JOINT INTELLIGENCE REPORT

# The 2018 Heroin Signature Program

DEA-DCW-DIR-013-2008-20 APRIL 2020

# Overview

The Drug Enforcement Administration (DEA) Heroin Signature Program (HSP) analyzes hundreds of wholesale-level heroin samples each year to identify the geographic area—Mexico, South America (SA), Southwest Asia (SWA), or Southeast Asia (SEA)—where the samples were manufactured. In 2018:

- Heroin from Mexico accounted for 93 percent (by weight) of the heroin analyzed through the HSP.
- Heroin under the recently established formal HSP classification of "Inconclusive Origin-South American" processing method (INC-SA), which is assigned to heroin where either Mexico or South America could be the origin, but is produced or refined using South American processing methods, accounted for four percent.
- Heroin from South America (SA) accounted for less than two percent.
- Heroin from Southwest Asia (SWA) accounted for less than one percent.
- There were no Southeast Asian (SEA) heroin samples submitted to the program in 2018.

Since the HSP's inception over 40 years ago, it has proven to be a valuable indicator of changes in the supply of heroin by providing insight into wholesale-level heroin trafficking to the United States.

# Background

The HSP is one essential component of DEA's ability to identify trends in heroin trafficking and distribution in the United States. The objective of the program is to identify and quantify the chemical components of heroin seized at U.S. ports of entry (POEs); all non-POE heroin seizures weighing more than one kilogram; randomly chosen samples; and special requests for analysis. Samples submitted to the HSP undergo in-depth chemical analysis at the DEA Special Testing and Research Laboratory (SFL1). This chemical analysis allows SFL1 to associate heroin samples with a production process, or "signature," which is indicative of a particular geographic source area and processing method. The proportion of heroin associated with each geographic source area is measured in terms of the net weight of heroin seized and analyzed in the program from each source area that year. It is not intended to represent actual market share in the United States.

Year-to-year fluctuations in HSP data in relation to each source area may reflect shifting law enforcement priorities, changes in trafficking patterns, or exceptionally large seizures that may boost a source area's representation in the HSP. HSP chemical analysis data—when combined with DEA's retail-level Heroin Domestic Monitor Program, investigative reporting, seizure patterns, and other types of reporting—has over the years, consistently identified changes in the geographic source and purity of heroin in the United States, as well as changes in trafficking routes and methods. The HSP continually undergoes quality assurance by analyzing authentic samples obtained from the primary heroin production regions.

Signature analysis conducted under the HSP is currently the only scientifically based source of information available to determine the origin of wholesale-level quantities of heroin encountered in the U.S. drug market.

# 2018 Heroin Signature Program Results

In 2018, heroin from Mexico accounted for 93 percent (by weight) of the heroin analyzed by the HSP. Heroin classified as INC-SA accounted for four percent; SA heroin accounted for two percent; and SWA heroin accounted for less than one percent. No SEA heroin samples were submitted to the program in 2018. In 2018, 868 HSP samples, representing approximately 2,221 kilograms of heroin, were analyzed by SFL1. Of those samples, 829 (representing approximately 2,110 kilograms) were classified through the HSP (see Figure 1).[a]

**(U) FIGURE 1: Heroin Signature Program Geographic Source Area Summary**

| Signature | Number of Samples | | Weight of Sample (kilograms) | | Percentage by weight | |
|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| **Mexican Origin** | **738** | **889** | **1,972** | **2,034** | **93%** | **92%** |
| *MEX/T (Black Tar)* | 382 | 486 | 830 | 821 | 39% | 37% |
| *MEX-SA (White Powder)* | 344 | 385 | 1,120 | 1,197 | 53% | 54% |
| *MEX/BP (Brown Powder)* | 11 | 16 | 21 | 15 | <1% | <1% |
| *MEX* | 1 | 2 | 1 | 1 | <1% | <1% |
| **INC-SA** | **72** | **75** | **92** | **83** | **4%** | **4%** |
| **SA** | **15** | **21** | **43** | **33** | **2%** | **2%** |
| **SWA** | **4** | **7** | **3** | **5** | **<1%** | **<1%** |
| **SEA** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Total** | **829** | **992** | **2110** | **2,155** | **100%** | **100%** |

*Source: DEA*

In 2018, approximately one percent of the heroin samples submitted for analysis through the HSP were classified as "unknown" (UNK), meaning the signature profiles of the samples were not consistent with the signature profiles of authentic heroin samples collected from any of the four geographic source regions. Since heroin is manufactured through a series of chemical processing steps, signature analysis is expected to result in a small number of samples whose signature is UNK or undetermined. It should be noted that heroin samples classified as UNK are not included in the HSP Geographic Source Area Summary. Heroin classified as SA had the highest purity average in 2018 at 88 percent, followed closely by Mexican White Powder (MEX-SA) heroin at 83 percent (see Figure 2).

