

# Annex A - Contaminants

## In this guide

### [In this guide](#)

1. [Introduction - the Potential Health Effects of Raspberry Leaf Tea in the Maternal Diet](#)
2. [Annex A - Introduction and Background](#)
3. [Annex A - Mechanism of Action and Toxicity Studies](#)
4. [Annex A - Drug-herb interactions](#)
5. [Annex A - Contaminants](#)
6. [Annex A - Exposure assessment](#)
7. [Annex A - Risk characterisation](#)
8. [Annex A - Conclusions](#)
9. [Annex A - Abbreviations](#)
10. [Annex A - References](#)
11. [Appendix 1 and 2](#)

36. Few studies were found which had investigated potential contaminants in raspberry leaf.

37. During a study by Veatch-Blohm et al. (2021), Pb, Ni and Cu were not detected in a commercial raspberry leaf supplement sold in the USA. However, Cr (0.42 µg/g) and Zn (1.90 µg/g) were both detected. The authors noted that intakes of Zn would be within the tolerable upper intake level (TUL) established by the Institute of Medicine US Panel on Micronutrients in 2001 (40 mg/day). The metal levels in this study were compliant with the limits laid down for supplements within retained EU Commission Regulation (EC) No.1881/2006, as amended.

38. Several fungal species were detected in the raspberry leaf supplement, (**Aspergillus fumigatus**, **Microsporum sp.** and **Nocardia brasiliensis**), which the authors suggested may be of concern in immunocompromised individuals

(Veatch-Blohm et al., 2021).

39. The heavy metals Cd, Hg and Pb were detected in raspberry leaf in one study collected from farms located in eastern Poland between 2015 and 2018 at concentrations ranging from <0.005-0.613 mg/kg, while As was not detected (<0.1 mg/kg) (Kowalska, 2021). All were within WHO-recommended limits, except for Cd, which was found at levels of 0.211-0.613 mg/kg (WHO recommended limit: 0.3 mg/kg) (Kowalska, 2021). The levels of Cd, Pb and Hg were within the legal limits for supplements established by retained EU Commission Regulation (EC) No. 1881/2006, as amended.

40. Sadło et al. (2015) reported on the results of field studies of pesticides applied at a commercial raspberry plantation. Various pesticides were applied in accordance with current pest control programmes and according to the instructions on their labels, and residues in both the fruit and leaves were reported. Residues of boscalid, cypermethrin, pyrimethanil, pyraclostrobin and chlorpyrifos were detected in the leaves at concentrations ranging from 0.15-30.64 mg/kg on the first day of harvesting, and these residues decreased each week during the harvesting period (Sadło et al., 2015). Pesticide residues in the fruit were within their respective MRLs, while residues in the leaves exceeded their respective maximum residue levels (MRLs) for herbal infusions (leaves and herbs) established by EU Regulation (EC) No. 396/2005. Dietary intakes were estimated based on an assumed daily consumption of dry leaves equivalent to a fresh weight of 7 g, and a body weight for an adult consumer of 76 kg. The highest estimated daily intake was for boscalid, which was up to 6.63% of its ADI established in the EU of 0.04 mg/kg bw, based on the analytical result for the first day of harvesting.