

# **TOX/2025/45 Appendix A &B**

## **Appendix A**

### **Search methodology**

1. The following electronic databases were searched for relevant articles published between 2014 and 2024: LitFetch (which includes material from PubMed, Scopus, Ebsco (Food Science Source) and Springer), Google and Google Scholar. The searches were conducted on various dates between 13<sup>th</sup> May 2024 and 24<sup>th</sup> May 2024.
2. The search terms used included ‘echinacea’ AND: (‘pregnan\*’ OR ‘maternal\*’ OR ‘reproduction’ OR ‘gestation’ OR ‘lactation’ OR ‘preconception’ OR ‘development’ OR ‘tox\*’ OR ‘safety’ OR ‘uses’ OR ‘consumption’ OR ‘indication’ OR ‘interaction’).
3. The references from extracted papers were searched for citations not captured in the literature search. Only articles published in English were included, due to the linguistic abilities of the reviewer.
4. The UKTIS was also asked for information on any enquiries relating to maternal echinacea use and any reports of adverse effects in pregnant women or their newborn infants received from 1983 to June 2024. This included information relating to the type, dosage, duration, and timing of echinacea taken and any pregnancy outcomes captured through follow-up.

## **Appendix B**

**Table 7:** Food products containing Echinacea.

<b>Product name</b>	<b>Type</b>	<b><i>Echinacea</i> species and plant part</b>	<b>Composition</b>	<b>Directions for use</b>	<b>Daily dose of <i>Echinacea</i> (mg)</b>	<b>Additional information/ warnings</b>

Pukka Herbs   Elderberry and Echinacea Organic Herbal Tea	Tea bags.	<i>Echinacea</i> (species not specified) herb.	Ginger root, liquorice root, <b><i>Echinacea</i> herb (11%),</b> beetroot, aniseed, rosehip, peppermint leaf, orange peel, elderflower (5%), elderberry (4%), hibiscus, orange essential oil flavour, blackcurrant flavour.	Not specified.	Not specified.	NA
Yogi Tea   Echinacea Special Formula	Tea bags.	Not specified.	Cinnamon, <b><i>Echinacea</i>,</b> ginger, fennel, rooibos, roasted chicory, carob, cardamom, basil, burdock root, black pepper, turmeric root, astragalus, vanilla beans.	Pour 250 ml of freshly boiled water over the teabag. Allow to infuse for 5 to 6 minutes - or longer for a stronger flavour.	Not specified.	NA

Yogi Tea,  
Echinacea  
Immune  
Support,  
Caffeine  
Free, 16 Tea  
Bags, 0.85 oz  
(24 g)

Tea  
bags.

*Echinacea*  
*purpurea*  
Plant part  
not  
specified.

Each tea bag  
contains:

**144 mg**  
***Echinacea***  
***purpurea*,**  
**47 mg**

***Echinacea***  
***purpurea***

**extract,**

1,245 mg  
herb blend  
(rose hips,  
dried acerola  
juice, basil,  
cinnamon,  
ginger,  
cardamom,  
elderberries,  
black pepper,  
moringa,  
hibiscus,  
cocoa shells,  
liquorice,  
fennel).

Bring water  
to boiling  
and steep 7  
minutes. For  
a stronger  
tea, use 2  
tea bags.  
Drink 3-4  
cups daily.

432 -

1,152 mg

*Echinacea*  
*purpurea*

and  
141 - 376

mg

*Echinacea*  
*purpurea*

extract.

Consult your  
healthcare pro-  
prior to use if  
pregnant or nu-  
taking any  
medication or  
have a medical  
condition.

Traditional Medicinals, Organic Echinacea Plus, Elderberry, Caffeine Free, 16 Wrapped Tea Bags, 0.85 oz (24 g)

Tea bags.

*Echinacea purpurea* herb.

Each tea bag contains:

**1005 mg**

***Echinacea***

***purpurea***

**herb,**

127.5 mg

European elder flower, (1,245 mg)

herb blend (ginger

rhizome, chamomile

flower, yarrow

flower, peppermint

leaf, Echinacea

purpurea root

dry extract

(2-8:1),

European elder fruit dry

concentrate).

Pour 8 oz (~227 mL)

freshly boiled water

over 1 tea bag. Cover &

Steep for 10-15 min.

Enjoy 5-6 cups

throughout

the day.

5,025 - 6,030 mg

*Echinacea*

*purpurea*

herb.

Do not use if you are pregnant or breastfeeding. Do not directed other than as directed by your healthcare practitioner. Not recommended with children under 12 years of age.

Traditional Medicinal, Organic Immune Zoom®, Lemon Ginger Echinacea, Caffeine Free, 16 Wrapped Tea Bags, 1.13 oz (32 g)

Tea bags.

*Echinacea purpurea* root

2,000 mg  
herb blend  
(ginger  
rhizome,  
***Echinacea***  
***purpurea***  
**herb**, lemon  
myrtle leaf (*Backhousia*  
*citriodora*),  
lemon peel,  
liquorice root,  
peppermint  
leaf,  
***Echinacea***  
***purpurea***  
**root dry**  
**extract** (2-  
8:1),  
cardamom  
seed, Organic  
liquorice root  
dry extract  
(6:1).

Pour 8 oz  
(~227 mL)  
freshly  
boiled water  
over 1 tea  
bag. Cover &  
Steep for 10-  
15 min.