**(U) FIGURE 2: Heroin Signature Program Average Heroin Purity**

| Signature | Average Purity | |
|---|---|---|
| | 2018 | 2017 |
| **SA** | 88% | 74% |
| **MEX-SA** | 83% | 69% |
| **INC-SA** | 42% | 45% |
| **SWA** | 53% | 39% |
| **MEX/BP** | 39% | 38% |
| **MEX/T** | 51% | 37% |
| **MEX** | 24% | 35% |
| **SEA** | N/A | N/A |

*Source: DEA*

a. Since all heroin seized in the United States is not submitted for analysis through the HSP, the source area proportions reported through the HSP should not be characterized as market share. Fluctuations from year to year in source area proportions may reflect shifting law enforcement priorities, changes in trafficking patterns, or exceptionally large seizures that could boost the HSP representation of a particular source area. To achieve a comprehensive assessment of heroin smuggled and trafficked in the United States, HSP data must be used in conjunction with investigative reporting, drug production estimates, and/or seizure statistics.

# Mexico

Analysis of 2018 HSP data identified Mexico as the primary source of origin for heroin transported to the United States for the sixth consecutive year. Mexico was identified as the geographic origin of 93 percent (by weight) of samples classified under the HSP during 2018. Of these samples, 47 percent were classified as Mexican White Powder (MEX-SA); 52 percent as Mexican Black Tar (MEX/T); and 1.5 percent as Mexican Brown Powder (MEX/BP). Less than one percent was classified as MEX, which is the classification assigned to refined or crudely manufactured heroin from Mexico. This classification is assigned when MEX/T, MEX/BP, or MEX-SA are not applicable. In 2018, the percentage (by weight) of overall Mexican-origin heroin analyzed through the HSP increased 1.1 percentage points from 92 percent in 2017 to 93 percent in 2018.[b] The weight of Mexican-origin heroin samples submitted to the HSP decreased from approximately 2,155 kilograms (889 samples) in 2017 to 2,110 kilograms (738 samples) in 2018.

In 2018, the purity levels of Mexican origin heroin varied within Mexican signatures. MEX-SA heroin remained highly refined with an average purity level of 83 percent. The average purity of MEX/T heroin analyzed under the HSP in 2018 was 44 percent with purities ranging from a low of one percent (Alaska) to a high of 78 percent (Missouri), followed by MEX/BP at 39 percent. Only one sample submitted to the HSP in 2018 was classified as MEX heroin and the purity of this exhibit was analyzed at 24 percent.

In 2018, 14 percent of MEX-SA heroin samples were adulterated. Caffeine was the primary adulterant followed by quinine, procaine, and lidocaine.[c] In 2018, mannitol, inositol, sucrose, and lactose were the primary diluents found in MEX-SA heroin samples.[d]

Twenty-six MEX-SA samples were found to contain fentanyl and/or fentanyl-related compounds. These samples were obtained in the following states:

- California (5)
- Florida (1)
- Illinois (3)
- Massachusetts (1)
- New Jersey (2)
- New Mexico (1)
- New York (9)
- North Carolina (1)
- Ohio (1)
- Pennsylvania (1)
- Vermont (1)

Forensic analysis of 2018 HSP heroin samples also revealed that previously detected cutting patterns for MEX-SA shipments continue, in that the heroin becomes heavily adulterated with additional caffeine and other adulterants once the heroin crosses the U.S. Southwest Border (SWB). MEX-SA heroin is also

b. A percentage point is a unit expressing the arithmetic difference between two percentages, i.e., a decline of one percentage point would be a decrease from 10 percent to 9 percent.
c. Adulterants are pharmacologically active substances that are added to heroin to enhance or mimic the effect of heroin. An example of an adulterant is acetaminophen, an analgesic compound often found with heroin. That said, many current heroin adulterants do not meet this criteria, as they may have an adverse effect, or possibly no effect, to the heroin. Adulterants can be added to heroin shipments immediately after production, in transit, or prior to distribution. Although dextromethorphan for Southwest Asian heroin and diltiazem for South American heroin are examples of adulterants that are added immediately after production, xylazine for Puerto Rico and quinine for Washington, DC-Baltimore are examples of city-specific adulteration prior to distribution.
d. Diluents are inert ingredients (pharmacologically inactive compounds) used to increase the bulk of a finished product. Typical diluents include sugars, starches, and inorganic salts.

