EFSA SCIENTIFIC COOPERATION (ESCO) REPORT

EFSA Compendium of botanicals that have been reported to contain toxic, addictive, psychotropic or other substances of concern[1]

European Food Safety Authority[2]

European Food Safety Authority (EFSA), Parma, Italy

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PREAMBLE

This Compendium is the result of an EFSA Scientific Cooperation (ESCO) work undertaken by a group of experts identified both by EFSA and Advisory Forum Representatives of the European Member States.

During this one-year activity, these experts built up on previous versions of the Compendium, considering information available from a number of existing lists of plants (see Compendium – Sources of Information sheet), and from the scientific literature to fill information in the Compendium. The search for information from the literature ended on 10 March 2009.

Legal disclaimer

This compendium lists in alphabetical order botanicals without any judgment on whether they are suitable or not suitable for food applications in Europe. The compendium is part of a preparatory work undertaken by EFSA to harmonise the methodology for assessing the safety of botanicals and botanical preparations used in food. Without prejudice to the existing legal framework, the compendium has no legal status and may not be used as support or evidence in any disagreement or dispute pertaining to the legal classification of products or substances.

Purpose of the Compendium

The Compendium is intended to facilitate the implementation of the EFSA guidance for the safety assessment of botanicals and botanical preparations intended for use as food supplements. The Compendium aims at flagging plants or part of plants or compounds of possible concern for human heath naturally present in the listed botanicals and that therefore require specific attention while assessing the safety of the product(s) containing such botanical(s). For some botanicals in the compendium adverse (toxic) effect(s) are known even though the constituent(s) of concern are not elucidated in the literature. In some cases the whole genus was flagged because of the likely presence of substances of concern characteristic for the toxicity of that genus.

The presence of a substance of concern in a given botanical does not mean that this substance will also be present in the botanical preparation. This depends largely on the plant part used, as well as the preparation method.

The Compendium contains also an “insufficient information” list regrouping botanicals that appear in one of the sources of information, but for which the working group could not find enough information on possible substances of concern, or for which the information present could not be verified.

The Compendium is a living list which should be periodically updated by EFSA. As a consequence, the absence of a given species in this Compendium cannot be interpreted as this species devoid of compounds hazardous for human health. In the same way, not mentioning a specific part of plant, does not imply absence of substance(s) of concern in this part.

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COMPENDIUM OF BOTANICALS THAT HAVE BEEN REPORTED TO CONTAIN TOXIC,ADDICTIVE, PSYCHOTROPIC, OR OTHER SUBSTANCES OF CONCERN

Sources of information

Code	Reference
1A	Plants containing toxic substances (CPMP / EMEA,1992)
1B	Plants considered in 2005 by the Italian Ministry of Health as not suitable for use in food supplement manufacturing (www.ministerosalute.it/alimenti/dietetica/dietetica.jsp)
1C	Spanish Regulation (Ministerio de Sanidad y Consumo Orden SCO/ 190/2004) concerning plants for which public sale is forbidden or limited because of toxicity
1D	Swedish list (September 2006) concerning plants which are considered as not suitable in foods
1E	Dutch Regulation implementing the Law 19 January 2001 on Goods and identifying pyrrolizidine alkaloids containing plants (for which a maximum limit of 1 µg/kg or per litre is imposed) (E1) and plants not to be used in herboristic products (E2)
1F	Belgian Regulation (29/8/1997 and following acts) identifying plants non admitted in foods
1G	Danish list concerning toxicological evaluation of plants in food supplements; The list contains plants considered as unacceptable, plants with a restriction on daily use (max. level), and plants that are evaluated at a daily dose ("Drogelisten" (2000) and later update (September 2006)
1H	Plants assessed as flavourings by the Council of Europe in 2000 and 2004 belonging to Category 3 or 4 (restrictions recommended for use) (H1 and H2 respectively) or as Category 5 (restrictions recommended and further data required) (H3) or Category 6 (considered not appropriate for human consumption) (H4)
1I	List of Botanicals not admitted or restricted in food in Austria; (Codex Unterkommission Nahrungsergänzungsmittel)
1J	The departmental order of the Danish Ministry of Health no. 698 (31. August 1993) List of euphoriants. (Latest updated 11. April 2007)
1K	French Pharmacopoeia (10^{th} edition): List A of medicinal plants with a traditional use and List B of medicinal plants with a traditional use but whose possible undesirable effects exceed expected beneficial therapeutical effect.
1L	Active principles (constituents of toxicological concern) contained in natural sources of flavourings. Council of Europe, 2004
1M	Plants assessed as medicinal products by WHO in 1999 (Vol. I), 2002 (Vol. 2) and 2005 (Vol. 3)
1N	Plants assessed as medicinal products by the EMEA/HMPC since its inception, and previously by the Working Party on Herbal Medicinal Products between 1998 and 2004
1O	Plants assessed as medicinal products by ESCOP (2003)
1P	Plants identified in the Belgian Regulation (Arrêté Royal 29/8/1997 – annex list 3 and following acts) as requiring a notification before marketing
1Q	Final Public Statement on the use of herbal medicinal products containing estragole, Committee on Herbal Medicinal Products, London 23 November 2005
1R	Monographs being prepared by the EMEA/HMPC
1S	List of botanicals in which active principles, presently used in therapy, have been identified (Morelli and Vincieri, 1989)
1T	Final Public Statement on the use of herbal medicinal products containing methyleugenol, Committee on Herbal Medicinal Products (HMPC), London 23 November 2005
1U	Final Public Statement on the risk associated with the use of herbal products containing aristolochia species, Committee on Herbal Medicinal Products (HMPC), London 23 November 2005
1V	Final Public Statement on the use of herbal medicinal products containing pulegone and menthofuran, Committee on Herbal Medicinal Products (HMPC), London 23 November 2005
1W	Final Public Statement on the use of herbal medicinal products containing asarone, Committee on Herbal Medicinal Products (HMPC), London 23 November 2005
1X	The EuroFIR-NETTOX Plant List by Pilegaard K, Eriksen FD, Soerensen M, and Gry J. Electronic version November 2006 (Revised version of the NETTOX list of Food Plants - Major European Food Plants and Edible Mushrooms by 1997)

COMPENDIUM OF BOTANICALS THAT HAVE BEEN REPORTED TO CONTAIN TOXIC,ADDICTIVE, PSYCHOTROPIC, OR OTHER SUBSTANCES OF CONCERN

This compendium lists in alphabetical order botanicals without any judgment on whether these are suitable or not suitable for food applications in Europe. This compendium is part of a preliminary work undertaken by EFSA to harmonise the methodology across its panels for assessing the safety of botanicals and botanical preparations used in food. Without prejudice to the existing legal framework, such compendium has no legal status and may not be used as support or evidence in any disagreement or dispute pertaining to the legal classification of products or substances. This compendium is a living document and is therefore open for additional contributions and comments.

Botanical name	Parts of plants of possible concern	Chemical of concern / toxic effect	Remarks	Specific References
***Abrus precatorius* L.**	1B: seeds 1C: entire plant	glycoproteins: abrin (lectins)	Potent haemagluttinins and extremely toxic	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Achillea abrotanoides* Vis.**	Herb	essential oil with beta thujone : 16.8% 1T: known to contain methyleugenol in unspecified quantities	in essential oil beta-thujone(16,8%); pinocarvone (15,6%); 1,8-cineole (11,3%), but the content of methyleugenol has not been determined	Chalchat J.C., Petrovic S.D., Maksimovic Z.A., Gorunovic M.S. (2005). Aromatic Plants of Yugoslavia. III. Chemical Composition of Essential Oils of *Achillea abrotanoides* Vis., *A. clypeolata* Sibth. & Sm., *A. depressa* Janka and *A. stricta* Schleicher et Koch. Journal of Essential Oil Research
***Achillea fragrantissima* Sch.Bip.**	Herb	1Q: known to contain estragole in unspecified quantities	The hydrodistilled oil and the solvent extract contain santolina alcohol, artemisia alcohol, artemisia ketone, cis-thujone and trans-thujone as major constituents	
***Achillea millefolium* L.**	1H herb, flowers 1G: herb, flower	1H: Fresh plant oil: α-thujone 0.28%; β-thujone 1.60%; camphor 2.93%; eucalyptol 2.24%. Dried plant oil: α-thujone 0.40%; β-thujone 3.21%; camphor 4.43%; eucalyptol 4.54%. Flower oil: α-thujone 1.02%; β-thujone 0.59%; camphor (check)%; eucalyptol 3.70-9.6%. Leaf oil: α-Thujone 0.50%; β-thujone 0.25%; camphor 16.80%; eucalyptol 6.09% (CoE 2000)	Contains thujones and camphor in various amounts depending on the part of the plant from which the essential oil is made of;	Natural Sources of Flavourings, Rep No.1, CoE (2000)
Acokanthera spp.	Entire plant	Genus in which some species are known to contain cardiotonic glucosides, e.g. ouabain...		
***Acokanthera ouabaio* Cathelineau ex Lewin**	1B: wood, seeds	cardiotonic glycosides: g-strophanthine: ouabain...	used as intraveinous arrow poisoning	
***Acokanthera schimperi* Benth. & Hook.f.**	1B: fruit, wood	cardiotonic glycosides: g-strophanthine: ouabain...	used as intraveinous arrow poisoning	
Aconitum spp.	1A, 1C, 1D, 1G: entire plant	Genus in which some species may contain toxic diterpenoid alkaloids: e.g. aconitine,…		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Aconitum anthora* L.**	1B: flowers, herbaceous plant, roots			
***Aconitum chasmanthum* Stapf.**	1B: roots			
***Aconitum ferox* Wall.**	1B: roots			
***Aconitum heterophyllum* Wall.**	1B: roots			

