

## Tianeptine in the United States

Tianeptine is an atypical tricyclic antidepressant with a unique mechanism of action. It is not approved for use in the United States (US), but it is approved for the treatment of depression in parts of Europe, Asia, and Latin America under the brand names Stablon, Coazil, and Tatinol. However, in the US, tianeptine, commonly referred to as “gas station heroin”, can be purchased relatively easily at convenience stores, gas stations, vape/smoke shops, and on the internet. It can be found under the names ZaZa, Tianna Red, Pegasus, Tianaa, or Neptune’s Fix.

Tianeptine is a full mu opioid receptor agonist and modulates serotonin reuptake to stabilize glutamergic signaling. It has a fast onset and a short, 2.5 hr, half-life. Misuse of tianeptine is increasing in the US. It causes euphoric effects like other opioids and can cause dependence and withdrawal with chronic, high-dose administration. Symptoms of withdrawal are similar to other opioids. In overdose, clinical effects include agitation, tachycardia, and hypertension. It is often co-used with substances like ethanol, phenibut, benzodiazepines, and kratom.

Recently the Food and Drug Administration (FDA) has issued warnings to consumers to avoid buying Neptune’s Fix Elixir or other products containing tianeptine due to several reports of severe adverse reactions including seizures, loss of consciousness, respiratory depression, and death. Products like Neptune’s Fix are not as proactively regulated by the FDA because tianeptine does not meet FDA’s definition of a dietary ingredient, is not an approved food additive, and is not “generally regarded as safe”. Thus, products containing tianeptine are considered adulterated under the Federal Food, Drug, and Cosmetic Act. Some states have classified tianeptine as a schedule I controlled dangerous substance, placing it in the same category as heroin, LSD, and ecstasy.

One report identified that Neptune’s Fix was a combination of tianeptine and a synthetic cannabinoid. Patients who used this drug required intensive care unit treatment including intubation/ventilation and seizure management (*MMWR Morb Mortal Wkly Rep. 2024 Feb 1;73(4):89-90*). Neptune Resources LLC and Super Chill Products, distributors of Neptune’s Fix, have agreed to voluntarily recall Neptune’s Fix due to the reports of severe adverse effects following use of their product.

Despite mu activity, the results of naloxone administration are mixed (*Clin Toxicol. 2021;59(2):152-7*). Most patients need only supportive measures and intensive care treatments are infrequent. Withdrawal has been managed with buprenorphine-based medications (*J Addict Med. 2022;16(6):736-8*).

Call your local poison center at 1-800-222-1222 for treatment guidance for tianeptine overdose or withdrawal.



### Did you know?

**Gas station drugs are available in many regions due to difficulty in regulation.**

Bath salts (stimulant similar to amphetamine), Spice (synthetic cannabinoids), Kratom, and phenibut are some of the other substances known as “gas station drugs”. These substances are often marketed as “supplements” and were made to mimic the effects of other illicit drugs or elicit desirable effects being reported as mood stabilizer, sexual enhancer, or as a memory booster. These products, and others like them, are not FDA approved and can be harmful if used. Some products are labeled as “not for human consumption” in an attempt to avoid regulation by the FDA.

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