



Data UNODC - Metadata Information



Drug Trafficking and Cultivation

The tables on drug trafficking and cultivation include figures on drug seizures, drug prices and drug purity. Data are available for different drug types. In particular Price time series from 2010 onwards for cocaine and heroin are available for countries in

Western Europe and the United States.

Dataset characteristics

Access link: <https://dataunodc.un.org/dp-drug-seizures>

Last update: 27/06/2022

Base period: Calendar Year

Data source(s): National data on drug use & treatment collected through the Annual Report Questionnaire (ARQ), Other official sources, Population data from United Nations Department of Economic and Social Affairs, Population Division. Please see below for National data collection sources.

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Statistical concepts and definitions

Drug: For the purposes of this data collection instrument, “drug” means any of the substances, natural or synthetic, in Schedules I and II of the Single Convention on Narcotic Drugs, 1961 (as amended by the 1972 Protocol Amending the Single Convention on Narcotic Drugs, 1961) or any substance, natural or synthetic, or any natural material in Schedules I, II, III and IV of the Convention on Psychotropic Substances, 1971. See also UNODC 2016. Terminology and Information on Drugs, 3rd edition: https://www.unodc.org/documents/scientific/Terminology_and_Information_on_Drugs-E_3rd_edition.pdf

Drug class and drug type: The list of drugs included in the ARQ is organized according to drug classes and drug types. For the purpose of the ARQ, a drug class is broadly defined as a set of drugs which have a similar chemical structure and similar psychoactive effects. A drug type is a single substance with its own specific chemical structure. A drug class contains a set of drug types. These lists may be simplified and adapted according to the specific questions.

Seizures: A seizure of a substance/s is a lawful action performed by a law enforcement agency in which legal control of controlled substance/s is taken. These actions derive from unlawful activities related to controlled substance/s (Drug Law Offences). The outcome of such an action is to put the substance/s under physical custody of national authorities.

Total number of seizures: A seizure case (instance) is an operation by national authorities where one or more types of drugs are seized. Every and each seizure case should be counted once, even if more than one substance were seized. Drugs seized at the same moment in time and at the same location should be counted as a single instance.

Number of seizures by single drug: The number of seizure cases per single type of drugs should be counted as following:

- A seizure involving one drug type is counted as one seizure for the drug concerned

- A seizure involving more than one drug, is counted for each drug involved (and contributes to the total number of seizures of that drug).
- The sum of the number of seizure cases of each drug can be higher than the total number of seizure cases

Wholesale level: Wholesale level is the level of an illicit drug market at which the drug is sold in bulk, to be sold on to consumers at the retail level.

Retail level: The retail level is the level of an illicit drug market at which the drug is provided to consumers (users).

Purity: Purity is a measure of the amount of active substance that is contained in a sample sold or trafficked as the "substance" (for example heroin, cocaine). Purity is expressed in terms of percentage (by mass/weight) of the pure substance as compared to the whole sample containing also related substances, impurities, residual solvents, etc. For cannabis products, please consider the percentage of tetrahydrocannabinol (THC) content (potency). For opium, please consider the percentage of morphine content. For amphetamine-type stimulants in tablet form, please provide the weight (in mg) of the quantity of controlled substance per tablet (for example, 30 mg).

For more information on statistical concepts and definitions please refer to the Guidelines for the Annual Report Questionnaire (ARQ):

https://www.unodc.org/documents/ARQ/New_Guidelines_Version_1.1.pdf

Indicator definitions, statistical and measurement units

Drug seizures

Countries reporting seizures of drugs in volume terms may report seizures using a variety of units, primarily by weight (kg) but also in litres, tablets, doses, blotters, capsules, ampoules, et cetera. When reporting data on seizures from countries in individual years, UNODC aims to be as faithful as possible to the reports received, but for comparison and standardization purposes, it is necessary to display data of different types in "kilogram equivalent" (or 'ton equivalents') figures through conversion factors that are used to convert different reporting units into kilograms.