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***Aconitum napellus* L.**	1B: leaves, herbaceous plant, roots, tubers			
***Aconitum variegatum* L.**	1B: roots			
***Acorus calamus* L.**	1W: leaves, rhizome; 1T: rhizome 1B: oil, rhizome 1C: roots	1W: known to contain asarone in unspecified quantities; (diploide variety contains no cis-isoasarone; tetraploide up to 80% in essential oil) 1Q: known to contain estragole in unspecified quantities 1T: methyleugenol content 1.0% , 1.025 ppm (rhizome)		DUKE1992A; Encyclopaedia of Herbs,Nico Vermulen,1998,Rebo International,p.23.
Acorus calamus* L. *var. calamus	1W: leaves, rhizome	1W: known to contain asarone: 50-65% (leaves), 9-19% (rhizome), 0.3% (dried rhizome); triploid herb		
Acorus calamus* L. *var.angustatus Bess	1W: leaves, rhizome	1W: known to contain asarone: 85-95% (rhizome), 4.4-8.3% (dried rhizome); tetraploid herb		
***Acorus gramineus* Sol.**	Leaves, rhizome	rhizoma: 0.5-0.9% essential oil with alpha humulene, cis- and trans- isoasarone, methyleugenol, cis-methyleugenol and safrole; calciumoxalate raphides		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Actaea spicata* L.**	1B: fruit, herbaceous plant, rhizome 1C: entire plant	benzylisoquinoline alkaloids: magnoflorine, corytuberine	seeds and fruits. Formerly protoanemonin was said to be found in fresh herb, but this couldn't be confirmed	Hegnauer R 1995, Ranunculaceae, 10 Vergleichende Phytochemie und Chemataxonomie Berlin; Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
Adenium obesum	root, stem, latex, seeds	cardenolide glycosides: e.g. echujine		
Adhatoda vasica* Nees. *(See Justicia adhatoda L.)				
Adonis spp.	entire plant	Genus in which some species may contain cardenolide glycosides: e.g. adonitoxin,…		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1 Bruneton J. « Plantes toxiques », 3ème édition, Ed. Tec et Doc-Lavoisier (2005), ISBN : 2- 7430-086-7
***Adonis aestivalis* L.**	1B: herbaceous plant	Cardenolide glycosides; adonitoxin, convallatoxin,		
***Adonis amurensis* Regel & Radde**	1G: entire plant	Cardenolide glycosides; adonitoxin, convallatoxin,		
***Adonis annua* L.**	1B: herbaceous plant	Cardenolide glycosides; adonitoxin, convallatoxin,		
***Adonis autumnalis* L.**	1C: entire plant	Cardenolide glycosides; adonitoxin, convallatoxin,		
***Adonis vernalis* L.**	1B: herbaceous plant, top 1C: entire plant 1G: entire plant	Cardenolide glycosides; adonitoxin, convallatoxin,		

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***Aethusa cynapium* L.**	1B: leaves, fruit, herbaceous plant	Polyacetylenes: aethusine (= cynapine), aethusianol	poisonous potential is questionable as no toxicity is found in mice and guinea pigs. Probably toxic information comes from confusion with Conium poisoning or plants infected with the rust fungus *Puccinia aethusae* with consequent production of larger amounts of the toxins	Poisonous plants, Dietrich Frohne, Hans Jürgen Pfänder and Inge Alford, Blackwell, July 2005
***Aframomum angustifolium* (Sonn.) K.Schum.** *(Amomum angustifolium* Sonn.)	Seeds	essential oil: 1,8-cineole 4%	1,8-cineole: lethal doses as low as 0.05 ml have been reported in humans. (Bruneton, 1996)	Bruneton J. (1996). Plantes toxiques - Vegetaux dangereux pour l'homme et les animaux. Tec&Doc ISBN 2-7430-169-0
***Aframomum melegueta* K.Schum.** *(Amomum melegueta* Rosc.*)*	1H: seeds 1G: seed	Alkaloids: piperine	Ingestion of 0,35 g seeds to 10 healthy males (age 30-35 and b.w. 60-80 kg resulted in blurred vision by inccreasing the near point of convergence by 17%, resulting in double vision, and reduced the amplitude of accomodation (Igwe et al. 1999). Groups of 5 male rats received for 8 days daily orally by gavage 115 mg/kg b.w. of an aqueous extract of the fruits or distilled water (control). The extract:100 g dried fruit macereated in 200 ml distilled water for 12 h with a final extract concentration of 26 mg/ml. Dosing with *A. melegueta* modified the sexual behaviour of male rats by increasing sexual arousal (Kamtchouing et al. 2002).	Igwe SA, Emeruwa IC, Modie JA (1999) Ocular toxicity of Aframomum melegueta (alligator pepper) on healthy Igbos of Nigeria. J Ethnopharmacol 65: 203-206. Kamtchouing, P., Mbongue, G.Y.F., Dimo, T., Watcho, P. Jatsa, H.B., Sokeng, S.D. 2002. Effect of *Aframomum melegueta* and *Piper guineense* on sexual behaviour of male rats. *Behav. Pharmacol.* 13, 243-247. Lachman et al. 1992. A guide to the medicinal plants of coastal Guyana. Common Wealth Science Council (London). p.350
Agastache spp.	Plant	Genus in which some species are known to contain in their essential oil estragole and/or methyleugenol.	*A. rugosa* : 83%-96% methyleugenol and 5 chemotypes T1: estragole, T2: methyleugenol, T3: methyleugenol and limonene, T4: menthone, T5: menthone and pulegone; A. foeniculum: 43%-74% methylchavicol	International symposium on medicinal and aromatic plants - XXIII IHC (1992) - ISBN 9789066050952; Characterisation of essential oil of *Agastache* species, D.J. Charles et al. J Agr Food Chem, 1991, 31: 1946-1949
***Agastache foeniculum* (Pursh) Kuntze** *(Lophantus anisatus* (Nutt.) Benth., *Agastache anethiodora* Britton*)*	1Q: plant	essential oil: 43.7% 1Q: estragole content: 555-12.160ppm (plant); 1T: known to contain methyleugenol in unspecified quantities (?)		
***Agastache nepetoides* (L.) Kuntze**	Plant	1T: known to contain methyleugenol in unspecified quantities (?)		
***Agastache rugosa* Kuntze**	Plant	1Q: estragole content: 90% (essential oil) 1T: known to contain methyleugenol in unspecified quantities (?)		
***Agathophyllum aromaticum* Willd.** ***(See Ravensara aromatica* Sonn.)**				
***Agathosma cerefolium* Bartl. & Wendl.**	leaves	essential oil from leaves: 2% (summer) -5% (winter) with 50% phenolether from which methylchavicol and anethol ; 1Q: known to contain estragole in unspecified quantities		Medicinal Herbal Products Monograph, Prof. Dr. Hatem El-Gabaly; Natural sources of flavourings (Rep No 3), Council of Europe, (2008) Minister of Health and Population, Egypt, in colaboration with WHO
***Agrostemma githago* L.**	1B: seeds	Triterpenic Saponins: githagin (7%); agrostemmic acid	Githagin is toxic. Toxin destroyed at 50°C.	Government of Canada - Canadian Biodiversity Information Facility. Www.cbif.gc.ca
***Ailanthus altissima* (Mill.) Swingle**	1B: bark from the roots, flowers, leaves, fruit 1G: entire plant	indolalkaloids : with canthine 6-one and beta-carboline structure		Occurrence of indol alkaloids in *Ailanthus altissima* cell cultures, J of Natural Products, 1986, vol 49, Nr 6 , 1010-1014

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***Albizia julibrissin* Durazz.**	seeds	unknown neurotoxin in the seeds	1P: only bark authorised in food, with the warning that it is prohibited from use by pregnant women; seeds acting as pyridoxine (vit B6) antagonist	G. Grant et al. Livestock research for rural development, 1991, vol 3, nr 3
Aleurites spp.	all parts but mainly the seeds	Genus in which some species are known to contain toxic saponins and phorbol esters	Euphorbiaceae family; seeds of *A. moluccana* are eaten. Eleostearic acid is considered responsible for diarrhoea and vomiting effects	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Alisma plantago-aquatica* L.**	1G: entire plant	the toxic compound(s) not identified (Roth 1994).	All plant parts in Roth are classified as poisonous but with the remarkt 'low toxicity'. The toxins are removed by drying or cooking	Roth and Daunderer, Giftpflanzen, 1994
Alkanna spp.	1I: root	Genus in which some species may contain unsaturated toxic pyrrolizidine alkaloids	frequently used species *A. tinctoria* (synonym *Anchusa tinctoria*) containing toxic pyrrolizidine alkaloids: lycopsamine, ...	
***Alkanna tinctoria* Tausch** *(Anchusa tinctoria* L.*)*	1E: unspecified parts (1E 1) 1F: unspecified parts	tox pyrrolizidine alkaloids: lycopsamine, ...		
Aloe spp.	juice	Genus in which some species may contain hydroxyanthracenes (aloines,…) Dried leaf juice: hydroxyanthracene derivatives 13-40% AloinA(barbaloin) and AloinB.	juice is obtained from the pericycle cells and adjacent leaf parenchyma and contais the aloins; Remark: the gel is the colourless mucilaginous gel obtained from the parenchymatous cells in the leaves and is exempt of aloins	Anthraquinones containing plants reconsidered, L. Delmulle and K. Demeyer, Standaard uitgeverij 2008; ISBN 978 90 341 9290 5
***Aloe barbadensis* Mill.** *(Aloe vera* (L.) Burm.f.*)*	1H: leaves	1H:Dried leaf juice: hydroxyanthracene derivatives 25-40% AloinA(barbaloin) and AloinB (isobarbaloin).(CoE 2007)	juice is obtained from the pericycle cells and adjacent leaf parechyma and contains the aloins; the gel is the colourless mucilaginous gel obtained from the parenchymatous cells in the leaves and is exempt of aloins	Natural Sources of Flavourings, Rep No.2, CoE (2007)
***Aloe ferox* Mill.**	Leaves	1H:Dried leaf juice: hydroxyanthracene derivatives 13-27% AloinA(barbaloin) and AloinB.(CoE 2008)	juice is obtained from the pericycle cells and adjacent leaf parechyma and contains the aloins; the gel is the colourless mucilaginous gel obtained from the parenchymatous cells in the leaves and is exempt of aloins; NF Catalogue: Non subject to NF Regulation. "Content of Aloin poses a safety concern, therefore specific rules may be applicable"	Natural Sources of Flavourings, Rep No.3, CoE (2008)
***Alpinia galanga* (L.) Willd.**	rhizoma	1T: known to contain methyleugenol in unspecified quantities	*A. galanga* essential oil contains acetoxychavicol NF Catalogue: Alpinia speciosa - ongoing request whether use of the leaves requires autorisation under NF Regulation	

