

AMERICAN HERBAL PRODUCTS ASSOCIATION'S

BOTANICAL SAFETY HANDBOOK

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Significant toxicity data exist for isolated constituents of a wide variety of commonly available foods, as well as herbs. Potatoes, as a member of the Solanaceae family, contain trace amounts of the toxic glycoalkaloid solanine (Turner and Szczawinski, 1991). Although the symptoms of solanine poisoning are serious, potatoes themselves are generally considered to be a safe food. While consumption of as little as five grams of nutmeg can cause marked hallucinations (List and Horhämmer, 1973-79), no safety concern needs prevent us from enjoying a sprinkle of this characteristic flavor on Aunt Florence's eggnog. Similarly, no safety concern is associated with a candy flavored with peppermint oil, though as many as 26 toxins are reported to have been observed in the plant (Duke, 1989). Safety concerns for herbal products need not be extrapolated from constituent profiles with any more alarm than is appropriate for foods.

In following the principles espoused by WHO and incorporating the ideas delineated by Kingsbury, it is imperative that herb safety be assessed according to the intended use of the substance within the historical context of its use. The Committee intentionally refrained from extrapolating the toxicity of isolated constituents or considering excessive or irresponsible consumption patterns. The decision to place an herb in a restricted Class was made only if the use of the herb in a normal dosage range is documented as presenting a safety concern, or if the amount of a harmful or potentially harmful constituent obtainable from the crude plant is of sufficient quantity to be problematic. In all other cases in which the references report high dose or constituent related toxicity, an Editors' Note is appended for clarification.

The Review Process and Classification

The Committee cross-referenced a thorough selection of standard toxicological and botanical references with a broad listing of herbs in trade. *Herbs of Commerce* (Foster, 1992) was used as the primary source for identifying herbs currently in the marketplace, though many additional herbs are included.

Classifications are included for each part of the plant with a history of use and are for dehydrated plant material, unless otherwise stated. Classifications address only the safety of the identified part of the herb in its whole, cut, or powdered form; as an ingredient in a finished product (tablets, capsules, teas, etc.); or as a crude extract to which no chemically-defined active substances have been added. Classifications are generally based on data which are associated with the use of the specific herb in isolation and in the quantities generally consumed for a therapeutic effect. Any cautions may therefore be

somewhat overstated for an herb which appears in the market as part of a combination product, or for herbs which are used as foods and spices in less than such therapeutic quantities.

Editors' Notes and Notices, when included in a listing, are essential elements of overall classification. **Editors' Notes** include supplemental information relevant to the safe use of an herb, such as specific labeling recommendations, information regarding preparation, dose limits, possible adulteration, etc. In some cases the Committee found data which contradict the **Class** determined for a particular herb. The dissenting position is recorded in an **Editors' Note** along with the Committee's reasoning for discounting such data.

Notices were developed as a means for drawing attention to certain health conditions and plant constituents. A thorough discussion of each **Notice** is included in the *Appendix*.

Each herb is placed in a defined **Class** based on all the information included in the **Primary References**, any other data deemed as significant, and the experience of the Committee members. Central to the appropriate application of this document is the understanding that *classifications are based on an assumption of rational, informed use of herbs and herbal products*. **Classes** are defined as follows:

Class 1 Herbs which can be safely consumed when used appropriately.

Class 2 Herbs for which the following use restrictions apply, unless otherwise directed by an expert qualified in the use of the described substance:

- 2a: For external use only.
- 2b: Not to be used during pregnancy.
- 2c: Not to be used while nursing.
- 2d: Other specific use restrictions as noted.

Class 3 Herbs for which significant data exist to recommend the following labeling:

"To be used only under the supervision of an expert qualified in the appropriate use of this substance." Labeling must include proper use information: dosage, contraindications, potential adverse effects and drug interactions, and any other relevant information related to the safe use of the substance.

Class 4 Herbs for which insufficient data are available for classification.

Curcuma aromatica* Salisbury.*Zingiberaceae*****Curcuma domestica* Valet.*****Curcuma longa* L.**Common Name: turmeric, *jiang huang*

Other Common Names: curcuma

Part: rhizome

Class: 2b [2, 7, 25, 29, 30]; 2d - Therapeutic quantities should not be taken by people with bile duct obstruction or gall stones [4]; *C. longa* should not be administered to patients who suffer from stomach ulcers or hyperacidity [24].

Standard Dose: 1.5-3.0 grams daily [4]; 4.5-9.0 grams prepared as tea [2].

Notice: Emmenagogue/Uterine Stimulant [7, 25] See page 169.

Ed. Note: The classifications and concerns for this herb are based upon therapeutic use and may not be relevant to its consumption as a spice.

Curcuma zedoaria* (Berg.) Roscoe.*Zingiberaceae**Common Name: zedoary, *e zhu*

Part: rhizome

Class: 2b [2, 29]

Ed. Note: Bensky & Gamble [2] advise cautious use during excessive menstruation.

Cuscuta chinensis* Lam.*Cuscutaceae*****Cuscuta japonica* Choisy**Common Name: dodder, *tu si zi*

Other Common Names: cuscuta

Part: seed

Class: 1

Cyamopsis tetragonolobus* (L.) Taubert*Fabaceae**

Common Name: guar gum

Part: seed

Class: 2d - Take with at least 250 ml (8 oz) liquid [17, 20, 21]; contraindicated in bowel obstruction [21, 26].

Standard Dose: 5.0 grams up to three times daily, with or preceding meals [21].

Notice: Bulk Forming Laxative [26] See page 165.

Ed. Note: May cause flatulence, diarrhea, or nausea, especially in the early stage of therapeutic use [17, 21].

Class 3: Herbs for which significant data exist to recommend the following labeling:

"To be used only under the supervision of an expert qualified in the appropriate use of this substance." Labeling must include proper use information: dosage, contraindications, potential adverse effects and drug interactions, and any other relevant information related to the safe use of this substance.

Class 4: Herbs for which insufficient data are available for classification.