

UNWASHED POPPY SEED

Introduction:

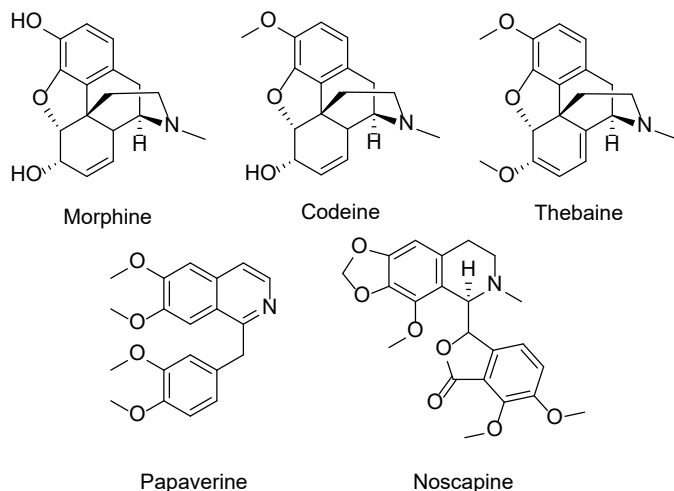
Poppy seeds are a naturally derived product originating from a flowering plant known as *Papaver somniferum* (poppy plant). Depending on the harvesting methods and geographical origin of the plant, the coats of poppy seeds may have higher amounts of schedule II opium alkaloids (e.g., morphine, codeine, thebaine). Poppy seeds themselves possess little to no opium content but may become contaminated with opium alkaloids during harvesting. Opium alkaloids are found in other parts of the plant (poppy straw) or in a milky white fluid that exudes from a cut pod (poppy latex). If harvesters make cuts in the opium seedpods before they ripen, allowing the latex to seep onto the seed coats, then the opium alkaloid contents on the poppy seed coats may be higher. Proper processing of poppy seeds removes most of the contamination; in contrast, unprocessed or unwashed poppy seeds can contain dangerous amounts of opium alkaloids.

Licit Uses:

Processed poppy seeds are used in foods to make pastries, cakes, porridge, and glaze. Poppy seed oil is used in manufacturing to make soap, paint, and varnish.

Chemistry:

Unwashed poppy seeds can be 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 chemical structures of these alkaloids are shown below:



Pharmacology:

Of the five major opium alkaloids found in opium poppy, 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).

Processed poppy seeds do not contain enough opium alkaloids for people to experience psychoactive effects after eating poppy seed-containing foods. However, sometimes consumption of processed poppy seed products can result in a positive drug test for the opium alkaloids morphine or codeine. A positive drug test result attributed to eating poppy seeds is known as the “poppy seed defense.”

Illicit Uses:

Unwashed poppy seeds contain higher levels of opium alkaloids on their seed coats and are sought out for their opiate effects. Individuals typically make a poppy seed tea from unwashed poppy seeds to obtain sufficient amounts of the opium alkaloids to produce psychoactive effects. Unwashed poppy seeds present a danger to users as their use may result in unpredictable outcomes—including death—when used alone or in combination with other drugs. In the United States, fatal and non-fatal overdoses associated with unwashed poppy seeds have been reported in scientific literature.

Illicit Distribution

Unwashed poppy seeds are widely available online and through private websites. DEA’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). Poppy seeds are excluded from control under the CSA, but the definition does not exclude seeds with opium alkaloids. 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.