation of equipment used in the illicit manufacture of synthetic drugs. Calls to initiate equipment monitoring and investigations into seizures and cases of diversion or smuggling of essential equipment have since been made on several occasions, most recently in March 2019, by the Commission on Narcotic Drugs in its resolution 62/4.

232. The resolution calls on Governments to increase the operational use of article 13 and take appropriate measures to prevent trade in and the diversion of equipment used in

[36] See General Assembly resolution S-20/4,which sets out the Action Plan against Illicit Manufacture, Trafficking and Abuse of Amphetamine-type Stimulants and Their Precursors.

Box 5. Article 13 of the 1988 Convention

Article 13 of the 1988 Convention requires the parties to take such measures as they deem appropriate to prevent trade in and the diversion of materials and equipment for the illicit production or manufacture of narcotic drugs and psychotropic substances and to cooperate to this end.

Read together with article 3, paragraph 1, subparagraph (a) (iv), of the 1988 Convention, article 13 makes it mandatory for parties to establish as criminal offences under domestic law, when committed intentionally, the manufacture, transport or distribution of equipment.[a] These provisions relate not only to equipment used for illicit laboratories within a party's territory, but also to equipment that is smuggled out of or exported from the party's territory to other countries and used in illicit laboratories in those countries (see also para. 13.3 of the Commentary on the 1988 Convention).

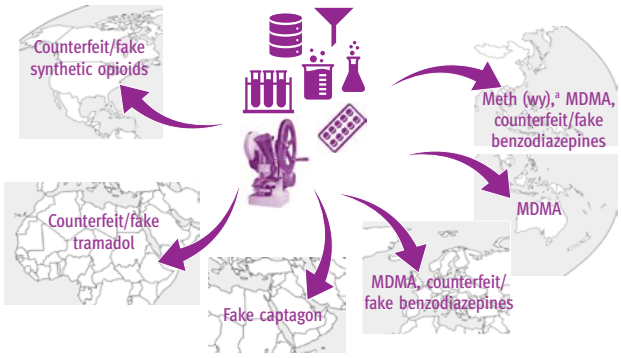
[a] These provisions are extended to the possession of equipment (art. 3, para. 1, subpara. (c) (ii)). Article 3, paragraph 1, subparagraphs (a) (v) and (c) (iv) further extend the provisions on criminalization to the organization, management or financing of any of these offences, and to participation in, association or conspiracy to commit, attempts to commit, and facilitating the commission of any of the offences established in accordance with article 3.

illicit drug manufacture by enacting national legislation to implement that article. The resolution also encourages INCB to provide guidelines on the most effective ways to prevent the diversion of materials and equipment in the context of article 13.

233. In order to get an overview of the nature and extent of equipment-related incidents worldwide, with a view to subsequently prioritizing global approaches to countering the supply of equipment for illicit purposes, the INCB Precursors Task Force coordinated a global survey among focal points for Project Prism, Project Cohesion and Project Ion in 2018. The 40 responses received suggested that most reported incidents were seizures (not suspicious transactions) that typically involved commercially produced (not custom-made) equipment, and that the seized equipment was mostly new (not second-hand). The survey also showed that few countries have in place any regulations, monitoring requirements or cooperation arrangements with industry for reporting suspicious transactions in international trade or domestic distribution. Similarly, few countries had ever done any equipment-related backtracking investigations, nor did they have the capacity to do so.

234. In terms of prioritizing essential equipment, the survey results suggested that it might be useful to focus initially on tableting and encapsulating machines and related punches and dies, the use of which in illicit drug manufacture is a global problem with regional differences (see figure XIV).

Figure XIV. Schematic overview of illicitly manufactured tablets, by drug and region

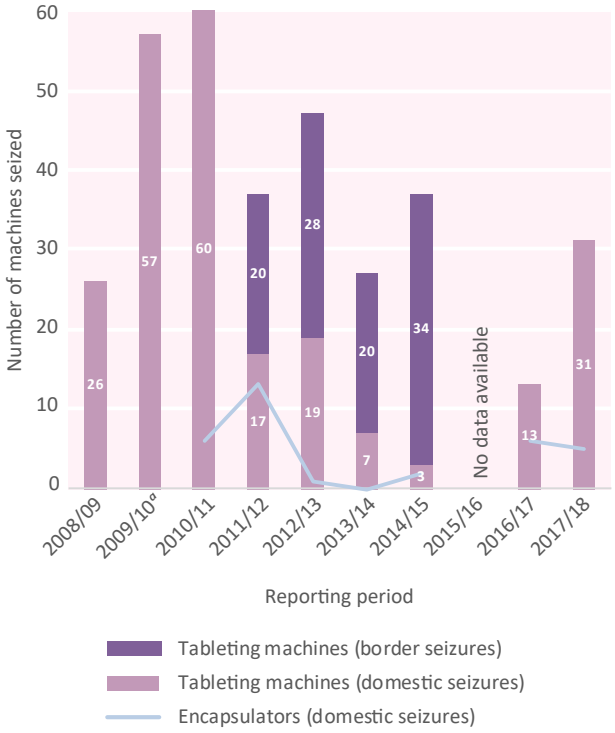


[a] Illicitly manufactured methamphetamine tablets in South-East Asia are typically imprinted with the code "wy".

Note: Arrows are illustrative and do not represent flows of substances, equipment or materials to any specific country.

235. Statistics about seizures of essential equipment are not generally available. Where they are, such as in Australia and the United States, they focus on tableting and encapsulating machines, and have indicated an increase in seizures in recent years (see figures XV and XVI).

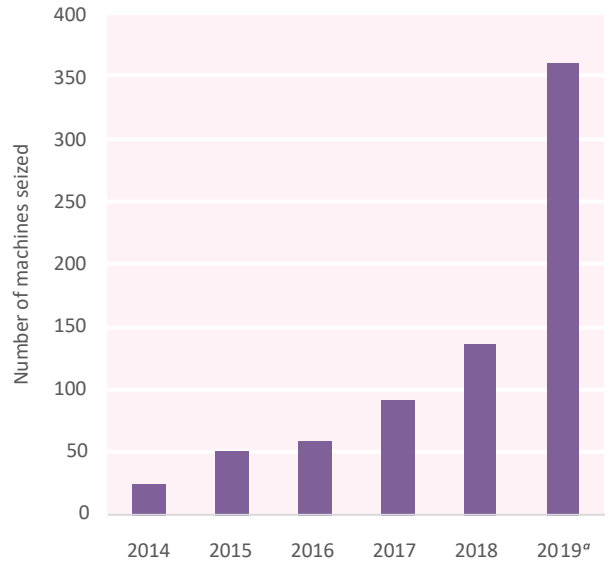
Figure XV. Seizures of tableting machines in Australia, 2008–2018



Source: Australian Criminal Intelligence Commission, *Illicit Drug Data Report, 2016–17* and reports from previous years.

[a]On 1 March 2010, tableting machines became a prohibited import in accordance with the Customs (Prohibited Imports) Regulations 1956 of Australia.

Figure XVI. Seizures of tableting machines by the United States Customs and Border Protection, 2014–2019



[a]Up to and including August 2019; data may also include seizures of punches and dies. Years are fiscal years.

236. The Board believes that article 13 is a valuable complementary tool in addressing illicit drug manufacture. However, it is currently underutilized. To assist Governments in increasing the use of article 13 and preventing specialized equipment from reaching illicit laboratories, the Board conducted the following activities in 2019:

(a) The convening of an expert group meeting on the matter with a view to developing mechanisms and concrete operational activities to prevent and investigate the diversion of specialized equipment for illicit purposes in the context of article 13 of the 1988 Convention;

(b) The launch of an intelligence-gathering activity related to tableting and encapsulating machines;

(c) The establishment of a web-based repository of existing national approaches to the implementation of article of the 1988 Convention at the national level;

(d) The preparation of practical guidelines on the implementation of article 13, pursuant to Commission on Narcotic Drugs resolution 62/4; the guidelines were to be launched at the sixty-third session of the Commission, in March 2020;

(e) A number of measures to enhance international cooperation in equipment-related cases, including promoting the use of PICS for the exchange of intelligence and information about equipment incidents;

(f) Partnerships with relevant entities, such as the World Customs Organization, to establish harmonized system codes for essential equipment, and Europol, to explore synergies between PICS and the Europol Illicit Laboratory Comparison System for global benefit.

237. Building on the activities initiated in 2019, the Board encourages Governments to consider taking the following actions:

(a) Raise the awareness of competent authorities, industries and related sectors about the risk of various types of equipment being utilized for the illicit manufacture of drugs by improving the understanding of the use of such equipment and the related diversion methods;

(b) Initiate investigations into seizures and cases involving the diversion or smuggling of essential equipment, with a view to tracking it back to the source in order to prevent continued illicit activity, and communicate the details of those seizures and backtracking investigations in real time, preferably through PICS.

238. The Board looks forward to enhanced global cooperation among Governments and between Governments and INCB in the context of article 13 and stands ready to support Governments to that end.

Glossary

In the present report, the following terms and definitions have been used:

chemical intermediate	A chemical generated during a multi-step synthesis process that is normally not isolated but immediately consumed in the next synthesis step. Stable chemical intermediates can be isolated and have been encountered as purpose-made substitute chemicals for controlled precursors
designer precursor	A close chemical relative of a controlled precursor that is purpose-made to circumvent controls and usually does not have any recognized legitimate use
diversion	The transfer of substances from licit to illicit channels
immediate precursor	A precursor that is generally only one reaction step away from the end product
industrial-scale laboratory	A laboratory manufacturing synthetic drugs in which oversized equipment and/or glassware that is either custom-made or purchased from industrial processing sources and/or that uses serial reactions is used and in which significant amounts of drugs are produced in very short periods of time, the amount being limited only by the need for access to precursors and other essential chemicals in adequate quantities and for the logistics and workers to handle large amounts of drugs and chemicals
pharmaceutical preparation	A preparation for therapeutic (human or veterinary) use in its finished dosage form that contains precursors present in such a way that they can be used or recovered by readily applicable means; such preparations may be presented in their retail packaging or in bulk
seizure	Prohibiting the transfer, conversion, disposition or movement of property or assuming custody or control of property on the basis of an order issued by a court or a competent authority; it may be temporary or permanent (i.e., confiscation); different national legal systems may use different terms
stopped shipment	A shipment permanently withheld because reasonable grounds exist to believe that it may constitute an attempted diversion, as a result of administrative problems or because of other grounds for concern or suspicion
suspended shipment	A shipment temporarily withheld because of administrative inconsistencies or other grounds for concern or suspicion, for which clarification of the veracity of the order and resolution of technical issues are required before the shipment may be released
suspicious order (or suspicious transaction)	An order (or transaction) of questionable, dishonest or unusual character or condition, for which there is reason to believe that a chemical that is being ordered, imported or exported or is transiting a country or territory is destined for the illicit manufacture of narcotic drugs or psychotropic substances

Annex I

Parties and non-parties to the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, by region, as at 1 November 2019

Note: The date on which the instrument of ratification or accession was deposited is indicated in parentheses.

Region	*Party to the 1988 Convention*		*Non-party to the 1988 Convention*
AFRICA	Algeria (9 May 1995)	Eswatini[a] (8 October 1995)	Equatorial Guinea
	Angola (26 October 2005)	Ethiopia (11 October 1994)	Somalia
	Benin (23 May 1997)	Gabon (10 July 2006)	South Sudan
	Botswana (13 August 1996)	Gambia (23 April 1996)	
	Burkina Faso (2 June 1992)	Ghana (10 April 1990)	
	Burundi (18 February 1993)	Guinea (27 December 1990)	
	Cabo Verde (8 May 1995)	Guinea-Bissau (27 October 1995)	
	Cameroon (28 October 1991)	Kenya (19 October 1992)	
	Central African Republic (15 October 2001)	Lesotho (28 March 1995)	
	Chad (9 June 1995)	Liberia (16 September 2005)	
	Comoros (1 March 2000)	Libya (22 July 1996)	
	Congo (3 March 2004)	Madagascar (12 March 1991)	
	Côte d'Ivoire (25 November 1991)	Malawi (12 October 1995)	
	Democratic Republic of the Congo (28 October 2005)	Mali (31 October 1995)	
	Djibouti (22 February 2001)	Mauritania (1 July 1993)	
	Egypt (15 March 1991)	Mauritius (6 March 2001)	
	Eritrea (30 January 2002)	Morocco (28 October 1992)	

Region	*Party to the 1988 Convention*		*Non-party to the 1988 Convention*
	Mozambique (8 June 1998)	South Africa (14 December 1998)	
	Namibia (6 March 2009)	Sudan (19 November 1993)	
	Niger (10 November 1992)	Togo (1 August 1990)	
	Nigeria (1 November 1989)	Tunisia (20 September 1990)	
	Rwanda (13 May 2002)	Uganda (20 August 1990)	
	Sao Tome and Principe (20 June 1996)	United Republic of Tanzania (17 April 1996)	
	Senegal (27 November 1989)	Zambia (28 May 1993)	
	Seychelles (27 February 1992)	Zimbabwe (30 July 1993)	
	Sierra Leone (6 June 1994)		
Regional total 54	**51**		**3**
AMERICAS	Antigua and Barbuda (5 April 1993)	Dominica (30 June 1993)	
	Argentina (10 June 1993)	Dominican Republic (21 September 1993)	
	Bahamas (30 January 1989)	Ecuador (23 March 1990)	
	Barbados (15 October 1992)	El Salvador (21 May 1993)	
	Belize (24 July 1996)	Grenada (10 December 1990)	
	Bolivia (Plurinational State of) (20 August 1990)	Guatemala (28 February 1991)	
	Brazil (17 July 1991)	Guyana (19 March 1993)	
	Canada (5 July 1990)	Haiti (18 September 1995)	
	Chile (13 March 1990)	Honduras (11 December 1991)	
	Colombia (10 June 1994)	Jamaica (29 December 1995)	
	Costa Rica (8 February 1991)	Mexico (11 April 1990)	
	Cuba (12 June 1996)	Nicaragua (4 May 1990)	

Region	*Party to the 1988 Convention*		*Non-party to the 1988 Convention*
	Panama (13 January 1994)	Suriname (28 October 1992)	
	Paraguay (23 August 1990)	Trinidad and Tobago (17 February 1995)	
	Peru (16 January 1992)	United States of America (20 February 1990)	
	Saint Kitts and Nevis (19 April 1995)	Uruguay (10 March 1995)	
	Saint Lucia (21 August 1995)	Venezuela (Bolivarian Republic of) (16 July 1991)	
	Saint Vincent and the Grenadines (17 May 1994)		
Regional total 35	**35**		**0**
ASIA	Afghanistan (14 February 1992)	Israel (20 March 2002)	
	Armenia (13 September 1993)	Japan (12 June 1992)	
	Azerbaijan (22 September 1993)	Jordan (16 April 1990)	
	Bahrain (7 February 1990)	Kazakhstan (29 April 1997)	
	Bangladesh (11 October 1990)	Kuwait (3 November 2000)	
	Bhutan (27 August 1990)	Kyrgyzstan (7 October 1994)	
	Brunei Darussalam (12 November 1993)	Lao People's Democratic Republic (1 October 2004)	
	Cambodia (2 April 2005)	Lebanon (11 March 1996)	
	China (25 October 1989)	Malaysia (11 May 1993)	
	Democratic People's Republic of Korea (19 March 2007)	Maldives (7 September 2000)	
	Georgia (8 January 1998)	Mongolia (25 June 2003)	
	India (27 March 1990)	Myanmar (11 June 1991)	
	Indonesia (23 February 1999)	Nepal (24 July 1991)	
	Iran (Islamic Republic of) (7 December 1992)	Oman (15 March 1991)	
	Iraq (22 July 1998)	Pakistan (25 October 1991)	

Region	*Party to the 1988 Convention*		*Non-party to the 1988 Convention*
	Philippines (7 June 1996)	Thailand (3 May 2002)	
	Qatar (4 May 1990)	Timor-Leste (3 June 2014)	
	Republic of Korea (28 December 1998)	Turkey (2 April 1996)	
	Saudi Arabia (9 January 1992)	Turkmenistan (21 February 1996)	
	Singapore (23 October 1997)	United Arab Emirates (12 April 1990)	
	Sri Lanka (6 June 1991)	Uzbekistan (24 August 1995)	
	State of Palestine (29 December 2017)	Viet Nam (4 November 1997)	
	Syrian Arab Republic (3 September 1991)	Yemen (25 March 1996)	
	Tajikistan (6 May 1996)		
Regional total 47	**47**		**0**
EUROPE	Albania (27 July 2001)	France[b] (31 December 1990)	
	Andorra (23 July 1999)	Germany[b] (30 November 1993)	
	Austria[b] (11 July 1997)	Greece[b] (28 January 1992)	
	Belarus (15 October 1990)	Holy See (25 January 2012)	
	Belgium[b] (25 October 1995)	Hungary[b] (15 November 1996)	
	Bosnia and Herzegovina (1 September 1993)	Iceland (2 September 1997)	
	Bulgaria[b] (24 September 1992)	Ireland[b] (3 September 1996)	
	Croatia[b] (26 July 1993)	Italy[b] (31 December 1990)	
	Cyprus[b] (25 May 1990)	Latvia[b] (25 February 1994)	
	Czechia[b,c] (30 December 1993)	Liechtenstein (9 March 2007)	
	Denmark[b] (19 December 1991)	Lithuania[b] (8 June 1998)	
	Estonia[b] (12 July 2000)	Luxembourg[b] (29 April 1992)	
	Finland[b] (15 February 1994)	Malta[b] (28 February 1996)	

Region	*Party to the 1988 Convention*		*Non-party to the 1988 Convention*
	Monaco (23 April 1991)	San Marino (10 October 2000)	
	Montenegro (3 June 2006)	Serbia (3 January 1991)	
	Netherlands[b] (8 September 1993)	Slovakia[b] (28 May 1993)	
	North Macedonia[d] (13 October 1993)	Slovenia[b] (6 July 1992)	
	Norway (14 November 1994)	Spain[b] (13 August 1990)	
	Poland[b] (26 May 1994)	Sweden[b] (22 July 1991)	
	Portugal[b] (3 December 1991)	Switzerland (14 September 2005)	
	Republic of Moldova (15 February 1995)	United Kingdom of Great Britain and Northern Ireland[b] (28 June 1991)	
	Romania[b] (21 January 1993)	Ukraine (28 August 1991)	
	Russian Federation (17 December 1990)	European Union[e] (31 December 1990)	
Regional total 46	**46**		**0**
OCEANIA	Australia (16 November 1992)	New Zealand (16 December 1998)	Kiribati
	Cook Islands (22 February 2005)	Niue (16 July 2012)	Papua New Guinea
	Fiji (25 March 1993)	Palau (14 August 2019)	Solomon Islands
	Marshall Islands (5 November 2010)	Samoa (19 August 2005)	Tuvalu
	Micronesia (Federated States of) (6 July 2004)	Tonga (29 April 1996)	
	Nauru (12 July 2012)	Vanuatu (26 January 2006)	
Regional total 16	**12**		**4**
World total 198	**191**		**7**

[a] Since 19 April 2018, "Eswatini" has replaced "Swaziland" as the short name used in the United Nations.
[b] State member of the European Union.
[c] Since 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.
[d] Since 14 February 2019, "North Macedonia" has replaced "the former Yugoslav Republic of Macedonia" as the short name used in the United Nations.
[e] Extent of competence: article 12.