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***Alstonia constricta* Muell.**	1B: bark	indole alkaloids: alstonine, alstonidine		
***Alstonia scholaris* (L.) R.Br.**	1B: bark	indole alkaloids: alstonine, alstonidine		
Amaryllis spp.	bulbs	Genus in which some species may contain isoquinoline alkaloids: lycorine, ambelline, caranine,...		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Ammi visnaga* Lam.**	1B: fruit, herbaceous plant with fruit, essence from the leaves 1I: fruit	furochromone: khellin, visnagine, ...		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Amygdalus communis* L.** *(Prunus amygdalus* Batsch, P. *dulcis* (Mill.) D.A.Webb., *P. communis (* L.) Arcang.*)*	1B: seeds 1L: seeds 1X: seed	1L: Known to contain cyanogenic glycoside prunasin corresponding to 300-3400 mg HCN/kg seed (CoE, 2005)		Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005.
***Anabasis aphylla* L.**		1S: pyridine alkaloid: anabasine		
***Anacardium occidentale* L.**	1B: pericarp 1X: Seed, pedicle	anacardic acids, cardanol,...		
***Anacyclus officinarum* Hayne**	1F: unspecified parts	alkamides: pellitorine	pellitorine has insecticidal activity	
***Anacyclus pyrethrum* (L.) Lag.**	1F: unspecified parts	alkamides: pellitorine	pellitorine has insecticidal activity The seeds of *Anacyclus pyrethrum* caused miscarriages in pregnant albino rats when given orally for 10 days after copulation at a daily dose of 175 mg/kg BW. The antifertile activity was 15% and skeletal and visceral malformations were common in the fetuses	Sharma et al. 2009. Evaluation of anabolic, aphrodisiac and reproductive toxicity of *A. pyrethrum* DC in male rats. Sci. Pharm. 77:97-110
Anadenanthera spp.	bark and seeds	Genus in which some species may contain indolamines from the tryptamine class: e.g. bufotenine and beta-carbolines	hallucinogens	
***Anadenanthera colubrina* (Vell.) Brenan**	1C: wood, seeds	tryptamine.	carboline hallucinogen	
***Anadenanthera peregrina* (L.) Speg.** *(Piptadenia peregrina* Benth.)	1D: entire plant	tryptamine.	carboline hallucinogen	
***Anagallis arvensis* L.**	1B: herb 1C: entire plant	saponins like quillaia saponins and cucurbitacines	haemolytic index of fresh herb 1:3500	Roth and Daunderer, Giftpflanzen, 1994; - Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Anagyris foetida* L.**	1B: leaves	quinolizidine alkaloids: cytisine (pyridine like alkaloid) and anagyrine		
***Anamirta paniculata* Colebr.** *(A. cocculus* (L.) Wight & Arn.)	1B: fruit, seeds	sesquiterpene lactone: picrotoxin, (convulsive), picrotoxinin,...		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
Anchusa spp.	1E: unspecified parts	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids: e.g. lycopsamine		
***Anchusa arvensis* (L.) M.Bieb.**	1E: unspecified parts (1E 1)	tox pyrrolizidine alkaloids: lycopsamine; untoxic pyrrolizidine alk: laburnine and acetyllaburnine		
***Anchusa azurea* Mill.** *(Anchusa italica* Retz.)	1E: unspecified parts	tox pyrrolizidine alkaloids: lycopsamine; untoxic pyrrolizidine alk: laburnine and acetyllaburnine		

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***Anchusa officinalis* L.**	1B: flowers, leaves, herbaceous plant	tox pyrrolizidine alkaloids: lycopsamine; untoxic pyrrolizidine alk: laburnine and acetyllaburnine		
***Anchusa tinctoria* L. *(See Alkanna tinctoria* Tausch)**				
***Andira araroba* Aguiar *(See Vataireopsis araroba (* Aguiar) Ducke)**	wood of stem and branches	quinones: e.g.chrysarobin	very strong purgative	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Andira inermis* (W.Wright) Kunth**	1B: bark	isoquinoline alkaloids: jamaicine (probably the same molecule as berberine).	narcotic vermifuge	
Andromeda spp.	leaves, flowers, berries	Genus in which some species may contain toxic diterpenes: e.g. grayanotoxin (andromedotoxin)		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
Anemone spp.	1B: flowers, leaves 1C: entire plant	Genus in which some species may contain protoanemonins in the fresh herb	protoanemonin only present in fresh herb and is converted into non toxic anemonine by drying.	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Anethum graveolens* L.**	1R: fruit fruit + herb, seeds (EHIA list)	Essential oil: known to contain estragole in unspecified quantities (1Q)	1X: leaf, fruit (schizocarp), infrutescence (immature)	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Angelica sinensis* (Oliv.) Diels**	root	essential oil 0.2 - 0.4% with carvacrol, safrole and isosafrole ; contains furocoumarins: bergapten, psoralen	safrole: carcinogenic on mice and rats (IARC, 1987) NF catalogue: used only as food supplement before 15/5/97. Any other food use fall under NF Regulation -	Teresawa K. et al., 1985, Fitoterapia 56: 201-208 IARC 1987
***Angelica sylvestris* L.**	Root	1H: Root: furocoumarins (imperatorin, ostruthol, oxypeucedanin, archangelin, isoimperatorin, umbelliprenin, marmesin, oxypeucedanin hydrate, xanthotoxin, phellopterin, byakan-gelicol, byakangelicin, 5-β-cyclo-lavandulyl-oxypsoralen, 4-(2'-hydroxy-3'-methoxy-methylbutoxy)-7H-furo[3.2-γ]-benzopyran-7-one, heraclenol, heraclenin, bergapten); Fruits: furocoumarins (bergapten, heraclenol, heraclenin); (CoE, 2007)		Natural Sources of Flavourings, Rep No.2, CoE (2007)
***Anhalonium lewinii* Hennings *(See Lophophora williamsii (* Salm-Dyck) J.M.Coult.)**				
Annona spp.	seeds; 1G: leaves, stem	Genus in which some species may contain in the seeds acetogenines: e.g. annonacin and in the leaves or stem isoquinoline alkaloids: e.g. annoretine		

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***Annona muricata* L.**	1G: leaves, stem	Total alkaloids 0.65 g/kg in leaves, 19.7 g/kg in root bark, 2.5 g/kg in stem bark: 0.6 g/kg. Leaves, seed and bark: benzyltetrahydroisoquinolines e.g. reticuline (Leboeuf et al 1981). Fruit contains isoquinoline alkaloids: annonaine, nornuciferine and asimilobine (Hasrat et al. 1997).	Atypical parkinsonism has been associated with the fruit and herbal teas of leaves from A. muricata, A. reticulata and A. squamosa (Caparros-Lefebvre & Elbaz 1999). 1X: fruit	Leboeuf M, Legueut C, Cavé A, Desconclois JF, Forgacs P, Jacqumin H. (1981) Alcaloïdes des Annonancees XXIX: Alcaloïdes de l'*Annona muricata* . Planta Medica,, 42: 37-44. Caparros-Lefebvre D, Elbaz A (1999) Possible relation of atypical parkinsonism in the French West Indies with consumption of tropical plants: a case-control study. Lancet: 354: 281-283. Hasrat JA et al. Journal of pharmacy and pharmacology, 1997, vol 49, no11, pp. 1145-1149
***Annona reticulata* L.**	1G: leaves, stem		Atypical parkinsonism has been associated with the fruit and herbal teas of leaves from A. muricata, A. reticulata and A. squamosa (Caparros-Lefebvre & Elbaz 1999). 1X: fruit	Caparros-Lefebvre D, Elbaz A (1999) Possible relation of atypical parkinsonism in the French West Indies with consumption of tropical plants: a case-control study. Lancet: 354: 281-283.
***Annona squamosa* L.**	1H: fruit 1G: leaves, stem	Leaves, seed and bark: benzyltetrahydroisoquinolines e.g. reticuline. 1H: Fruit: eucalyptol 1.4%, cyanogenic glycosides (CoE, 2000); seeds contain acetogenins. Bark is rich in hydrocyanic acid, leaves contain small amounts and fruits only traces	Atypical parkinsonism has been associated with the fruit and herbal teas of leaves from A. muricata, A. reticulata and A. squamosa (Caparros-Lefebvre & Elbaz 1999). 1X: fruit	Natural Sources of Flavourings (2000); C. Liaw et al., Planta Medica, 2004, 70(10): 948-959; Quisumbing E. Medicinal plants of the Philippines, Tech. Bul. 16 Phil. Dept. Agr. & Nat. Res., Manila, 1951 pp 306-308 and 1030 Caparros-Lefebvre D, Elbaz A (1999) Possible relation of atypical parkinsonism in the French West Indies with consumption of tropical plants: a case-control study. Lancet: 354: 281-283.
***Anthoxanthum odoratum* L.**	1H: herb, flowers	1H: Herb: coumarin 5% of dry matter fresh dried herb; coumarin derivatives 0.22% of fresh dried herb (Coe, 2000)		Natural Sources of Flavourings (2000)
***Antiaris toxicaria* (Pers.) Lesch.**	1F: unspecified parts	bushman arrow toxin: antiarin (acts as digoxin)cardenolids: toxicariosid B and C; furocoumarins;		Carter C.A. et al., Tetrahedron 53 (50), 16959-16968 (1997)
***Apocynum androsaemifolium* L.**	1B: entire plant	cardiac glycosides and aglycons: cymarin, strophantidin,..	discussion about strict chemical denominations or descriptive (ex cardiac glycosides or steroid unsaturated lactones)	