Enjoy 2 cups  
throughout  
the day.

Not specified.

Consult your healthcare practitioner prior to use if you are pregnant or breastfeeding, if you have an autoimmune condition, immune system disorder, or if you are taking immunosuppressants or if you have gallbladder disease. Not recommended for use with children under 12 years of age.

				Green tea (26%), Ginger root (15%), White hibiscus, Cinnamon bark, Natural lemon Flavouring with other Natural Flavourings (10%), <b><i>Echinacea</i></b> <b>root (9%),</b> Lemon peel (5%), Natural flavouring, Natural lime flavouring (4%), vitamin C (2%).			
Superblends Defence 20 Tea Bags	Tea bags.	<i>Echinacea</i> (species not specified) root.		Natural Flavourings (10%), <b><i>Echinacea</i></b> <b>root (9%),</b> Lemon peel (5%), Natural flavouring, Natural lime flavouring (4%), vitamin C (2%).	At least 1 cup a day.	Not specified.	NA
Frontier Co- op, Organic Cut & Sifted Echinacea Angustifolia Root	Loose herb for tea.	<i>Echinacea</i> <i>angustifolia</i> root.	Half a teaspoon contains 1.1 g cut root.	To prepare as tea, pour 8 oz. (~227 mL) boiling water over 1/2 teaspoon of root. Cover and steep 20-30 minutes, strain and serve immediately.	Not specified.	If pregnant, nu- suffering from medical condit taking medica consult a health practitioner be use.	

Frontier Co-op, Organic Elderberry Echinacea Wellness Tea, 16 oz	Loose herb for tea.	<i>Echinacea purpurea</i> herb and root.	Elderberry, <i>Echinacea purpurea</i> herb, peppermint, yarrow, ginger, chamomile flower, <i>Echinacea purpurea</i> root.	Pour 8 oz. (227 mL) boiling water over 1 tablespoon of tea. Cover and steep 10-15 minutes, strain and serve immediately.	If pregnant, nursing or suffering from a medical condition, or taking medications, consult a health practitioner before use.
Frontier Co-op, Cut & Sifted Echinacea Purpurea Herb	Loose herb for tea.	<i>Echinacea purpurea</i> herb.	One teaspoon contains 820 mg <i>Echinacea purpurea</i> cut herb.	To prepare as a tea, pour 8 oz. (~227 mL) boiling water over 1 teaspoon of herb. Cover and steep 3-5 minutes, strain and serve immediately.	Not specified. NA
Lemon & Ginger Vitamin Honey	Honey	Not specified.	1 teaspoon (7g) contains: <b>15 mg</b> <i>Echinacea</i> , 32 teaspoons mcg vitamin D3, 10mg vitamin C, 0.4 mcg vitamin B6, 0.4 mcg vitamin B12.	2 teaspoons into warm water.	This product is suitable for pregnant or breastfeeding women, however we'd always recommend that you consult with a professional if you are unsure before making a purchase.

Orange Vitamin Honey	Honey	Not specified.	1 teaspoon contains:  <b>15 mg</b> <b><i>Echinacea</i></b> , 3 2 teaspoons mcg vitamin D3, 10mg vitamin C, 0.4 mcg vitamin B6, 0.4 mcg vitamin B12.	Not specified.	This product is suitable for pre- or breastfeedi- ng women, howev- er we'd always recommend that you consult with a professional if you are unsure before making a purchase.
Wedderspoon Natural Manuka Honey and Ginger with Echinacea Drops (20 Drops per box)	Honey	Not specified.	Organic cane sugar, organic manuka honey (15.5%), organic brown rice syrup, ground ginger (0.6%), <b><i>Echinacea</i></b> <b>(0.04%).</b>	Not specified.	Not specified. NA

			Each lozenge (2.2 g) contains:		
A.Vogel			Glucose		
Echinacea			syrup, raw		
Lozenges			cane sugar,		
Extract of			honey, herb		
Freshly		<i>Echinacea</i>	extracts,		
Harvested		<i>purpurea</i>	fresh		
Echinacea	Lozenges	herb and			
Blend of		root			
Other Herbs		extract.			
Suitable for			<b><i>Echinacea</i></b>	As required.	Not
Vegetarians			<b><i>purpurea</i></b>		specified.
30g			<b><i>extract</i></b>		NA
			<b>(0.62%)</b> ,		
			natural		
			flavours,		
			caramel		
			colour,		
			menthol,		
			peppermint		
			essential oil,		
			citric acid.		

			Sugar, glucose syrup, Fair Trade honey (5.1%), extract (0.5%) of Ricola's herb mixture,			
Honey Lemon Echinacea Soothe & Clear Drops 75g (Ricola)		<i>Echinacea</i> (species not Lozenges specified) dry pressed juice.	vitamin C, lemon juice concentrate, acid (citric acid, malic acid), natural flavourings, natural <b><i>Echinacea</i></b> <b>aroma (</b> <b><i>Echinacea</i></b> <b>dry pressed</b> <b>juice), mint</b> oil, peppermint oil, menthol.	As required.	Not specified.	NA
Swanson, Zinc & C with Elderberry & Echinacea, Orange & Lemon, 60 Lozenges		<i>Echinacea</i> <i>purpurea</i> Lozenges herb (aerial parts) powder.	Each lozenge contains: 100 mg vitamin C, 25 mg zinc, <b>20</b> <b>mg</b> <b><i>Echinacea</i></b> <b><i>purpurea</i></b> <b>powder, 20</b> mg elderberry extract.	As a dietary supplement, 40 mg dissolve one <i>Echinacea</i> lozenge in <i>purpurea</i> the mouth powdered two times herb. per day.		NA