Annex II

Submission of information by Governments pursuant to article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 (form D) for the period 2014–2018

Notes: The names of non-metropolitan territories and special administrative regions are in italics.
A blank signifies that form D was not received.
"X" signifies that a completed form D (or equivalent report) was submitted (including forms in which all fields contained "nil", "0", "none", etc.).
Entries for parties to the 1988 Convention (and for the years that they have been parties) are shaded.

Country or territory	*2014*	*2015*	*2016*	*2017*	*2018*
Afghanistan	X	X	X	X	X
Albania	X	X	X	X	X
Algeria	X	X	X	X	X
Andorra	X	X	X	X	
Angola			X	X	X
Anguilla[a]					
Antigua and Barbuda					
Argentina	X	X	X	X	X
Armenia	X	X	X	X	X
Aruba[a]					
Ascension Island					
Australia	X	X	X	X	
Austria[b]	X	X	X	X	X
Azerbaijan	X	X	X	X	X
Bahamas					
Bahrain	X	X	X	X	X
Bangladesh	X	X		X	
Barbados					
Belarus	X	X	X	X	X
Belgium[b]	X	X	X	X	X
Belize				X	
Benin	X	X	X	X	X
Bermuda[a]					
Bhutan	X	X	X	X	X
Bolivia (Plurinational State of)	X	X	X	X	X
Bosnia and Herzegovina	X	X	X	X	X
Botswana				X	
Brazil	X	X	X	X	X

Country or territory	*2014*	*2015*	*2016*	*2017*	*2018*
British Virgin Islands[a]					
Brunei Darussalam	X	X	X	X	X
Bulgaria[b]	X	X	X	X	X
Burkina Faso					
Burundi		X			
Cabo Verde	X	X	X	X	X
Cambodia	X				
Cameroon	X				
Canada	X	X	X	X	X
Cayman Islands[a]	X				
Central African Republic					
Chad		X			
Chile	X	X	X	X	X
China	X	X	X		X
China, Hong Kong SAR			X		X
China, Macao SAR	X	X			X
Christmas Island[a,c]	X	X			
Cocos (Keeling) Islands[a,c]	X	X			
Colombia	X	X	X	X	X
Comoros					
Congo					
Cook Islands					
Costa Rica	X	X	X	X	X
Côte d'Ivoire	X		X		
Croatia[b]	X	X	X	X	X
Cuba					
Curaçao	X	X	X	X	
Cyprus[b]	X	X	X	X	X
Czechia[b,d]	X	X	X	X	X
Democratic People's Republic of Korea		X	X	X	X
Democratic Republic of the Congo	X	X	X	X	X
Denmark[b]	X	X	X	X	X
Djibouti					
Dominica			X		X
Dominican Republic	X	X		X	X
Ecuador	X	X	X	X	X
Egypt	X	X	X	X	X
El Salvador	X	X	X	X	X
Equatorial Guinea					
Eritrea					
Estonia[b]	X	X	X	X	X
Eswatini[e]					
Ethiopia		X			
Falkland Islands (Malvinas)	X	X	X		

Country or territory	*2014*	*2015*	*2016*	*2017*	*2018*
Fiji			X		
Finland[b]	X	X	X	X	X
France[b]	X	X	X	X	X
French Polynesia[a]		X			
Gabon					X
Gambia			X		
Georgia	X	X	X	X	X
Germany[b]	X	X	X	X	X
Ghana	X	X	X	X	
Gibraltar					
Greece[b]	X	X	X	X	X
Grenada					
Guatemala	X	X	X	X	X
Guinea					
Guinea-Bissau					
Guyana	X	X	X		X
Haiti	X	X			X
Holy See[f]					
Honduras		X	X	X	X
Hungary[b]	X	X	X	X	X
Iceland	X	X	X	X	
India	X	X	X	X	X
Indonesia	X	X	X	X	X
Iran (Islamic Republic of)	X	X	X	X	X
Iraq			X		
Ireland[b]	X	X	X	X	X
Israel	X	X	X	X	X
Italy[b]	X	X	X	X	X
Jamaica	X	X	X	X	X
Japan	X	X	X	X	X
Jordan	X	X	X	X	X
Kazakhstan		X	X	X	X
Kenya		X	X	X	
Kiribati					
Kuwait		X			
Kyrgyzstan	X	X	X		X
Lao People's Democratic Republic	X	X	X	X	X
Latvia[b]	X	X	X	X	X
Lebanon	X	X	X	X	X
Lesotho					
Liberia					
Libya					
Liechtenstein[g]					
Lithuania[b]	X	X	X	X	X

Country or territory	*2014*	*2015*	*2016*	*2017*	*2018*
Luxembourg[b]	X	X	X	X	
Madagascar	X	X	X		X
Malawi					
Malaysia	X	X	X	X	X
Maldives			X		
Mali		X	X		
Malta[b]	X	X	X	X	X
Marshall Islands					
Mauritania					X
Mauritius					X
Mexico	X	X	X	X	X
Micronesia (Federated States of)					
Monaco			X	X	X
Mongolia		X	X	X	
Montenegro	X	X	X	X	X
Montserrat[a]	X	X	X	X	X
Morocco	X	X	X	X	X
Mozambique	X		X		X
Myanmar	X	X	X	X	X
Namibia	X		X		
Nauru					
Nepal	X			X	
Netherlands[b]	X	X	X	X	X
New Caledonia[a]	X	X	X		
New Zealand		X	X	X	X
Nicaragua	X	X	X	X	X
Niger					
Nigeria		X	X	X	X
Niue					
Norfolk Island[c]	X	X			
North Macedonia[h]					X
Norway	X	X		X	X
Oman	X	X	X	X	
Pakistan	X	X	X	X	X
Palau					
Panama	X	X	X	X	X
Papua New Guinea					
Paraguay			X	X	
Peru	X	X	X		X
Philippines	X	X	X	X	X
Poland[b]	X	X	X	X	
Portugal[b]	X	X	X	X	X
Qatar				X	X
Republic of Korea	X	X	X	X	X

Country or territory	*2014*	*2015*	*2016*	*2017*	*2018*
Republic of Moldova	X	X	X	X	X
Romania[b]	X	X	X	X	X
Russian Federation	X	X	X	X	X
Rwanda		X			
Saint Helena					
Saint Kitts and Nevis					
Saint Lucia	X	X	X	X	X
Saint Vincent and the Grenadines	X	X	X		X
Samoa					
San Marino[f]					X
Sao Tome and Principe					
Saudi Arabia	X	X	X	X	X
Senegal	X	X	X		X
Serbia			X	X	X
Seychelles			X		
Sierra Leone					X
Singapore	X	X	X	X	
Sint Maarten					
Slovakia[b]	X	X	X	X	X
Slovenia[b]	X	X	X	X	X
Solomon Islands					
Somalia					
South Africa		X	X	X	X
South Sudan				X	X
Spain[b]	X	X	X	X	X
Sri Lanka	X	X	X	X	X
Sudan	X	X	X	X	X
Suriname					X
Sweden[b]	X	X	X	X	X
Switzerland	X	X	X	X	X
Syrian Arab Republic	X	X	X	X	X
Tajikistan		X	X	X	X
Thailand	X	X	X	X	X
Timor-Leste					
Togo					
Tonga					
Trinidad and Tobago	X	X	X	X	X
Tristan da Cunha					
Tunisia	X	X	X	X	X
Turkey	X	X	X	X	X
Turkmenistan	X	X	X		
Turks and Caicos Islands[a]					
Tuvalu					
Uganda	X	X			X

Country or territory	*2014*	*2015*	*2016*	*2017*	*2018*
Ukraine		X	X	X	X
United Arab Emirates	X	X	X	X	X
United Kingdom of Great Britain and Northern Ireland[b]	X	X	X	X	X
United Republic of Tanzania	X	X	X	X	X
United States of America	X	X	X	X	X
Uruguay	X	X	X	X	X
Uzbekistan	X	X	X	X	X
Vanuatu					
Venezuela (Bolivarian Republic of)	X	X	X	X	X
Viet Nam	X	X		X	X
Wallis and Futuna Islands[a]					
Yemen					X
Zambia	X				
Zimbabwe	X	X	X	X	
Total number of Governments that submitted form D	**127**	**137**	**134**	**122**	**126**
Total number of Governments requested to provide information	**213**	**213**	**213**	**213**	**213**

[a] Territorial application of the 1988 Convention has been confirmed by the authorities concerned.
[b] State member of the European Union.
[c] Information was provided by Australia.
[d] Since 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.
[e] Since 19 April 2018, "Eswatini" has replaced "Swaziland" as the short name used in the United Nations.
[f] The Holy See and San Marino did not furnish form D separately as their data are included in the report of Italy.
[g] Liechtenstein did not furnish form D separately as its data are included in the report of Switzerland.
[h] Since 14 February 2019, "North Macedonia" has replaced "the former Yugoslav Republic of Macedonia" as the short name used in the United Nations.

Annex III

Seizures of substances in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, as reported to the International Narcotics Control Board, 2014–2018

1. Tables A and B below show information on seizures of the substances included in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, furnished to the International Narcotics Control Board by Governments in accordance with article 12, paragraph 12, of the Convention.

2. The tables include data on domestic seizures and on seizures effected at points of entry or exit. They do not include reported seizures of substances where it is known that the substances were not intended for the illicit manufacture of drugs (for example, seizures effected on administrative grounds or seizures of ephedrine/pseudoephedrine preparations to be used as stimulants). Stopped shipments are also not included. The information may include data submitted by Governments through means other than form D; in such cases, the sources are duly noted.

Units of measure and conversion factors

3. Units of measure are indicated for every substance. As fractions of full units are not listed in the tables, figures are rounded as necessary.

4. For a variety of reasons, individual quantities of some substances seized are reported to the Board using different units; for instance, one country may report seizures of acetic anhydride in litres, another in kilograms.

5. To enable a proper comparison of collected information, it is important that all data be collated in a standard format. To simplify the necessary standardization process, figures are given in grams or kilograms where the substance is a solid and in litres where the substance (or its most common form) is a liquid.

6. Seizures of solids reported to the Board in litres have not been converted into kilograms and are not included in the tables, as the actual quantity of substance in solution is not known.

7. For seizures of liquids, quantities reported in kilograms have been converted into litres using the following factors:

Substance	*Conversion factor (kilograms to litres)*[a]
Acetic anhydride	0.926
Acetone	1.269
Ethyl ether	1.408
Hydrochloric acid (39.1% solution)	0.833
Isosafrole	0.892
3,4-Methylenedioxyphenyl-2-propanone	0.833
Methyl ethyl ketone	1.242
1-Phenyl-2-propanone	0.985
Piperidine	1.160
Safrole	0.912
Sulphuric acid (concentrated solution)	0.543
Toluene	1.155

[a] Derived from density; see Merck, *The Merck Index* (Rahway, New Jersey, Merck, 1989).

8. As an example, to convert 1,000 kilograms of methyl ethyl ketone into litres, multiply by 1.242, i.e. 1,000 × 1.242 = 1,242 litres.

9. For the conversion of gallons to litres, it has been assumed that in Colombia the United States gallon is used, with 3.785 litres to the gallon, and in Myanmar the imperial gallon is used, with 4.546 litres to the gallon.

10. If reported quantities have been converted, the converted figures are listed in the tables in italics.

11. The names of territories appear in italics.

12. A dash (–) signifies that the report did not include data on seizures of the particular substance in the reporting year.

13. A slashed degree symbol (ø) signifies less than the smallest unit of measurement shown for that substance (for example, less than 1 kilogram).

14. Discrepancies may exist between the regional total seizure figures and the world total figures because the actual quantities seized were rounded to whole numbers.

Table A. Seizures of substances in Table I of the 1988 Convention as reported to the International Narcotics Control Board, 2014–2018

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
AFRICA																					
Benin	2016	-	-	-	-	295	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
Kenya	2015	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mali	2015	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mozambique	2018	-	83	-	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Namibia	2014	-	-	-	21	-	-	-	2 100	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 100
Nigeria	2015	-	-	-	785	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	444	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South Africa	2018	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
United Republic of Tanzania	2014	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	15	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-	-	-	-	-
Zambia	2014	-	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zimbabwe	2014	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Regional total	**2014**	**0**	**0**	**0**	**95**	**0**	**0**	**0**	**2 100**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2015	**0**	**0**	**0**	**816**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2016	**0**	**0**	**0**	**444**	**295**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2 100**
	2017	**15**	**0**	**0**	**0**	**152**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2018	**0**	**83**	**0**	**404**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
AMERICAS																					
CENTRAL AMERICA AND THE CARIBBEAN																					
Honduras	2016	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-		-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-
Regional total	**2014**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2015	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2016	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2017	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2018	**0**	**0**	**0**	**0**	**0**	**0**	**150**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NORTH AMERICA																					
Canada	2014	ø	-	-	65	-	-	-	-	14	-	-	-	-	-	-	-	ø	ø	-	2
	2015	ø	-	-	ø	ø	-	ø	-	ø	ø	-	-	-	-	ø	-	-	-	ø	ø
	2016	-	-	-	639	ø	-	-	-	-	-	-		-	-	-	-	-	5	-	-
Mexico	2014	13 368	-	-	-	-	-	-	-	-	-	-	-	1 315	-	5 892	-	-	-	-	-
	2015	3 356	-	-	-	-	-	-	-	-	-	-	-	550	-	16 537	-	-	-	-	-
	2016	2 900	-	-	-	-	-	-	-	-	-	-	-	59	-	7 033	-	-	-	-	-
	2017	8 601	-	-	-	-	-	-	-	-	-	-	-	19 435	-	2 455	-	-	-	-	-
	2018	133	-	ø	-	-	-	-	-	-	-	-		1 342	-	19 015	-	-	-	-	-
United States of America	2014	ø	-	-	ø	ø	-	-	-	-	-	-	-	-	-	ø	-	-	19	1	-
	2015	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-
	2016	ø	-	52	27	-	-	-	1	3 880	ø	ø		ø	-	1	288	ø	127	-	3
	2017	-	-	-	6	-	-	-	-	-	-	1	50	4	-	-	-	-	195	-	32
	2018	-	-	275	2	-	-	-	-	594	-	7		ø	-	ø	-	-	28	-	ø