further diluted inside the United States with the same previously detected diluents—mannitol, inositol, and lactose. In 2018, approximately 95 percent of Black Tar heroin HSP samples were unadulterated. However, of the adulterated samples, caffeine and lidocaine were the most detected adulterants. Lactose, mannitol, sucrose, dextrose, and inositol were also common diluents. Furthermore, fentanyl was detected in only three of the 382 MEX/T samples submitted to the HSP in 2018.

In 2018,169 Mexican-origin heroin samples seized at California POEs were submitted to the HSP for analysis. The majority of these heroin samples were seized at the San Ysidro and Otay Mesa POEs. Additionally, twenty-four Mexican-origin heroin samples seized at POEs in Texas and 18 Mexican-origin heroin samples seized at POEs in Arizona were submitted to the HSP for analysis. Three SA heroin samples submitted to the HSP for analysis were also obtained at SWB POEs (see Figure 3).

**(U) Figure 3: Mexican and South American Heroin Seized at Southwest Border Ports of Entry by State and Analyzed through the DEA Heroin Signature Program**

| SWB State | Mexican-Origin Heroin (Number of Exhibits) | | SA Heroin (Number of Exhibits) | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| Arizona | 18 | 39 | 0 | 0 |
| California | 169 | 232 | 2 | 1 |
| New Mexico | 0 | 0 | 0 | 0 |
| Texas | 24 | 36 | 1 | 0 |

*Source: DEA*

The number of Mexican-origin heroin samples seized at U.S. POEs remains high, and the SWB remains the primary entry point for Mexico-produced heroin. Figure 4 summarizes the number and purity of Mexican-origin heroin samples seized at U.S. POEs and analyzed through the HSP from 2001 to 2018. As noted in Figure 4 below, MEX-SA heroin exhibits seized at the U.S. POEs in 2018 and analyzed through the HSP were highly refined having an average purity of 87 percent. Furthermore, according to SFL1 forensic analysis, only seven samples seized at the SWB (including one black tar) were found to contain both heroin and fentanyl.

| (U) Figure 4: Characteristics of Mexican Heroin Seized at U.S. Ports of Entry and Analyzed through the DEA Heroin Signature Program | | |
|---|---|---|
| **Calendar Year** | **Number of Exhibits** | **Average Purity** |
| 2018 | 142 (MEX/T) | 52.0% |
| | 87 (MEX-SA) | 87.0% |
| | 2 (MEX-BP) | 69.0% |
| 2017 | 211 (MEX/T) | 42.0% |
| | 94 (MEX-SA) | 83.0% |
| | 2 (MEX/BP) | 61.0% |
| 2016 | 132 (MEX/T) | 43.6% |
| | 74 (MEX-SA) | 81.2% |
| | 3 (MEX/BP) | 52.7% |
| 2015 | 163 (MEX/T) | 42.2% |
| | 101 (MEX-SA) | 72.0% |
| | 10 (MEX/BP) | 44.1% |
| 2014 | 125 (MEX/T) | 43.0% |
| | 63 (MEX-SA) | 82.0% |
| | 12 (MEX/BP) | 54.0% |
| 2013 | 165 | 46.9% |
| 2012 | 146 | 42.3% |
| 2011 | 145 | 40.4% |
| 2010 | 88 | 38.1% |
| 2009 | 55 | 39.6% |
| 2008 | 61 | 44.0% |
| 2007 | 49 | 38.6% |
| 2006 | 32 | 44.6% |
| 2005 | 40 | 49.4% |
| 2004 | 24 | 41.5% |
| 2003 | 20 | 37.9% |
| 2002 | 26 | 32.8% |
| 2001 | 34 | 31.0% |