**Table 8:** Echinacea food supplements (solid dosage forms).

<b>Product name</b>	<b>Dosage form</b>	<b>Echinacea species and plant part</b>	<b>Composition</b>	<b>Directions for use</b>	<b>Daily dose Echinacea (mg)</b>	<b>Additional information</b>
NOW Foods Echinacea 400 mg 100 Veg Capsules		<i>Echinacea</i> <i>400 mg 100 Capsules</i> <i>purpurea root.</i>	400 mg root.	Take 2 capsules 1 to 4 times daily as needed. Continuous high level consumption of this product for more than 2 weeks of each month is not recommended.	800 - 3,200 mg root.	For adults only. Consult physician if pregnant/nursing. Taking medication have a medical condition.
Grape Tree Echinacea Root 500mg	Tablets	<i>Echinacea</i> (species not specified)	500 mg root.	1 tablet daily.	500 mg root.	Linked to many health benefits including reduced inflammation, improved immunity and lower blood pressure levels.

Swanson  
Echinacea,  
400mg  
herbal  
supplement

Capsules  
*Echinacea*  
*purpurea*  
herb (aerial  
parts).

1 capsule up  
to 3 times per  
day. Limit use  
to eight  
consecutive  
weeks. Use  
periodically for  
a few weeks at  
a time (for  
maintenance  
purposes).

400-1,200  
mg herb.

Echinacea,  
1300 mg  
(per  
serving),  
180  
Vegetarian  
Capsules

Capsules  
*Echinacea*  
*purpurea*  
herb (aerial  
parts).

65 mg herb  
extract (DER  
10:1)  
equivalent to  
650 mg herb.

Take 2  
vegetarian  
capsules per  
day preferably  
with a meal.

130 mg  
herb  
extract  
equivalent  
to 1,300 mg  
herb.

For adults  
Do not take  
product if you  
pregnant or  
nursing. Consult  
your health  
provider before  
using this product  
if you are  
taking  
medication  
have a medical  
condition,  
especially an  
autoimmune  
condition.

If you are  
pregnant,  
nursing, take  
any medication  
or have an  
medical  
conditions,  
consult your  
doctor before  
use.

Life Extension, Echinacea Elite, 60 Vegetarian Capsules	Capsules	<i>Echinacea purpurea</i> (aerial parts) extract 125 mg [standardised to 4% phenolic compounds]. <i>Echinacea angustifolia</i> root. <i>Echinacea angustifolia</i> (root) extract 125 mg [standardised to 4% echinacosides].	Take 1 capsule twice daily.	250 mg <i>Echinacea purpurea</i> (aerial parts) extract and 250 mg <i>Echinacea angustifolia</i> (root) extract.	Consult with physician if you are undergoing treatment with medical condition or if you are pregnant or lactating.
Specialist Herbal Supplies (SHS) Echinacea Capsules	Capsules	<i>Echinacea angustifolia</i> Preparation not specified.	1 capsule, 3 times a day, taken with food or a drink. If desired, up to four times this amount can safely be taken.	975-1,300 mg <i>Echinacea angustifolia</i> .	If you are pregnant, lactating, have a medical condition or are undergoing treatment with medical condition please consult your doctor before use.
Nuke Nutrition Echinacea Tablets High Strength x180 - Immune Support Echinacea Herbal Supplements	Tablets	<i>Echinacea</i> . Species and part of plant not specified. 200 mg extract (DER 10:1) equivalent to 2,000 mg <i>Echinacea</i> .	Take 1 tablet with your first meal of the day.	200 mg extract equivalent to 2,000 mg <i>Echinacea</i> .	Consult with physician if you are taking medication under medical supervision and you are pregnant and breastfeeding.

Echinacea				
Extract		350 mg extract	350 mg	
Capsules	<i>Echinacea</i> <i>purpurea</i> .	(DER 10:1)	extract	
3500mg (High Strength)	Capsules	equivalent to 3,500 mg	equivalent to 3,500 mg	NA
Echinacea purpurea	Plant part not specified.	<i>Echinacea</i> <i>purpurea</i> .		<i>Echinacea</i> <i>purpurea</i> .
		Take 1 capsule per day with water.		
		450 mg	Do not use	
		<i>Echinacea 7</i>	are pregnant	
		Herb Blend:	nursing, ha	
		<b><i>Echinacea</i></b>	stomach or	
		<b><i>purpurea</i></b>	duodenal ul	
		<b>(stem, leaf,</b>	stomach ir	
		<b>flower),</b>	or inflam	
Nature's	<i>Echinacea</i>	<i>Goldenseal</i>	Not	
Way,	<i>purpurea</i>	herb (aerial (root),	recommen	
Echinacea			individuals	
Goldenseal, Capsules	parts) and	<b><i>Echinacea</i></b>	autoimmu	
450 mg, 100		<b><i>angustifolia</i></b>	conditions.	
Vegan	<i>Echinacea</i>	<b><i>angustifolia (root)</i></b> ,	have diabe	
Capsules	<i>angustifolia</i>	root.	are taking	
		<i>Burdock (root),</i>	medication	
		<i>Gentian (root),</i>	consult a	
		<i>Cayenne</i>	healthcare	
		<i>Pepper (fruit),</i>	professiona	
		<i>Wood Betony</i>	before use	
		<i>(stem, leaf,</i>		
		<i>flower)</i>		

