The anagesic effect of propoxyphene was demonstrated in animals and man. Dependence liability was evaluated in primates by the late Dr. Maurice Seevers at the University of Michigan. At the Public Health Service Hospital at Lexington, Kentucky, the degree to which propoxyphene would substitute for other narcotic agents was determined in humans. The consensus was that "its overall addiction liability is estimated to be no greater, and is probably less, that that of codeine."

The new drug application for Darvon was approved in 1957. Then-applicable law required only an evaluation for safety, although data demonstrating analgesic effectiveness in animals an man were also submitted to the FDA at that time.

From the standpoint of abuse control, the World Health Organization classified propoxyphene as a dependence-producing substance in early 1956. Subsequently, in 1964, WHO withdrew its initial classification, and later reviews by WHO reaffirmed that controls on propoxyphene were unnecessary. The Bureau of Narcotics proposed the classification of propoxyphene as an opiate in 1956. It did not act on this proposal, and in 1962 the Bureau found propoxyphene not be an opiate.