European Medicines Agency
Evaluation of Medicines for Human Use

London, 26 October 2006
EMEA/HMPC/263293/2006

COMMITTEE ON HERBAL MEDICINAL PRODUCTS (HMPC)

DRAFT

COMMUNITY HERBAL MONOGRAPH ON *FOENICULUM VULGARE* MILLER SUBSP. *VULGARE* VAR. *DULCE* (MILLER) THELLUNG, FRUCTUS

AGREED BY WORKING PARTY ON COMMUNITY MONOGRAPHS AND COMMUNITY LIST	25 October 2006
ADOPTION BY HMPC FOR RELEASE FOR CONSULTATION	26 October 2006
END OF CONSULTATION (DEADLINE FOR COMMENTS)	28 February 2007

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KEYWORDS	Herbal medicinal products; HMPC; Community herbal monograph; traditional use; sweet fennel, fruit; *Foeniculum vulgare* Miller subsp. *vulgare* var. *dulce* (Miller) Thellung.

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DRAFT COMMUNITY HERBAL MONOGRAPH ON *FOENICULUM VULGARE* MILLER SUBSP. *VULGARE* VAR. *DULCE* (MILLER) THELLUNG, FRUCTUS

1. NAME OF THE MEDICINAL PRODUCT

To be specified for the individual finished products.

2. QUALITATIVE AND QUANTITATIVE COMPOSITION[1, 2]

Well-established use	Traditional use
With regard to the marketing authorisation application of Article 10(a) of Directive 2001/83/EC as amended	With regard to the registration application of Article 16d(1) of Directive 2001/83/EC as amended *Foeniculum vulgare* Miller subsp. *vulgare* var. *dulce* (Miller) Thellung, fructus (Fennel, Sweet) i) Herbal substance: dried fennel, sweet ii) Herbal preparation: dried fennel, sweet, comminuted

3. PHARMACEUTICAL FORM

Well-established use	Traditional use
	Herbal substance or herbal preparation in solid dosage forms for oral use. The pharmaceutical form should be described by the European Pharmacopoeia full standard term.

[1] The material complies with the Ph. Eur. monograph.

[2] The declaration of the active substance(s) should be in accordance with relevant herbal quality guidance.

4. CLINICAL PARTICULARS

4.1. Therapeutic indications

Well-established use	Traditional use
	a) Traditional herbal medicinal product for symptomatic treatment of mild, spasmodic gastro-intestinal complaints including bloating, and flatulence. b) Traditional herbal medicinal product for symptomatic treatment of minor spasm associated with menstruation period. c) Traditional herbal medicinal product used as an expectorant in cough and cold. The product is a traditional herbal medicinal product for use in specified indications exclusively based on long-standing use.

4.2. Posology and method of administration

Well-established use	Traditional use
	Posology *Adults* 1.5 to 2.5 g (freshly[3]) comminuted fennel fruits with 0.25 l of boiling water (brew for 15 minutes) three times daily as a herbal tea. Fennel powder: 400 mg 3 times a day (with a maximum of 2 g daily) *Children,* Indication a) Average daily dose: 3 months-1 year of age: 1-2 g of crushed fruits as an infusion 1-4 years of age: 1.5-3 g of crushed fruits as an infusion 4-12 years of age: 3-5 g of crushed fruits as an infusion *Adolescents over 12 years of age,* Indication a) Adult dose **Method of administration** Oral use. **Duration of use** *Adults* Not to be taken for more than 2 weeks. *Children,* Indication a) The use in children may be considered in case of acute symptoms. Administration for more than 1 week is not recommended because of the lack of adequate safety data on long-term use. If the symptoms persist during the use of the medicinal product, a doctor or a qualified health care practitioner should be consulted.

[3] For commercial preparation of crushed fennel fruits the applicant must carry out appropriate stability testing related to the content of essential oil components.

4.3. Contraindications

Well-established use	Traditional use
	Known hypersensitivity to the active susbtance or to Apiaceae (Umbelliferae) (**aniseed, caraway, celery, coriander, dill and fennel)** or to anethole.

4.4. Special warnings and precautions for use

Well-established use	Traditional use
	Patients with known hypersensitivity to Asteraceae (Compositae) should avoid the use of fennel and its preparations, because of cross-reactivity risk.

4.5. Interactions with other medicinal products and other forms of interaction

Well-established use	Traditional use
	Not known.

4.6. Pregnancy and lactation

Well-established use	Traditional use
	There are no data from the use of fennel fruit in pregnant patients. It is unknown if fennel constituents are excreted in human breast milk. In absence of sufficient data the use during pregnancy and lactation is not recommended.

4.7. Effects on ability to drive and use machines

Well-established use	Traditional use
	No studies on the effect on the ability to drive and use machines have been performed.

4.8. Undesirable effects

Well-established use	Traditional use
	Allergic reactions to fennel, affecting the skin or the respiratory and gastro-intestinal system, may occur. If other adverse reactions not mentioned above occur, a doctor or a qualified health care practitioner should be consulted.

4.9. Overdose

Well-established use	Traditional use
	No case of overdose has been reported.

5. PHARMACOLOGICAL PROPERTIES

5.1. Pharmacodynamic properties

Well-established use	Traditional use
	Not required as per Article 16c(1)(a)(iii) of Directive 2001/83/EC as amended. The traditional medicinal use of fennel has been largely due to antispasmodic, secretolytic, secretomotor and antibacterial effects of its essential oil. Secretolytic and expectorant effects may be due to the content of anethole and fenchone.

5.2. Pharmacokinetic properties

Well-established use	Traditional use
	Not required as per Article 16c(1)(a)(iii) of Directive 2001/83/EC as amended. No data available for sweet fennel in human beings or animals. After oral administration the compound trans-anethole is rapidly absorbed. 54 - 69% of the dose is eliminated in the urine and 13 - 17% in exhaled carbon dioxide. Trans-anethole is reported to be metabolised by O-demethylation and by oxidative transformation of the C3-side chain. The bulk of elimination occurred within 8 hours. The principal metabolite is 4-methoxyhippuric acid.

5.3. Preclinical safety data

Well-established use	Traditional use
	Not required as per Article 16c(1)(a)(iii) of Directive 2001/83/EC as amended, unless necessary for the safe use of the product. For trans-anethole anti-implantation, early abortifacient and antifertility activity has been reported in rats. Trans-anethole is reported as "generally recogninised as safe" (GRAS) at the intake of 54 μg/kg body weight/day. The acceptable daily intake (ADI) of trans-anethole established by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) should not exceed 2 mg/kg body weight. An aqueous extract was tested in an Ames test on *Salmonella typhimurium* strains TA98, TA100 and turned out as negative. Results from studies carried out in laboratory animals showed a weak mutagenic activity of anethole. The genotoxic risk[4] related to estragole is not considered to be relevant due to the small amount present in herbal infusions prepared from fennel.

6. PHARMACEUTICAL PARTICULARS

Well-established use	Traditional use
	Not applicable.

7. DATE OF COMPILATION/LAST REVISION

26 October 2006

[4] Please refer to the HMPC 'Public statement on the use of herbal medicinal products containing estragole' (EMEA/HMPC/137212/2005).