Nature's Way, Echinacea Purpurea Herb, 1,200 mg, 180 Vegan Capsules (400 mg per Capsule)	Capsules	<i>Echinacea</i> <i>purpurea</i> herb (aerial parts).	400 mg herb.	Adults take 3 capsules three times daily, preferably with food. Only take this supplement if they are suffering severe illness to stimulate the immune system and to not take for longer than 5 days.	3,600 mg herb.	If pregnant nursing, or any medical consult a healthcare professional before use
California Gold Nutrition, EuroHerbs, Echinacea Herb Extract, Euromed Quality, 80 mg, 180 Veggie Capsules	Capsules	<i>Echinacea</i> <i>purpurea</i> herb (aerial parts).	80 mg <i>Echinacea</i> <i>purpurea</i> (aerial parts) herb (aerial extract (DER parts). 5:1) equivalent to 400 mg dried herb.	Take 1 capsule extract daily, with food.	80 mg equivalent to 400 mg dried herb.	Pregnant or lactating women should consult with a physician or pharmacist or naturopath or other qualified healthcare professional before taking supplements.

21st Century, Echinacea Complex, 250 mg, 60 Vegetarian Capsules (125 mg per Capsule)	Capsules	<i>Echinacea</i> <i>purpurea</i> herb and <i>Echinacea</i> <i>angustifolia</i> root.	125 mg <i>Echinacea</i> blend ( <i>Echinacea</i> <i>purpurea</i> herb extract and <i>Echinacea</i> <i>angustifolia</i> root powder)	Adults take two (2) capsules daily with any meal or as directed by a healthcare provider.	250 mg <i>Echinacea</i> blend ( <i>Echinacea</i> <i>purpurea</i> herb extract & <i>Echinacea</i> <i>angustifolia</i> root powder)	Consult a healthcare provider pr use if pregn nursing, or medication have a med condition o planning a medical procedure.
Sundown Naturals, Whole Herb Echinacea, 400 mg, capsules	Capsules	<i>Echinacea</i> <i>purpurea</i> herb (aerial parts).	400 mg <i>Echinacea</i> <i>purpurea</i> herb.	Take (1) capsule seven times daily, preferably with meals. Capsules may be opened and prepared as a tea.	2,800 mg herb.	If you are pregnant, nursing, ta any medica or have an medical condition, c your doctor before.

		800 mg Proprietary Extract Blend: <b><i>Echinacea</i></b> <b><i>purpurea</i></b> <b>root,</b> Goldenseal ( <i>Hydrastis</i> <i>canadensis</i> )		
Gaia Herbs, Echinacea Goldenseal, 60 Vegan Liquid Phyto- Caps	Capsules	<i>Echinacea</i> <i>purpurea</i> root, aerial parts and seed and <i>Echinacea</i> <i>angustifolia</i> root.	<b><i>Echinacea</i></b> <b><i>angustifolia</i></b> <b>root,</b> <b><i>Echinacea</i></b> <b><i>purpurea</i></b> <b>seed, St.</b> John's Wort ( <i>Hypericum</i> <i>perforatum</i> ) aerial parts, <b><i>Echinacea</i></b> <b><i>purpurea</i></b> <b>aerial parts</b>	4,800 mg Proprietary Extract Blend. Not for use during preg- or lactation
Specialist Herbal Supplies (Shs) Echinacea Compound	Capsules	<i>Echinacea</i> <i>angustifolia</i> 92mg, Garlic 92mg, Myrrh 92mg, Wild Indigo 46mg. <i>Echinacea</i> preparation not specified.	1 capsule, 3 times a day, taken with food or a drink.	276 mg <i>Echinacea</i> <i>angustifolia</i> . Do not take alongside thinning dr. such as wa. Not to be u. pregnancy breastfeed for children under 12 y old.

**Table 9:** *Echinacea* food supplements (oral liquids)

<b>Product name</b>	<b><i>Echinacea</i></b> <b>Dosage species form and plant part</b>	<b>Composition</b>	<b>Directions for use</b>	<b>Daily dose</b> <b>(mg)</b>	<b>Additional <i>Echinacea</i> information</b>
Nature's Way, Echinacea, 500 mg, 1 fl oz (30 mL)	Oral solution. herb (aerial parts).	<i>Echinacea purpurea</i>	250 mg herb extract per 1 ml.	Adults: Take 2 mL 3 times daily. Children ages 6-12 years of age: Take 1 mL 3 times daily. Intensive: Take 2 mL every 2 hours for first 48 hours. Then take 2 ml 3 times daily for next 8-9 days. May be added to foods/drinks.	Adults: 500-1,500 mg herb extract Children: 250-750 mg herb extract. If pregnant, nursing, or taking any medications, consult a healthcare professional before use. Not recommended for individuals with autoimmune conditions.
Echinacea Single Herbal Tincture 150mL	Tincture	<i>Echinacea</i> (species not specified).	Dried herb to liquid ratio W/V 1:5 or fresh herb to liquid ratio W/V 1:3.	Dosage is normally between 1mL and 5 mL added to a little water up to three times a day.	3 - 15 mL herb extract daily equivalent to 600 - 3,000 mg dried herb or 1,000 - 5,000 mg fresh herb. NA