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***Apocynum cannabinum* L.**	1B: entire plant	cardiac glycosides and aglycons: cymarin, strophantidin,..		
***Apocynum venetum* L.**	1B: entire plant	cardiac glycosides and aglycons: cymarin, strophantidin,..		
***Aquilegia vulgaris* L.**	1B: entire plant	cyanogenic glycosides		
***Arctostaphylos uva-ursi* (L.) Spreng.**	1M: dried leaves 1Q: dried leaves	quinones : 6% - 16%. Average 7%-9% in which arbutin (5% - 15%), methylarbutin (4%)	Doses normally used are 400-800 mg of arbutin a day	British Herbal Compendium P. Bradley vol1
***Areca catechu* L.**	1B: seeds 1G: fruit	piperidine alkaloid: arecoline, arecaidine, .		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Argemone mexicana* L.**	1B: flowers, leaves, oil, roots, seeds 1G: entire plant	isoquinoline alkaloids: protopine , allocryptopine; sanguinarin	adulteration of edible seed oil with oil of this species causing epidemic dropsy in humans	poisoning: autopsy findings of two cases Verma S.K. et al., Forens Sci. Internat. 115, 135-141 (2001)
***Argyranthemum frutescens* (L.) Sch.Bip.** *(Chrysanthemum frutescens L.)*	1F: unspecified parts	acetylenic compounds: frutescinol isovalerate, …		
Argyreia spp.	1C: seeds	Genus in which some species may contain ergoline alkaloids in seeds	*Argyreia nervosa* (Burm.f.) Boj. or his synonyms: *A. speciosa* (L.f.) Sweet, *Convolvulus speciosus* L.f.. There is still discussion whether the ergot alkaloids found are due to biochemical synthesis in the plant or due to fungal production	Steiner U. et al.; Planta. 2006 Aug;224(3):533-44.
***Argyreia nervosa* (Burm.f.) Boj.** *(A. speciosa* (L.f.) Sweet, *Convolvulus speciosus* L.f.*)*	1P: entire plant 1G: entire plant	ergoline alkaloids (analogous to Claviceps)	Hawaïan baby woodrose	Borsutsky M. et al., Nervenarzt 73 (9), 892-896 (2002)

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Arisaema spp.	1C: fruit, root (A. triphyllum)	Genus in which some species may contain calciumoxalate raphides and some other species aronin (glycosidic saponins)	leaves and roots of some species are eaten after cooking	
Arisaema triphyllum* (L.) Schott *ssp. Triphyllum *(Arum triphyllum* L.*)*	1C: fruit, root	Aronin (glycosidic saponin), oxalates		
Aristolochia spp.	1A: entire plant 1C: entire plant 1D: entire plant 1G: entire plant	Genus in which some species may contain aristolochic acid and derivatives		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Aristolochia clematitis* L.**	1B: entire plant	aristolochic acid		
***Aristolochia contorta* Bunge**	1U: fruit, herb	aristolochic acid;	listed in the Chinese Pharmacopoeia with the name "Ma Dou Ling" and "Mu Xiang"	
***Aristolochia cymbifera* Mart. & Zucc.**	1B: leaves, root	aristolochic acid		
***Aristolochia debilis* Siebold & Zucc.**	1U: fruit, herb, root 1B: root, rhizome	aristolochic acid	listed in the Chinese Pharmacopoeia with the name "Ma Dou Ling" and "Mu Xiang"	
***Aristolochia fangchi* Y.C.Wu ex L.D.Chow & S.M.Hwang**	1U: root	aristolochic acid	listed in the Chinese Pharmacopoeia with the name "Fang Ji"	MARTINEZ M. C. M. et al, Progression rate of chinese herb nephropathy : impact of *A. fangchii* ingested dose, *Nephrol. Dialysis Transplant.* 17 (3)408-412 (2002)
***Aristolochia indica* L.**	1B: root	aristolochic acid		
***Aristolochia longa* L.**	1B: root, rhizome	aristolochic acid		
***Aristolochia manshuriensis* Kom.**	1U: stem, caulis	aristolochic acid		
***Aristolochia pistolochia* L.**	1B: rhizome	aristolochic acid		
***Aristolochia reticulata* Nutt.**	1B: rhizome	aristolochic acid		
***Aristolochia rotunda* L.**	1B: rhizome	aristolochic acid		

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***Aristolochia serpentaria* L.**	1B: root, rhizome	aristolochic acid		
***Arnica chamissonis* Less.**	flowers	Sesquiterpene lactones	Only external use	Bruneton J. « Plantes toxiques », 3ème édition, Ed. Tec et Doc-Lavoisier (2005), ISBN : 2- 7430-086-7
***Arnica montana* L.**	1B: oil 1D: entire plant 1G: entire plant (oil, flowers, roots, entire plant - 11 Belgian list 1) 1M: flowering tops 1Q: flowering tops	Sesquiterpene lactones: helenalin, carabrone…	Only external use	Bruneton J. « Plantes toxiques », 3ème édition, Ed. Tec et Doc-Lavoisier (2005), ISBN : 2- 7430-086-7
***Artemisia abrotanum* L.**	1H: herb	1H: Essential oil: α-thujone, methyleugenol, eucalyptol (CoE, 2000) Leaves: essential oil > 1,4% with thujones (up to 70%), 1,8 cineole (up to 60%); minor constituents: fenchene and sabinene; heterocyclic sesquiterpenoids: davanol, hydroxydavanone, furane derivatives. Flowers: essential oil: alpha-bisaboloxide, coumarins and thujyl alcohol, ... A non-volatile fraction: alkaloid (abrotin), coumarins		Natural Sources of Flavourings (2000) Tunon H. et al Fitoterapia 2006, 77, (4), 257-261 Bergendorff O. et al Planta medica, 1995, 61 (4), 370-01 Hurabielle M . et al Planta medica, 1982, 45 (5), 55-56
***Artemisia absinthium* L.** *(Absinthium officinale* Brot., *Artemisia vulgare* Lam.*)*	1B: oil 1H: herb 1L: herb	1H: essential oil (Z)-epoxy-ocimene chemotype: α-thujone -0.30%, β-thujone -7.78%, camphor 0.19-9.30%; essential oil sabinyl acetate chemotype: α-thujone0.12-0.2%, β-thujone 0.58-0.71%, camphor -0.31%; essential oil chrysantenyl acetate chemotype: α-thujone 1.32%, β-thujone 18.72%, camphor 0.18%; essential oil β-thujone chemotype: α-thujone 0.53-2.76%, β-thujone 17.5-59.9%, camphor 0.10-0.16%; essential oil β-thujone/epoxy ocimene mixed chemotypes: α-thujone 0.7-1.68%, β-thujone 20.9-40.6%; essential oil cis-chrysanthenol chemotype: α-thujone 2.55-1.6%, β-thujone -3.75-25.9% (CoE, 2000) 1L: it may contain up to 3.7% eucalyptol in essential oil and 1.3% of thujone (CoE, 2005)		Natural Sources of Flavourings (2000) Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005.
***Artemisia cina* Berg**	1A: buds 1B: capitula, oil 1C: flowered capitula	toxic sesquiterpenes lactone: santonin…		

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***Artemisia eriantha* Ten.**	herb	1L: essential oil known to contain up to 90% thujones (CoE, 2005)		Active principles (constituents of chemical concern) contained in natural sources of flavourings. Council of Europe, 2005.
***Artemisia frigida* Willd.**	herb	essential oil with beta-thujone : 5%		
***Artemisia herba-alba* Asso**	1H: herb 1B: capitulum 1L: herb essential oil	1H: Essential oil β-thujone chemotype (Morocco): α-thujone 0.5-17.0%, β-thujone 43.4-94%, eucalyptol 1.8-5.8%, camphor 2.5-15%; Essential oil α-thujone chemotype (Morocco): α-thujone 36.8-82%, β-thujone 6.0-16.2%, camphor 11.0-19%; Essential oil camphor chemotype (Morocco): α-thujone 2.5-25%, β-thujone 0.5-7.5%, eucalyptol 2.6-15%, camphor 40-70%; Essential oil chrysanthenone chemotype (Morocco): α-thujone 2.9%, β-thujone 6.0%, eucalyptol 3.0%, camphor 7.2%; Essential oil davanone chemotype (Morocco): α-thujone 0.4-5.8%, β-thujone 0.2-5.0%, eucalyptol 3-12%, camphor -11%; Essential oil eucalyptol+α-thujone chemotype (Israel): α-thujone 27%, β-thujone 0.5%, eucalyptol 50%, camphor 3%; Essential oil eucalyptol+β-thujone chemotype (Israel): α-thujone 4.2%, β-thujone 12.4%, eucalyptol 13%, camphor 9%; Essential oil eucalyptol+camphor chemotype (Israel): α-thujone 1.4%, β-thujone 0.7%, eucalyptol 38%, camphor 25%; Essential oil chrysanthenol chemotype (Israel): eucalyptol 4.8%, camphor 0.1%; Essential oil eucalyptol+camphor chemotype (Spain): eucalyptol 13.3%, camphor 15%. (CoE, 2000) 1L: it may contain high level of camphor (2.5-70% in herb essential oil, depending upon chemotype)		Natural Sources of Flavourings (2000) Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005.
***Artemisia mutellina* Vill.** *(A. umbelliformis* Lam.*)*	herb	1L: essential oil known to contain nearly 90% of thujones (CoE, 2005)		Active principles (constituents of chemical concern) contained in natural sources of flavourings. Council of Europe, 2005.
***Artemisia pontica* L.**	1H: herb 1L: herb	1H: Herb (direct head-space analysis): α-thujone 14.3%, β-thujone 1.8%, eucalyptol 22.8%; essential oil: α-thujone 13.5-30%, β-thujone 3.3-4.2%, eucalyptol 12-23% (CoE, 2000) 1L: it may contain up to 23% eucalyptol in essential oil (CoE, 2005)		Natural Sources of Flavourings (2000) Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005.
***Artemisia umbelliformis* L.** ***(See A. mutellina* Vill.)**		1H: essential oil: α-thujone 57.7%, β-thujone 8.6% (CoE, 2000)		Natural Sources of Flavourings (2000)
***Artemisia vallesiaca* All.** *(A. vallesiana* Lam.*, Seriphidium vallesiacum (*All.*) Sojak, S. vallesianum (*Lam.*)* Y.R.Ling)	1H: herb	1H: essential oil: eucalyptol 17%, camphor 33.3%, small amounts estragole (CoE, 2000)		Natural Sources of Flavourings (2000)
***Artemisia vulgaris* L.**	1H: herb, flowers 1L: herb	1H: essential oil α-thujone 56.3%, β-thujone 7.5%, eucalyptol 26.8%, camphor 20% (CoE, 2000) 1L: it may contain up to 26.8% eucalyptol in essential oil (CoE, 2005)		Natural Sources of Flavourings (2000) Active principles (constituents of chemical concern) contained in natural sources of flavourings. Council of Europe, 2005.