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
Regional total	2014	13 368	0	0	65	0	0	0	0	14	0	0	0	1 315	0	5 893	0	1	19	1	2
	2015	3 356	0	0	1	0	0	0	0	0	0	0	0	550	0	16 537	0	0	210	0	0
	2016	2 900	0	52	665	0	0	0	1	3 880	0	0	0	59	0	7 034	288	1	132	0	3
	2017	8 601	0	0	6	0	0	0	0	0	0	1	50	19 439	0	2 455	0	0	195	0	32
	2018	133	0	275	2	0	0	0	0	594	0	7	0	1 342	0	19 015	0	0	28	0	0
SOUTH AMERICA																					
Argentina	2014	33	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	1 044	-	-	47	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-	-
	2016	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-
	2017	276	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	2 650	-	-	-
	2018	5	-	-	168	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-
Bolivia (Plurinational State of)	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 492	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	862	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 001	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 401	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 642	-	-	-
Brazil	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
	2016	-	-	-	ø	-	-	-	-	-	1	-	-	-	-	-	-	8	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-
Chile	2015	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	2 506	-	ø	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
Colombia	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166 291	-	-	-
	2015	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57 639	-	-	-
	2016	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	582 540	-	-	-
	2017	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97 889	-	-	-
	2018	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70 444	-	-	-
Ecuador	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
Peru	2014	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 735	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	-	-	-
	2016	2 889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	248	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-
Venezuela (Bolivarian Republic of)	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 120	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 554	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	660	-	-	-
	2018	5	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	1 330	-	-	-
Regional total	**2014**	**48**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**171 649**	**0**	**0**	**0**
	2015	**1 052**	**0**	**0**	**47**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60 166**	**0**	**0**	**0**
	2016	**2 901**	**0**	**0**	**250**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**585 003**	**0**	**0**	**0**
	2017	**370**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**103 635**	**0**	**0**	**0**
	2018	**48**	**0**	**0**	**168**	**0**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**76 983**	**0**	**0**	**0**

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
ASIA																					
EAST AND SOUTH-EAST ASIA																					
China[d]	2014	22 635	-	-	31 576	3 222	-	-	-	-	33	ø	-	49 651	-	3 241	-	2 120	-	-	-
	2015	11 070	ø		23 480	221	-	-	-	-	ø	6	-	3	-	5 407	-	31 550	13	-	-
	2016	56 177	-	-	1 409	3 367	-	-	-	-	376	-	-	-	-	11 639	-	45	-	-	ø
	2018	53 500	150	-	19 370	5 718	449	-	-	-	18	-	-	6 552	-	3 873	-	3 521	908	-	-
China, Hong Kong SAR	2016	-	-	-	43	[b]	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-
	2018	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	ø	ø	[b]	-
China, Macao SAR	2014	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	2014	-	-	-	ø	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2016	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	ø	-	-	-	-
Japan	2014	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-	-	ø	-	-
	2017	7 647	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
	2018	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaysia	2014	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-	1	287	112	-
	2015	-	-	-	75	-	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-
	2016	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	262	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-
	2018	-	-	-	197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myanmar	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4 800	-	-	-	-	-
	2015	60	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	16	-	-	534	-	-	-	-	-	-	-	-	-	-	-	-	-	181	-	-
	2017	1 318	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	421	-	-
	2018	40	1 000	-	-	140	-	-	-	-	-	-	-	4 000	-	3 298	-	-	-	[b]	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
Philippines	2014	-	-	-	510	-	-	-	-	-	-	ø	-	-	-	-	ø	-	-	-	-
	2015	-	-	-	50	-	-	-	-	-	-	ø	-	-	-	-	-	-	2	-	-
	2016	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-
	2018	-	-	-	11 212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thailand	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
	2016	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	3 829	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 153	-
Viet Nam	2014	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-
Regional total	**2014**	**22 635**	**0**	**0**	**32 095**	**3 255**	**0**	**0**	**0**	**0**	**33**	**0**	**0**	**49 651**	**0**	**8 041**	**0**	**2 121**	**309**	**118**	**0**
	2015	**11 130**	**0**	**0**	**23 604**	**221**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**3**	**0**	**5 407**	**0**	**31 550**	**77**	**3**	**0**
	2016	**56 193**	**0**	**0**	**2 056**	**3 470**	**0**	**0**	**0**	**0**	**376**	**0**	**0**	**0**	**0**	**11 639**	**0**	**45**	**181**	**3 829**	**0**
	2017	**8 965**	**0**	**0**	**264**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**644**	**1 153**	**0**
	2018	**53 540**	**1 150**	**0**	**30 795**	**5 858**	**449**	**0**	**0**	**0**	**18**	**0**	**0**	**10 552**	**0**	**7 171**	**0**	**3 522**	**908**	**18**	**0**
SOUTH ASIA																					
India	2014	100	-	-	654	-	-	-	-	-	-	-	-	-	-	78	-	-	-	676	-
	2015	4	-	-	97	ø	-	-	-	472	43	-	-	-	-	-	-	-	730	ø	-
	2016	2 464	-	-	-	21 179	-	-	-	13	-	-	-	-	-	-	-	-	-	155	-
	2017	23	-	-	-	1 120	-	-	-	349	-	-	-	-	-	-	-	-	-	1 869	-
	2018	9 716	-	-	-	101	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-
Regional total	**2014**	**100**	**0**	**0**	**654**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**78**	**0**	**0**	**0**	**676**	**0**
	2015	**4**	**0**	**0**	**97**	**0**	**0**	**0**	**0**	**472**	**43**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**730**	**0**	**0**
	2016	**2 464**	**0**	**0**	**0**	**21 179**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**155**	**0**
	2017	**23**	**0**	**0**	**0**	**1 120**	**0**	**0**	**0**	**349**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1 869**	**0**
	2018	**9 716**	**0**	**0**	**0**	**101**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
WEST ASIA																					
Afghanistan	2014	7 751	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	3 761	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	10 439	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
	2017	37 715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	7 364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	-	-
Armenia	2014	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-
	2018	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	2016	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2017	-	-	-	ø	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
	2018	13 733	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-
Iran (Islamic Republic of)	2016	18 520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	20 294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	27 680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jordan	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3 260	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	11 048	926	-	-	-	-	-
Kazakhstan	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13 401	-	-	-
Lebanon	2014	-	-	-	-	[b]	-	-	-	-	-	-	-	-	-	-	-	-	-	[b]	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	16 082	-	-	-	-	-	-	-
	2018	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	2014	185	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	5 319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	40 000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	6 918	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	19 803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
Tajikistan	2018	266	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkey	2014	854	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	4 402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	1 588	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	23 238	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	38 569	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-
Uzbekistan	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32 684	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
	2017	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	822	-	-	-
Regional total	**2014**	8 790	0	-	68	0	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0
	2015	13 481	0	-	0	0	0	0	0	0	0	0	0	16 082	0	0	0	46 085	0	0	0
	2016	70 547	0	-	0	0	0	0	0	0	0	0	0	0	0	3 260	0	2	16	0	0
	2017	88 184	0	-	0	0	0	0	0	3	0	0	0	0	0	0	0	4	0	0	0
	2018	107 416	0	-	0	0	0	0	0	0	0	0	0	0	11 048	926	0	822	51	0	0
EUROPE																					
STATES NOT MEMBERS OF THE EUROPEAN UNION																					
Bosnia and Herzegovina	2018	1	-	ø	-	-	-	-	-	-	-	-		-	-	-	-	1 525	-	8	-
Belarus	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2016	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2017	-	-	-	-	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
Iceland	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
Republic of Moldova	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2015	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	ø	ø	ø	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
Norway	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-	-	-
	2015	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
Russian Federation	2014	17	-	-	-	ø	-	-	-	-	-	-	-	-	-	ø	-	-	-	ø	-
	2015	47	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2016	6	-	-	3	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-
	2017	19	-	-	-	3	-	-	-	-	-	-	-	-	-	1	-	-	ø	-	-
	2018	9	-	-	2	-	-	-	-	2 000	-	-	-	-	-	6	-	-	-	-	-
Serbia	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-
Switzerland	2014	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø
Ukraine	2015	57	-	-	-	ø	-	-	-	-	-	ø	-	25	-	-	ø	10	ø	47	-
	2016	97	-	-	-	253	-	-	-	-	ø	-	-	-	-	430	-	14	ø	2	-
	2017	310	-	-	5	ø	-	-	-	-	-	-	-	-	-	1	-	12	ø	6	-
	2018	-	-	-	-	ø	-	ø	-	-	1	-	-	-	12	-	ø	1	-	3	
STATES MEMBERS OF THE EUROPEAN UNION																					
Austria	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-
	2015	2 037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
Belgium	2014	-	-	-	2	-	-	-	-	-	5	-	-	-	122	25	-	-	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	637	435	-	-	-	-	1
	2016	-	-	-	3	-	-	-	-	-	-	-	-	-	4	1	-	-	-	-	-
	2017	1 836	-	-	4	-	-	-	-	-	236	-	-	-	-	38	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	3	-	50	1 400	-	-	-	-	-
Bulgaria	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	1 980	-	-	-	-	841	-
	2015	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	32	66	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2017	10 623	-	-	-	-	-	-	-	-	4 177	-	-	-	-	-	-	-	-	-	-
	2018	780	-	-	-	-	-	-	-	-	-	-	-	-	4 400	-	-	-	-	80	-
Croatia	2014	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
Czechia[e]	2014	-	-	-	14	2	-	-	-	-	-	-	-	-	-	-	-	-	12	351	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	-
	2016	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	20	26	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	28	-
	2018	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	58	-
Denmark	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-
Estonia	2014	ø	-	-	-	ø	-	-	-	-	-	-	-	100	5	-	-	-	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-
	2017	-	-		-	ø	-	-	-	-	-	-	5	-	-	-	-	ø	-	-	-
	2018	-	-	-	-	ø	-	-	-	-	-	-		ø	-	-	-	-	-	-	-
Finland	2014	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	2	-	-	-	-	-	-	-	-	-	ø	ø	-	-	ø	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	ø	ø	-	ø	-
	2017	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	ø	-	-	-	ø	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
France	2014	-	-	-	15	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	2015	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2016	-	-	-	11	ø	-	-	-	500	888	-	-	-	-	-	-	-	-	-	-
	2018	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	2014	-	-	-	ø	ø	-	-	-	-	-	-	-	-	5 105	2	-	ø	-	-	-
	2015	1	-	-	4	-	-	-	-	-	-	-	-	-	38	2	ø	ø	ø	ø	-
	2016	-	-	-	15	-	-	200	-	-	-	-	-	-	200	-	-	-	-	-	-
	2017	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	46	-	-	5	-	-	-	-	-	-	-	-	-	150	ø	-	-	63	2	-
Hungary	2014	-	-	-	ø	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-
	2016	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-
	2017	-	-	-	ø	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	ø	125	-	-	-	-	-	-	-	-	-	ø	-	-	-	8	-
Ireland	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-
	2015	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	7	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-
Lithuania	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	690	-	-	-	-	-
	2015	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	7	ø	-	-	-	-	-
	2018	-	-	-	ø	-	-	-	-	-	-	-	-	-	7	580	-	-	-	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
Netherlands	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	3 090	428	5	-	-	2	-
	2015	-	-	-	-	-	-	-	-	-	507	-	-	258	710	525	45	26	-	-	2
	2016	75	-	-	-	-	-	-	-	-	148	-	-	-	393	22	1	-	-	-	61
	2017	6 953	-	-	3	-	-	-	-	-	5 397	-	-	-	59	981	10	-	8	-	2 970
	2018	13 840	-	-	-	-	-	-	-	-	190	-	-	132	3 928	1 270	ø	23	29	-	175
Poland	2014	4	-	-	ø	-	-	-	-	-	-	-	-	-	611	1 472	-	-	ø	-	-
	2015	-	-	-	1	-	-	-	-	-	-	-	-	-	31	6 920	-	-	-	35	-
	2016	-	-	-	-	26	-	-	-	-	-	-	-	-	-	107	-	-	-	-	2
	2017	1 001	-	-	-	-	-	-	-	-	-	-	-	-	5 000	112	-	-	-	-	-
Portugal	2015	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2017	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5 786	-	-	ø	ø	-
Romania	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	150	-	-	-	-	-	-
	2018	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	44	-	-	-	-	-
Slovakia	2014	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	11	-
	2015	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	1 000	ø	-	-
	2016	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ø	-
	2017	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Slovenia	2018	2 778	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	2014	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	1	-	-	2	-	-	-	-	-	-	-	-	2	122	-	-	-	-	-	-
	2016	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-
	2017	-	-	-	ø	-	-	-	-	-	-	ø	-	-	-	-	27	5	-	-	-
	2018	-	-	-	23	-	-	-	-	-	527	-	-	-	-	-	29	45	-	-	-
Sweden	2014	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	-	[a]	-	-	-	-	-	-	-	-	-	7	-	-	-	ø	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
Sweden *(continued)*	2017	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	ø	-	-	ø	-
	2018	-	-	-	-	ø	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
United Kingdom of Great Britain and Northern Ireland	2016	-	-	-	29	ø	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	9	21	-	-	-	594	-	-	-	-	-
	2018	-	-	-	12	-	-	-	-	-	-	-	-	-	10	ø	-	-	-	-	-
Regional total	2014	131	0	0	31	7	0	0	0	0	5	0	0	100	11 062	2 640	5	1	13	1 206	0
	2015	2 144	0	0	7	3	0	0	0	0	507	0	0	286	1 537	7 896	45	1 036	32	225	3
	2016	178	0	0	67	283	0	200	0	500	1 056	0	10	0	597	579	1	22	21	31	65
	2017	20 741	0	0	30	11	0	0	0	0	9 820	21	5	0	5 066	1 727	37	18	13	34	2 975
	2018	17 454	0	0	51	125	0	0	0	2 000	718	0	3	132	8 557	9 193	30	1 599	111	160	175
OCEANIA																					
Australia	2014	-	-	-	457	-	-	57	ø	-	20	ø	-	ø	-	ø	ø	-	11	-	73
	2015	-	-	-	457	-	-	281	-	-	139	12	-	1	-	-	ø	-	72	-	ø
	2016	ø	-	-	1 123	-	-	290	-	804	ø	-	-	-	-	-	-	-	1 046	-	-
	2017	-	-	-	5 925	-	-	450	-	3 877	4	250	-	225	-	-	10	-	142	-	-
New Zealand	2015	3	-	-	952	-	-	-	-	-	-	-	-	-	-	-	-	ø	61	-	-
	2016	ø	-	-	1 228	-	-	-	-	-	-	-	-	-	-	-	-	ø	-	9	-
	2017	ø	-	-	562	ø	-	-	-	-	-	-	-	-	-	-	-	-	25	ø	-
	2018	1	-	-	412	ø	-	-	-	-	-	-	-	-	-	-	-	-	10	ø	-
Regional total	2014	0	0	0	457	0	0	57	0	0	20	0	0	0	0	1	0	0	11	0	184
	2015	3	0	0	1 409	0	0	281	0	0	139	12	0	1	0	0	1	0	133	0	73
	2016	1	0	0	2 352	0	0	290	0	804	0	0	0	0	0	0	0	0	1 046	9	0
	2017	0	0	0	6 487	0	0	450	0	3 877	4	250	0	225	0	0	10	0	167	0	0
	2018	1	0	0	412	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP)[a] (kilograms)	Ephedrine (kilograms)	Ephedrine preparations[b] (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP)[a] (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN)[c] (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations (kilograms)[b]	Safrole (litres)
World total	**2014**	**45 071**	**0**	**0**	**33 491**	**3 261**	**0**	**57**	**2 100**	**14**	**58**	**0**	**0.00**	**51 066**	**11 062**	**16 653**	**5**	**173 824**	**351**	**2 002**	**185**
	2015	**31 169**	**0**	**0**	**25 982**	**224**	**0**	**281**	**0**	**472**	**689**	**18**	**0**	**16 922**	**1 537**	**29 840**	**46**	**138 837**	**1 182**	**228**	**77**
	2016	**135 184**	**0**	**52**	**5 834**	**25 228**	**0**	**490**	**1**	**5 198**	**1 434**	**0**	**10**	**59**	**597**	**22 512**	**289**	**585 072**	**1 395**	**4 024**	**2 169**
	2017	**126 900**	**0**	**0**	**6 786**	**1 283**	**0**	**450**	**0**	**4 229**	**9 839**	**272**	**5**	**19 664**	**5 066**	**4 182**	**48**	**103 657**	**1 019**	**3 057**	**3 007**
	2018	**188 309**	**1 233**	**275**	**31 836**	**6 084**	**449**	**168**	**0**	**2 594**	**735**	**7**	**3**	**12 027**	**19 605**	**36 305**	**30**	**82 925**	**1 108**	**178**	**175**

[a] Included in Table I of the 1988 Convention, effective 18 October 2017.

[b] Seizures of ephedrine and pseudoephedrine reported to the Board in consumption units (such as tablets and doses) have not been converted into kilograms, as the actual quantity of ephedrine and pseudoephedrine is not known. The following countries and territories listed in the table below have reported seizures of preparations containing ephedrine and/or pseudoephedrine quantified in terms of consumption units.

Country	Year	Ephedrine preparations (units)	Pseudoephedrine preparations (units)
Canada	2015	30 433	907
	2016	9 757 657	45
China, Hong Kong SAR	2016	11 050	–
	2018	10	–
Germany	2015	–	1 779
Hungary	2016	21	–
India	2015	560	3 342 792
Indonesia	2014	17	–
	2015	–	60
Lebanon	2014	47	7 662

Country	*Year*	*Ephedrine preparations (units)*	*Pseudoephedrine preparations (units)*
Myanmar	2018	450 000	–
Portugal	2016	–	2
Republic of Moldova	2014	–	60
	2015	–	60
	2016	–	60
Sweden	2016	6 363	–
Switzerland	2014	185	–
United Kingdom	2016	2 350	–

[c] Included in Table I of the 1988 Convention, effective 6 October 2014.
[d] For statistical purposes, the data for China do not include those for Hong Kong, China, or Macao, China.
[e] Since 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.

