



**STATE OF DELAWARE**  
**STATE COUNCIL FOR PERSONS WITH DISABILITIES**  
Margaret M. O'Neill Bldg., Suite 1  
Dover, Delaware 19901  
302-739-3621

The Honorable John Carney  
Governor

John A. McNeal  
Director

**MEMORANDUM**

DATE: March 25, 2019

TO: All Members of the Delaware State Senate  
and House of Representatives

FROM: Mr. J. Todd Webb, Chairperson  
State Council for Persons with Disabilities

RE: H.B. 61 (Update to Uniform Controlled Substances Act Regarding  
Benzodiazepines)

The State Council for Persons with Disabilities (SCPD) has reviewed H.B. 61, which updates Delaware's Uniform Controlled Substances Act with regard to benzodiazepines, a class of drugs commonly used to treat a variety of medical conditions including anxiety, seizures, and alcohol withdrawal. The SCPD has the following observations.

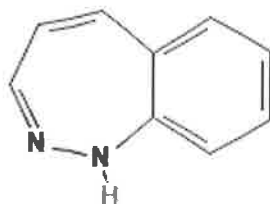
Common benzodiazepines include alprazolam (brand name: Xanax), clonazepam (brand name: Klonopin), chlordiazepoxide (brand name: Librax), diazepam (brand name: Valium), and lorazepam (brand name: Ativan). Under current state and federal law, benzodiazepines are listed as "Schedule IV" controlled substances. The "schedules" for controlled substances range from Schedule I ("high potential for abuse" and "no accepted medical use in treatment in the United States or lacks accepted safety for use in treatment under medical supervision." 16 *Del. C.* § 4713) down to Schedule V ("low potential for abuse relative to the controlled substances listed in Schedule IV," "has currently accepted medical use in treatment in the United States," and "has limited physical dependence or psychological dependence liability relative to the controlled substances listed in Schedule IV." 16 *Del. C.* § 4721). By way of example, LSD is Schedule I, methamphetamine is Schedule II, Tylenol with codeine is Schedule III, Valium is Schedule IV, and Robitussin A-C is Schedule V.

The proposed bill leaves benzodiazepines as Schedule IV controlled substances but makes two significant changes. First, it creates a general category of benzodiazepine drugs "so that all current and future benzodiazepine drugs are included in Schedule IV." It then includes a non-

exclusive list of benzodiazepine drugs. The list contains the benzodiazepine drugs listed in the current statute and adds a significant number of additional benzodiazepine drugs.

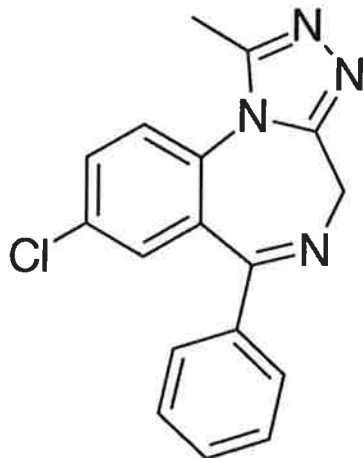
Some of the new drugs are sold as “designer drugs” that persons can use to mimic the effects (and risks) of illegal drugs while attempting to stay ahead of the government’s ability to classify the drugs as illegal or attempting to avoid detection on drug tests. Classifying these drugs as Schedule IV will allow the government to properly regulate them, as they currently do with the benzodiazepines covered under the current law.

The bill uses the following general language to create the “benzodiazepine” category of drugs: “Any material compound, mixture, or preparation that contains benzodiazepine.” The molecule benzodiazepine is a diazepine ring (a 7-member ring with 5 carbon atoms and two nitrogen atoms) fused with a benzene ring (a 6-member ring of carbon atoms with bonds such that each carbon only has one additional bonding site). The nitrogen atoms can be located in different locations. The figure below is an example of a benzodiazepine molecule (specifically 1H-1, 2-benzodiazepine). Benzodiazepine drugs contain 1, 4-benzodiazepine structures, so the nitrogen atoms are not adjacent to one another):



(For those unfamiliar with molecular diagrams, N is nitrogen, H is hydrogen, and the lines are bonds between atoms (single or double bonds, depending on the number of parallel lines). Any place where lines meet or end without a letter is a carbon atom. Bonding sites on carbon atoms are presumed to be filled with hydrogen atoms unless something else is specifically drawn in)

Drugs that are generally referred to as “benzodiazepines” contain a benzodiazepine unit as a core structure. For example, this is the structure of Alprazolam (aka Xanax).