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Arum spp.	entire plant	Genus in which some species are known to contain oxalate raphides, glycosidic saponins (aronin…), lignans, neo-lignans		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Arum italicum* Mill.**	1B: herbaceous plant, rhizome, seeds 1C: fruit, roots	Aronin (glycosidic saponin), oxalates: 0.4% in green fruits and 0.28% in red fruits		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Arum maculatum* L.** *(A. vulgare* Lam.*)*	1B: herbaceous plant, rhizome, seeds 1C: fruit, roots	Aronin (glycosidic saponin), oxalates		O' MOORE L. B., *A. maculatum* poisoning in cattle, *Irish Vet. J*. 146-147 (1955)
***Arum montanum* Roxb.**	1C: fruit, root	Aronin (glycosidic saponin), oxalates		
***Arum triphyllum* L. *(See Arisaema triphyllum* (L.) Schott *ssp. Triphyllum*)**				
***Arundo donax* L.**	1B: root, rhizome	indole alkaloids: donasine (Al et al, 2008)		Gia AL et al. (2008) J. Asian Nat. Prod. Res. 10; 105-109
***Asarum europaeum* L.**	1D: entire plant 1G: entire plant 1L: essential oil	1L: known to contain up to 50% of beta-asarone in essential oil (CoE, 2005)		Active principles (constituents of chemical concern) contained in natural sources of flavourings. Council of Europe. 2005.
***Asclepias syriaca* L.**	1B: rhizome	abundant toxic latex; cardiac glycosides: asclepin		SALYI G. et al, *A. syriaca* poisoning of cattle, *Magy. Allatorv. Lapja 42* (1), 56-58 (1987)
***Asclepias tuberosa* L.**	1B: rhizome	cardiac glycosides: asclepin		
***Asclepias vincetoxicum* L. *(See Vincetoxicum hirundinaria* Medik.)**	1C: roots	cardiac glycosides: asclepin, asclepiadin		
***Asimina triloba* (L.) Dun.**	Seeds	seeds contain acetogenines	fruits are eaten	
***Aspidosperma quebraco* Schltdl.**	1B: bark, wood 1H: bark, wood	1H: Bark 0.3-1.5% indole alkaloids (of which 30%aspidospermine, 10% quebrachine (yohimbine), 5% deacetylaspidospermine, 3% aspidospermatin, 3% aspidospermatidine, 0.5% 1-methylaspidospermatidine, quebachimine, quebrachit) (CoE, 2000)		Natural Sources of Flavourings (2000)
***Aspidosperma tomentosum* Mart.**	1P: unspecified parts	indolalkaloids: lupeol, alpha- and beta-amyrin		
***Athyrium filix-femina* (L.) Roth**	root	anthelminticum in root oil		
***Atractylis gummifera* L.**	1C: root 1G: root	diterpene glycosides: carboxyatractyloside, wedeloside		GEORGIOU M. L. Hepatotoxicity due to *A. gummifera* L. , *Clin. Toxicol. 26* (7), 487-493 (1988)
***Atractylodes ovata* DC.**	rhizoma	sesquiterpenoids: atractylon, atractylenoides I, II, III	cytotoxic	

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Atropa spp.	entire plant	Genus in which some species may contain tropane alkaloids: e.g. hyoscyamine, atropine, scopolamine		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Atropa acuminata* Royle ex Lindl.**	1B: entire plant	tropane alkaloids: atropine,…		
***Atropa belladonna* L.**	1B: flowers, leaves, fruit, herbaceous plant, roots 1C: entire plant 1D: entire plant 1G: entire plant	tropane alkaloids: atropine,…		
***Aucuba japonica* Thunb.**	Fruit	triterpene saponins	Causes fever and vomiting	LEVEAU A. M. et al, Sur la toxicité des fruits de l'A. japonica, Plant. Méd. Phytothér. 13 (3), 199-204 (1979)
***Banisteriopsis caapi* (Spruce ex Griseb.) Morton**	1C: root 1G: entire plant	indole alkaloids: harmine, harmaline,	hallucinogenic	FREELAND C. S. et al, Behavioral profile of constituants in ayahusca, an Amazonian psychoactive plant mixture, *Drug Alcohol Depend.* 54, 183-184 (1999)
***Barosma betulina* (Bergius) Bartl & H.L.Wendl.** *(Agathosma betulina* (Bergius) Pillans)	1G: leaf	essential oil: 3% pulegone (some chemotypes up to 70%)	*B. crenulata* contains up to 50% pulegone	
***Belamcanda punctata* Moench** *(B. chinensis* (L.) DC.)	1F: unspecified parts	isoflavones: irigenine, tectorigenine, tectoridine		
***Berberis vulgaris* L.**	1A: bark, root bark, root 1C: bark, root bark, root 1D: bark, root	1S, 1A: isoquinoline alkaloids: berberine	1X: As a source for flavouring (Council of Europe 1981) - restriction on the content of berberine in foods (EU law on flavourings). The fruit is specified as a food but with the remark it is rarely used	
***Blepharis capensis* Pers.**	1B: leaves, root			
***Boerhavia diffusa* L.**	1G: entire plant	1B: alkaloid containing: punarnavine;		
***Borago officinalis* L.**	1A: herb, flowers 1B: flowers, leaves, herbaceous plant with flowers 1G: herb	toxic unsaturated pyrrolizidine alkaloids	1P: only oil pyrrolizidine alkaloid free accepted	
***Boswellia serrata* Roxb.**	gum resin	essential oil: may contain up to 11% of methylchavicol (=estragole)	NF catalogue: used only as food supplement before 15/5/97. Any other food use falls under NF Regulation	
Brachyglottis spp.	leaves	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids: senecionine, …		

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***Brachyglottis repanda* Forst.**	leaves	toxic unsaturated pyrrolizidine alkaloids 0.02% in leaves		P.H. Mortimer, Nature 214, 1255 - 1256 (17 June 1967)
Bragantia spp.	1C: root	Genus in which some species may contain isoquinoline alkaloids, e.g. chakranine;	*Bragantia* sometimes falsified with *Aristolochia*	Health Canada advises consumers about additional products that could contain aristolochic acid. Ottawa: Health Canada;2001 Oct 5. www.hc-sc.gcca/english/protection/warnings/2001/2001_105e.htm Health Canada advises consumers not to use the products containing aristolochic acid. Ottawa: Health Canada; 2004 July 26. www.hc-sc.gc.ca /english/protection/warnings/2004/2004_43.ht
***Brayera anthelmintica* Kunth.** *(Hagenia abyssinica* J.F.Gmel.)	1B: Flowers	Contains toxic alkaloids: konessine,...* kosotoxin, protokosin, kosin (α-, β-)	*Anthelminticum* probably causing optic atrophy in humans. ** visual deficits and retinotoxicity *** Acyl, dimeric (kosin) and trimeric (protokosin from female flowers) phloroglucinol compounds reported from *H. abyssinica* .	* Abegaz et al., 1999, Pure Appl. Chem., 71(6): 919-926. ** Low et al., 1985, Toxicology and Applied Pharmacology, 81(2): 220-230. *** Singh & Bharate, 2006, Nat. Prod. Rep, 23: 558-591.
Brugmansia spp.	Aerial parts	Genus in which some species may contain tropane alkaloids : e.g. scopolamine, ...		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
Brunfelsia spp.	1C: root	Genus in which some species may contain carboline derivatives : e.g.: manacine, manaceine and dimethyltryptamine derivatives		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Brunfelsia bonodora* (Vell.) J.F.Macbr.** *(Besleria bondora* Vell.)	1C: root	alkaloids: manacine, manaceine ; dimethyltryptamine, carboline derivatives		
***Brunfelsia chiricapsi* Plowman**	1C: root	alkaloids: manacine, manaceine ; dimethyltryptamine, carboline derivatives		
***Brunfelsia eximia* Bosse**	1C: root	alkaloids: manacine, manaceine ; dimethyltryptamine, carboline derivatives		
***Brunfelsia grandiflora* D.Don.**	1C: root	alkaloids: manacine, manaceine ; dimethyltryptamine, carboline derivatives		
***Brunfelsia hopeana* Benth.**	1C: root	alkaloids: manacine, manaceine ; dimethyltryptamine, carboline derivatives		
Bryonia spp.	1A: roots 1C: entire plant 1G: root	Genus in which some species may contain cytotoxic cucurbitacines		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Bryonia alba* L.**	1B: root 1D: root, berries 1G: root	1A: Presence of cytotoxic cucurbitacines		