Table B. Seizures of substances in Table II of the 1988 Convention as reported to the International Narcotics Control Board, 2014–2018

Country or territory	*Year*	*Acetone (litres)*	*Anthranilic acid (kilograms)*	*Ethyl ether (litres)*	*Hydrochloric acid (litres)*	*Methyl ethyl ketone (litres)*	*Piperidine (litres)*	*Sulphuric acid (litres)*	*Toluene (litres)*
AFRICA									
Namibia	2016	-	-	-	-	-	-	-	47 355
Nigeria	2015	-	-	-	-	-	-	-	ø
	2016	979	-	-	3	-	-	-	785
	2018	203	-	-	30	-	-	120	319
United Republic of Tanzania	2017	25	-	173	293	20	-	730	30
Regional total	**2014**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2015	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2016	**979**	**0**	**0**	**3**	**0**	**0**	**0**	**48 140**
	2017	**25**	**0**	**173**	**293**	**20**	**0**	**730**	**30**
	2018	**203**	**0**	**0**	**30**	**0**	**0**	**120**	**319**
AMERICAS **CENTRAL AMERICA AND THE CARIBBEAN**									
Guatemala	2017	4	-	-	-	-	-	-	-
Honduras	2016	22	-	-	8	-	-	1	-
Regional total	**2014**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2015	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2016	**22**	**0**	**0**	**8**	**0**	**0**	**1**	**0**
	2017	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2018	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NORTH AMERICA									
Canada	2014	940	-	-	219	-	-	153	645
	2015	ø	ø	-	ø	ø	-	ø	-
	2016	215	-	-	317	-	-	41	246
	2018	ø	-	-	-	-	-	-	-

Country or territory	*Year*	*Acetone (litres)*	*Anthranilic acid (kilograms)*	*Ethyl ether (litres)*	*Hydrochloric acid (litres)*	*Methyl ethyl ketone (litres)*	*Piperidine (litres)*	*Sulphuric acid (litres)*	*Toluene (litres)*
Mexico	2014	2 402	-	ø	8 446	281	-	1 406	4 324
	2015	8 117	-	-	188 256	184	-	4 508	26 643
	2016	21 035	-	-	26 573	89	-	2 502	48 172
	2017	25 426	-	404	81 408	40	-	2 290	93 139
	2018	6 236	-	-	14 604	-	-	8 390	14 316
United States of America	2014	4 477	-	277	1 326	11	57	1	72
	2015	3 810	-	168	1 325	18	-	1 244	41
	2016	121 580	-	833	105 991	3	ø	-	-
	2017	636	-	224	335	4	121	271	56
	2018	256	-	26	214	-	-	191	ø
Regional total	**2014**	**7 819**	**0**	**278**	**9 991**	**292**	**57**	**1 560**	**5 041**
	2015	**11 927**	**0**	**168**	**189 581**	**202**	**0**	**5 752**	**26 684**
	2016	**142 830**	**0**	**833**	**132 881**	**92**	**0**	**2 543**	**48 418**
	2017	**26 062**	**0**	**628**	**81 743**	**44**	**121**	**2 561**	**93 195**
	2018	**6 492**	**0**	**26**	**14 818**	**0**	**0**	**8 581**	**14 317**
SOUTH AMERICA									
Argentina	2014	67	-	77	24 677	-	-	50	-
	2015	8 001	-	72	54 250	12	-	4 145	71 478
	2016	20 599	-	10	11 989	4 680	-	1 431	400
	2017	19 834	-	4	231	1 330	-	4 028	1 403
	2018	459	-	54	19 383	9	-	6 523	1 135
Bolivia (Plurinational State of)	2014	18 830	-	1 112	5 700	-	-	56 283	126
	2015	45 869	-	12 309	5 722	-	-	51 837	160
	2016	32 937	-	14 570	25 832	245	-	47 795	-
	2017	7 667	-	-	18 126	-	-	40 817	-
	2018	83 080	-	-	7 832	-	-	31 740	-
Brazil	2014	154	-	-	15 319	-	-	399	-
	2015	1 081	-	313	374 679	-	-	317 998	-
	2016	421	-	1	1 210	-	-	2 529	3 011
	2017	201	-	1	107	-	-	3	200
	2018	335	-	387	126	-	-	490	-

Country or territory	Year	Acetone (litres)	Anthranilic acid (kilograms)	Ethyl ether (litres)	Hydrochloric acid (litres)	Methyl ethyl ketone (litres)	Piperidine (litres)	Sulphuric acid (litres)	Toluene (litres)
Chile	2014	25	-	4	226	-	-	233	-
	2015	ø	-	-	142	14	-	196	ø
	2016	2	-	-	95	-	-	73	-
	2017	1	-	-	1 278	-	-	234	-
	2018	2 040	-	-	139	49	-	644	ø
Colombia	2014	456 643	-	2 117	75 058	6 155	-	276 004	191 390
	2015	613 920	-	11 697	211 090	172	-	282 853	56 221
	2016	946 102	-	927	208 676	22 807	-	504 970	379 495
	2017	1 091 435	-	27	98 380	16 956	-	411 933	106 710
	2018	1 501 098	-	8 998	171 618	15 126	-	661 983	217 854
Ecuador	2014	-	-	-	154	-	-	708	-
	2015	-	-	-	11	-	-	2 642	-
	2016	-	-	-	40 927	-	-	4 831	-
	2017	-	-	-	-	24	-	1 400	-
	2018	-	-	-	-	-	-	3 380	-
Peru	2014	83 006	-	4	58 907	1 225	-	87 305	3 128
	2015	55 229	-	-	9 904	-	-	16 576	-
	2016	114 318	-	-	49 203	976	-	68 354	1 795
	2018	19 440	-	-	1 011	76	-	1 500	4 351
Uruguay	2016	2	-	-	-	-	-	-	-
Venezuela (Bolivarian Republic of)	2014	27 598	-	-	1 061	99	-	831	301
	2015	203 824	-	-	19 318	-	-	10 411	10 666
	2016	2 018	-	-	2 948	75	-	18 726	1 982
	2017	28 400	-	-	21 108	249	-	15 331	25
	2018	34 639	-	3	17 324	ø	-	16 009	5 502
Regional total	**2014**	**586 323**	**0**	**3 313**	**181 101**	**7 479**	**0**	**421 813**	**194 946**
	2015	**927 924**	**0**	**24 391**	**675 116**	**198**	**0**	**686 659**	**138 525**
	2016	**1 116 399**	**0**	**15 509**	**340 881**	**28 783**	**0**	**648 708**	**386 683**
	2017	**1 147 538**	**0**	**31**	**139 230**	**18 559**	**0**	**473 745**	**108 338**
	2018	**1 641 091**	**0**	**9 441**	**217 432**	**15 261**	**0**	**722 268**	**228 843**

Country or territory	*Year*	*Acetone (litres)*	*Anthranilic acid (kilograms)*	*Ethyl ether (litres)*	*Hydrochloric acid (litres)*	*Methyl ethyl ketone (litres)*	*Piperidine (litres)*	*Sulphuric acid (litres)*	*Toluene (litres)*
ASIA									
EAST AND SOUTH-EAST ASIA									
China[a]	2014	139 171	816	7 918	1 659 718	640	-	679 966	290 917
	2015	9 768	9 575	909	565 575	727	-	177 115	91 804
	2016	32 658	2	1 412	483 284	-	-	75 212	188 454
	2018	-	-	12 204	2 280 230	1 906	-	314 292	361 954
China, Hong Kong SAR	2016	3	-	-	-	-	-	-	-
Indonesia	2014	ø	-	-	2 376	-	-	1 015	506
	2015	20	-	-	29	-	-	63	19
	2016	11	-	-	30	-	-	14	6
	2017	5	-	-	ø	-	-	ø	ø
Malaysia	2014	139	-	13	779	-	-	-	153
	2015	194	-	3	283	-	-	-	513
	2016	-	-	3	74	-	-	-	875
	2017	173	-	5	215	-	-	-	-
	2018	792	-	14	179	-	-	-	835
Myanmar	2014	193 922	-	-	1 687 325	-	-	6 716 899	2 452 409
	2016	1 238	-	250	3 495	-	-	28 476	-
	2017	-	-	-	106 720	-	-	11 035	-
	2018	71 540	2 100	203 794	181 657	7 860	-	62 135	4 602
Philippines	2014	ø	-	-	ø	-	-	-	640
	2015	217	-	-	283	-	-	5	1 293
	2016	221	-	-	200	-	-	2	55
	2017	-	-	-	46	ø	-	23	514
	2018	2 389	-	-	1 097	-	-	5	2
Singapore	2014	20	-	-	-	-	-	-	-
	2016	ø	-	-	-	2	-	-	-
Regional total	**2014**	**333 253**	**816**	**7 931**	**3 350 198**	**640**	**0**	**7 397 880**	**2 744 624**
	2015	**10 199**	**9 575**	**911**	**566 170**	**727**	**0**	**177 183**	**93 629**
	2016	**34 131**	**2**	**1 665**	**487 083**	**2**	**0**	**103 705**	**189 390**
	2017	**177**	**0**	**5**	**106 981**	**0**	**0**	**11 058**	**514**
	2018	**74 720**	**2 100**	**216 012**	**2 463 163**	**9 766**	**0**	**376 432**	**367 393**

Country or territory	Year	Acetone (litres)	Anthranilic acid (kilograms)	Ethyl ether (litres)	Hydrochloric acid (litres)	Methyl ethyl ketone (litres)	Piperidine (litres)	Sulphuric acid (litres)	Toluene (litres)
SOUTH ASIA									
India	2014	-	-	-	-	110 364	-	-	-
	2015	-	-	-	-	32	-	-	-
	2018	-	-	-	-	-	-	-	83
Regional total	**2014**	**0**	**0**	**0**	**0**	**110 364**	**0**	**0**	**0**
	2015	**0**	**0**	**0**	**0**	**32**	**0**	**0**	**0**
	2016	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2017	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2018	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**83**
WEST ASIA									
Afghanistan	2014	-	-	-	5 317	-	-	19 075	25
	2015	-	-	-	-	-	-	15 900	363
	2016	502	-	-	269	-	-	48	450
	2017	-	-	-	2 260	-	-	-	-
	2018	20 146	-	-	1 313	-	-	122	72 185
Armenia	2014	-	-	ø	ø	-	-	-	-
	2015	ø	-	-	ø	-	-	ø	ø
	2016	ø	-	-	ø	-	-	-	-
	2017	-	-	-	ø	-	-	ø	-
	2018	ø	-	-	ø	-	-	ø	-
Iran (Islamic Republic of)	2018	-	-	-	-	248	-	-	-
Jordan	2016	-	-	7 500	15	-	-	30	-
	2018	-	-	619	12 124	-	-	1 368	-
Kazakhstan	2016	-	-	-	1	-	-	6	-
	2017	ø	-	-	1	-	-	4	-
	2018	-	-	-	-	-	-	9	-
Kyrgyzstan	2014	-	-	-	535	-	-	12 756	-
	2015	-	-	-	404	-	-	8 144	-
	2016	-	-	-	11	-	-	1 926	-
	2018	-	-	-	1 342	-	-	876	-
Lebanon	2014	32	-	43	10	-	-	-	-
	2016	-	-	240	1	-	-	-	-

Country or territory	*Year*	*Acetone (litres)*	*Anthranilic acid (kilograms)*	*Ethyl ether (litres)*	*Hydrochloric acid (litres)*	*Methyl ethyl ketone (litres)*	*Piperidine (litres)*	*Sulphuric acid (litres)*	*Toluene (litres)*
Lebanon *(continued)*	2017	-	-	10	-	-	-	-	-
	2018	10	-	22	-	-	-	-	-
Pakistan	2014	-	-	-	9 996	-	-	27 367	-
	2015	-	-	-	30	-	-	-	-
	2016	-	-	-	-	-	-	2 835	-
	2017	975	-	-	4 130	130	-	50 595	580
	2018	8 819	-	-	1 737	-	-	20 586	44
Tajikistan	2016	-	-	-	-	-	-	20 064	-
	2017	-	-	-	-	-	-	300	-
	2018	-	-	-	-	-	-	17	-
United Arab Emirates	2018	-	-	-	5 250	-	-	540	40
Uzbekistan	2014	-	-	-	-	-	-	1 610	-
	2015	10 500	-	-	-	-	-	7 800	-
	2016	2	-	-	-	-	-	-	-
	2017	23	-	-	-	-	-	-	-
Regional total	**2014**	**32**	**0**	**43**	**15 859**	**0**	**0**	**60 809**	**25**
	2015	**10 500**	**0**	**0**	**435**	**0**	**0**	**31 844**	**363**
	2016	**504**	**0**	**7 740**	**297**	**0**	**0**	**24 909**	**450**
	2017	**999**	**0**	**10**	**6 391**	**130**	**0**	**50 898**	**580**
	2018	**28 975**	**0**	**641**	**21 765**	**248**	**0**	**23 518**	**72 269**
EUROPE									
STATES NOT MEMBERS OF THE EUROPEAN UNION									
Bosnia and Herzegovina	2018	ø	-	-	-	-	-	3	-
Belarus	2014	94	-	-	-	-	-	-	-
	2015	2 931	-	-	16 329	-	-	-	1 104
	2016	-	-	-	-	-	-	2 180	-
	2017	-	-	-	-	23 824	-	-	-
	2018	-	-	-	-	-	-	ø	-
Republic of Moldova	2015	-	-	-	2	-	-	ø	-
	2017	-	-	-	ø	-	-	-	-

Country or territory	Year	Acetone (litres)	Anthranilic acid (kilograms)	Ethyl ether (litres)	Hydrochloric acid (litres)	Methyl ethyl ketone (litres)	Piperidine (litres)	Sulphuric acid (litres)	Toluene (litres)
Norway	2015	-	-	-	-	-	-	-	ø
	2018	2	-	-	-	-	-	6	3
Russian Federation	2014	-	-	-	1	-	-	7	-
	2015	-	-	-	1	-	-	14	-
	2017	17	-	-	143	-	-	4	-
	2018	-	-	-	515	-	-	-	-
Ukraine	2015	4 275	-	-	182	-	-	35	24 180
	2016	113	-	-	142	-	-	10	12 097
	2017	92	-	-	354	-	-	1 220	24
	2018	18 399	-	-	469	-	-	9 079	23
Regional total	**2014**	**94**	**0**	**0**	**1**	**0**	**0**	**7**	**0**
	2015	**7 206**	**0**	**0**	**16 514**	**0**	**0**	**49**	**25 284**
	2016	**113**	**0**	**0**	**142**	**0**	**0**	**2 189**	**12 097**
	2017	**109**	**0**	**0**	**497**	**23 824**	**0**	**1 224**	**24**
	2018	**18 399**	**0**	**0**	**984**	**0**	**0**	**9 080**	**23**
STATES MEMBERS OF THE EUROPEAN UNION									
Austria	2014	ø	-	-	18	-	-	121	73
	2015	7	-	-	9	-	-	5	4
	2016	1	-	-	1	-	-	ø	4
	2017	1	-	-	12	-	-	ø	4
	2018	1	-	1	2	-	-	2	12
Cyprus	2014	-	-	-	ø	-	-	-	-
Czechia[b]	2014	1 380	-	-	822	-	-	-	1 571
	2016	-	-	-	5	-	-	222	9
	2017	159	-	-	346	-	-	-	3 943
	2018	305	-	-	247	-	-	-	904
Estonia	2015	-	-	-	ø	-	-	ø	-
	2016	ø	-	-	ø	-	-	1	-
	2017	3	-	-	ø	-	-	-	-
	2018	7	-	-	1	-	-	32	-

Country or territory	*Year*	*Acetone (litres)*	*Anthranilic acid (kilograms)*	*Ethyl ether (litres)*	*Hydrochloric acid (litres)*	*Methyl ethyl ketone (litres)*	*Piperidine (litres)*	*Sulphuric acid (litres)*	*Toluene (litres)*
Germany	2014	10	-	-	6	-	-	27	17
	2015	18	-	-	6	-	-	32	2
	2016	20	-	-	11	-	-	4	-
	2018	3 249	-	-	3 097	10	-	2 122	169
Hungary	2014	12	-	-	ø	-	-	ø	-
	2015	26	-	-	-	-	-	-	23
	2016	2	-	-	-	-	-	-	-
	2017	17	-	1	-	-	-	3	1
	2018	7	-	-	8	-	-	3	13
Italy	2017	-	-	-	-	-	-	-	110
	2018	13	-	-	-	497	-	15	4 252
Latvia	2018	468	-	136	68	-	-	ø	-
Lithuania	2015	-	-	2	-	-	-	-	-
Netherlands	2014	8 510	-	-	13 825	-	-	6 555	-
	2015	20 887	-	812	20 266	409	-	28 265	465
	2016	28 074	-	145	40 935	-	-	8 748	1 098
	2017	9 272	-	140	29 013	2 858	-	4 433	25
	2018	21 226	-	45	36 066	6 602	-	8 386	1 310
Poland	2014	130	-	-	8	-	-	11	196
	2015	-	-	-	121	-	-	57	7
	2016	8	-	-	104	-	-	440	23
	2017	315	-	-	157	-	-	57	147
Portugal	2015	64	-	5	9	-	-	-	-
	2016	-	-	-	ø	-	-	-	-
	2017	3	-	-	1	-	-	-	-
	2018	-	-	-	-	18 713	-	-	-
Romania	2016	4	-	-	-	-	-	-	-
	2017	ø	-	-	-	-	-	-	-
	2018	ø	-	-	-	-	-	-	-
Slovakia	2014	ø	-	1	10	-	-	3	18
	2015	-	-	-	1	-	-	-	43
	2016	-	-	-	4	-	-	-	83
	2017	-	-	-	61	-	-	-	19
	2018	-	-	-	6	-	-	ø	53