*Source: DEA*

HSP data indicates that Mexican-origin heroin—both MEX-SA and MEX/T—are widely available and dominate markets throughout the United States. In 2018, MEX-SA heroin samples were submitted to the HSP from 26 states with the largest number of samples obtained in the following states:

- New York (79)
- California (74)
- Texas (54)
- Illinois (38)
- Georgia (15)
- New Jersey (14)
- Massachusetts (8)

While the majority of MEX/T heroin samples were obtained from SWB POE seizures in California, Arizona, and Texas, 2018 HSP data indicates that MEX/T heroin was available in 22 other states throughout the United States, with the largest number of samples obtained in:

- Washington (37)
- Colorado (11)
- Utah (12)

# South America

South America (SA) was identified as the geographic source area of two percent (by weight) of heroin samples classified under the HSP during 2018. This remains unchanged from 2017, when SA heroin also accounted for two percent (by weight) of heroin analyzed through the HSP. The weight of SA heroin samples submitted to the HSP increased slightly from 33 kilograms in 2017 to 43 kilograms in 2018. The purity of SA heroin samples analyzed under the HSP in 2018 ranged from a low of 62 percent to a high of 98.5 percent.

In 2018, the average purity of SA heroin was 88 percent—a 27 percentage point increase from 69 percent in 2017. Although this appears to be a significant rise in purity, it is important to note that only fifteen SA heroin samples were analyzed under the HSP in 2018 and DEA SFL1 cautions against using these limited numbers of seizure samples to draw any conclusions regarding SA purity.

From 1995 to 2013, South America (primarily Colombia) accounted for the majority of the heroin analyzed through the HSP. However, since 2014, HSP results have documented the steady decline in availability of SA heroin in U.S. markets.

According to SFL1 forensic analysis, approximately 20 percent of SA heroin samples were found to be adulterated. Caffeine and dilitazem were the only identified adulterants, with caffeine being the most common adulterant for SA heroin. Lactose and inositol were the only identified diluents detected in SA heroin samples submitted to the HSP in 2018.

SA heroin continues to be smuggled into the United States by couriers on commercial flights and overland from Mexico. In 2018, four SA heroin samples obtained from seizures at U.S. POEs (both air and land) were submitted to the HSP for analysis

**(U) Figure 5: Characteristics of South American Heroin Seized at U.S. Ports of Entry and Analyzed through the DEA Heroin Signature Program**

| Calendar Year | Number of Exhibits | Average Purity |
|---|---|---|
| 2018 | 4 | 88% |
| 2017 | 11 | 73% |
| 2016 | 9 | 67.1% |
| 2015 | 17 | 70.0% |
| 2014 | 32 | 77.4% |
| 2013 | 76 | 71.8% |
| 2012 | 138 | 68.2% |
| 2011 | 150 | 61.8% |
| 2010 | 128 | 54.5% |
| 2009 | 134 | 61.9% |
| 2008 | 141 | 64.7% |
| 2007 | 126 | 64.3% |
| 2006 | 138 | 62.0% |
| 2005 | 185 | 68.0% |
| 2004 | 237 | 72.5% |
| 2003 | 350 | 77.1% |
| 2002 | 376 | 76.9% |
| 2001 | 412 | 81.2% |

*Source: DEA*

(compared to 11 samples in 2017). These included one seizure at JFK Airport in New York. One SA heroin seizure sample was also obtained at the Otay Mesa, CA land POE; one at the Laredo, TX land POE; and one at the San Ysidro, CA land POE.

The number of SA heroin samples seized at U.S. POEs and analyzed through the HSP since 2001 has steadily decreased, while the purity has remained relatively stable during the same timeframe (see Figure 5). The decline in the amount of SA heroin seized at POEs is consistent with reports of significant decreases in Colombian poppy cultivation in recent years. The reduction in SA heroin production, coupled with continuing high levels of heroin production in Mexico and transportation activities across the SWB, has noticeably impacted SA heroin availability in the United States.

In 2018, a total of 11 non-POE SA heroin samples were obtained in the following locations:

- New York (3)
- Texas (3)
- Missouri (1)
- Georgia (1)
- New Mexico (1)
- Illinois (1)
- North Carolina (1)

# Heroin Classified as Inconclusive - South America

The recent HSP signature classification of INC-SA, which was formally established in 2015 by SFL1, is assigned to heroin samples where either Mexico or South America could be the origin, but is produced or refined using South American techniques. Due to the heavy presence of adulterants or other issues, signature analysis conducted under the HSP is unable to confirm the geographic origin of this heroin sample type.