Baldwins						
Echinacea (angustifolia)	<i>Echinacea angustifolia</i>	Herb:Liquid 1:3.	No guidance.	No guidance.	NA	
Herbal Tincture	.					
Napiers the Herbalists						
Napiers Organic Echinacea Drops	Oral drops	<i>Echinacea purpurea</i> herb (aerial parts).	Not stated.	Take 15-20 drops 2-3 times a day. 15 drops = 0.5 mL.	30 - 60 drops daily. Equivalent to 1-2 mL solution.	Not suitable for children under 12 years. Do not take if pregnant or breastfeeding
100% Organic Echinacea Tincture Viridian 50ml	Tincture	<i>Echinacea purpurea</i> whole plant.	1 mL = 480 mg whole fresh plant.	Take 15 - 30 drops, 2-3 times daily in a little fruit juice or water. 15 drops = 0.5 mL.	31 - 60 drops daily. Equivalent to 1-2 mL solution or 480 - 960 mg fresh plant.	Not to be used during pregnancy or lactation unless recommended by a healthcare practitioner.

NOW Foods, Echinacea Extract, 2 fl oz (59 ml)	Oral solution	<i>Echinacea angustifolia</i> and <i>Echinacea purpurea</i> root.	Root extract. 1.6 mL per 2 droppersfuls.	Take 1 to 2 droppersful in tea or water 1 to 3 times daily as needed. Continuous high-level consumption of this product for more than 2 weeks of each month is not recommended.	0.8 - 4.8 mL.	Not recommended for pregnant or nursing women.
Cytoplan Organic Echinacea	Oral solution	<i>Echinacea angustifolia</i>	1:3 extract.	Take 20 drops mixed into water or liquid of choice 2-3 times daily. 20 drops = 2mL.	40-60 drops daily. Equivalent to 4-6 mL extract daily.	Not suitable for children under 12 years of age. Not suitable for use whilst pregnant or breastfeeding.

**Table 10:** Combined acute exposure scenarios for the consumption 4-5 products of Echinacea (as dried root/herb) during pregnancy.

Estimated exposure to <i>Echinacea</i> (mg/day)	Total consumed per day					
Tea	Honey	Lozenges	Tablets/capsules	Oral liquids		

860 - 6,000	19 - 100	40	400 - 3,600	600 - 3,000	1,900 - 13,000
N/A	19 - 100	40	400 - 3,600	600 - 3,000	1,100 - 6,700
860 - 6,000	N/A	40	400 - 3,600	600 - 3,000	1,900 - 13,000
860 - 6,000	19 - 100	N/A	400 - 3,600	600 - 3,000	1,900 - 13,000
860 - 6,000	19 - 100	40	N/A	600 - 3,000	1,500 - 9,100
860 - 6,000	19 - 100	40	400 - 3,600	N/A	1,300 - 9,700

\*Rounded to 2 significant figures.

**Table 11:** Combined acute exposure scenarios for the consumption of 3 products of *Echinacea* (as dried root/herb) during pregnancy.

Estimated exposure to Echinacea (mg/day)	Total consumed per day					
Tea	Honey	Lozenges	Tablets/capsules	Oral liquids	N/A	920 - 6,100
860 - 6,000	19 - 100	40	N/A	N/A		

860 - 6,000	19 - 100	N/A	400 - 3,600	N/A	1,300 - 9,700
860 - 6,000	19 - 100	N/A	N/A	600 - 3,000	1,500 - 9,100
860 - 6,000	N/A	N/A	400 - 3,600	600 - 3,000	1,900 - 13,000
860 - 6,000	N/A	40	400 - 3,600	N/A	1,300 - 9,600
860 - 6,000	N/A	40	N/A	600 - 3,000	1,500 - 9,000
N/A	N/A	40	400 - 3,600	600 - 3,000	1,000 - 6,700
N/A	19 - 100	N/A	400 - 3,600	600 - 3,000	1,000 - 6,700
N/A	19 - 100	40	400 - 3,600	N/A	460 - 3,700
N/A	19 - 100	40	N/A	600 - 3,000	660 - 3,100

\*Rounded to 2 significant figures.

**Table 12:** Combined acute exposure scenarios for the consumption of 2 products of Echinacea (as dried root/herb) during pregnancy.

<b>Estimated exposure to Echinacea (mg/day)</b>	<b>Total consumed per day</b>					
Tea	Honey	Lozenges	Tablets/capsules	Oral liquids		
860 - 6,000	19 - 100	N/A	N/A	N/A	900 - 6,100	
860 - 6,000	N/A	40	N/A	N/A	900 - 6,000	
860 - 6,000	N/A	N/A	400 - 3,600	N/A	1,300 - 9,600	
860 - 6,000	N/A	N/A	N/A	600 - 3,000	1,500 - 9,600	
N/A	19 - 100	40	N/A	N/A	60 - 140	
N/A	19 - 100	N/A	400 - 3,600	N/A	420 - 3,700	
N/A	19 - 100	N/A	N/A	600 - 3,000	620 - 3,100	
N/A	N/A	40	400 - 3,600	N/A	440 - 3,600	
N/A	N/A	40	N/A	600 - 3,000	640 - 3,000	
N/A	N/A	N/A	400 - 3,600	600 - 3,000	1,000 - 6,600	

\*Rounded to 2 significant figures.