Country or territory	Year	Acetone (litres)	Anthranilic acid (kilograms)	Ethyl ether (litres)	Hydrochloric acid (litres)	Methyl ethyl ketone (litres)	Piperidine (litres)	Sulphuric acid (litres)	Toluene (litres)
Spain	2014	85	-	20	159	1	-	1	2
	2015	941	-	78	4 412	1 061	-	444	1
	2016	1 610	-	133	1 077	101	-	569	-
	2017	49	-	54	28	1 585	ø	124	466
	2018	30 615	-	83	12 533	2 913	-	8 480	13
Sweden	2016	10	-	-	-	-	-	-	-
United Kingdom of Great Britain and Northern Ireland	2016	-	ø	-	-	-	-	-	-
	2017	-	-	42	-	3	-	-	-
Regional total	**2014**	**10 221**	**0**	**21**	**14 851**	**1**	**0**	**6 724**	**1 878**
	2015	**29 148**	**0**	**897**	**41 338**	**1 470**	**0**	**28 851**	**25 829**
	2016	**29 842**	**0**	**278**	**42 280**	**101**	**0**	**12 174**	**13 314**
	2017	**9 929**	**0**	**237**	**30 116**	**28 270**	**0**	**5 841**	**4 739**
	2018	**74 294**	**0**	**264**	**53 013**	**28 735**	**0**	**28 130**	**6 751**
OCEANIA									
Australia	2015	-	2	-	-	-	-	-	-
	2016	-	1	-	-	-	ø	-	-
	2017	-	ø	-	-	-	ø	-	-
New Zealand	2015	45	-	-	313	-	-	46	140
	2016	71	-	-	167	-	-	6	77
	2017	117	-	-	118	-	-	32	27
	2018	37	-	-	144	-	-	ø	19
Regional total	**2014**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	2015	**45**	**2**	**0**	**313**	**0**	**0**	**46**	**140**
	2016	**71**	**1**	**0**	**167**	**0**	**0**	**6**	**77**
	2017	**117**	**1**	**0**	**118**	**0**	**0**	**32**	**27**
	2018	**37**	**0**	**0**	**144**	**0**	**0**	**0**	**19**

Country or territory	Year	Acetone (litres)	Anthranilic acid (kilograms)	Ethyl ether (litres)	Hydrochloric acid (litres)	Methyl ethyl ketone (litres)	Piperidine (litres)	Sulphuric acid (litres)	Toluene (litres)
World total	2014	937 648	816	11 585	3 572 000	118 776	57	7 888 787	2 946 513
	2015	989 743	9 577	26 368	1 472 951	2 628	0	930 335	285 170
	2016	1 324 777	3	26 025	1 003 599	28 978	0	792 045	686 472
	2017	1 184 851	1	1 084	364 871	47 023	121	544 866	207 423
	2018	1 825 812	2 100	226 384	2 770 365	54 010	0	1 159 050	689 994

[a]For statistical purposes, the data for China do not include those for Hong Kong, China, and Macao, China.
[b]Since 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.

Annex IV

Submission of information by Governments on licit trade in, legitimate uses of and requirements for substances in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 for the years 2014–2018

Notes: The names of non-metropolitan territories and special administrative regions are in italics.
A blank signifies that no information was provided.
"X" signifies that a completed form D (or equivalent report) was submitted (including forms in which all fields contained "nil", "0", "none", etc.).

Country or territory	*2014*		*2015*		*2016*		*2017*		*2018*	
	Trade	*Uses and/or require-ments*	*Trade*	*Uses and/or require-ments*	*Trade*	*Uses and/or require-ments*	*Trade*	*Uses and/or require-ments*	*Trade*	*Uses and/or require-ments*
Afghanistan	X	X	X	X	X	X	X	X	X	X
Albania	X	X	X	X	X	X	X	X	X	X
Algeria	X	X	X	X	X	X	X	X	X	
Andorra				X			X			
Angola					X		X	X	X	
Anguilla										
Antigua and Barbuda										
Argentina	X	X	X	X	X	X	X	X	X	X
Armenia	X	X	X	X	X	X	X	X	X	
Aruba										
Ascension Island										
Australia	X	X	X	X	X	X	X	X		
Austria[a]	X	X	X	X	X	X	X	X	X	X
Azerbaijan	X	X	X	X	X	X	X	X	X	X
Bahamas										
Bahrain	X	X	X	X	X	X	X	X	X	X
Bangladesh	X	X	X	X			X	X		
Barbados										
Belarus	X	X	X	X	X	X	X	X		X
Belgium[a]	X	X	X	X	X	X	X	X	X	X
Belize							X	X		
Benin	X	X	X	X	X	X	X	X	X	X
Bermuda										
Bhutan	X	X	X	X	X	X	X	X	X	X

Country or territory	2014		2015		2016		2017		2018	
	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments
Bolivia (Plurinational State of)	X	X	X	X	X	X	X	X	X	X
Bosnia and Herzegovina	X	X	X	X	X	X	X	X	X	X
Botswana							X			
Brazil	X	X	X	X	X	X	X	X	X	X
British Virgin Islands										
Brunei Darussalam	X	X	X	X	X	X	X	X	X	X
Bulgaria[a]	X	X	X	X	X	X	X	X	X	X
Burkina Faso										
Burundi			X	X						
Cabo Verde	X	X	X	X	X	X	X	X	X	X
Cambodia		X								
Cameroon	X	X								
Canada	X	X	X	X	X	X	X	X	X	X
Cayman Islands										
Central African Republic										
Chad										
Chile	X	X	X	X	X	X	X	X	X	X
China	X	X	X		X	X			X	X
China, Hong Kong SAR					X	X			X	X
China, Macao SAR	X	X	X	X					X	X
Christmas Island			X	X						
Cocos (Keeling) Islands			X	X						
Colombia	X	X	X	X	X	X	X	X	X	X
Comoros										
Congo										
Cook Islands										
Costa Rica	X	X	X	X	X	X	X	X	X	X
Côte d'Ivoire	X	X			X	X				
Croatia[a]	X	X	X	X	X	X	X	X	X	X
Cuba				X						
Curaçao	X	X	X	X	X	X	X	X		
Cyprus	X	X	X	X	X	X	X	X	X	X
Czechia[a,b]	X	X	X	X	X	X	X	X	X	X
Democratic People's Republic of Korea				X		X	X	X		X
Democratic Republic of the Congo	X		X		X	X	X		X	X

Country or territory	2014		2015		2016		2017		2018	
	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments
Denmark[a]	X	X	X	X	X		X		X	X
Djibouti										
Dominica										
Dominican Republic	X	X	X	X			X	X	X	X
Ecuador	X	X	X	X	X	X	X	X	X	X
Egypt	X	X	X	X	X	X	X	X	X	X
El Salvador	X	X	X	X	X	X	X	X	X	X
Equatorial Guinea										
Eritrea										
Estonia[a]	X	X	X	X	X	X	X	X		
Eswatini[c]										
Ethiopia			X	X						
Falkland Islands (Malvinas)	X	X	X	X	X	X				
Fiji					X	X				
Finland[a]	X	X	X	X	X	X	X	X	X	X
France[a]	X	X	X	X	X	X	X	X	X	X
French Polynesia			X	X						
Gabon									X	
Gambia					X					
Georgia	X	X	X	X	X	X	X	X	X	X
Germany[a]	X	X	X	X	X	X	X	X	X	X
Ghana	X	X	X	X	X	X	X	X		
Gibraltar										
Greece[a]	X	X	X	X		X	X	X	X	X
Grenada										
Guatemala	X	X	X	X	X	X	X	X	X	X
Guinea										
Guinea-Bissau										
Guyana	X	X		X		X				X
Haiti	X	X	X	X					X	
Holy See[d]										
Honduras			X	X	X	X	X	X	X	X
Hungary[a]	X	X	X	X	X	X	X	X	X	X
Iceland	X	X	X	X	X	X	X	X		
India	X	X	X	X	X	X	X	X	X	X
Indonesia	X	X	X	X	X	X	X	X	X	
Iran (Islamic Republic of)	X	X	X	X	X		X	X	X	X
Iraq					X	X				
Ireland[a]	X	X	X	X	X	X	X	X	X	X
Israel	X	X	X	X	X	X	X	X	X	X

Country or territory	2014		2015		2016		2017		2018	
	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments
Italy[a]	X	X	X	X	X	X	X	X	X	X
Jamaica	X	X	X	X	X	X	X	X	X	X
Japan	X	X	X	X	X	X	X	X	X	X
Jordan	X	X	X	X	X	X	X	X	X	X
Kazakhstan			X	X	X	X	X	X	X	X
Kenya			X	X	X	X	X	X		
Kiribati										
Kuwait			X							
Kyrgyzstan	X	X	X	X	X	X			X	X
Lao People's Democratic Republic	X		X		X		X	X	X	X
Latvia[a]	X	X	X	X	X	X	X	X	X	X
Lebanon	X	X	X	X	X	X	X	X	X	X
Lesotho		X								
Liberia										
Libya										
Liechtenstein[e]										
Lithuania[a]	X	X	X	X	X	X	X	X	X	X
Luxembourg[a]										
Madagascar	X	X	X	X	X	X			X	X
Malawi		X								
Malaysia	X	X	X	X	X	X	X	X	X	X
Maldives					X	X				
Mali										
Malta[a]	X	X	X	X	X	X	X	X		X
Marshall Islands										
Mauritania										
Mauritius									X	X
Mexico	X	X	X	X	X	X	X	X	X	X
Micronesia (Federated States of)										
Monaco					X	X	X	X	X	X
Mongolia			X	X	X		X	X		
Montenegro	X	X	X	X	X	X	X	X	X	X
Montserrat	X	X	X	X	X	X		X	X	X
Morocco	X	X	X	X	X	X	X	X	X	X
Mozambique	X				X	X				
Myanmar	X	X	X	X	X	X	X	X	X	X
Namibia										
Nauru										
Nepal	X	X					X			
Netherlands[a]	X	X	X	X	X	X	X	X	X	X

Country or territory	2014		2015		2016		2017		2018	
	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments
New Caledonia										
New Zealand			X	X	X		X	X	X	X
Nicaragua	X	X	X	X	X	X	X	X	X	
Niger										
Nigeria			X	X	X	X	X		X	
Niue										
Norfolk Island			X	X						
North Macedonia[f]									X	X
Norway	X	X	X	X			X	X	X	X
Oman	X	X	X	X	X	X	X	X		
Pakistan	X	X	X	X	X	X	X	X	X	X
Palau										
Panama	X	X	X	X	X	X	X	X	X	
Papua New Guinea										
Paraguay					X	X				
Peru	X	X	X	X	X	X			X	X
Philippines	X	X	X	X	X	X	X	X	X	X
Poland[a]	X	X	X	X	X	X	X	X		
Portugal[a]	X	X	X	X	X	X	X	X	X	X
Qatar							X	X	X	X
Republic of Korea	X	X	X	X	X	X	X	X	X	X
Republic of Moldova	X	X	X	X	X	X	X	X	X	X
Romania[a]	X	X	X	X	X	X	X	X	X	X
Russian Federation	X	X	X	X	X	X	X	X	X	X
Rwanda			X	X						
Saint Helena										
Saint Kitts and Nevis										
Saint Lucia	X	X	X	X	X	X	X	X	X	
Saint Vincent and the Grenadines	X	X	X	X	X	X			X	X
Samoa										
San Marino[d]										
Sao Tome and Principe										
Saudi Arabia	X	X	X	X	X	X	X	X	X	X
Senegal	X	X	X	X		X			X	X
Serbia					X	X	X	X	X	X
Seychelles					X	X				
Sierra Leone										X
Singapore	X	X	X	X	X	X		X		
Sint Maarten										
Slovakia[a]	X	X	X	X	X	X	X	X	X	X

Country or territory	2014		2015		2016		2017		2018	
	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments
Slovenia[a]	X	X	X	X	X	X	X	X	X	X
Solomon Islands										
Somalia										
South Africa			X	X	X	X	X	X	X	X
South Sudan							X	X	X	X
Spain[a]	X	X	X	X	X	X	X	X	X	X
Sri Lanka	X		X		X	X	X	X	X	X
Sudan	X	X	X		X	X	X	X	X	X
Suriname									X	X
Sweden[a]	X	X	X	X	X	X	X	X	X	X
Switzerland	X	X	X	X	X	X	X	X	X	X
Syrian Arab Republic	X		X		X		X	X	X	X
Tajikistan			X	X	X	X	X	X	X	X
Thailand	X	X	X	X	X	X	X	X	X	X
Timor-Leste										
Togo										
Tonga										
Trinidad and Tobago	X	X	X	X	X	X	X	X	X	X
Tristan da Cunha										
Tunisia	X	X	X	X	X	X	X	X	X	X
Turkey	X	X	X	X	X	X	X	X	X	X
Turkmenistan	X	X	X	X	X	X				
Turks and Caicos Islands										
Tuvalu										
Uganda	X	X	X						X	X
Ukraine			X	X	X	X	X	X	X	X
United Arab Emirates	X	X			X	X	X	X	X	X
United Kingdom of Great Britain and Northern Ireland[a]	X	X	X	X	X	X	X	X	X	X
United Republic of Tanzania	X	X	X	X	X	X	X	X	X	X
United States of America	X	X	X	X	X	X	X	X	X	X
Uruguay	X	X	X	X	X	X	X	X	X	X
Uzbekistan	X	X	X	X	X	X	X	X	X	X
Vanuatu										
Venezuela (Bolivarian Republic of)	X	X	X	X	X	X	X	X	X	X
Viet Nam	X	X	X	X					X	X

Country or territory	2014		2015		2016		2017		2018	
	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments	Trade	Uses and/or require-ments
Wallis and Futuna Islands										
Yemen									X	X
Zambia	X	X								
Zimbabwe	X	X	X	X	X	X	X	X		
Total number of Governments that submitted form D	**118**	**116**	**128**	**124**	**124**	**120**	**117**	**113**	**115**	**109**
Total number of Governments requested to provide information	**213**	**213**	**213**	**213**	**213**	**213**	**213**	**213**	**213**	**213**

[a] State member of the European Union.
[b] Since 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.
[c] Since 19 April 2018, "Eswatini" has replaced "Swaziland" as the short name used in the United Nations.
[d] The Government of Italy includes on form D licit trade data for the Holy See and San Marino.
[e] The Government of Switzerland includes on form D licit trade data for Liechtenstein.
[f] Since 14 February 2019, "North Macedonia" has replaced "the former Yugoslav Republic of Macedonia" as the short name used in the United Nations.

Annex V

Annual legitimate requirements for ephedrine, pseudoephedrine, 3,4-methylenedioxyphenyl-2-propanone and 1-phenyl-2-propanone; substances frequently used in the manufacture of amphetamine-type stimulants

1. In its resolution 49/3, entitled "Strengthening systems for the control of precursor chemicals used in the manufacture of synthetic drugs", the Commission on Narcotic Drugs:

(a) Requested Member States to provide to the International Narcotics Control Board annual estimates of their legitimate requirements for 3,4-methylenedioxyphenyl-2-propanone (3,4-MDP-2-P), pseudoephedrine, ephedrine and 1-phenyl-2-propanone (P-2-P) and, to the extent possible, estimated requirements for imports of preparations containing those substances that could be easily used or recovered by readily applicable means;

(b) Requested the Board to provide those estimates to Member States in such a manner as to ensure that such information was used only for drug control purposes;

(c) Invited Member States to report to the Board on the feasibility and usefulness of preparing, reporting and using estimates of legitimate requirements for the precursor chemicals and preparations referred to above in preventing diversion.

2. Pursuant to that resolution, the Board formally invited Governments to prepare estimates of their legitimate requirements for those substances. Those estimates, as reported by Governments, were published for the first time in March 2007.

3. The table below reflects the latest data reported by Governments on those four precursor chemicals (and their preparations, as relevant). It is expected that those data will provide the competent authorities of exporting countries with at least an indication of the legitimate requirements of importing countries, thus preventing diversion attempts. Governments are invited to review their requirements as published, amend them as necessary and inform the Board of any required change. The data are current as at 1 November 2019; for updates, see the Board's website.

