# NATURAL HEALTH PRODUCT

# ECHINACEA PURPUREA

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 are synonyms or that the statements are synonymous. Either term or statement may be selected by the applicant.

**Date:** July 18, 2017

## Proper name(s):

*Echinacea purpurea* L. Moench (Asteraceae) (USDA 2012)

## Common name(s):

- Echinacea (Blumenthal et al. 2000; McGuffin et al. 1997)
- Purple coneflower (McGuffin et al. 2000)

## Source material(s):

Herb top and/or root (Barnes et al. 2007; ESCOP 2003)

## Route(s) of administration:

Oral

## Dosage form(s):

This monograph is not intended to include foods or food-like dosage forms such as bars, chewing gums or beverages.

Dosage forms by age group:

- **Children 2 years:** The acceptable dosage forms are limited to emulsion/suspension and solution/drops (Giacoia et al. 2008; EMEA/CHMP 2006).
- **Children 3-5 years:** The acceptable dosage forms are limited to chewables, emulsion/ suspension, powders and solution/drops (Giacoia et al. 2008; EMEA/CHMP 2006).
- **Children 6-12 years, Adolescents 13-17 years, and Adults ≥ 18 years:** The acceptable dosage forms include, but are not limited to capsules, chewables (e.g., gummies, tablets), liquids, powders, strips or tablets.

## Use(s) or Purpose(s):

- Traditionally used in Herbal Medicine to help relieve cold symptoms (Moerman 1998; Grieve 1971; Remington and Wood 1918).
- (Traditionally) used in Herbal Medicine to help fight off infections, especially of the upper respiratory tract (Hoffmann 2003; Mills and Bone 2000; Grieve 1971; Remington and Wood 1918).
- Supportive therapy in the treatment of upper respiratory tract infections (p.ex., common colds) (Goel et al. 2004; Schulten et al. 2001; Brinkeborn et al. 1999; Hoheisel et al. 1997; Bräunig et al. 1992).
- Helps to relieve the symptoms (Goel et al. 2004; Schulten et al. 2001; Brinkeborn et al. 1999; Hoheisel et al. 1997; Bräunig et al. 1992) and shorten the duration (Goel et al. 2004; Schulten et al. 2001; Hoheisel et al. 1997; Bräunig et al. 1992) of upper respiratory tract infections.

**Note**
A claim for traditional use must include the term “Herbal Medicine”.

## Dose(s):

**Table 1** Dose information expressed as “quantity dried equivalent” of *Echinacea purpurea* herb top presented as dose per day

| Subpopulation | | Quantity dried equivalent (herb top) (g/day) | |
|---|---|---|---|
| | | Minimum | Maximum |
| Children[1] | 2-4 y | 0.4 | 1.0 |
| Children and adolescents[1] | 5-9 y | 0.6 | 1.5 |
| Adolescents[1] | 10-14 y | 1.3 | 3.0 |
| Adolescents and adults [1,2,3] | ≥ 15 y | 2.5 | 6.0 |

[1] Children and adolescent doses were calculated as a proportion of the adult dose (JC 2012). The use of *Echinacea purpurea* herb top in children is supported by the following references: McIntyre 2005; Bove 2001; Schilcher 1997.
[2] Adult dose supported by the following reference: Mills and Bone 2000
[3] Includes pregnant and breastfeeding women

**Table 2** Dose information for the pressed juice of *Echinacea purpurea* herb top presented as dose per day

| Subpopulation | | Pressed juice (herb top) (ml/day) | |
|---|---|---|---|
| | | Minimum | Maximum |
| Children[1] | 2-4 y | 0.7 | 1.7 |
| Children and adolescents[1] | 5-9 y | 1.0 | 2.5 |
| Adolescents[1] | 10-14 y | 2.0 | 5.0 |
| Adolescents and adults [1,2,3] | ≥ 15 y | 3.9 | 10.0 |

[1] Children and adolescent doses were calculated as a proportion of the adult dose (JC 2012). The use of *Echinacea purpurea* herb top in children is supported by the following references: McIntyre 2005; Bove 2001; Schilcher 1997.
[2] Adult dose supported by the following references: Schulten et al. 2001; Hoheisel et al. 1997
[3] Includes pregnant and breastfeeding women

**Table 3** Dose information expressed as "quantity dried equivalent" of *Echinacea purpurea* root presented as dose per day

| Subpopulation | | Quantity dried equivalent (root) (g/day) | |
|---|---|---|---|
| | | Minimum | Minimum |
| Children[1] | 2-4 y | 0.15 | 0.8 |
| Children and adolescents[1] | 5-9 y | 0.23 | 1.1 |
| Adolescents[1] | 10-14 y | 0.45 | 2.3 |
| Adolescents and adults [1,2,3] | ≥ 15 y | 0.90 | 4.5 |