**Table 13:** Echinacea products (oral dosage forms) with THR in the UK.

<b>Product name</b>	<b>Dosage form</b>	<b>Echinacea species and plant part</b>	<b>Composition</b>	<b>Daily Directions dose for use</b>	<b>Echinacea (mg)</b>
Echinaflu Soft Capsules	Capsules	<i>Echinacea purpurea</i> (L.) Moench herb.	176 mg of dried pressed juice from fresh flowering herb equivalent to 3.5-4.9 g of fresh herb (DER 20-28:1).	1-2 capsules daily for no longer than 10 days.	176 - 352 mg dried pressed juice equivalent to 3.5 - 9.8 g fresh herb.
Echinacea Cold and Flu Capsules	Capsules	<i>Echinacea purpurea</i> (L.) Moench) root.	140 mg dry extract from root equivalent to 838 - 1117 mg root (DER 6-8:1).	1 capsule twice a day.	280 mg dry root extract equivalent to 1,676-2,234 mg root.
Ekinalife	Capsules	<i>Echinacea pallida</i> (Nutt.) Nutt. root and <i>Echinacea purpurea</i> (L.) Moench root.	200mg of <i>Echinacea pallida</i> . Nutt. and 200mg of <i>Echinacea purpurea</i> (L.) Moench powdered root.	1 capsule twice a day for no longer than 10 days.	400 mg <i>E. pallida</i> powdered root and 400 mg <i>E. purpurea</i> powdered root. Total of 1,600 mg powdered root.

Solgar Echinacea Cold and Flu Capsules	Capsules	<i>Echinacea purpurea</i> (L.) Moench root.	140 mg dry extract from root equivalent to 838 - 1117 mg root (DER 6-8:1).	1 capsule twice a day for no longer than 10 days.	280 mg dry root extract equivalent to 1,676- 2,234 mg root.
Phytocold	Capsules	<i>Echinacea purpurea</i> (L.) Moench root.	250 mg powdered root.	1-2 capsules three times a day fo no longer than 10 days.	750 - 1,500 mg powdered root.
Echinaflu Effervescent Tablets	Effervescent Tablets	<i>Echinacea purpurea</i> (L.) Moench herb.	176 mg of dried pressed juice from 1-2 tablets fresh flowering herb equivalent to 3.5-4.9 g of fresh herb (DER 20- 28:1).	daily for no longer than 10 days.	176 - 352 mg dried pressed juice equivalent to 3.5 - 9.8 g fresh herb.
Echineeze	Tablets	<i>Echinacea purpurea</i> (L.) Moench root.	70 mg dry extract from root equivalent to 460 - 530 mg root (DER 6.5-7.5:1).	1 tablet 3 times a day for no longer than 10 days.	210 mg dry root extract equivalent to 1,380 - 1,590 mg root.

Echinaforce Forte Cold & Tablets Flu Tablets	<i>Echinacea</i> <i>purpurea</i> (L.) Moench herb and root.	1,140 mg dry extract from fresh herb (DER 1:12) and 60 mg (DER 1:11) dry extract from fresh root.	1 tablet two to three times a day for no longer than 10 days.	2,280 - 3,420 mg dry herb extract and 120- 180 mg dry root extract.
Herbal Cold And Flu Relief Tablets	<i>Echinacea</i> <i>purpurea</i> (L.) Moench root.	71.5 mg dry extract from root equivalent to 429 - 500 mg root (DER 6-7:1).	1-2 tablets twice daily for no longer than 10 days.	143-286 mg dry root extract equivalent to 858 - 2,000 mg root.
High Strength Herbal Cold And Flu Relief Tablets	<i>Echinacea</i> <i>purpurea</i> (L.) Moench root.	143 mg dry extract from root equivalent to 858 - 1000 mg root (DER 6-7:1).	1 tablet three times a day for no longer than 10 days.	429 mg dry root extract equivalent to 2,574 - 3,000 mg root.
Echinacea Skin Care Tablets	<i>Echinacea</i> <i>purpurea</i> (L.) Moench root.	71.5 mg dry extract from root equivalent to 429 - 500 mg root (DER 6-7:1).	1-2 tablets three times a day for no longer than 10 days.	143-286 mg dry root extract equivalent to 858 - 2,000 mg root.

Herbal Classics Echinacea Cold Relief Film-Coated Tablets	Tablets	<i>Echinacea purpurea</i> (L.) Moench root.	40 mg dry extract from root equivalent to 260 mg root (DER 6.5:1).	2-3 tablets three times a day.	240-360 mg dry root extract equivalent to 1,560 - 2,340 mg root.
HRI Cold And Flu Echinacea Tablets	Tablets	<i>Echinacea purpurea</i> (L.) Moench root.	56 mg dry extract from root equivalent to 338 - 450 mg root (DER 6-8:1).	1-2 tablets twice daily.	112-224 mg dry root extract equivalent to 676- 1,800 mg root.
Echinapret Coated Tablets	Tablets	<i>Echinacea purpurea</i> (L.) Moench herb.	175 mg of dried pressed juice from three fresh flowering herb equivalent to 6.7 - 9.8 g fresh herb (DER 38 - 56:1).	1 tablet times a day for no longer than 10 days.	525 mg dried pressed juice equivalent to 18.4 - 29.4 mg fresh herb.
Thompson and Capper Echinacea Cold-n-Flu-Eze	Tablets	<i>Echinacea purpurea</i> (L.) Moench root.	105 mg dry extract from root equivalent to 630 - 840 mg root (DER 6-8:1).	1 tablet twice a day for no longer than 10 days.	210 mg dry root extract equivalent to 1,260 - 1,680 mg root.