Annual legitimate requirements as reported by Governments for imports of ephedrine, pseudoephedrine, 3,4-methylenedioxyphenyl-2-propanone, 1-phenyl-2-propanone and their preparations, as at 1 November 2019

Country or territory	*Ephedrine (kilograms)*	*Ephedrine preparations (kilograms)*	*Pseudoephedrine (kilograms)*	*Pseudoephedrine preparations (kilograms)*	*3,4-MDP-2-P[a] (litres)*	*P-2-P[b] (litres)*
Afghanistan	0	50	1 000	2 000	0	0
Albania	40	3	10	3	0	0
Algeria	20		17 000		0	1
Argentina	54	0	19 044	144	0	0
Armenia	0	0	0	0	0	0
Ascension Island	0	0	0	0	0	0
Australia	5	8	4 800	1 680	0	1
Austria	272	22	200	1	1	1
Azerbaijan	20		10		0	0
Bahrain	1	10	1	4 000	0	0
Bangladesh	200		0		0	0
Barbados	200		200	58	0[c]	
Belarus	0	25	20	20	0	0
Belgium	600	100	9 000	8 000	0	5
Belize			P	P	0[c]	
Benin	2	5	8	35	0[c]	
Bhutan	0	2	0	0	0	0
Bolivia	25	1	5 360	2 100	0	0
Bosnia and Herzegovina	25	2	9 405	1 784	0	0
Botswana	300				0[c]	
Brazil	2 000[d]	0	38 000[d]	0	0	0
Brunei Darussalam	0	1	0	145	0	0
Bulgaria	500	296	20	0	0	0
Burundi		5		15	0[c]	
Cabo Verde	0	1	0	0	0	0
Cambodia	200	50	300	900	0[c]	
Cameroon	25			1	0[c]	
Canada	7 000	10	30 000	25 000	1	1
Chile	30	0	10 000	350	0	0
China	18 000		100 000		0[c]	
China, Hong Kong SAR	1 101	0	4 726	0	0	0
China, Macao SAR	1	10	1	159	0	0

Country or territory	*Ephedrine (kilograms)*	*Ephedrine preparations (kilograms)*	*Pseudoephedrine (kilograms)*	*Pseudoephedrine preparations (kilograms)*	*3,4-MDP-2-P[a] (litres)*	*P-2-P[b] (litres)*
Christmas Island	0	0	0	1	0	0
Cocos (Keeling) Islands	0	0	0	0	0	0
Colombia	0[e]	0[f]	4 104[e]	P	0	0
Cook Islands	0	0	0	1	0	0
Costa Rica	0	0	625	91	0	0
Côte d'Ivoire	30	1	0	400	0	0
Croatia	40	1	5	1	1	1
Cuba	200			6	0[c]	
Curaçao	0		0		0	0
Cyprus	10	10	600	400	0	0
Czechia	313	6	476	374	0	1
Democratic People's Republic of Korea	50	1 200			4	
Democratic Republic of the Congo	275	8	720	487	0[c]	
Denmark					0	400
Dominican Republic	75	6	300	500	0	0
Ecuador	5	8	1 200	2 135	0	0
Egypt	4 500	0	63 000	2 500	0	0
El Salvador	P 6[g]	P 6[g]	P	P	0	0
Eritrea	0	0	0	0	0	0
Estonia	3	5	1	500	0	0
Ethiopia	1 000			100	0[c]	
Falkland Islands (Malvinas)	0	1	0	1	0[c]	0
Faroe Islands	0	0	0	0	0	0
Fiji		1			0[c]	
Finland	3	50	0	650	0	1
France	1 600	10	26 000	500	0	0
Gambia	0	0	0	0	0	0
Georgia	1	1	1	1	1	1
Germany	400 [d]		5 000 [d]		1	7
Ghana	4 500	300	3 000	200	0	0
Greece	0	0	2 000	0	0	0
Greenland	0	0	0	0	0	0
Guatemala	0		P	P	0	0
Guinea	36				0[c]	
Guinea-Bissau	0	0	0	0	0	0
Guyana	120	50	120	30	0	0

Country or territory	*Ephedrine (kilograms)*	*Ephedrine preparations (kilograms)*	*Pseudoephedrine (kilograms)*	*Pseudoephedrine preparations (kilograms)*	*3,4-MDP-2-P[a] (litres)*	*P-2-P[b] (litres)*
Haiti	200	1	350	11	0	0
Honduras	P	P 2[f]	P	P	0	0
Hungary	1 000	0	31	0	1	1 000
Iceland	0	0	0	0	0	0
India	773 201	112 729	63 953	193 801	0	0
Indonesia	13 000	1	52 000	6 200	0	0
Iran (Islamic Republic of)	2	1	17 000	1	1	1
Iraq	3 000	100	14 000	10 000	0	P[h]
Ireland	0	25	1	1 252	0	0
Israel	28	0	5 000	350	0[c]	
Italy	100	100	10 000	30 000	0	0
Jamaica	70	150	550	300	0	0
Japan	5 000		12 000		0[c]	
Jordan	100		40 000		0	P
Kazakhstan	11	1	10	1	1	1
Kenya	1 500	2 000	1 500	2 000	0	0
Kyrgyzstan	0	1 000	0	5 000	0	0
Lao People's Democratic Republic	0	0	0	0	0	0
Latvia	23	15	45	180	0	0
Lebanon	25	2	800	800	0	0
Lithuania	0	1	0	700	0	1
Luxembourg	1	0	0	0	0	0
Madagascar	123	35	1	135	0	0
Malawi	1 000				0[c]	
Malaysia	42	20	4 500	5 000	0	0
Maldives	0	1	0	0	0	0
Mali	P	P	P	P	P	P
Malta	0	220	0	220	0	0
Mauritius	0	1	0	130	0	0
Mexico	P 231[g]	P[g]	P	P	0	0
Monaco	0	0	0	0	0	0
Mongolia	0	0	0	0	0	0
Montenegro	0	2	0	200	0	0
Montserrat	0	0	0	1	0	0
Morocco	41	16	2 529	0	0	0
Mozambique	3				0[c]	
Myanmar	15	25	0	0	0	0

Country or territory	*Ephedrine (kilograms)*	*Ephedrine preparations (kilograms)*	*Pseudoephedrine (kilograms)*	*Pseudoephedrine preparations (kilograms)*	*3,4-MDP-2-P[a] (litres)*	*P-2-P[b] (litres)*
Namibia	0	0	0	0	0	0
Nepal		1	5 000		0[c]	
Netherlands	200	50	1 675	0	0	1
New Zealand	120	0	1 000		0	3
Nicaragua	P[i]	P[i]	P	P	0	0
Nigeria	9 650	500	5 823	15 000	0	0
Norfolk Island	0	0	0	0	0	0
Norway	30		1	1	0	1
Oman	1	1	228	443	0[c]	
Pakistan	8 400		52 800	500	0[c]	
Panama	0	5	200	200	0	
Papua New Guinea	1		200		0	0
Paraguay	0	0	2 500	0	0	0
Peru	45	0	2 524	1 078	0	0
Philippines	50	0	100	0	0	0
Poland	310	100	7 500	3 000	3	4
Portugal	13	0	700	0	0	0
Qatar	0	2	0	800	0	0
Republic of Korea	37 274		38 192		0	198
Republic of Moldova	0	1	326	199	0	0
Romania	118	10	870	0	0	1
Russian Federation	1 500				0[c]	
Rwanda		10		10	2	2
Saint Helena	0	1	0	1	0	0
Saint Lucia	0	6	0	15	0	0
Saint Vincent and the Grenadines	0	2	0	2	0	0
Sao Tome and Principe	0	0	0	0	0	0
Saudi Arabia	1	0	40 000	0	0	0
Senegal	123	1	0	130	0	0
Serbia	1.8	1	2 214	627	0	1
Seychelles		1		1	0[c]	
Sierra Leone	70	10 000				
Singapore	7 000	45	25 000	2 800	1	1
Slovakia	58	1	1	1	0	0
Slovenia	374	23	250	246	0	0
Solomon Islands	0	1	0	1	0	0

Country or territory	*Ephedrine (kilograms)*	*Ephedrine preparations (kilograms)*	*Pseudoephedrine (kilograms)*	*Pseudoephedrine preparations (kilograms)*	*3,4-MDP-2-P[a] (litres)*	*P-2-P[b] (litres)*
South Africa	1 544	22	10 554	681	0	0
South Sudan	750		1 500		0[c]	
Spain	234		10 198		0	3 193
Sri Lanka	0	0	0	0	0	0
Sudan	500	1 000	2 000	3 500	0	
Suriname		1			0[c]	
Sweden	209	175	1	1	1	11
Switzerland	1 500	5	85 000	200	10	5
Syrian Arab Republic	1 000		50 000		0 c	
Tajikistan	38				0[c]	
Thailand	60	0	3 600	0	0	5
Trinidad and Tobago					0[c]	0
Tristan da Cunha	0	0	0	0	0	0
Tunisia	2	12	3 000	1	0	30
Turkey	250	0	32 000	200	0	0
Turkmenistan	0	0	0	0	0	0
Uganda	1 000	35	5 500	800	0[c]	0
Ukraine	0	67	23	0	0	0
United Arab Emirates	0	0	1 533	3 894	0	0
United Kingdom of Great Britain and Northern Ireland	1 503	27	37 690	20 002	0	2
United Republic of Tanzania	100	1 500	2 000	200	0[c]	
United States of America	4 183		180 001		0[c]	53 436
Uruguay	21	0	0	0	0	0
Uzbekistan	0	0	0	0	0	0
Venezuela (Bolivarian Republic of)	60	0	2 075	0	0	0
Yemen	200	200	5 000	1 000	0[c]	
Zambia	50	25	50	100	0[c]	
Zimbabwe	25	1	400	50	0	0

Notes: The names of territories, departments and special administrative regions are in italics.
A blank field signifies that no requirement was indicated or that data were not submitted for the substance in question.
A zero (0) signifies that the country or territory currently has no licit requirement for the substance.
The letter "P" signifies that importation of the substance is prohibited.
Reported quantities of less than 1 kg have been rounded up and are reflected as 1 kg.

[a] 3,4-Methylenedioxyphenyl-2-propanone.

[b] 1-Phenyl-2-propanone.

[c] The Board is currently unaware of any legitimate need for the importation of this substance into the country.

[d] Including the licit requirements for pharmaceutical preparations containing the substance.

[e] The required amount of ephedrine is to be used for the manufacture of injectable ephedrine sulphate solution. The required amount of pseudoephedrine is to be used exclusively for the manufacture of medicines for export.

[f] In the form of injectable ephedrine sulfate solution.

[g] Imports of the substance and preparations containing the substance are prohibited, with the exception of the imports of injectable ephedrine preparations and ephedrine as a prime raw material for the manufacture of such ephedrine preparations. Pre-export notification is required for each individual import.

[h] Includes products containing P-2-P.

[i] Imports of the substance and preparations containing the substance are prohibited, with the exception of the imports of injectable ephedrine preparations and ephedrine as a prime raw material for the manufacture of such ephedrine preparations. Such import requires an import permit.

Annex VI

Governments that have requested pre-export notifications pursuant to article 12, subparagraph 10 *(a)*, of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988

1. Governments of all exporting countries and territories are reminded that it is an obligation to provide pre-export notifications to Governments that have requested them pursuant to article 12, subparagraph 10 (a), of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, which provides that:

> "upon request to the Secretary-General by the interested Party, each Party from whose territory a substance in Table I is to be exported shall ensure that, prior to such export, the following information is supplied by its competent authorities to the competent authorities of the importing country:
>
> "(i) Name and address of the exporter and importer and, when available, the consignee;
>
> "(ii) Name of the substance in Table I;
>
> "(iii) Quantity of the substance to be exported;
>
> "(iv) Expected point of entry and expected date of dispatch;
>
> "(v) Any other information which is mutually agreed upon by the Parties."

2. Governments that have requested pre-export notifications are listed in the table below in alphabetical order, followed by the substance (or substances) for which pre-export notifications were requested, and the date of notification of the request transmitted by the Secretary-General to Governments.

3. The information is current as at 1 November 2019.

Notifying Government	*Substances for which pre-export notifications have been requested*	*Date of communication to Governments by the Secretary-General*
Afghanistan[a]	All substances included in Tables I and II	13 July 2010
Algeria[a]	All substances included in Tables I and II	10 October 2013
Antigua and Barbuda[a]	All substances included in Tables I and II	5 May 2000
Argentina	All substances included in Table I	19 November 1999
Armenia[a]	All substances included in Tables I and II[b,c]	4 July 2013
Australia[a]	All substances included in Tables I and II	12 February 2010
Austria	All substances included in Table I	19 May 2000[d]
Azerbaijan[a]	All substances included in Tables I and II	21 January 2011
Bangladesh[a]	All substances included in Tables I and II	12 May 2015
Barbados[a]	All substances included in Tables I and II[b,c]	24 October 2013
Belarus[e]	Acetic anhydride, ephedrine, potassium permanganate and pseudoephedrine	12 October 2000
Belgium	All substances included in Table I	19 May 2000
Benin[a]	All substances included in Tables I and II	4 February 2000
Bhutan[a]	All substances included in Tables I and II	6 July 2018
Bolivia (Plurinational State of)[a]	Acetic anhydride, acetone, ethyl ether, hydrochloric acid, potassium permanganate and sulphuric acid	12 November 2001

Notifying Government	*Substances for which pre-export notifications have been requested*	*Date of communication to Governments by the Secretary-General*
Brazil[a]	All substances included in Tables I and II	15 October 1999 and 15 December 1999
Bulgaria	All substances included in Table I	19 May 2000[d]
Canada[a]	All substances included in Tables I and II	31 October 2005
Cayman Islands[a]	All substances included in Tables I and II	7 September 1998
Chile[a]	All substances included in Tables I and II	19 October 2012
China	Acetic anhydride	20 October 2000
China, Hong Kong SAR[a]	All substances included in Tables I and II	28 December 2012
China, Macao SAR[a]	All substances included in Tables I and II	28 December 2012
Colombia[a]	All substances included in Tables I and II	14 October 1998
Costa Rica[a]	All substances included in Tables I and II	27 September 1999
Côte d'Ivoire[a]	All substances included in Tables I and II	26 June 2013
Croatia	All substances included in Table I	19 May 2000[d]
Cyprus	All substances included in Table I	19 May 2000[d]
Czechia[f]	All substances included in Table I	19 May 2000[d]
Denmark	All substances included in Table I	19 May 2000[d]
Dominican Republic[a]	All substances included in Tables I and II	11 September 2002
Ecuador[a]	All substances included in Tables I and II	1 August 1996
Egypt[a]	All substances included in Table I and acetone	3 December 2004
El Salvador[a]	All substances included in Tables I and II	29 July 2010
Estonia	All substances included in Table I	19 May 2000
Ethiopia[a]	All substances included in Tables I and II	17 December 1999
European Union (on behalf of all its States members)[g]	All substances included in Table I	19 May 2000[d]
Finland	All substances included in Table I	19 May 2000[d]
France	All substances included in Table I	19 May 2000[d]
Georgia[a]	All substances included in Tables I and II	7 September 2016
Germany	All substances included in Table I	19 May 2000[d]
Ghana[a]	All substances included in Tables I and II	26 February 2010
Greece	All substances included in Table I	19 May 2000[d]
Haiti[a]	All substances included in Tables I and II	20 June 2002
Hungary	All substances included in Table I	19 May 2000[d]
India[a]	All substances included in Tables I and II	23 March 2000
Indonesia[a]	Acetic anhydride, *N*-acetylanthranilic acid, anthranilic acid, ephedrine, ergometrine, ergotamine, isosafrole, 3,4-methylenedioxyphenyl-2-propanone, phenylacetic acid, 1-phenyl-2-propanone, piperonal, pseudoephedrine and safrole	18 February 2000
Iraq[a]	All substances included in Tables I and II[b,c]	31 July 2013
Ireland	All substances included in Table I	19 May 2000[d]
Italy	All substances included in Table I	19 May 2000[d]
Jamaica	All substances included in Table I[b,c]	4 July 2013
Japan	All substances included in Table I	17 December 1999
Jordan[a]	All substances included in Tables I and II	15 December 1999

Notifying Government	*Substances for which pre-export notifications have been requested*	*Date of communication to Governments by the Secretary-General*
Kazakhstan[a]	All substances included in Tables I and II	15 August 2003
Kenya[a]	All substances included in Tables I and II[b,c]	10 October 2013
Kyrgyzstan[a]	All substances included in Tables I and II[b,c]	21 October 2013
Latvia	All substances included in Table I	19 May 2000[d]
Lebanon[a]	All substances included in Tables I and II	14 June 2002
Lithuania	All substances included in Table I	19 May 2000[d]
Luxembourg	All substances included in Table I	19 May 2000[d]
Libya[a]	All substances included in Tables I and II[b,c]	21 August 2013
Madagascar[a]	All substances included in Tables I and II	31 March 2003
Malaysia[a]	All substances included in Table I,[b] anthranilic acid, ethyl ether, piperidine	21 August 1998
Maldives[a]	All substances included in Tables I and II	6 April 2005
Malta	All substances included in Table I	19 May 2000[d]
Mexico[a]	All substances included in Tables I and II	6 April 2005
Micronesia (Federated States of)[a]	All substances included in Tables I and II[b,c]	11 February 2014
Myanmar[a]	All substances included in Tables I and II	4 November 2016
Netherlands	All substances included in Table I	19 May 2000[d]
New Zealand[a]	All substances included in Tables I and II[b,c]	3 April 2014
Nicaragua[a]	All substances included in Tables I and II	8 January 2014
Nigeria[a]	All substances included in Tables I and II	28 February 2000
Norway[a]	All substances included in Table I,[c] and anthranilic acid, ethyl ether and piperidine	17 December 2013
Oman[a]	All substances included in Tables I and II	16 April 2007
Pakistan[a]	All substances included in Tables I and II	12 November 2001 and 6 March 2013
Panama	Ephedrine, ergometrine, ergotamine, norephedrine, pseudoephedrine	14 August 2013
Paraguay[a]	All substances included in Tables I and II	3 February 2000
Peru[a]	Acetic anhydride, acetone, ephedrine, ergometrine, ergotamine, ethyl ether, hydrochloric acid, lysergic acid, methyl ethyl ketone, norephedrine, potassium permanganate, pseudoephedrine, sulphuric acid and toluene	27 September 1999
Philippines[a]	All substances included in Tables I and II	16 April 1999
Poland	All substances included in Table I	19 May 2000[d]
Portugal	All substances included in Table I	19 May 2000[d]
Qatar[a]	All substances included in Tables I and II[b,c]	16 July 2013
Republic of Korea[a]	All substances included in Table I, and acetone	3 June 2008
Republic of Moldova[a]	All substances included in Tables I and II[b,c]	29 December 1998 and 8 November 2013
Romania	All substances included in Table I	19 May 2000[d]
Russian Federation[a]	Acetic anhydride, ephedrine, ergometrine, ergotamine, 3,4-methylenedioxyphenyl-2-propanone, norephedrine, phenylacetic acid, 1-phenyl-2-propanone, potassium permanganate, pseudoephedrine and all substances included in Table II	21 February 2000

