

NATURAL HEALTH PRODUCT

CITRUS BIOFLAVONOIDS

This monograph is intended to serve as a guide to industry for the preparation of Product Licence Applications (PLAs) and labels for natural health product market authorization. It is not intended to be a comprehensive review of the medicinal ingredient.

Notes

- Text in parentheses is additional optional information which can be included on the PLA and product label at the applicant's discretion.
- The solidus (/) indicates that the terms and/or statements are synonymous. Either term or statement may be selected by the applicant.

Date March 31, 2023

Proper name(s), Common name(s), Source information

Proper name(s)	Common name(s)	Source information	
		Source material(s)	Part(s)
Citrus bioflavonoids	Citrus bioflavonoids	 Citrus aurantiifolia 	▶ Fruit
		 Citrus limon 	 Fruit peel
		 Citrus paradisi 	
		 Citrus reticulata 	
		 Citrus sinensis 	

Table 1. Proper name(s), Common name(s), Source information

References: Proper name: Burdock 2005; Common name: Burdock 2005; Source information: USDA 2019a,b,c,d, Nogata et al. 2006, Burdock 2005.

Route of administration

Oral

Dosage form(s)

This monograph excludes foods or food-like dosage forms as indicated in the Compendium of Monographs Guidance Document.

Acceptable dosage forms for oral use are indicated in the dosage form drop-down list of the webbased Product Licence Application form for Compendial applications.



Use(s) or Purpose(s)

Source of/Provides antioxidants (Jung et al. 2003; Manthey et al. 2001).

Dose(s)

Subpopulation(s)

Adults 18 years and older

Quantity(ies)

Not to exceed 600 milligrams of Citrus bioflavonoids, per day (USDA 2013; Chun et al. 2007; Burbock et al. 2005; Blostein-Fujii et al. 1999).

Note

Must not exceed 600 milligrams of Citrus bioflavonoids, per day, when combined with other bioflavonoids such as but not limited to, quercetin, hesperidin, rutin, etc.

Direction(s) for use

No statement required.

Duration(s) of use

No statement required.

Risk information

Caution(s) and warning(s)

Products providing 50 milligrams or more of Citrus bioflavonoids, per day

Consult a healthcare practitioner/health care provider/health care professional/doctor/physician prior to use if you are taking prescription medication as citrus bioflavonoids may alter the effectiveness of these medications (Brinker 2018).

Contraindication(s)

No statement required.





Known adverse reaction(s)

No statement required.

Non-medicinal ingredients

Must be chosen from the current Natural Health Products Ingredients Database (NHPID) and must meet the limitations outlined in the database.

Storage conditions

Must be established in accordance with the requirements described in the *Natural Health Products Regulations* (NHPR).

Specifications

- The finished product specifications must be established in accordance with the requirements described in the Natural and Non-prescription Health Products Directorate (NNHPD) Quality of Natural Health Products Guide.
- ▶ The medicinal ingredient must comply with the requirements outlined in the NHPID.

References cited

Blostein-Fujii A, DiSilvestro RA, Frid D, Katz C. Short term citrus flavonoid supplementation of type II diabetic women: no effect on lipoprotein oxidation tendencies. Free Radical Research 1999;30(4):315-320.

Brinker 2018: Brinker F. Final updates and additions for Herb Contraindications and Drug Interactions, 4th edition, including extensive Appendices addressing common problematic conditions, medications and nutritional supplements, and influences on Phase I, II & III metabolism with new appendix on botanicals as complementary adjuncts with drugs. [Internet]. Sandy (OR): Eclectic Medical Publications. [Accessed 2019 May 14]. Available from: https://www.eclecticherb.com/herb-contraindications-drug-interactions

Burdock G.A. Fenaroli's Handbook of Flavor Ingredients, 5th ed. CRC Press; 2005.

Chun OK, Chung SJ, Song WO. Estimated dietary flavonoid intake and major food sources of U.S. adults. Journal of Nutrition 2007;137(5):1244-1252.

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Manthey JA, Guthrie N, Grohmann K. Biological Properties of Citrus Flavonoids Pertaining to Cancer and Influmation. Current Medicinal Chemistry 2001;8(2):135-153.

Nogata Y, Sakamoto K, Shiratsuchi H, Ishii T, Yano M, Ohta H. Flavonoid composition of fruit tissues of citrus species. Bioscience Biotechnology and Biochemistry 2006;70(1):178-192.

USDA 2019a: United States Department of Agriculture, Agricultural Research Service, National Genetic Resources Program. Germplasm Resources Information Network (GRIN). [Internet]. *Citrus reticulata* Blanco. National Germplasm Resources Laboratory, Beltsville (MD). [Accessed 2019 May 14]. Available from: https://npgsweb.arsgrin.gov/gringlobal/taxon/taxonomysimple.aspx

USDA 2019b: United States Department of Agriculture, Agricultural Research Service, National Genetic Resources Program. Germplasm Resources Information Network (GRIN). [Internet]. *Citrus sinensis* (L.) Osbeck. National Germplasm Resources Laboratory, Beltsville (MD). [Accessed 2019 May 14]. Available from: https://npgsweb.arsgrin.gov/gringlobal/taxon/taxonomysimple.aspx

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USDA 2019d: United States Department of Agriculture, Agricultural Research Service, National Genetic Resources Program. Germplasm Resources Information Network (GRIN). [Internet]. *Citrus aurantiifolia* (Christm.) Swingle. National Germplasm Resources Laboratory, Beltsville (MD). [Accessed 2019 May 14]. Available from: https://npgsweb.arsgrin.gov/gringlobal/taxon/taxonomysimple.aspx

USDA 2013. USDA Database for selected Flavonoid Content of Selected Foods. Release 3.1. Prepared by S Bhagwat, DB Haytowitz, JM Holden. Nutrient Data Laboratory, Betsville Human Nutrition Research Center, Agriculture Research Service, U.S. Department or Agriculture; June 2013. [Accessed 2019 May 14]. Available from:

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