Pomegranate

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POMEGRANATE - PUNICA GRANATUM Help on accessing alternative formats, such as Portable Document Format (PDF), Microsoft Word and PowerPoint (PPT) files, can be obtained in the alternate format help section. (PDF Version - 58 KB) 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 December 18, 2018 Proper name(s), Common name(s), Source material(s) Table 1. Proper name(s), Common name(s), Source material(s) Proper name(s) Common name(s) Source material(s) Proper name(s) Part(s) Preparation Punica granatum Pomegranate Punica granatum Fruit Seed aril Fresh Dried References: Proper name: USDA 2018; Common name: USDA 2018; Source materials: Duke 2001. 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 the age category listed in this monograph and specified route of administration are indicated in the Compendium of Monographs Guidance Document. Use(s) or Purpose(s) Source of/Provides antioxidants (Herber et al. 2007; Rosenblat et al. 2006; Aviram et al. 2004; Aviram et al. 2000). Dose(s) Subpopulation(s) Adults 18 years and older Quantity(ies) Methods of preparation: Dry, Powder, Non-Standardised Extracts (Dry extract, Tincture, Fluid extract, Decoction, Infusion) Not to exceed 20 grams of dried fruit/seed aril, per day (CNF 2018). Not to exceed 100 grams of fresh fruit/seed aril, per day (CNF 2018). Direction(s) for use No statement required. Duration(s) of Use No statement required. Risk Information Caution(s) and warning(s) No statement required. 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 No statement required. 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 Aviram M, Rosenblat M, Gaitini D, Nitecki S, Hoffman A, Dornfeld L, Volkova N, Presser D, Attias J, Liker H, Hayek T. Pomegranate juice consumption for 3 years by patients with carotid artery stenosis reduces common carotid intima-media thickness, blood pressure and LDL oxidation. Clinical Nutrition 2004;23(3):423-33. Aviram M, Dornfeld L, Rosenblat M, Volkova N, Kaplan M, Coleman R, Hayek T, Presser D, Fuhrman B. Pomegranate juice consumption reduces oxidative stress, atherogenic modifications to LDL, and platelet aggregations: studies in humans and in atherosclerotic apolipoprotein Edeficient mice. American Journal of Clinical Nutrition 2000;71(5):1062-76. CNF 2018: Health Canada. Canadian Nutrient File. Pomegranate, raw (Food code 1667). Food Directorate, Health Canada; 2018. [Accessed 2018 October 1]. Available https://food-nutrition.canada.ca/cnf-fce/serving-portion.do?id=1667 Duke JA. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton (FL): CRC Press; 2001 Heber D, Seeram NP, Wyatt H, Henning SM, Zhang Y, Ogden LG, Dreher M, Hill JO. Safety and antioxidant activity of a pomegranate ellagitannin-enriched polyphenol dietary supplement in overweight individuals with increased waist size. Journal of Agricultural and Food Chemistry 2007;55(24):10050-10054. Mena P, Garcia-Viguera C, Navarro-Rico J, Moreno DA, Bartual J, Saura D, Marti N. Phytochemical characterisation for industrial use of pomegranate (Punica granatum L.) cultivars grown in Spain. Journal of the Science of Food and Agriculture 2011;91:1893-1906. Rosenblat M, Hayek T, Aviram M. Anti-oxidative effects of pomegranate juice (PJ) consumption by diabetic patients on serum and on macrophages. Atherosclerosis 2006;187(2): 363-71. Saruwatari A, Okamura S, Nakajima Y, Narukawa Y, Takeda T. Tamura H. Pomegranate juice inhibits sulfoconjugation in Caco-2 human colon carcinoma cells. Journal of Medicinal Food 2008;11(4):623-8 USDA 2018: United States Department of Agriculture, Agricultural Research Service, National Genetic Resources Program. Germplasm Resources Information Network (GRIN). [Internet]. National Germplasm Resources Laboratory, Beltsville (MD). [Accessed 2018 October 1]. Available from:

https://npgsweb.ars-grin.gov/gringlobal/taxonomydetail.aspx?id=30372 References Reviewed Brinker F. Herb Contraindications and Drug Interactions, 3 rd edition. Sandy (OR): Eclectic Medical Publications; 2001. Duke JA, Bogenschutz-Godwin M, duCellier J, Duke P-AK. Handbook of Medicinal Herbs. Boca Raton (Fla): CRC Press;1985. Farkas D, Oleson LE, Zhao Y, Harmatz JS, Zinny MA, Court MH, Greenblatt DJ. Pomegranate juice does not impair clearance of oral or intravenous midazolam, a probe for cytochrome P4503A activity: comparison with grapefruit juice. Journal of Clinical Pharmacology 2007;47:286- 294. Faria A, Monteiro R, Azevedo I, Calhau C. Pomegranate juice effects on cytochrome P450S expression: in vivo studies. Journal of Medicinal Food 2007;10(4):643-649. Gil MI, Tomás-Barberán FA, Hess-Pierce B, Hlocroft Dm, Kader AA. Antioxidant activity of pomegranate juice and its relationship with phenolic composition and processing. Journal of Agricultural and Food Chemistry 2000;48(10):4581-4589. Gonzalez-Sarrias A, Azorin-Ortuno M, Yanez-Gascon MJ, Thomás-Barberán FA, Garcia-Conesa MT, Espin JC. Dissimilar in vitro and in vivo effects of ellagic acid and its microbiotaderived metabolites, urolithins, on the cytopcrhome P450 1A1. Journal of Agricultural and Food Chemistry 2009;57(12);5623-5632 Hidaka M, Okumura M, Fujita K, Ogikubo T, Yamasaki K, Iwakiri T, Setoguchi N, Arimori K. Effects of pomegranate juice on human cytochrome p450 3A (CYP3A) and carbamazepine pharmacokinetics in rats. Drug Metabolism and Disposition 2005;33:644-648. Hidaka M, Fujita K, Ogikubo T, Yamasaki K, Iwakiri T, Okumura M, Kodama H, Arimori K: Potent inhibition by star fruit of human cytochrome P450 3A (CYP3A) activity. Drug Metabolism and Disposition 2004;32:581-583. Jarvis S, Li C, Bogle RG. Possible interaction between pomegranate juice and warfarin. Emergency Medicine Journal 2010;27(1):74-75. Kasimsetty SG, Bialonska D, Reddy MK, Thornton C, Willett KL, Ferreira D. Effects of pomegranate chemical constituents/intestinal microbial metabolites on CYP1B1 in 22Rv1 prostate cancer cells. Journal of Agricultural and Food Chemistry 2009;57(22):10636-10644. Kim H, Yoon YJ, Shon JH, Cha IJ, Shin JG, Liu KH. Inhibitory effects of fruit juices on CYP3A activity. Drug Metabolism and Disposition 2006;34:521-523. Komperda KE. Potential Interactions Between Pomegranate Juice and Warfarin. Pharmacotherapy 2009;29(8):1002-1006. Misaka S, Nakamura R, Uchida S, Takeuchi K, Takahashi N, Inui N, Klosuge K, Yamada S, Watanabe H. Effect of 2 weeks' consumption of pomegranate juice on the pharmacokinetics of a single dose of midazolam: an open-label, randomized, single-centre, 2-period crossover study in health Japanese volunteers. Clinical Therapeutics 2011;33(2):245-252. Nagata M, Hidaka M, Sekiya H, Kawano Y, Yamasaki K, Okumura M, Arimori K. Effects of pomegranate juice on human cytochrome P450 2C9 and tolbutamide pharmacokinetics in rats. Drug Metabolism and Disposition 2007;35:302-305. Pantuck AJ, Leppert Jt, Zomorodian N, Aronson W, Hong J, Barnard RJ, Seeram N, Liker H, Wang H, Elashoff R, Heber D, Aviram M, Ignarro L, Belldegrun A. Phase II study of pomegranate juice for men with rising prostate-specific antigen following surgery or radiation for prostate cancer. Clinical Cancer Research 2006;12(13):4018-4026. Seeram NP, Lee R, Heber D. Bioavailablity of ellagic acid in human plasma after consumption of ellagitannins from pomegranate (Punica granatum L.) juice. Clinica Chimica Acta 2004;348(1-2):63-68. Sorokin AV, Duncan B, Panetta R, Thompson PD. Rhabomyolysis associated with pomegranate juice consumption. American Journal of Cardiology 2006;98(5):705-706. Yeo C, Shon J, Liu K, Lee D, Yoon Y, Shin J. The effects of pomegranate juice on pharmacokinetics of simvastatin in healthy Korean subjects [abstract]. Clinical Pharmacology and Therapeutics 2006;79:23. van Wyk B-E, Wink M. Medicinal Plants of the World: An illustrated scientific guide to important medicinal plants and their uses. Portland, Oregon: Timber Press;2004. Report a problem on this page Date modified: 2019-03-01

MEDICINAL INGREDIENT(S)

Must be chosen from the current Natural Health Products Ingredients Database (NHPID) and must meet the limitations outlined in the database. Storage conditions No statement required.

DOSAGE FORM(S)

Acceptable dosage forms for the age category listed in this monograph and specified route of administration are indicated in the Compendium of Monographs Guidance Document.

RISK INFORMATION

Caution(s) and warning(s) No statement required. 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 No statement required.

STORAGE CONDITION(S)

No statement required.

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

Route of Administration Oral

Proper name(s)	Common name(s)	Source material(s)		
Proper name(s)	Part(s)	Preparation		
Punica granatum	Pomegranate	Punica granatum	FruitSeed aril	FreshDried