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***Bryonia dioica* Jacq.** *(Bryonia cretica* L. *ssp. dioica* (Jacq.) Tutin)	1B: root 1C: entire plant 1G: root	1A: Presence of cytotoxic cucurbitacines		
***Buxus sempervirens* L.**	1B: bark, leaves, roots 1C: aeriel parts	steroid alkaloids : buxine		
***Cachrys pabularia* (Lindl.) Herrnstadt & Heyn** *(Prangos pabularia* Lindl.)	seeds	furocoumarines (heraclenin) in seeds		
Caladium spp.	1F: unspecified parts	Genus in which some species may contain calcium oxalates	Araceae family. From some species roots are edible	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Calea zacatechichi* Schltdl.**	leaves	sesquiterpene germacranolides: caleicine; junenol esters	Botanical name: *Calea ternifolia* Kunth. Two varieties exist from which one has hallucinogenic properties, the other not. The responisble molecules are not known	
***Calla palustris* L.**	1F: unspecified parts	oxalates raphides		
***Callitris quadrivalvis* Vent.** *(Tetraclinis articulata* (Vahl) Mast.)	wood (resin)	essential oil contains carvacrol		
***Calophyllum inophyllum* L.**	wood (gum resin)	calanolide in gum resin	1P: only cold extracted oil authorised for use in foodstuffs Calanolide used as antiretroviral drug	
Calotropis spp.	bark, roots, leaves	Genus in which some species may contain cardenolide glycosides and pregnanone (Wang et al. 2008)		Wang Zn. (2008). Molecules 13; 3033-9
***Calotropis gigantea* (L.) W.T.Ait.**	1B: bark and roots, leaves	cardenolid glycosides		

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***Calotropis procera* (Ait.) W.T.Ait.**	1B: bark and roots, leaves	cardenolid glycosides		EL-BADWI et al. Studies on latiferous plants : toxic effects in goats od *C. procera* latex given by different routes of administration , *Dtsch. Tierärzt. Wschr. 105* (11), 425-427 (1998)
***Caltha palustris* L.**	1F: unspecified parts	protoanemonins in the fresh herb	protoanemonin is converted into non-toxic anemonine through drying	BRUNI A. et al, Protoanemonin detection in *C. palustris, J. Nat. Prod. 49* (6), 1172-1173 (1986)
***Calycanthus floridus* L.**	1B: bark	Bisbenzylisoquinoline alkaloids: calycanthine,	similar effect as strychnine: convulsions, paralysis and cardiac depression	
***Calystegia sepium* R.Br.**	1B: entire plant	calystegines: polyhydroxynortropanes (alkaloids); jalapine - like cardiac glycosides mainly in root		
***Calystegia soldanella* R.Br.**	1B: entire plant			
***Camellia sinensis* (L.) Kuntze** *(Thea sinensis* L.*)*	Folium	1S: caffeine, theophylline Epigallocatechingallate (EGCG)	EGCG of hepatotoxic concern (see Annex 2 EFSA Advice on the draft guidance document on the safety assessment of botanicals and botanical preparation) Hepatotoxicity associated with supplements containing Chinese green tea (*Camellia sinensis*)	Bonkovsky, Herbert L (HL). Ann Intern Med. 2006 Jan 3;144(1):68-71. Erratum: Ann Intern Med. 2006 Mar 7;144(5):380
***Canarium indicum* L.** *(Canarium commune* L.*)*	resin	oleoresin contains elemicin; 1T: methyleugenol content 300-700 ppm Essential oil from the resin with limonene (45-72%), alpha-phellandrene (10-24%), sabinene (3-8%), elemol (1-15%), alpha-terpineol (0.4-2%) and an oleoresin obtained by distillation.	Nangai nuts (*Canarium indicum* L.) may not be placed on the Community market as a novel food or novel food ingredient under Regulation (EC) No 258/97 (decision of 19 December 2000). It is not fully clear whether the resin of *C. indicum* contains elemicine while the resin of *C. luzoricum* contains elemicine	
Cannabis spp.	1C: entire plant 1J: All aerial parts except seeds, and fibres	Genus in which some species may contain cannabinoids: e.g. tetrahydrocannabinol, ...	Seeds may contain traces of cannabinoids	Matsunaga T. et al. Yakugaku Zasshi (1998); sept 118, (9), 408-14
***Cannabis indica* Lam.**	1B: resin, top 1J: All aerial parts except seeds, and fibres	canabinoids		
***Cannabis sativa* L.**	1D: The assessment does not apply to the seeds 1G: entire plant 1J: All aerial parts except seeds, and fibres	1S: tetrahydrocannabinol		
***Caryophyllus aromaticus* L.** ***(See Syzygium aromaticum* (L.) Merr. & L.M.Perry)**				
Caryota spp.	whole plant, especially the roots	Genus in which some species may contain oxalate raphides	3 species are cited to contain stinging crystals: *Caryota aequatorialis* Ridley: Irritant crystals are present in the plant tissues (Burkill 1935). *Caryota mitis* Lour.: The fruit pulp and juice contain stinging crystals. (Morton 1962). *Caryota urens* L.: The fruits contain stinging crystals (Burkill 1935, Souder 1963)	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1

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Casimiroa edulis **Llave & Lex.**	1B: seeds	quinoline alkaloids in leaves		
Cassia acutifolia **Delile** *(C. senna* L.*, Senna alexandrina* Mill.)	1G: leaves, pods	hydroxyanthraceneglycosides (2.5% in leaves, 3.4% in pods): sennosides,	1P: food containing the pods and/or the leaves must have the warning not to ingest quantities of hydroxyanthracene (calculated as sennoside B) > 18 mg/day and "not to be given to children under 12 years of age; consult a physician if pregnant or breastfeeding; for prolonged use consult a specialist"; No toxicity by normal use (emodin and potential aloe-emodin is too low to be of concern).	
Cassia angustifolia **Vahl** *(Senna angustifolia* (Vahl) Batka)	1G: leaves, pods	hydroxyanthracenglycosides (2.5% in leaves, 2.2% in pods): sennosides,	1P: food containing the pods and/or the leaves must have the warning not to ingest quantities of hydroxyanthracene (calculated as sennoside B) > 18 mg/day and "not to be given to children under 12 years of age; consult a physician if pregnant or breastfeeding; for prolonged use consult a specialist"; No toxicity by normal use (emodin and potential aloe-emodin is too low to be of concern).	
Cassia fistula **L.**	leaves, pods	in mesocarp of fruits: 1% anthranoids	anthranoid content : rhein, physcion, chrysophanol. *Cassia fistula* pulpa is used in paedriatics; no toxicity by normal use	
Cassia obtusifolia **L.** *(C. tora* L. *var. obtusifolia (*L.*) Haines, Senna obtusifolia* (L.*)* H.S.Irwin & Barneby)	seeds	anthraquinones: emodin, aloe-emodin, physcion, emodin anthron,…	seeds are roasted and eaten or used as coffee substitute	
Cassia occidentalis L	1B: seeds	anthraquinones: emodin, aloe-emodin, physcion, emodin anthron,...; presence of an unknown phytotoxin	accidents in children described with high intake of seeds	V. M. Vashishtha et al., Indian Pediatrics, vol 44, 2007
Catha edulis **(Vahl) Forssk. ex Endl.**	1B: leaves 1C: leaves 1D: entire plant 1G: entire plant 1J: entire plant	amines: D-cathine, D-cathinone (euphoriants)		

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Catharanthus spp.	entire plant	Genus in which some species may contain mono and bis-indole alkaloids, e.g. vindoline, catharanthine…vinblastine, vincristine, leurosidine...		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Catharanthus roseus* (L.) G.Don.**	1B: leaves, roots 1D: entire plant 1G: entire plant	indole alkaloids: vincristine,...		
***Caulophyllum thalictroides* (L.) Michx.** *(Leontice thalictroides* L.*)*	1B: rhizome with roots 1G: entire plant	quinolizidine alkaloids: cytisine, baptifoline. Leaves and fruits contain also N-methylcytisin (Frohne & Pfänder 1997)		RAO R. B. et al, Nicotinic toxicity from tincture of blue cohosh (*C. thalictroides*) used as an abortifacient , *Vet. Hum. Toxicol. 44* (4), 221-222 (2002) Frohne D, Pfänder HJ. Giftpflanzen (1997). Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart
***Cedrela toona* Roxb.**	1B: tree bark	quinone derivatives ? Diterpenes	Leishmanicidal activity	Takahashi et al. 2004. In vitro screening of Leishmanicidal activity in Myanmar Timber extracts. Biological and Pharmaceutical Bulletin. Vol. 27, N°6 921
Cedrus spp.	1L: essential oil	Diterpene glycosides: carboxyatractyloside, wedeloside		Active principles (constituents of chemical concern) contained in natural sources of flavourings. Council of Europe. 2005.
Cephaelis spp.	entire plant	Genus in which some species may contain isoquinoline alkaloids: emetine, emetamine,…		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Cephaelis acuminata* H.Karst.**	1B: root	isoquinoline alkaloids: emetine		
Cephaelis emetica* Pers. *(See Cephaelis ipecacuanha)		isoquinoline alkaloids: emetine		
***Cephaelis ipecacuanha* (Brot.) Tussac.** *(C. emetica* Pers.*, Psychotria ipecacuanha (*Brot.) Standley*, Uragoga ipecacuhana* Baill.*)*	1R: root 1B: root 1C: roots 1D: entire plant 1G: roots	isoquinoline alkaloids: emetine		
Cestrum spp.	entire plant	Genus in which some species may contain steroid alkaloids (e.g.parquine, solasonine…), and saponins		DURAND R. et al , Intoxication in cattle from C. diurnum, *Vet. Hum. Toxicol. 41* (1), 26-27 (1999)
***Chaenomeles speciosa* Nakai**	seeds	cyanogenic glycosides		