Heroin classified as INC-SA accounted for approximately four percent (by weight) of the heroin analyzed through the HSP in 2018. There was no change from the four percent noted in 2017. The weight of INC-SA heroin samples analyzed in 2018 through the HSP increased to 92 kilograms from the 83 kilograms analyzed in 2017. However, the average purity of INC-SA heroin decreased from 45 percent in 2017 to 42 percent in 2018. HSP data revealed that INC-SA heroin samples were obtained from 18 states throughout the country, with New York—one of the most prominent white heroin destination and distribution centers in the United States—submitting the largest number of samples (see Figure 6). Of the 72 total heroin samples classified as INC-SA, three were obtained at land POEs including two in Texas and one in California.

| (U) Figure 6: Heroin Classified as Inconclusive - South America (INC-SA) Seized by State | | |
|---|---|---|
| INC-SA Samples | 2018 | 2017 |
| Alabama | 2 | 3 |
| Arizona | 1 | 1 |
| California | 3 | 10 |
| Florida | 3 | 3 |
| Georgia | 2 | 0 |
| Illinois | 5 | 4 |
| Massachusetts | 3 | 4 |
| Michigan | 3 | 0 |
| Missouri | 2 | 1 |
| New Jersey | 3 | 4 |
| New York | 28 | 18 |
| North Carolina | 1 | 0 |
| Puerto Rico | 1 | 1 |
| South Carolina | 1 | 0 |
| Texas | 5 | 1 |
| Virginia | 6 | 1 |
| West Virginia | 1 | 0 |
| Wisconsin | 3 | 3 |
| Total | 72 | 54 |

*Source: DEA*

# Southwest Asia

Despite continued high levels of heroin production in Afghanistan, 2018 HSP results—along with investigative and other information—confirm that the presence and availability of SWA heroin in U.S. markets is minimal. There were only four SWA heroin samples submitted to the HSP in 2018: two were obtained in New York; one in Maryland; and one in Illinois. The average purity of SWA heroin samples increased from 39 percent in 2017 to 53 percent in 2018. Again, based on the limited number of SWA heroin exhibits submitted to the HSP for analysis in 2018, SFL1 cautions against drawing any conclusions regarding SWA heroin purity. The primary adulterants noted in SWA heroin samples analyzed under the HSP in 2018 were caffeine, methorphan, and acetaminophen, while the only diluent detected was mannitol.

DEA reporting and seizure data indicates that SWA heroin is not shipped to the United States in the bulk (wholesale) quantities necessary to successfully compete with Mexican White Powder heroin on either price or quality. Although there are a few small heroin distribution organizations, including West African and some native Middle Eastern drug trafficking organizations (DTOs), in the Northeast and mid-Atlantic United States that source SWA heroin, their shipments tend to be small and arrive via air courier or air freight. Of the four SWA heroin samples submitted to the HSP in 2018, two were obtained from seizures

made at JFK Airport in New York. One of the two samples seized at JFK transited Accra, Ghana. The combined weight of these two seizures was less than two and a half kilograms.

SWA heroin traffickers do not maintain, or have access to, an elaborate drug distribution pipeline that can compete with the Mexican transnational criminal organizations (TCOs). Therefore, the volume and domestic distribution infrastructure of SWA trafficking organizations will likely continue to be far outstripped by that of Mexican TCOs/DTOs in the near term.

# Southeast Asia

For the tenth consecutive year, no Southeast Asian (SEA) heroin samples were analyzed in 2018 under the HSP. Current reports indicate opium cultivation in Southeast Asia continues to decline with the majority of SEA opium remaining in Asia to meet the demand for opiates in local and regional markets.

# Fentanyl in 2018 HSP Samples

In 2018, of the 372 powder heroin samples seized and analyzed under the HSP, 89 (approximately 23 percent) contained fentanyl. Of these 89 samples, only five were obtained at SWB POEs. By comparison, in 2017, of the 522 powder heroin samples seized and analyzed under the HSP, fourteen percent were found to contain fentanyl. Of these samples, only three were obtained at SWB POEs. In addition, one MEX-T sample which contained fentanyl was also seized at a SWB POE. In 2016, HSP information indicated that of the 395 powder heroin samples analyzed, less than two percent contained fentanyl and none of these samples were seized at a SWB POE. Although the percentage of HSP samples containing fentanyl has slowly risen over the last three years, analysis of these samples indicates that overall, fentanyl cutting and lacing is still primarily occurring at the retail rather than wholesale level.

