

UNWASHED POPPY SEED

Introduction:

Poppy seeds are a naturally derived product originating from a flowering plant known as *Papaver somniferum* (poppy plant). Depending on the harvesting methods and geographical origin of the plant, *unwashed* poppy seeds may have higher amounts of schedule II opium alkaloids (e.g., morphine, codeine, thebaine) on their seed coats when compared to *washed* poppy seeds. The poppy seeds themselves possess no opium content. Instead, the opium alkaloids (e.g., morphine, codeine, thebaine) are found in the poppy latex, which is a milky white fluid that exudes from the pod when it is cut. Harvesters—who wish to increase opium alkaloids contents on the poppy seed coats—make cuts in the opium pods before they ripen, which allows the latex to seep onto the seed coats. Individuals who wish to extract the opium alkaloid content from *unwashed* poppy seeds use the seeds to create a tea, which contains sufficient amounts of alkaloids to produce psychoactive effects.

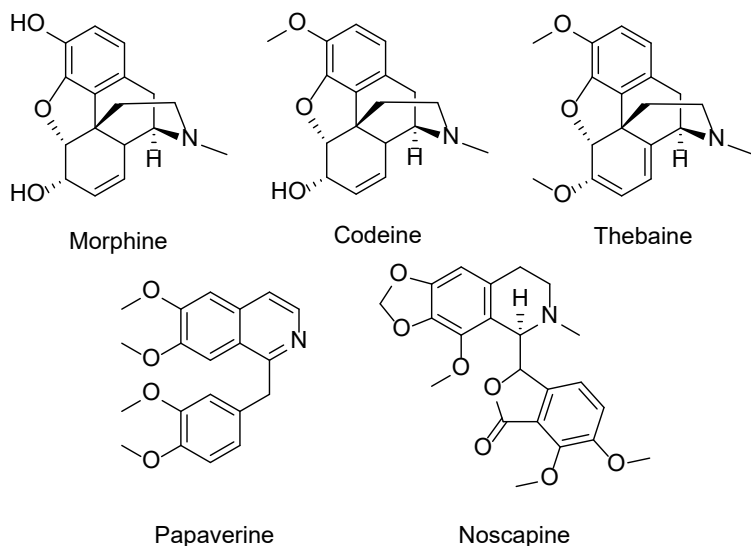
In the United States, at least 12 deaths have been reported in scientific literature that are associated with the use of tea made from *unwashed* poppy seed. *Unwashed* poppy seeds are widely available online and through private websites.

Licit Uses:

Washed and processed poppy seeds are used in foods to make pastries, cakes, porridge, and glaze. People also take poppy seeds by mouth for asthma, cough, and diarrhea caused by infection. Poppy seed oil is used in manufacturing to make soap, paint, and varnish.

Chemistry:

The surface of *unwashed* seed is typically contaminated with the same opium alkaloids that are found in the latex exudate from poppy pods. The five major opium alkaloids include morphine, codeine, thebaine, papaverine, and noscapine (also called narcotine). The structures of these alkaloids are shown below:



Pharmacology:

Of the five major opium alkaloids found on poppy seeds, the two most pharmacologically active compounds are morphine and codeine. These opium alkaloids bind to and act as agonists at opioid receptors, thereby producing psychoactive and other pharmacological effects. These effects include (but are not limited to) analgesia, euphoria, respiratory depression, decreased gastrointestinal motility, and physical and psychological dependence. Pharmacological and toxic effects, abuse, and dependence liabilities of these alkaloids are qualitatively similar to those of other schedule II opioid analgesics (e.g., oxycodone, hydrocodone, oxymorphone).

Illicit Uses:

Unwashed poppy seeds are abused for their opioid effects. Some users boil the seeds to produce a tea, which is consumed for the purposes of perceived “natural” pain relief. Other users produce this tea from unwashed poppy seeds purely to obtain a “high.” *Unwashed* poppy seeds are a danger to the user and their abuse may result in unpredictable outcomes—including death—when used alone or in combination with other drugs, as reported in the scientific literature.

Illicit Distribution

The Drug Enforcement Administration’s National Forensic Laboratory Information System (NFLIS) Drug database collects scientifically verified data on drug items and cases submitted to and analyzed by participating federal, state, and local forensic drug laboratories. NFLIS-Drug received at least 31 reports related to opium in plant or vegetable matter form, including seeds, since 2010.

Control Status:

Opium poppy, poppy straw, opium, and opiates (including their salts and derivatives) are controlled in schedule II of the Controlled Substances Act (CSA), pursuant to 21 U.S.C. § 812. Examples of included substances are morphine, codeine, and thebaine.

However, the definitions of “opium poppy” and “poppy straw” under 21 U.S.C. § 802(19) and (20) specifically exclude the “seed thereof”. As such, poppy seeds are excluded from control under the CSA, but the definition does not exclude seeds with opium alkaloids.

Note: The opium alkaloids (inclusive of morphine, codeine, and thebaine), if present as contaminants on poppy seed material, are not exempted from CSA control. Encounters of these materials are in violation of the CSA.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section; Fax 571-362-4250, Telephone 571-362-3249, or Email DPE@dea.gov.