The proper name for the molecule is “8-chloro-1-methyl-6-phenyl- 4H-[1, 2, 4] triazolo [4, 3-a] [1, 4] benzodiazepine,” which is why no one calls it by its proper name.

In order to avoid having to deal with overly-specific chemical names, the Delaware Code defines “benzodiazepine” as: “any substance or drug which contains a benzene ring fused to a 7-member diazepine ring, results in the depression of the central nervous system and *is primarily intended to treat insomnia, convulsions and anxiety, and used for muscle relaxation and pre-operation treatment.*” 16 Del. C. § 4701(6) (underlining and italics added). This definition is under-inclusive because of the intent language (italicized in the quotation). We are now in the age of designer drugs. Some designer drugs are developed for “recreational” purposes, and the intent language arguably excludes those drugs from the definition of “benzodiazepine.” As such, if the bill’s intention was to place all drugs (1) with a benzodiazepine structure at their core that (2) also depress the central nervous system onto Schedule IV, the bill fails to do that. This problem could be addressed by eliminating or broadening the intent language from 16 Del. C. § 4701(6).

Although the bill likely intended to use the definition of benzodiazepine from 16 Del. C. § 4701(6), the situation is no better if it intended to use the strict chemical definition. Although the drugs generally referred to as “benzodiazepines” contain a diazepine ring fused to a benzene ring at their core, they are not, strictly speaking, the molecule known as benzodiazepine. The differences matter. By way of example: styrene (also called ethylbenzene and vinyl benzene)



is basically a benzene ring with a two carbon chain attached to it, but that seemingly small difference makes a huge difference with toxicity. The OSHA permissible airborne exposure limit for an 8-hour workday is 100 parts per million (“ppm”) for styrene but only 1 ppm for benzene.

The bill contains an additional inaccuracy. The list of specific benzodiazepines contains several drugs that are not benzodiazepines by any definition because they do not contain “a benzene ring fused to a 7-member diazepine ring.” These drugs appear to have been included because they are structurally similar to benzodiazepines and act on the body in a way similar to benzodiazepines, but this does not make them benzodiazepines. Specifically, Zapizolam is a pyridotriazolodiazepine (the benzene ring is replaced by a six-member ring with 5 carbons and one nitrogen). Metizolam, Deschloroetizolam, Brontizolam, and Etizolam are thienotriazolodiazepines (the diazepine ring is fused to a thiophene ring (five-member ring with one sulfur atom and four carbons) and a triazole ring (a five-member ring with three nitrogens and two carbons) instead of a benzene ring). While these drugs may very well deserve to be included in Schedule IV, they should not be included as benzodiazepines. If the intent of the bill is to place all current and future benzodiazepines and benzodiazepine analogues (such as pyridotriazolodiazepines and thienotriazolodiazepines) onto Schedule IV, it needs to be rewritten. In the alternative, the non-benzodiazepine drugs could be added to the list of specifically enumerated drugs in 16 *Del. C.* § 4720(b). Leaving the non-benzodiazepine drugs in the list is akin to listing whales and alligators in a list that begins “the following fish are illegal to catch and keep.” It may make the point that you can’t fish for whales or alligators, but whales and alligators are not fish. Law should strive to be as clear as possible.

Thank you for your consideration and please contact SCPD if you have any questions or comments regarding our observations on the proposed legislation.

cc: Ms. Laura Waterland, Esq.  
Governor’s Advisory Council for Exceptional Citizens  
Developmental Disabilities Council

HB 61 update to uniform controlled substances act re benzodiazepines 3-25-19