# Outlook

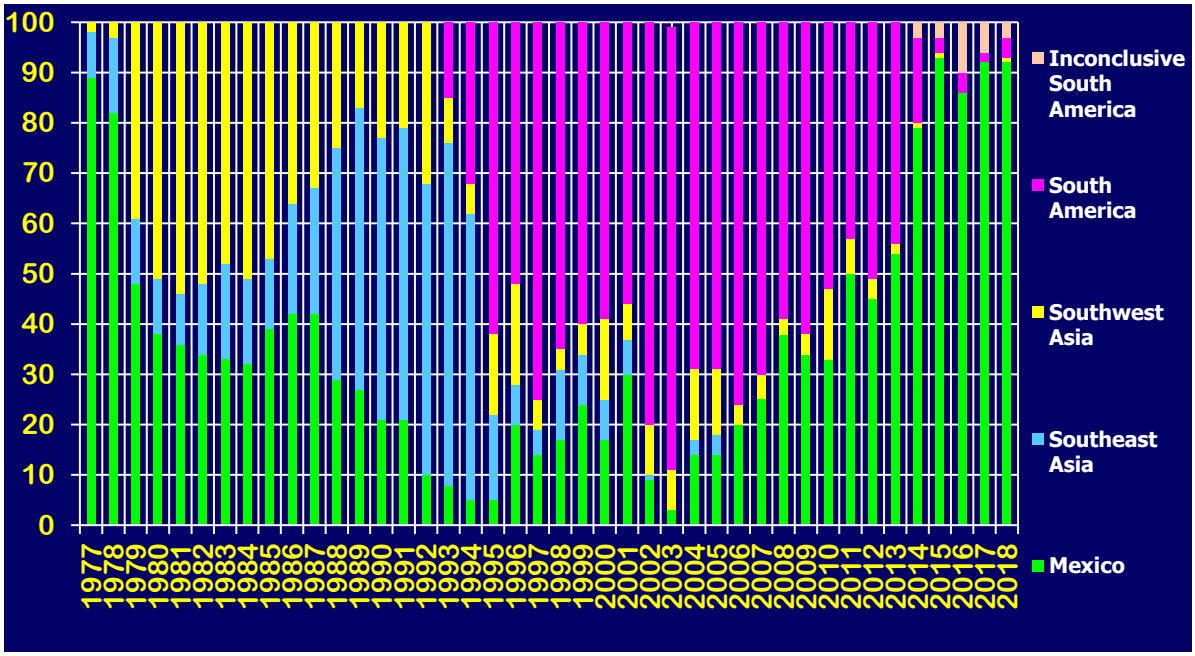
Mexico remains the primary geographic source of the heroin samples submitted to the HSP for the sixth consecutive year, and will likely remain the primary source in the near term. In 2018, U.S. Government estimates indicated that opium poppy cultivation in Mexico decreased five percent from 44,100 hectares in 2017 to 41,800 hectares in 2018. Potential pure heroin production also decreased four percent from 111 metric tons in 2017 to 106 metric tons in 2018.

Mexican TCOs/DTOs, through their extensive infrastructure in Mexico and the United States, continue to control the heroin “pipeline” from manufacture in Mexico to at least mid-level wholesale in the United States. Once Mexican TCOs developed the capability to manufacture high-quality white heroin, they were able to enter and supply the lucrative East Coast white heroin markets by using their pre-existing trafficking infrastructure in the United States and have no need to purchase white powder heroin from outside sources or transshipment areas whether from Afghanistan, Africa, South America, or Canada to meet United States demand.

Although SA heroin remains available in the United States, HSP results for 2018 clearly illustrate that SA heroin has reached an all-time low in terms of sample size and the amount analyzed under the HSP. Diminished levels of SA heroin in the United States are likely the result of decreased levels of opium poppy production in Colombia and steadily increasing levels of heroin production in Mexico and subsequent transportation activities.

2018 HSP results indicate that heroin from both Southwest Asia and Southeast Asia continues to have minimal impact on the U.S. heroin market.