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***Chamaelirium luteum* (L.) A.Gray**	1B: root 1G: entire plant	steroidal saponines: chamaelirin (a glucoside of diosgenin); calciumoxalate		
***Cheiranthus cheiri* L.**	1B: flowers, herbaceous plant, seeds 1C: entire plant	cardenolide: cheirotoxin (strophantidin derivative)		
***Chelidonium majus* L.** *(Chelidonium umbelliferum* Stokes*)*	1O: dried aerial part 1B: herbaceous plant, latex 1C: entire plant 1D: entire plant 1G: entire plant	benzophenantridine alkaloids: chelidonine,…	1O: dried volatile component, harvested during blooming, containing not less than 6% total alkaloids expressed as chelidonin and calculated in reference to dried active ingredient	
***Chenopodium ambrosioides* L. *var. anthelminticum* (L.) A.Gray** *(Chenopodium ambrosoides* L.*)*	1A: essential oil 1B: essence, leaves, fruit, herbaceous plant with flowers 1C: aeriel part, essential oil 1D: entire plant 1G: herb	in essential oil: monoterpenoids: ascaridol		
***Chondodendron microphyllum* (Eichl.) Moldenke**	1G: entire plant	Bisbenzylisoquinoline alkaloids: D-isochondodendrine, D-bebeerin, L-isococlaurin. (Hagers Handbuch)	Toxic by parenteral route.	Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Chondodendron platyphyllum* Miers.**	1G: entire plant	Bisbenzylisoquinoline alkaloids. (Hagers Handbuch) Root bark, ethanol extract: Bisbenzylisoquinoline alkaloid 12-O-methylcurine (yield 0.1%).(Guedes et al, 2002) Root: Alkaloid: 1-bebeerine (Souccar et al, 1999)	Toxic by parenteral route.	Natural sources of flavourings (Rep No 3), Council of Europe, (2008) Guedes et al, J Pharm Pharmacol, 54 (2002) Souccar et al, Acta Physiol Pharm Ther Latinoam, 49(4) (1999)

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***Chondodendron tomentosum* Ruiz et Pav.**	1B: root 1G: entire plant	1S: active ingredients: tubocurarine. Whole plant: Bisbenzylisoquinoline alkaloids: isochondrodendrin (isobebeerin), curin (L-bebeerin), chondrocurine, norcycleanin, cycleanin, D-tubocurarine, L-tubocurarine	Toxic by parenteral route.	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Chrozophora tinctoria* A.Juss.**	1B: juice		fam. Euphorbiacae Only information on use as food colouring found	
***Chrysanthemum cinerariifolium* (Trevir.) Vis.** ***(See Tanacetum cinerarifolium* (Trevir.) Sch.Bip.)**				
***Chrysanthemum leucanthemum* L.** ***(See Leucanthemum vulgare* Lam.)**			NF catalogue: *Chrysanthemum parthenium* used only as food supplement before 15/5/97. Any other food use fall under NF Regulation	
***Chrysanthemum vulgare* (L.) Bernh.** ***(See Tanacetum vulgare* L.)**	1A: flowers, herb 1D: entire plant	1A: essential oil :thujones Volatile oil (yield 0.12-0.18%): β-thujone -95%, camphor, eucalyptol. At least ten different chemotypes, camphor most frequently main component, β-thujone second most. (Holopainen et al, 1987 essential oil: 10-70% camphor (CoE, 2005)		Holopainen et al, Planta Med 53:284-7 (1987). Active principles (constituents of toxicological concern) contained in natural sources of flavourings, Council of Europe (2005)
Cicuta spp.	entire plant	Genus in which some species may contain toxic polyines, e.g. cicutoxin…		Bruneton J. (1996). Plantes toxiques - Vegetaux dangereux pour l'homme et les animaux. Tec&Doc ISBN 2-7430-169-0
***Cicuta maculata* L.**	1C: entire plant	polyines: cicutoxin…	*Cicuta maculata* L. is like C. virosa a well-known dangerous poisonous plant in North America (Frohne & Pfänder 1997)	Frohne D, Pfänder HJ. Giftpflanzen (1997). Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart
***Cicuta virosa* L.**	1B: leaves, fruit, herbaceous plant, root 1C: entire plant	Polyacetylenes: Cicutoxin, (also: virol A, virol B, virol C, cicutol, farcarindiol) (Strauss et al, 1996; Uwai et al, 2000; Uwai et al, 2001)	All plant parts are toxic, especially when fresh	Strauss et al, Biochem Biophys Res Comm 219 (1996). Uwai et al, J Med Chem 43(23), (2000). Uwai et al, Brain Res 889 (2001). Bruneton 1994

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***Cimicifuga racemosa* (L.) Nutt.** *(Cimicifuga serpentaria* Pursh, *Actaea racemosa* L.*)*	1G: entire plant	Alkaloids: Quinolizidine-type, e.g. cytisine, N-methylcytisine. Triterpene glycosides with either xylose or arabinose; e.g. actein, cimicifugoside, 23-epi-26-deoxyactein, cimigenol. (Barnes et al, 2007)		Barnes et al, Herbal Medicines 3rd ed., Pharmaceutical Press (2007)
Cinchona spp.	1H: bark from the branches	Genus in which some species may contain quinoline alkaloids, e.g. quinine, quinidine, cinchonin, cinchonidin.		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Cinchona ledgeriana* (Howard) Bern.Moens ex Trimen** *(C. officinalis* L.*, C. calisaya* Wedd. *= C. calisaya var. ledgeriana* Howard*)*	1H: bark from the branches	1S: active ingredients: quinidine, quinine; 1H: Bark: Total content alkaloids 4-8% with over 50% quinoline alkaloids. This species has higher content quinine and lower content other alkaloids than C.pubescens (CoE, 2000)		Natural sources of flavourings (Rep No 1), Council of Europe (2000)
***Cinchona pubescens* Vahl** *(C. succirubra* Pav.ex Klotzsch*, C. cordifolia* Mutis ex Humb.*)*	1H: bark from the branches	1H: Bark 5-15% quinoline alkaloids of which 30-60% (mainly quinine 1-3%, quinidine 0-4% and resp. 6'-demethoxy derivatives cinchonidine 1.25-8% and cinchonine 2-8%) (CoE, 2000)		Natural sources of flavourings (Rep No 1), Council of Europe (2000)
Cineraria spp.	Aerial parts	Genus in which some species may contain some toxic unsaturated pyrrolizidine alkaloids		
***Cineraria maritima* L.** *(Senecio cineraria* DC.*, S. bicolor ssp. Cineraria)*	Aerial parts (1E 1)	Pyrrolizidine alkaloids (e.g. senecionine, integerrimine, seneciphylline, jacobine, jacoline, jaconine, jacobine-acetate)(Tundis et al, 2007; El-Shazly, 2002; Wiedenfeld et al, 2006)		Tundis et al, Z Naturforsch 62(7-8),(2007). El-Shazly, Z Naturforsch 57(5-6), (2002). Wiedenfeld et al, Pharmazie 61(6), (2006).
***Cinnamomum camphora* (L.) J.Presl.**		1S: camphor 1H: Wood essential oil separates into solid=camphor and camphor oil (3%). Camphor oil in 4 qualities; 1st distillation white camphor oil: d-camphor, eucalyptol -35%; brown oil: safrole >80% (CoE, 2008)	Used in cosmetics and subject to assessment; essential oil: Category C (presence of allergenic substances such as cinnamic aldehyde)	Natural Sources of Flavourings, Rep No.3, CoE (2008)

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Cinnamomum cassia **(Nees) Blume** *(Cinnamomum aromaticum* Nees.)	1M: bark from the trunk without cork	Essential oil: Coumarin 0.03-8.73% (Perf Flav 19:33, 1994) Bark: 1500-4000 ppm (mean 2900 ppm; 13 samples) (LI, 2007)	Coumarin: EFSA TDI of 0.1 mg coumarin/kg bw (2004, maintained 2008); Bark used for food, spice	Perf Flav 19:33 (1994); LI (Swedish food industries association) analyses (2007)
Cinnamomum platyphyllum **(Diels) C.K. Allen**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities		EMEA (2005) Committee on Herbal Medicinal Products Public Statement on the use of herbal medicinal products containing methyleugenol. Doc.ref. EMEA/HPMC/138363/2005. ESCOP (2003) Monographs, 2nd ed. Thieme, New York. Hager ROM (2003) Springer Verlag, Heidelberg. Hoppe H.A. (1975) Drogenkunde 8th ed. deGruyter, Berlin. Lu B., Li Y., Mai L., Sun B., Zhu L (1986) Linchan Huazue Yu Gongye 6(4):39-44. (Only abstract in English) Senanayake U.M., Lee T.H., Wills R.B.H. (1978) Volatile constituents of cinnamon (Cinnamomum zeylanicum) oils. J Agric Fd Chem 26(4):822-824.
Cinnamomum rigidissimum **H.T.Chang**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities (plant)	*Stump essential oils :* Safrole 61.72%; methyleugenol 28.62%	EMEA (2005) Committee on Herbal Medicinal Products Public Statement on the use of herbal medicinal products containing methyleugenol. Doc.ref. EMEA/HPMC/138363/2005. ESCOP (2003) Monographs, 2nd ed. Thieme, New York. Hager ROM (2003) Springer Verlag, Heidelberg. Hoppe H.A. (1975) Drogenkunde 8th ed. deGruyter, Berlin. Lu B., Li Y., Mai L., Sun B., Zhu L (1986) Linchan Huazue Yu Gongye 6(4):39-44. (Only abstract in English) Senanayake U.M., Lee T.H., Wills R.B.H. (1978) Volatile constituents of cinnamon (Cinnamomum zeylanicum) oils. J Agric Fd Chem 26(4):822-824.