Fuerte Tablets	Tablets	<p>Wild indigo root (<i>Baptisia tinctoria</i> (L.) R.Br.),</p> <p><b><i>Echinacea purpurea root (</i></b></p> <p><b><i>Echinacea purpurea (L.)</i></b></p> <p><b><i>Moench),</i></b></p> <p><b><i>Echinacea pallida root (</i></b></p> <p><b><i>Echinacea pallida (Nutt.)</i></b></p> <p><b><i>Nutt.),</i></b> White cedar tips and leaves (<i>Thuja occidentalis</i> L.)</p>	<p>3.2 mg dry root extract (DER 4- 9:1) from Wild indigo root, <i>E.</i> <i>purpurea</i> root, <i>E.</i> <i>pallida</i> root and Wild cedar tips and leaves</p> <p>(4.92:1.85:1.85:1).</p>	<p>5 tablets three times a day for no longer than 10 days.</p>	<p>9.2 mg <i>E.</i> <i>pallida</i> and 9.2 mg <i>E.</i> <i>purpurea</i> dry root extract.</p> <p>Total 18.4 mg dry root extract equivalent to 73.6- 165.6 mg root.</p>
Healthsense Echinashield Cold and Flu Tablets	Tablets	<i>Echinacea purpurea</i> (L.) Moench root.	70 mg dry extract from root equivalent to 420 - 560 mg root (DER 6-8:1).	1 tablet three times a day for no longer than 10 days.	210 mg dry root extract equivalent to 1,260 - 1,680 mg root.

Lamberts				
Echinacea				
Cold & Flu				
relief				
tablets				
Nature's Best	Tablets	<i>Echinacea purpurea</i> (L.) Moench root.	105 mg dry extract from root equivalent to 630 - 840 mg root (DER 6-8:1).	1 tablet twice a day for no longer than 10 days.
Echinacea Cold & Flu Relief				210 mg dry root extract equivalent to 1,260 - 1,680 mg root.
tablets				
Vitabiotics				
Echinacea Tablets	Tablets	<i>Echinacea purpurea</i> (L.) Moench root.	200 mg dry extract from root equivalent to 1200 - 1600 mg root (DER 6-8:1).	1 tablet twice a day for no longer than 10 days.
				400 mg dry root extract equivalent to 2,400 - 3,200 mg root.
Potter's Skin Clear	Tablets	<i>Echinacea angustifolia</i> (D.C) root.	110 mg dry extract from root equivalent to 500 mg root (DER 4.5:1).	2 tablets three times a day for no longer than 10 days.
				660 mg dry root extract equivalent to 2,970 mg root.
EKINACLEAR	Tablets	<i>Echinacea purpurea</i> (L.) Moench root.	50 mg dry extract from root equivalent to 300 - 400 mg root (DER 6-8:1).	1-2 tablets three times a day for no longer than 10 days.
				150-300 mg dry root extract equivalent to 900- 2,400 mg root.

Lifeplan Echinacea Cold and Flu Tablets Relief Tablets	<i>Echinacea</i> <i>purpurea</i> (L.) Moench root.	140 mg dry extract from root equivalent to 840 - 1120 mg root (DER 6-8:1).	1 tablet twice a day for no longer than 10 days.	150-300 mg dry root extract equivalent to 900- 2,400 mg root.
Echinaforce Chewable Cold & Flu Tablets	<i>Echinacea</i> <i>purpurea</i> (L.) Moench herb and root.	380 mg dry extract from fresh herb (DER 1:12) and 20 mg dry extract (DER 1:11)	2 tablets two to three times a day for no longer than 10 days.	1,520 - 2,280 mg dry herb extract and 80- 120 mg dry root extract.
Herbal Cold And Flu Sachets	<i>Echinacea</i> <i>purpurea</i> (L.) Moench root.	71.5 mg dry extract from root equivalent to 429 - 500 mg root (DER 6-7:1).	1 sachet three times a day for no longer than 10 days.	214.5 mg dry root extract equivalent to 1,287- 1,500 mg root.
Cystorelief Cystitis Uva- ursi & Echinacea oral drops <sup>a</sup>	<i>Echinacea</i> <i>purpurea</i> (L.) Moench herb, Uva-ursi herb ( <i>Arctostaphylos</i> <i>uva-ursi</i> (L.) Spreng, Herb).	240 mg of tincture from fresh herb (DER 1:12) per 1 ml.	15 drops in a little water 2-5 times daily. 1mL is equivalent to 30 drops.	240-600 mg of tincture from fresh herb.