# (U) Appendix A: Heroin Source Area Distribution: 1977-2018




*Source: DEA*

# (U) Appendix B: 1977-2018 Heroin Signature Program Results

| (U) Geographic Source Area Distribution (in percent*)<br>Based on Net Weight of Heroin Seized and Analyzed. Heroin samples classified as UNK are not included in HSP Geographic Source Area Distribution. | | | | | |
|---|---|---|---|---|---|
| **Year** | **Mexico** | **Southeast Asia** | **Southwest Asia** | **South America** | **Inconclusive-South America** |
| 2018 | **93** | 0 | <1 | 2 | 4 |
| 2017 | **92** | 0 | <1 | 2 | 4 |
| 2016 | **86** | 0 | <1 | 4 | 10 |
| 2015 | **93** | 0 | 1 | 3 | 3 |
| 2014 | **79** | --- | 1 | 17 | 3*** |
| 2013 | **54** | 0 | 2 | 44 | N/A |
| 2012 | 45 | 0 | 4 | **51** | N/A |
| 2011 | **50** | 0 | 7 | 43 | N/A |
| 2010 | 33 | 0 | 14 | **53** | N/A |
| 2009 | 34 | 0 | 4 | **62** | N/A |
| 2008 | 38 | <1 | 3 | **59** | N/A |
| 2007 | 25 | <1 | 5 | **70** | N/A |
| 2006 | 20 | 0 | 4 | **76** | N/A |
| 2005 | 14 | 4 | 13 | **69** | N/A |
| 2004 | 14 | 3 | 14 | **69** | N/A |
| 2003 | 3 | <1 | 8 | **88** | N/A |
| 2002 | 9 | 1 | 10 | **80** | N/A |
| 2001 | 30 | 7 | 7 | **56** | N/A |
| 2000 | 17 | 8 | 16 | **59** | N/A |
| 1999 | 24 | 10 | 6 | **60** | N/A |
| 1998 | 17 | 14 | 4 | **65** | N/A |
| 1997 | 14 | 5 | 6 | **75** | N/A |
| 1996 | 20 | 8 | 20 | **52** | N/A |
| 1995 | 5 | 17 | 16 | **62** | N/A |
| 1994 | 5 | **57** | 6 | 32 | N/A |
| 1993 | 8 | **68** | 9 | 15** | N/A |
| 1992 | 10 | **58** | 32 | --- | N/A |
| 1991 | 21 | **58** | 21 | --- | N/A |
| 1990 | 21 | **56** | 23 | --- | N/A |
| 1989 | 27 | **56** | 17 | --- | N/A |
| 1988 | 29 | **46** | 25 | --- | N/A |
| 1987 | **42** | 25 | 33 | --- | N/A |
| 1986 | **42** | 22 | 36 | --- | N/A |
| 1985 | 39 | 14 | **47** | --- | N/A |
| 1984 | 32 | 17 | **51** | --- | N/A |
| 1983 | 33 | 19 | **48** | --- | N/A |
| 1982 | 34 | 14 | **52** | --- | N/A |
| 1981 | 36 | 10 | **54** | --- | N/A |
| 1980 | 38 | 11 | **51** | --- | N/A |
| 1979 | **48** | 13 | 39 | --- | N/A |
| 1978 | **82** | 15 | 3 | --- | N/A |
| 1977 | **89** | 9 | 2 | --- | N/A |

*Source: DEA*

* Percentage based on samples for which a signature was identified. From 1977 through 1991, percentages were based on the number of samples tested. Since 1992, percentages have been based on the net weight of the heroin seized and analyzed.

** The signature for heroin from South America was developed in July 1993; therefore, this figure represents only partial-year data. (DEA reporting indicates that heroin from South America first was noted in the US in 1991 and that its availability increased during the latter half of 1992 as well as in early 1993.)

*** Although the new HSP classification of “Inconclusive Origin-South American” processing method (INC-SA) was formally launched in May 2015, this new classification was applied retroactively to 2014 HSP data.

**DEA PRB 01-14-20-03**

(U) This product was prepared by the DEA Intelligence Program – Indicator Programs Section in coordination with the DEA Office of Forensic Science. Comments and questions may be addressed to the Office of Intelligence Programs at DEA.IntelligenceProducts@usdoj.gov.
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