[1] Children and adolescent doses were calculated as a proportion of the adult dose (JC 2012). The use of *Echinacea purpurea* root in children is supported by the following references: McIntyre 2005; Bove 2001; Schilcher 1997
[2] Adult dose supported by the following references: Mills and Bone 2000; Bräunig et al. 1992
[3] Includes pregnant and breastfeeding women

**Table 4** Dose information expressed as "quantity dried equivalent" of *Echinacea purpurea* preparations containing both herb top and root presented as dose per day

| Subpopulation | | Quantity dried equivalent (herb top and root) (g/day) | |
|---|---|---|---|
| | | Minimum | Maximum |
| Children[1] | 2-4 y | 0.5 | 0.9 |
| Children and adolescents[1] | 5-9 y | 0.8 | 1.4 |
| Adolescents[1] | 10-14 y | 1.5 | 2.8 |
| Adolescents and adults [1,2,3] | ≥ 15 y | 3.0 | 5.5 |

[1] Children and adolescent doses were calculated as a proportion of the adult dose (JC 2012). The use of *Echinacea purpurea* in children is supported by the following references: McIntyre 2005; Bove 2001; Schilcher 1997
[2] Adult dose supported by the following reference: Mills and Bone 2000
[3] Includes pregnant and breastfeeding women

**Directions for use**

Take at the first sign of infection (Goel et al. 2004; Schulten et al. 2001; Brinkeborn et al. 1999; Hoheisel et al. 1997).

**Note**

Refer to Appendix 1 for examples of dosage preparations and directions for use, according to cited references. The purpose of Appendix 1 is to provide guidance to industry.

## Duration of use:

For use beyond 8 weeks, consult a health care practitioner (ESCOP 2003; Blumenthal et al. 2000).

## Risk information:

### Caution(s) and warning(s)

- If symptoms persist or worsen, consult a health care practitioner.
- If you have a progressive systemic disease such as tuberculosis, collagenosis, multiple sclerosis, AIDS, or HIV infection, consult a health care practitioner prior to use (Brinker 2010; Brinker 2001; McGuffin et al. 1997).
- If you have an auto-immune disorder, consult a health care practitioner prior to use (Brinker 2010; McGuffin et al. 1997).
- If you are taking immunosuppressants, consult a health care practitioner prior to use (Brinker 2010; Mills and Bone 2005).

### Contraindication(s)

No statement required.

### Known adverse reaction(s)

Preparations containing herb top:
Rare cases of severe allergic reactions have been known to occur; use caution if you are allergic to plants of the Daisy family. (MHRA 2012; EMA 2010; Kligler 2003; WHO 1999).

## Non-medicinal ingredients:

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

## 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.
- The medicinal ingredient may comply with the specifications outlined in the pharmacopoeial monographs listed in Table 5 below.

**Table 5** *Echinacea purpurea* monographs published in the European (Ph.Eur.) and United

States (USP) Pharmacopoeias

| Pharmacopoeia | Monograph |
|---|---|
| Ph.Eur. | Purple Coneflower Herb<br>Purple Coneflower Root |
| USP | Echinacea purpurea Aerial Parts<br>Echinacea purpurea Root<br>Powdered Echinacea purpurea<br>Powdered Echinacea purpurea Extract |

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## Appendix 1 Examples of appropriate dosage preparations, frequencies of use and directions for use (for adults only)

**Herb top**

Dried herb top

2.5-6 g, per day (Mills and Bone 2000)

Pressed juice

- 5 ml, 2 times per day
  (22% alcohol) (Schulten et al. 2001)
- 1.3 ml (20 drops), per dose
  (22% alcohol) (Hoheisel et al. 1997)

Direction for use:
Take each dose in a half glass of water every two hours for the first day, followed by three times per day until symptoms disappear [not to exceed 10 ml, per day] (Hoheisel et al. 1997).

**Root**

Dried root:
1.5-4.5 g, per day (Mills and Bone 2000)

Tincture:
- 1.5-4.5 g dried equivalent, per day
  (1:2, 3-9 ml) (Mills and Bone 2000)
- 1.5-4.5 g dried equivalent, per day
  (1:5, 7.5-22.5 ml) (Mills and Bone 2000)
- 0.9 g dried equivalent, per day
  (1:5, 55% ethanol) (Bräunig et al. 1992)

**Preparations containing herb top and root**

Fluidextract:
3-5.5 g dried equivalent, per day
(1:1, 3-5.5 ml) (Mills and Bone 2000)