Potter's Elixir of Echinacea Plus/Napiers Elixir of Echinacea Complex <sup>b</sup>	Oral solution	<i>Echinacea angustifolia</i> (D.C) root, Wild Indigo root, Fumitory herb.	0.64 mL liquid extract from root equivalent to 640 mg root per 5 mL (DER 1:1).	5 mL three times a day for no longer than 10 days.	1.92 mL liquid root extract equivalent to 1.92 g root.
Echinacin Juice MADAUS	Oral solution	<i>Echinacea purpurea</i> (L.) Moench) herb.	117 mg of dried pressed juice from fresh flowering herb equivalent to 3.7 - 6.3 g of fresh herb per 5 mL (DER 31.5-53.6:1).	5 mL three times a day for no longer than 10 days.	351 mg dried pressed juice equivalent to 11.1 - 18.9 g fresh herb.
Echinacin Liquidum MADAUS <sup>c</sup>	Oral solution	<i>Echinacea purpurea</i> (L.) Moench) herb.	1.99 g of pressed juice from fresh flowering herb equivalent to 3.4 - 5 g of fresh herb per 2.5 mL (DER 1.7-2.5:1).	2.5 mL three times a day for no longer than 10 days.	5,970 mg pressed juice equivalent to 10.2-15 g fresh herb.

Echinaforce hot drink cold & flu echinacea concentrate for oral solution	Tincture	<i>Echinacea</i> <i>purpurea</i> (L.) Moench herb and root.	1,140 mg extract (as tincture) from fresh herb (DER 1:12-13) and 60 mg extract (as tincture) from fresh root (DER 1:11-12) per 5 mL.	Days 1-3: Take 5 ml diluted in hot water five times daily. Days 4-10: Take 5 ml diluted in hot water three times daily.	3,420 - 5,700 mg herb extract (tincture) and 180- 300 mg root extract (tincture).
Echinaforce Sore Throat Spray <sup>d</sup>	Oromucosal spray	<i>Echinacea</i> <i>purpurea</i> (L.) Moench herb and root, Sage leaves, ( <i>Salvia</i> from fresh root <i>officinalis</i> L. <i>folium</i> ).	863.3 mg tincture from fresh herb (DER 1:12) and 45.5 mg tincture leaves, ( <i>Salvia</i> from fresh root <i>officinalis</i> L. <i>folium</i> ). per 1 mL.	1 spray (0.22 mL) six to ten times a day for no more than 7 days.	1,147 - 1,910 mg herb tincture and 60 - 100 mg root tincture.
Duchy Herbals Echina- Relief Tincture <sup>e</sup>	Tincture	<i>Echinacea</i> <i>purpurea</i> (L.) Moench root.	1mL of tincture from dried root (1:3) (equivalent to 33 mg dried root) per 1 mL tincture.	2.5 ml of tincture, in water, two or three times daily for no longer than 10 days.	5-7.5 mL tincture equivalent to 165 - 248 mg dried root.

<sup>a</sup> 1 mL contains 426 mg ethanol equivalent to 10.8 mL beer or 4.5 mL wine (43% v/v ethanol content).

<sup>b</sup> 5 mL contains 760 mg ethanol equivalent to 19 mL beer or 7.9 mL wine (19 % v/v ethanol content).

<sup>c</sup> 1 mL contains 179 mg ethanol equivalent to 4 mL beer or 1.6 mL wine (18% v/v ethanol content).

<sup>d</sup> 1 mL contains 370 mg ethanol equivalent to 8.4 mL beer or 3.4 mL wine (38-42% v/v ethanol content).

<sup>e</sup> 2.5 mL contains 900 mg ethanol equivalent to 23 mL beer or 10 mL wine (38-45% v/v ethanol content).

**Table 14:** Summary of doses and preparations of THR products in the UK and EMA monographs.

<b><i>Echinacea</i> species</b>	<b>Daily dose THR products UK</b>	<b>EMA monographs daily doses</b>
<i>Echinacea purpurea</i>	<p><b>Pressed juice from herb (DER 1.7-2.5:1):</b> 5,970 mg (equivalent to 10.2-15 g fresh herb)</p> <p><b>Dried pressed juice from herb (DER 20-28:1):</b> 176-352 mg (equivalent to 3.5 - 9.8 g fresh herb)</p> <p><b>Dry root extract (DER 6-7:1):</b> 143 - 429 mg (equivalent to 858 - 3,000 mg root)</p> <p><b>Powdered root:</b> 250 -1500 mg.</p>	<p><b>Pressed juice from herb (DER 1.5-2.5:1):</b> 6 - 9 g (equivalent to 9 - 22.5 g fresh herb)</p> <p><b>Dried pressed juice:</b> Corresponding to the expressed juice above</p> <p><b>Dry root extract (DER 5.5-7.5:1):</b> 360 mg (equivalent to 1,980 - 2,700 mg root).</p> <p>(EMA monograph, 2017).</p>

*Echinacea angustifolia*

**Dry root extract (DER 4.5:1):**  
660 mg equivalent to 2,970 mg root.  
**Liquid root extract (DER 1:1):**  
1.92 mL (equivalent to 1,920 mg root).

**Powdered root:**  
500-1,500 mg  
**Liquid root extract (DER 1:1):**  
0.75 - 3 mL (equivalent to 750 -3,000 mg root)  
**Tincture (DER 5:1):**  
3-6 mL (equivalent to 1,500 - 3,000 mg root).

(EMA monograph 2018).

*Echinacea pallida*

**Dry root extract (DER 4-9:1):**  
9.2 mg *E. pallida* and 9.2 mg *E. purpurea* (equivalent to 36.8-82.8 mg root)  
**Powdered root:**  
400 mg *E. pallida* and 400 mg *E. purpurea*.

**Dry root extract (DER 4-8:1):**  
90-96 mg (equivalent to 360 - 786 mg root).

(EMA monograph 2012).