The conversions to kilograms especially affect seizure totals of amphetamine-type stimulants (ATS), as a significant share of seizures of these drug types is reported in terms of the number of tablets, pills or capsules. Apart from seizures of ATS tablets, drug seizures are mainly reported to UNODC by weight, and sometimes by volume.

Reports of seizures by weight often refer to the bulk weight of seizures, including adulterants and diluents, rather than the amount of controlled substance only. Moreover, given the availability of data, accurate purity adjustments for bulk seizure totals in individual countries are generally not feasible, as they would require information on purity on a case by case basis or statistically calibrated data, such as a weighted average or a distribution.

To ensure the comparability of seizure totals across different years and countries, UNODC uses conversion factors for ATS tablets intended to reflect the bulk weight of the tablets rather than the amount of controlled substance. The factors are based on available forensic studies and range between 90 mg and 300 mg, depending on the region and the drug type, and also apply to other units which are presumed to represent a single consumption unit (dose). The table below lists the



factors used for ATS, by type and region. The conversion factors remain subject to revision as the information available to UNODC improves.

Weight of tablets in milligrams

	Ecstasy (MDMA or analogue)	Amphetamine	Methamphetamine	Prescription stimulants	Other stimulants	Non-specified amphetamines
Africa	271	250	250	250	250	250
Asia (excluding Near and Middle East/ South-West Asia)	300	250	90	250	250	250
Europe	271	253	225	250	250	250
Central and South America and Caribbean	271	250	250	250	250	250
Near and Middle East/ South-West Asia	237	170	250	250	250	250
North America	250	250	250	250	250	250
Oceania	276	250	250	250	250	250

For the other drug types, the weight of a ‘typical consumption unit’ was assumed to be: for cannabis herb, 500 mg; for cannabis resin, 135 mg; cocaine and morphine, 100 mg; heroin, 30 mg; LSD, 0.05 mg (50 micrograms); and opium, 300 mg. For opiate seizures (unless specified differently in the text), it was assumed that 10 kg of opium were equivalent to 1 kg of morphine or heroin. Seizures quantified by volume (litres) are aggregated using a conversion ratio of 1 kilogram per litre, which applies to all drug types. Cannabis plants are assumed to have an average weight of 100 grams.

Though these transformation ratios can be disputed, they provide a means of combining the different seizure reports into one comprehensive measure. The transformation ratios have been derived from those normally used by law enforcement agencies, in the scientific literature and by the International Narcotics Control Board, and were established in consultation with UNODC’s Laboratory and Scientific Section.

Drug price and drug purity

Drugs price and purity data, if properly collected and reported, can be powerful indicators of market trends. Trends in supply can change over a shorter period of time when compared with changes in demand and shifts in prices and purities are relatively good indicators for increases or declines of market supply. Research has shown that short-term changes in the consumer markets are first reflected in purity changes while prices tend to be rather stable over longer periods of time. UNODC collects its price data from the ARQ, and supplements this data with other sources such as the Drug Abuse Information Network for Asia and the Pacific (DAINAP), the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and Government reports. Prices are collected at farm-gate level (for applicable drugs), wholesale level (‘kilogram prices’) and at retail level (‘gram prices’). Through the ARQ, countries are asked to provide minimum, maximum and typical prices and purities.

Prices are collected in local currency or in the currency in which the transactions take place and are then converted by UNODC into US dollars for the purposes of comparability among countries. The conversion into US dollars is based on official UN rates of exchange for the year. If comparisons of prices, expressed in US dollars are made over different years it should be noted that changes in such prices may be also influenced by changes in the exchange rates and may not necessarily reflect changes in the local markets.

Price time series of cocaine and heroin, Western Europe and the United States

For the case of heroin and cocaine prices in the 17 European countries in this Table, the published prices correspond an average of the available prices for the specific year (e.g., “crack” and cocaine salts, or white and brown heroin), if more than one type of drug is reported, or the typical value if only one price is reported by the country. In order to properly calculate the weighted averages across the 17 European Member States, in those countries for which no data is available, a “best estimate” is reported. This “best estimate” is based on: a) the latest reported value, b) an interpolation between two reported values, or c) the midpoint between the reported low and high observed prices (when a typical value is not reported).