Notifying Government	*Substances for which pre-export notifications have been requested*	*Date of communication to Governments by the Secretary-General*
Saint Vincent and the Grenadines[a]	All substances included in Tables I and II[b,c]	16 July 2013
Saudi Arabia[a]	All substances included in Tables I and II	18 October 1998
Sierra Leone[a]	All substances included in Tables I and II[b,c]	5 July 2013
Singapore	All substances included in Table I	5 May 2000
Slovakia	All substances included in Table I	19 May 2000[d]
Slovenia	All substances included in Table I	19 May 2000[d]
South Africa[a]	All substances included in Table I, and anthranilic acid	11 August 1999
Spain	All substances included in Table I	19 May 2000[d]
Sri Lanka	All substances included in Table I	19 November 1999
Sudan[a]	All substances included in Tables I and II	6 May 2015
Syrian Arab Republic[a]	All substances included in Tables I and II	24 October 2013
Sweden	All substances included in Table I	19 May 2000[d]
Switzerland	All substances included in Table I	25 March 2013
Tajikistan[a]	All substances included in Tables I and II	7 February 2000
Thailand[a]	All substances included in Table I (except potassium permanganate), and anthranilic acid[b]	18 October 2010
Togo[a]	All substances included in Tables I and II	6 August 2013
Tonga[a]	All substances included in Tables I and II[b,c]	4 July 2013
Trinidad and Tobago[a]	All substances included in Tables I and II[b,c]	15 August 2013
Turkey[a]	All substances included in Tables I and II	2 November 1995
Uganda[a]	All substances included in Tables I and II[b,c]	6 May 2014
United Arab Emirates[a]	All substances included in Tables I[b] and II	26 September 1995
United Kingdom of Great Britain and Northern Ireland	All substances included in Table I	19 May 2000[d]
United Republic of Tanzania[a]	All substances included in Tables I and II	10 December 2002
United States of America	Acetic anhydride, ephedrine and pseudoephedrine	2 June 1995 and 19 January 2001
Uruguay[a]	All substances included in Tables I and II	30 December 2015
Venezuela (Bolivarian Republic of)[a]	All substances included in Tables I and II	27 March 2000
Yemen[a]	All substances included in Tables I and II	6 May 2014
Zimbabwe[a]	All substances included in Tables I and II[b,c]	4 July 2013

Note: The names of territories are in italics.

[a]The Secretary-General has informed all Governments of the request of the notifying Government to also receive a pre-export notification for some or all substances listed in Table II of the 1988 Convention.

[b]The Government requested to also receive pre-export notifications for pharmaceutical preparations containing ephedrine and pseudoephedrine.

[c]The Government requested to also receive pre-export notifications for safrole-rich oils.

[d]On 19 May 2000, the Secretary-General communicated to Governments the request by the European Commission on behalf of the States members of the European Union to receive pre-export notifications for the indicated substances.

[e]Not yet notified by the Secretary-General, as, in a subsequent communication, the Government of Belarus requested the Secretary-General to suspend such notification until a national mechanism to receive and process pre-export notifications was established.

[f]Since 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.

[g]Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom of Great Britain and Northern Ireland.

Annex VII

Substances in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988

Table I	*Table II*
Acetic anhydride	Acetone
N-Acetylanthranilic acid	Anthranilic acid
4-Anilino-*N*-phenethylpiperidine (ANPP)[a]	Ethyl ether
Ephedrine	Hydrochloric acid[c]
Ergometrine	Methyl ethyl ketone
Ergotamine	Piperidine
Isosafrole	Sulphuric acid[c]
Lysergic acid	Toluene
3,4-Methylenedioxyphenyl-2-propanone	
3,4-MDP-2-P methyl glycidate[b]	
3,4-MDP-2-P methyl glycidic acid[b]	
Norephedrine	
N-Phenethyl-4-piperidone (NPP)[a]	
Phenylacetic acid	
alpha-Phenylacetoacetamide (APAA)[b]	
alpha-Phenylacetoacetonitrile (APAAN)	
1-Phenyl-2-propanone	
Piperonal	
Potassium permanganate	
Pseudoephedrine	
Safrole	
The salts of the substances listed in this Table, whenever the existence of such salts is possible.	The salts of the substances listed in this Table, whenever the existence of such salts is possible.

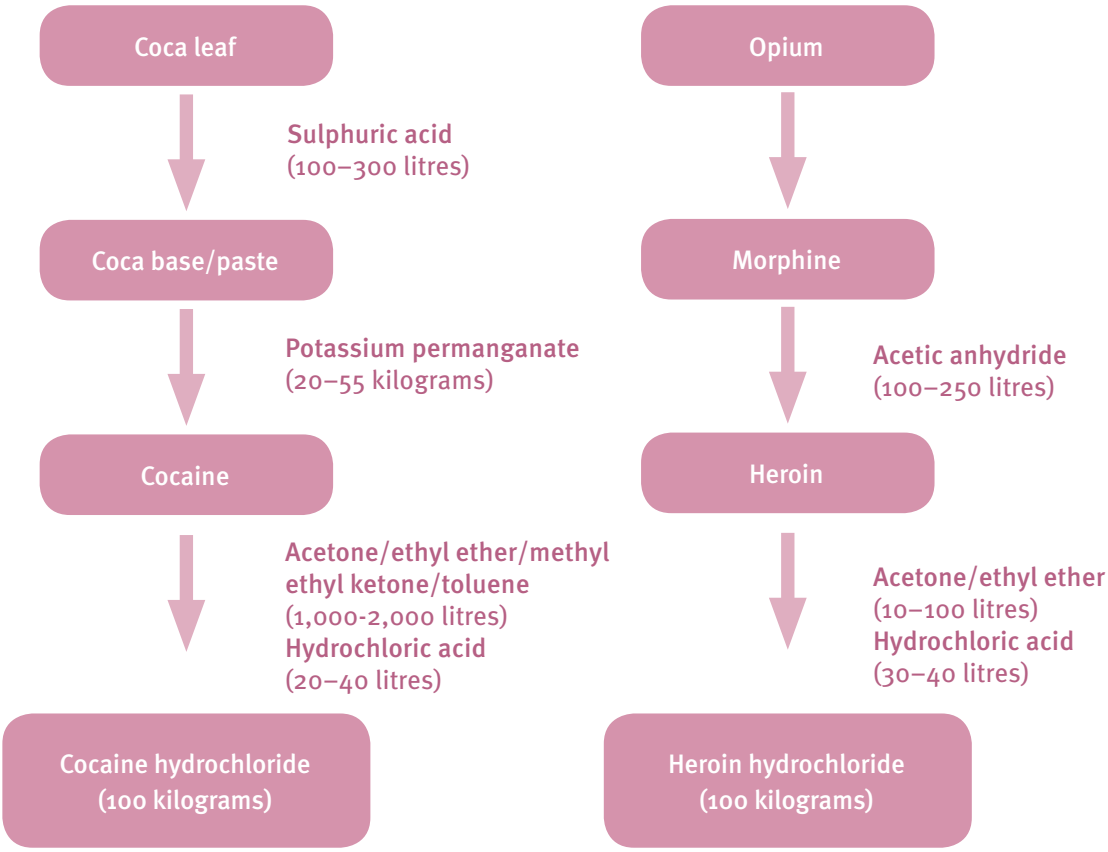
[a] Included in Table I, effective 18 October 2017.
[b] Included in Table I, effective 19 November 2019.
[c] The salts of hydrochloric acid and sulphuric acid are specifically excluded from Table II.

Annex VIII

Use of scheduled substances in the illicit manufacture of narcotic drugs and psychotropic substances

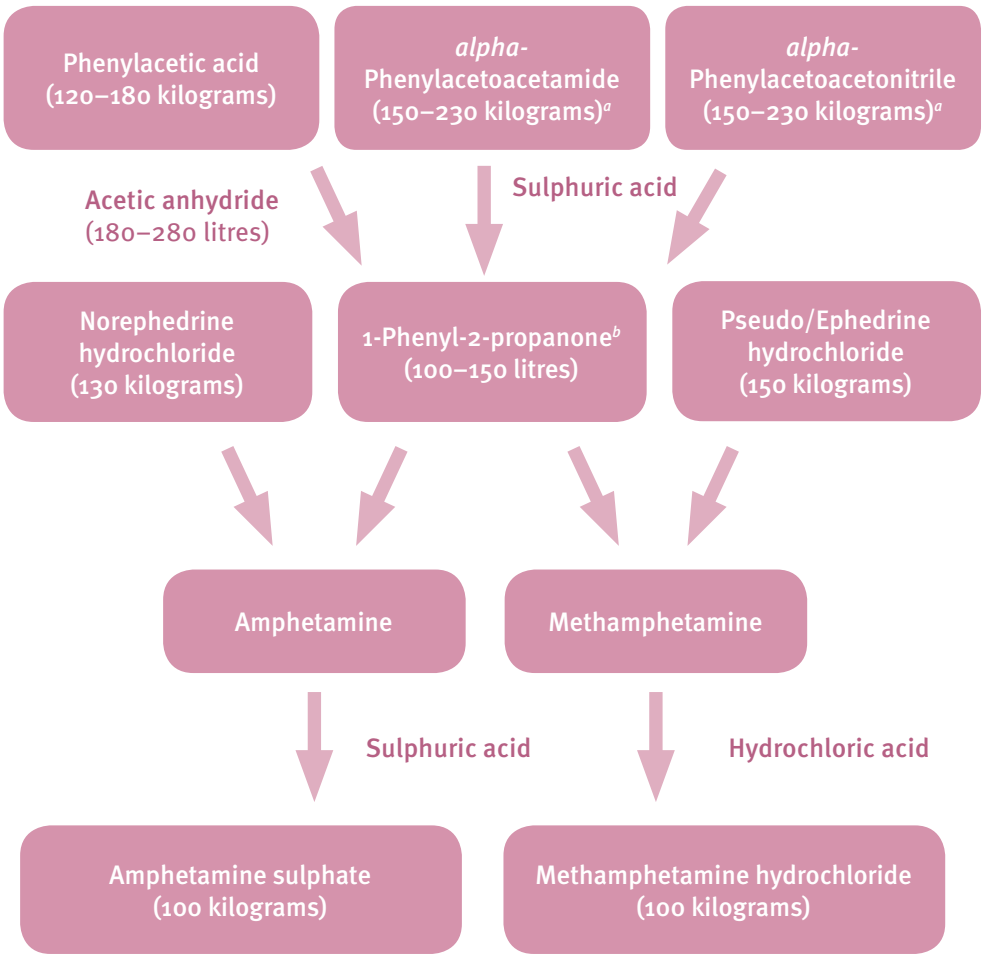
Figures I–V below depict the use of scheduled substances in the illicit manufacture of narcotic drugs and psychotropic substances. The approximate quantities provided are based on common manufacturing methods. Other manufacturing methods using scheduled substances – or even non-scheduled substances instead of or in addition to scheduled substances – may also be encountered, depending on the geographical location.

Figure I. Illicit manufacture of cocaine and heroin: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 100 kilograms of cocaine or heroin hydrochloride



Note: The extraction of cocaine from coca leaf and the purification of coca paste and the crude base products of cocaine and heroin require solvents, acids and bases. A wide range of such chemicals are used at all stages of drug manufacture.

Figure II. Illicit manufacture of amphetamine and methamphetamine: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 100 kilograms of amphetamine sulphate and methamphetamine hydrochloride

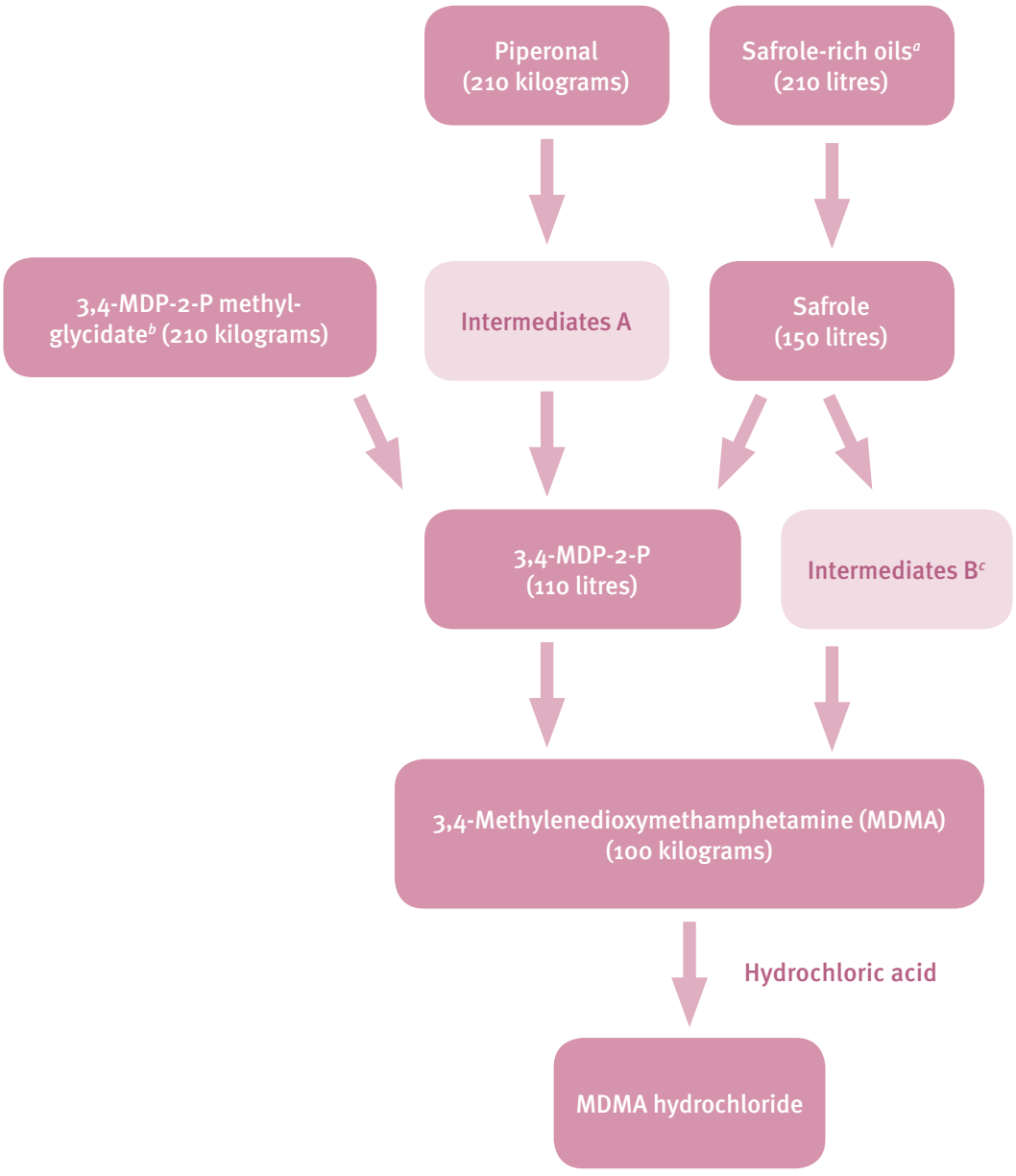


Note: Methcathinone, a less commonly encountered amphetamine-type stimulant, can be manufactured from pseudo/ephedrine hydrochloride, requiring the same approximate quantities as methamphetamine to yield 100 kilograms of hydrochloride salt.

[a]The weight range reflects the fact that APAA and APAAN are purpose-made designer precursors without recognized legitimate uses and are therefore often impure (street-level quality).

[b]Methods based on 1-phenyl-2-propanone result in racemic *d,l*-meth/amphetamine, while methods based on ephedrine, pseudoephedrine or norephedrine result in *d*-meth/amphetamine. In a subsequent step, racemic *d,l*-meth/amphetamine can be – and actually is – separated in illicit laboratories to also produce *d*-meth/amphetamine.

Figure III. Illicit manufacture of 3,4-methylenedioxymethamphetamine (MDMA) and related drugs: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 100 kilograms of MDMA



Note: Isosafrole, another precursor of MDMA under international control, is not included in this scheme, as it is not commonly encountered as a starting material; it is an intermediate in a modification of methods for manufacturing MDMA from safrole, requiring approximately 300 litres of safrole to manufacture 100 kilograms of MDMA.

