

Drug Status Report

Drug: Gan Mao

Drug Name Status: Gan Mao is the brand name.

Gan Mao is a herbal supplement used in traditional Chinese medicine (TCM) and is claimed to consist of *Herba schizonepetae* and *Ephedra* as its primary ingredients.

Herba schizonepetae, also known as ‘Jing Jie’ in TCM, is used for the treatment of the common cold and flu, as well as skin rashes associated with German measles¹. Essential oils extracted from *H. schizonepetae* have been reported to exhibit anti-inflammatory effects².

The plant genus *Ephedra* known in TCM as “Mu Xiang”, is used for the treatment of colds, asthma and hay fever³. *Ephedra* is a well-known source of ephedrine alkaloids which include ephedrine, pseudoephedrine, methylephedrine, norpseudoephedrine and norephedrine^{4,5}. Ephedrine alkaloids are sympathetic agonists and known to produce stimulant effects. While *Ephedra* is not specifically listed in the Schedules to the CSA in the United States, the aforementioned ephedrine alkaloids are on List 1 - Regulated Chemicals to the CSA. The substances are also on the UN Red List - List of Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances under International Control.

Canadian Status: *H. schizonepetae* is not listed specifically in the CDSA and is not similar to any of the substances listed in the Schedules to the CDSA. *Ephedra* is not listed specifically in the Schedules to the CDSA. However, *Ephedra* is included in Schedule VI - Part 1, Class A Precursors under Item 4 “Ephedrine, its salts and any plant containing ephedrine or any of its salts” and under Item 16 “Pseudoephedrine, its salts and any plant containing pseudoephedrine or any of its salts” by virtue of being a plant that contains ephedrine and pseudoephedrine.

Recommendation: Gan Mao contains *Ephedra* which is a plant that contains both ephedrine and pseudoephedrine and is therefore included under Items 4 and 16 of Schedule VI - Part 1, Class A Precursors and is considered a controlled substance under the CDSA.

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¹<http://www.tcm-treatment.com/herbs/0-jingjie.htm>

²Zhao, L. et al. (2008) Effect of *Herba schizonepetae* volatile oil (STO) on activity of 5-lipoxygenase in rat thoracic cavity leukocytes, *Zhongguo Zhongyao Zazhi*, **33**:2154-2157.

³Abourashed, E-A. et al. (2003) *Ephedra* in perspective - A current Review. *Phytother. Res.* **17**:703-712.

⁴Gurley B.J. et al. (1998) Ephedrine-type alkaloid content of nutritional supplements containing *Ephedra sinica* (Ma Huang) as determined by high performance liquid chromatography, *J. Pharm. Sci.* **87**:1547-1553.

⁵Inoko, A. et al. (2009) *Ephedra* resource in Sichuan and Yunnan provinces 2007, *Biol. Pharm. Bull.* **32**:1621-1623.