In order to properly reflect the prices faced by the population within these 17 countries, the average prices are weighted by the population 15-64 years old. A reported average price per gram in Euro is also published based on the average exchange rates for the corresponding year, and the reported units (gram for retail, kilogram for wholesale). Finally, the inflation-adjusted weighted average is expressed in YYYY Euros, by deflating the prices using the Consumer Price Index (CPI) published by Eurostat.

For the case of heroin and cocaine average prices at the retail level in the United States of America, both series were last reviewed in 2021 as the revised data up to 2018 was made available. Authorities from the United States of America provided UNODC with newly available quarterly data on the price and purity of cocaine and heroin at the retail level for the 2005-2018 period. The average quarterly price for each of these years is reported. For 2019 onwards, very little data is available for prices of heroin and cocaine in the United States, so often the value reported for the latest year was used for posterior years. In the case of years prior to 2005, the yearly trends from the previously published series are used to retropolate the price available for 2005. These trends are based on ARQ data and data from ONDCP, *2015 National Drug Control Strategy - 2015 Data Supplement*.

In the calculation of purity adjusted average heroin prices, the purity provided by national authorities at the quarterly level are used for 2005-2018, while data available through the ARQ or published in ONDCP, *2015 National Drug Control Strategy - 2015 Data Supplement* are used for previous years. In the calculation of purity adjusted cocaine prices, data from ONDCP is also used up to the year 2004. No data are available from 2019 onwards.

Inflation adjusted prices in the United States were deflated using the CPI, published by the Bureau of Labor Statistics. For inflation adjusted average drug prices in Western Europe drug prices were deflated using the Harmonised Indices of Consumer Prices (HICP) published by Eurostat for the Euro area.

For more information, please consult the Methodological Annex (https://www.unodc.org/res/wdr2022/MS/Statistical%20Annex/WDR-2022-Methodology_final.docx) of the World Drug Report.

Use and interpretation of data

Despite considerable efforts by UNODC and the Member States to produce and publish highest quality data, estimates should be used and interpreted with caution as data are quite heterogeneous in the completeness and the time frame of data coverage in ARQs reported by Member States:



- Users are encouraged to read the notes and metadata on the estimates to ensure the validity of their analysis. Submitted questionnaires are not always comprehensive, and much of the data collected are subject to limitations and biases. These issues affect the reliability, quality and comparability of the information received.
- In 2020, the ARQ was updated and streamlined¹ and the data collection was fully moved to an online interface, the UNODC Data eXchange Platform ([DXP](#)), created specifically for this purpose. The first time the data was collected in the online environment was in 2021. This may have led to some additional challenges in data comparability with the previous years. In particular, the drug groups and classifications used for reporting by countries changed significantly with the new ARQ, so data may need to be aggregated in order to have consistent data series. Please refer to the metadata for details.

Data sources and method of collection

Under the International Drug Conventions, Member States are formally required to provide national drug control related information annually to the 'Secretary General' of the United Nations (i.e. the Secretariat in the UNODC). For this purpose, the Commission on Narcotic Drugs in 2020 endorsed the revised Annual Reports Questionnaire (ARQ) that is sent to Member States each calendar year for submission of responses and information on the drug situation.

National focal points working in national agencies responsible for drug statistics nominated by the Permanent Mission to UNODC are responsible for compiling the data from the other relevant agencies before transmitting the ARQ data to UNODC. Following the submission, UNODC checks for consistency and coherence with other data sources.

Data submitted by Member States through other means or taken from other sources are added to the dataset after review by Member States.

The population data is sourced from the World Population Prospect, Population Division, United Nations Department of Economic and Social Affairs.

Suggested citation

Please cite the data as follows: UNODC (2022), UNODC Research - Data Portal – Drug Trafficking & Cultivation. <https://dataunodc.un.org/dp-drug-seizures> (Accessed on [DD/MMM/YYYY]).

¹ The current version of the ARQ can be accessed through this link:
<https://undocs.org/Home/Mobile?FinalSymbol=E%2FCN.7%2F2020%2F12&Language=E&DeviceType=Desktop&LangRequested=False>