[a] Assuming the safrole-rich oils have a safrole content of 75 per cent or higher.

[b] Refers, for the purpose of this scheme, to the methyl ester and salts of 3,4-MDP-2-P methyl glycidic acid (i.e., purpose-made designer precursors without recognized legitimate uses that are therefore often impure (street-level quality)).

[c] The manufacture of 100 kilograms of MDMA via intermediates B would require 200 litres of safrole.

Figure IV. Illicit manufacture of methaqualone and phencyclidine: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 100 kilograms of methaqualone and phencyclidine

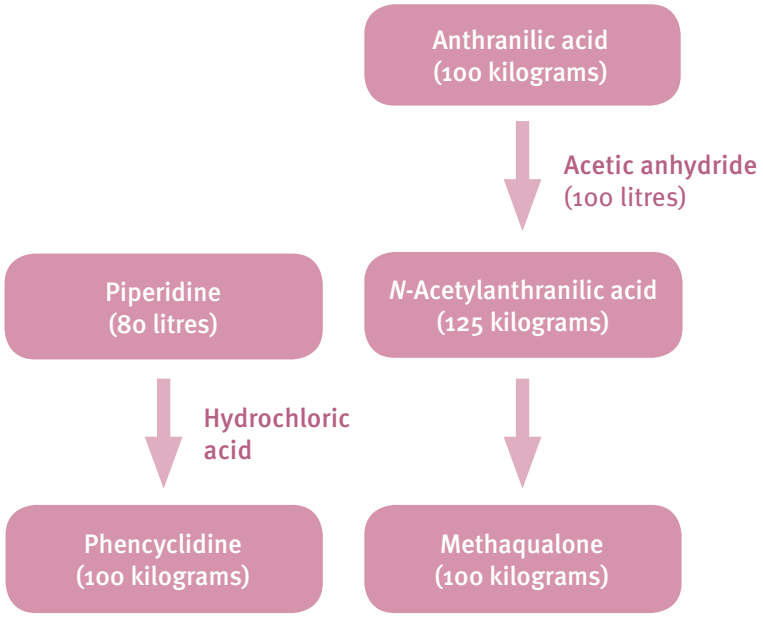
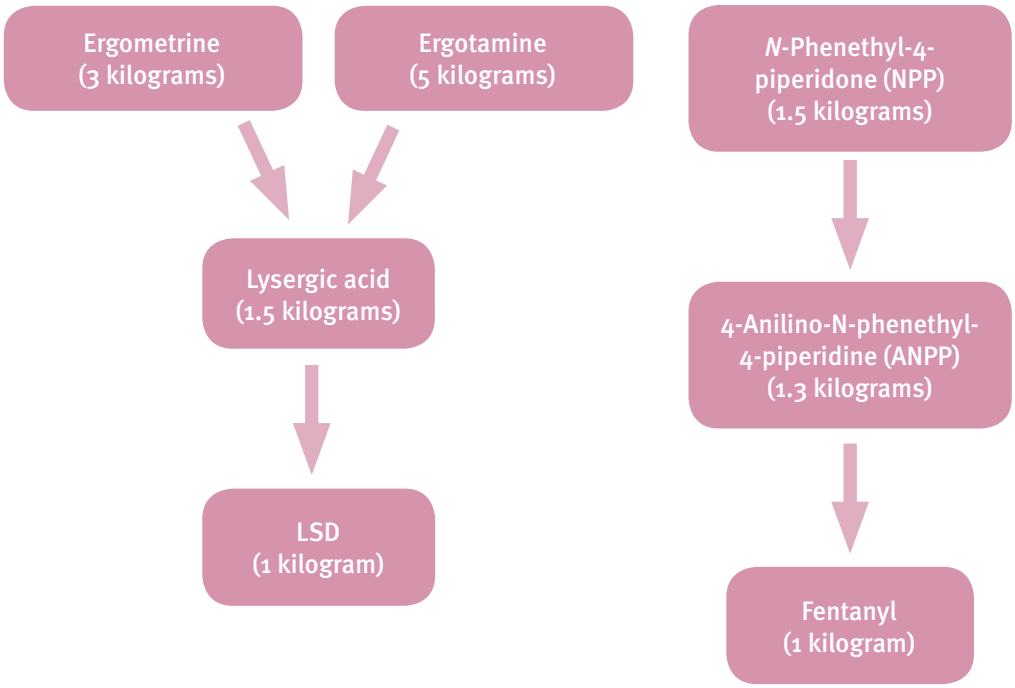


Figure V. Illicit manufacture of lysergic acid diethylamide (LSD) and fentanyl: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 1 kilogram of LSD or fentanyl



Annex IX

Licit uses of the substances in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988

Knowledge of the most common licit uses of substances in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, including the processes and end products in which the substances may be used, is essential for the verification of the legitimacy of orders or shipments. The most common licit uses of those substances reported to the International Narcotics Control Board are as follows:

Substance	*Licit uses*
Acetic anhydride	Acetylating and dehydrating agent used in the chemical and pharmaceutical industries for the manufacture of cellulose acetate, for textile sizing agents and cold bleaching activators, for polishing metals and for the production of brake fluids, dyes and explosives
Acetone	As a common solvent and intermediate for a variety of substances in the chemical and pharmaceutical industries, including plastics, paints, lubricants, varnishes and cosmetics; also used in the manufacture of other solvents, such as chloroform
N-Acetylanthranilic acid	Used in the manufacture of pharmaceuticals, plastics and fine chemicals
4-Anilino-*N*-phenethylpiperidine (ANPP)	Used in the pharmaceutical industry for the manufacture of fentanyl
Anthranilic acid	Chemical intermediate used in the manufacture of dyes, pharmaceuticals and perfumes; also used in the preparation of bird and insect repellents
Ephedrine	Used in the manufacture of bronchodilators (cough medicines)
Ergometrine	Used in the treatment of migraine and as an oxytocic in obstetrics
Ergotamine	Used in the treatment of migraine and as an oxytocic in obstetrics
Ethyl ether	Commonly used solvent in chemical laboratories and in the chemical and pharmaceutical industries; mainly used as an extractant for fats, oils, waxes and resins; also used for the manufacture of munitions, plastics and perfumes and, in medicine, as a general anaesthetic
Hydrochloric acid	Used in the production of chlorides and hydrochlorides, for the neutralization of basic systems and as a catalyst and solvent in organic synthesis
Isosafrole	Used in the manufacture of piperonal; to modify “oriental perfumes”; to strengthen soap perfumes; in small quantities, together with methyl salicylate, in root beer and sarsaparilla flavours; and as a pesticide
Lysergic acid	Used in organic synthesis
3,4-Methylenedioxyphenyl-2-propanone	Used in the manufacture of piperonal and other perfume components
3,4-MDP-2-P methyl glycidate	None, except — in small amounts — for research, development and laboratory analytical purposes
3,4-MDP-2-P methyl glycidic acid	None, except — in small amounts — for research, development and laboratory analytical purposes
Methyl ethyl ketone	Common solvent; used in the manufacture of coatings, solvents, degreasing agents, lacquers, resins and smokeless powders
Norephedrine	Used in the manufacture of nasal decongestants and appetite suppressants

Substance	*Licit uses*
N-Phenethyl-4-piperidone (NPP)	Used in the pharmaceutical industry, mainly for the manufacture of fentanyl and carfentanil
Phenylacetic acid	Used in the chemical and pharmaceutical industries for the manufacture of phenylacetate esters, amphetamine and some derivatives; also used for the synthesis of penicillins and in fragrance applications and cleaning solutions
alpha-Phenyl-acetoacetamide (APAA)	None, except — in small amounts — for research, development and laboratory analytical purposes
alpha-Phenyl-acetoacetonitrile (APAAN)	None, except — in small amounts — for research, development and laboratory analytical purposes
1-Phenyl-2-propanone	Used in the chemical and pharmaceutical industries for the manufacture of amphetamine, methamphetamine and some derivatives; also used for the synthesis of propylhexedrine
Piperidine	Commonly used solvent and reagent in chemical laboratories and in the chemical and pharmaceutical industries; also used in the manufacture of rubber products and plastics
Piperonal	Used in perfumery, in cherry and vanilla flavours, in organic synthesis and as a component for mosquito repellent
Potassium permanganate	Important reagent in analytical and synthetic organic chemistry; used in bleaching applications, disinfectants, antibacterials and antifungal agents and in water purification
Pseudoephedrine	Used in the manufacture of bronchodilators and nasal decongestants
Safrole	Used in perfumery, for example in the manufacture of piperonal, and for denaturing fats in soap manufacture
Sulphuric acid	Used in the production of sulphates; as an acidic oxidizer; as a dehydrating and purifying agent; for the neutralization of alkaline solutions; as a catalyst in organic synthesis; in the manufacture of fertilizers, explosives, dyestuffs and paper; and as a component of drain and metal cleaners, anti-rust compounds and automobile battery fluids
Toluene	Industrial solvent; used in the manufacture of explosives, dyes, coatings and other organic substances and as a gasoline additive

Annex X

Treaty provisions for the control of substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances

1. Article 2, paragraph 8, of the Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol provides that parties shall use their best endeavours to apply to substances which do not fall under the Convention, but which may be used in the illicit manufacture of drugs, such measures of supervision as may be practicable.

2. Article 2, paragraph 9, of the Convention on Psychotropic Substances of 1971 provides that parties shall use their best endeavours to apply to substances which do not fall under the Convention, but which may be used in the illicit manufacture of psychotropic substances, such measures of supervision as may be practicable.

3. Article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 contains provisions for the following:

(a) General obligation for parties to take measures to prevent diversion of the substances in Tables I and II of the Convention and to cooperate with each other to that end (para. 1);

(b) Mechanism for amending the scope of control (paras. 2–7);

(c) Requirement to take appropriate measures to monitor manufacture and distribution, to which end parties may control persons and enterprises, control establishments and premises under licence, require permits for manufacture or distribution of substances in Tables I and II and prevent accumulation of such substances (para. 8);

(d) Obligation to monitor international trade in order to identify suspicious transactions, to provide for seizures, to notify the authorities of the parties concerned in case of suspicious transactions, to require proper labelling and documentation and to ensure maintenance of such documents for at least two years (para. 9);

(e) Mechanism for advance notice of exports of substances in Table I, upon request (para. 10);

(f) Confidentiality of information (para. 11);

(g) Reporting by parties to the International Narcotics Control Board (para. 12);

(h) Report of the Board to the Commission on Narcotic Drugs (para. 13);

(i) Non-applicability of the provisions of article 12 to certain preparations (para. 14).

Annex XI

Regional groupings

Reference is made throughout the present report to various geographical regions, which are defined as follows:

Africa: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini,[a] Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia and Zimbabwe;

Central America and the Caribbean: Antigua and Barbuda, Bahamas, Barbados, Belize, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago;

North America: Canada, Mexico and United States of America;

South America: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of);

East and South-East Asia: Brunei Darussalam, Cambodia, China, Democratic People's Republic of Korea, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Singapore, Thailand, Timor-Leste and Viet Nam;

South Asia: Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka;

West Asia: Afghanistan, Armenia, Azerbaijan, Bahrain, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Oman, Pakistan, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, Tajikistan, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan and Yemen;

Europe:

Eastern Europe: Belarus, Republic of Moldova, Russian Federation and Ukraine;

South-Eastern Europe: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, North Macedonia,[b] Romania and Serbia;

Western and Central Europe: Andorra, Austria, Belgium, Cyprus, Czechia,[c] Denmark, Estonia, Finland, France, Germany, Greece, Holy See, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, San Marino, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom of Great Britain and Northern Ireland;

Oceania: Australia, Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

[a] Since 19 April 2018, "Eswatini" has replaced "Swaziland" as the short name used in the United Nations.

[b] Since 14 February 2019, "North Macedonia" has replaced "the former Yugoslav Republic of Macedonia" as the short name used in the United Nations.

[c] Since 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.

About the International Narcotics Control Board

The International Narcotics Control Board (INCB) is an independent and quasi-judicial control organ, established by treaty, for monitoring the implementation of the international drug control treaties. It had predecessors under the former drug control treaties as far back as the time of the League of Nations.

Composition

INCB consists of 13 members who are elected by the Economic and Social Council and who serve in their personal capacity, not as government representatives. Three members with medical, pharmacological or pharmaceutical experience are elected from a list of persons nominated by the World Health Organization (WHO) and 10 members are elected from a list of persons nominated by Governments. Members of the Board are persons who, by their competence, impartiality and disinterestedness, command general confidence. The Council, in consultation with INCB, makes all arrangements necessary to ensure the full technical independence of the Board in carrying out its functions. INCB has a secretariat that assists it in the exercise of its treaty-related functions. The INCB secretariat is an administrative entity of the United Nations Office on Drugs and Crime, but it reports solely to the Board on matters of substance. INCB closely collaborates with the Office in the framework of arrangements approved by the Council in its resolution 1991/48. INCB also cooperates with other international bodies concerned with drug control, including not only the Council and its Commission on Narcotic Drugs, but also the relevant specialized agencies of the United Nations, particularly WHO. It also cooperates with bodies outside the United Nations system, especially the International Criminal Police Organization (INTERPOL) and the World Customs Organization.

Functions

The functions of INCB are laid down in the following treaties: Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol; Convention on Psychotropic Substances of 1971; and United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988. Broadly speaking, INCB deals with the following:

(a) As regards the licit manufacture of, trade in and use of drugs, INCB endeavours, in cooperation with Governments, to ensure that adequate supplies of drugs are available for medical and scientific uses and that the diversion of drugs from licit sources to illicit channels does not occur. INCB also monitors Governments' control over chemicals used in the illicit manufacture of drugs and assists them in preventing the diversion of those chemicals into the illicit traffic;

(b) As regards the illicit manufacture of, trafficking in and use of drugs, INCB identifies weaknesses in national and international control systems and contributes to correcting such situations. INCB is also responsible for assessing chemicals used in the illicit manufacture of drugs, in order to determine whether they should be placed under international control.

In the discharge of its responsibilities, INCB:

(a) Administers a system of estimates for narcotic drugs and a voluntary assessment system for psychotropic substances and monitors licit activities involving drugs through a statistical returns system, with a view to assisting Governments in achieving, inter alia, a balance between supply and demand;

(b) Monitors and promotes measures taken by Governments to prevent the diversion of substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances and assesses such substances to determine whether there is a need for changes in the scope of control of Tables I and II of the 1988 Convention;

(c) Analyses information provided by Governments, United Nations bodies, specialized agencies or other competent international organizations, with a view to ensuring that the provisions of the international drug control treaties are adequately carried out by Governments, and recommends remedial measures;

(d) Maintains a permanent dialogue with Governments to assist them in complying with their obligations under the international drug control treaties and, to that end, recommends, where appropriate, technical or financial assistance to be provided.

INCB is called upon to ask for explanations in the event of apparent violations of the treaties, to propose appropriate remedial measures to Governments that are not fully applying the provisions of the treaties or are encountering difficulties in applying them and, where necessary, to assist Governments in overcoming such difficulties. If, however, INCB notes that the measures necessary to remedy a serious

situation have not been taken, it may call the matter to the attention of the parties concerned, the Commission on Narcotic Drugs and the Economic and Social Council. As a last resort, the treaties empower INCB to recommend to parties that they stop importing drugs from a defaulting country, exporting drugs to it or both. In all cases, INCB acts in close cooperation with Governments.

INCB assists national administrations in meeting their obligations under the conventions. To that end, it proposes and participates in regional training seminars and programmes for drug control administrators.

Reports

The international drug control treaties require INCB to prepare an annual report on its work. The annual report contains an analysis of the drug control situation worldwide so that Governments are kept aware of existing and potential situations that may endanger the objectives of the international drug control treaties. INCB draws the attention of Governments to gaps and weaknesses in national control and in treaty compliance; it also makes suggestions and recommendations for improvements at both the national and international levels. The annual report is based on information provided by Governments to INCB, United Nations entities and other organizations. It also uses information provided through other international organizations, such as INTERPOL and the World Customs Organization, as well as regional organizations.

The annual report of INCB is supplemented by detailed technical reports. They contain data on the licit movement of narcotic drugs and psychotropic substances required for medical and scientific purposes, together with an analysis of those data by INCB. Those data are required for the proper functioning of the system of control over the licit movement of narcotic drugs and psychotropic substances, including preventing their diversion to illicit channels. Moreover, under the provisions of article 12 of the 1988 Convention, INCB reports annually to the Commission on Narcotic Drugs on the implementation of that article. That report, which gives an account of the results of the monitoring of precursors and of the chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances, is also published as a supplement to the annual report.

INTERNATIONAL NARCOTICS CONTROL BOARD

The International Narcotics Control Board (INCB) is the independent monitoring body for the implementation of United Nations international drug control conventions. It was established in 1968 in accordance with the Single Convention on Narcotic Drugs, 1961. It had predecessors under the former drug control treaties as far back as the time of the League of Nations.

Based on its activities, INCB publishes an annual report that is submitted to the United Nations Economic and Social Council through the Commission on Narcotic Drugs. The report provides a comprehensive survey of the drug control situation in various parts of the world. As an impartial body, INCB tries to identify and predict dangerous trends and suggests necessary measures to be taken.

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