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***Cinnamomum septentrione* Hand.-Mazz.**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities		EMEA (2005) Committee on Herbal Medicinal Products Public Statement on the use of herbal medicinal products containing methyleugenol. Doc.ref. EMEA/HPMC/138363/2005. ESCOP (2003) Monographs, 2nd ed. Thieme, New York. Hager ROM (2003) Springer Verlag, Heidelberg. Hoppe H.A. (1975) Drogenkunde 8th ed. deGruyter, Berlin. Lu B., Li Y., Mai L., Sun B., Zhu L (1986) Linchan Huazue Yu Gongye 6(4):39-44. (Only abstract in English) Senanayake U.M., Lee T.H., Wills R.B.H. (1978) Volatile constituents of cinnamon (Cinnamomum zeylanicum) oils. J Agric Fd Chem 26(4):822-824.
***Cinnamomum verum* J.Presl.** *(Cinnamomum zeylanicum* Blume*, C. zeylanicum* Nees*)*	1Q: unspecified parts 1T: unspecified parts	1Q: known to contain estragole in unspecified quantities 1T: known to contain methyleugenol in unspecified quantities 1H: Bark: coumarin < 0.0008%; Bark essential oil: eucalyptol < 3%, safrole <0.5%, coumarin <0.5%, traces methyleugenol, traces camphor; Leaves essential oil: eucalyptol <1%, safrole < 3%, coumarin <1%, methyleugenol 0.01% (CoE, 2008).	Coumarin: EFSA TDI of 0.1 mg coumarin/kg bw (2004, maintained 2008) NF Catalogue: ongoing request for *Cinnamomum zeylanicum* ; concerns only the oil from the leaves	EMEA (2005) Committee on Herbal Medicinal Products Public Statement on the use of herbal medicinal products containing methyleugenol. Doc.ref. EMEA/HPMC/138363/2005. ESCOP (2003) Monographs, 2nd ed. Thieme, New York. Hager ROM (2003) Springer Verlag, Heidelberg. Hoppe H.A. (1975) Drogenkunde 8th ed. deGruyter, Berlin. Lu B., Li Y., Mai L., Sun B., Zhu L (1986) Linchan Huazue Yu Gongye 6(4):39-44. (Only abstract in English) Senanayake U.M., Lee T.H., Wills R.B.H. (1978) Volatile constituents of cinnamon (*Cinnamomum zeylanicum*) oils. J Agric Fd Chem 26(4):822-824. Natural Sources of Flavourings, Rep No.3, CoE (2008)
Cissampelos pareira* L. *(= Cocculus orbiculatus* DC.*)	1B: root 1U: root	isoquinoline alkaloids (hayatine, hayatidine; also tropoloisoquinoline alkaloid pareirubrine A and B) (Bhatnagar et al, 1967; Bhatnagar&Popli, 1967) (Morita et al, 1993)) Stem: Bisbenzylisoquinoline alkaloids (coccuorbiculatine A, 10-hydroxyisotrilobine), amidic aporphines, protoberberine. (Chang&Wu, 2005)	1U: used in traditional Chinese medicine with the name "Fang Ji" The species has similar Chinese trivial name as Aristolochia fangchi which has led to confusions and intoxications.	Bhatnagar et al, J Org Chem 32(3), (1967). Bhatnagar&Popli, Experientia 23f(4), (1967). Morita et al, Chem Pharm Bull (Tokyo) 41(8), (1993). Chang&Wu, J Nat Prod68(7), (2005).

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***Cistus ladanifer* L.** *(C. viscosus* Stokes*, C. grandiflorus* Pour.*, C. landanosma* Hoffmanns.*, C. ladaniferus* L.*, Ladanium officinarum* Spach*)*	1H: gum resin (labdane) from leaves and twigs	essential oil : α-thujone 0.8%, eucalyptol 0.2% (CoE, 2000)		Natural sources of flavourings (Rep No 1), Council of Europe (2000)
***Citrullus colocynthis* (L.) Schrad.** *(Cucumis colocynthis* L.*)*	1A: fruit 1B: fruit, fruit pulp 1C: fruit	1A: Presence of cytotoxic cucurbitacines Young leaves low content, old leaves and stems 1000-3000 mg cucurbitacins/kg plant material. (Rehm, 1960; Tema Nord, 2006)		Rehm, Die Bitterstoffe der Cucurbitaceen, in Ergebnisse der Biologi, Springer Verlag (1960). Tema Nord 2006:556. Cucurbitacins in plant food. Nordic Council of Ministers (2006)
***Citrus aurantium* L.** *(C. aurantium* L. *ssp. amara* Engl.*, C. aurantium* L. *ssp. sinensis* L.*, C. aurantium* L. *ssp. aurantium* L*, C. aurantium var. dulcis* *Citrus aurantium var.*	1P: folium, flos, cortex, 1D: entire plant 1H: bark, flowers, leaves, twigs	Oil: 5-Methoxypsoralen 0.15-0.87% (IOFI, cited in TemaNord 1996:600) 1H: Rind expressed or cold pressed essential oil : trace amounts of furocoumarins Synephrine: Unripe whole fruit 2.28 mg/g (Takei, 1999); Pericarp 3.27 mg/g (Kusu, 1996). See annex 1 of the ESCO Advice on the draft guidance document on the safety assessment of botanicals and botanical preparations	1D: the assessment (not suitable as a food) only applies to the extracts with high content of synephyrine 1P:food supplements max. synephrine content of 20 mg/daily dose	Natural sources of flavourings, report no1, CoE 2000 IOFI (International Organization of Flavour Industries) cited in TemaNord 1996:600. Takei et al, Analytical sciences, Vol 15, Oct (1999). Kusu et al, Anal Biochem 235 (1996)
***Citrus limon* (L.) Burm.f** *(Citrus medica var. limon* L.*, Citrus limonum* Risso*)*	1B: resin 1H: fruit, pulp, rind, leaf, twigs.	Peel: Phellopterin, 5- and 8-geranoxypsoralen (Stanley&Jurd, 1971). Lemon oil: Psoralen; 5-methoxypsoralen; 8-methoxypsoralen; 5,8-dimethoxypsoralen, imperatorin, oxypeucedanin, phellopterin, 5-geranyloxypsoralen (Benincasa et al, 1990). 5-methoxypsoralen 0.0004-0.0087% (IOFI, cited in TemaNord 1996:600). Oxypeucedanin 26-728 mg/kg, 5-methoxypsoralen 4-87 mg/kg (Naganuma et al, 1985). 5-Methoxypsoralen 33 mg/kg (Wagstaff, 1991). 1H: Rind expressed or cold pressed essential oil : furocoumarins (psoralen, 5-methoxypsoralen (bergapten) 4-87 mg/kg, 8-methoxypsoralen (xanthotoxin), 5,8-dimethoxypsoralen (isopimpellin), imperatorin, oxypeucedanin 26-728 mg/kg, phellopterin, 5-geranyloxypsoralen (bergamottin).(CoE, 2000)	No information found on possible synephrine content.	Benincasa M., Buiarelli F., Cartoni G.P., Cocciolo F. (1990) Analysis of lemon and bergamot essential oils by HPLC with microbore columns. Chromatographia 30(5/6):271-6. IOFI (International Organization of Flavour Industries) cited in TemaNord 1996:600. Naganuma M., Hirose S., Nakayama Y., Nakajima K., Someya T. (1985) A study of the phototoxicity of lemon oil. Arch Dermaol Res 278:31-36. Natural sources of flavourings (Rep No 1), Council of Europe (2000) StanleyW.L, Jurd L. (1971) Citrus coumarinsJ Agric Food Chem 19(6):1106-1110. Wagstaff D.J. (1991) Dietary exposure to furocoumarins. Regulat Toxic Pharmacol. 14:261-272.

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***Citrus medica* L.** (*C. medica* (L.) var. *macrocarpa* Risso; *C. medica* (L.) var. *vulgaris* Risso; *C.medica* L. var *cedrata* Risso)			1P: only the fruit is authorised for use in foodstuffs No information found on furocoumarins content fruit (1X)	Benincasa M., Buiarelli F., Cartoni G.P., Cocciolo F. (1990) Analysis of lemon and bergamot essential oils by HPLC with microbore columns. Chromatographia 30(5/6):271-6. IOFI (International Organization of Flavour Industries) cited in TemaNord 1996:600. Naganuma M., Hirose S., Nakayama Y., Nakajima K., Someya T. (1985) A study of the phototoxicity of lemon oil. Arch Dermaol Res 278:31-36. Nigg H.N., Nordby H.E., Beier R.C., Dillman A., Macias C., Hansen R.C. (1993) Phototoxic coumarins in limes. Fd Chem Tox 31(5):331-335. SchultzH., Albroscheit ÄG., Nowak D. (1992) Charakterisierung von Grapefruitöl und –saft durch HPLC. Z Lebensm Unters Forsch 195.254-258. StanleyW.L, Jurd L. (1971) Citrus coumarinsJ Agric Food Chem 19(6):1106-1110. Wagstaff D.J. (1991) Dietary exposure to furocoumarins. Regulat Toxic Pharmacol. 14:261-272.
***Citrus reticulata* Blanco** (*Citrus nobilis* Andr. Non Lour.)	fruit, bark,	Essential oil: 8-methoxypsoralen in mandarine oil (Benincasa et al, 1990)	1X: fruit	Benincasa M., Buiarelli F., Cartoni G.P., Cocciolo F. (1990) Analysis of lemon and bergamot essential oils by HPLC with microbore columns. Chromatographia 30(5/6):271-6.

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***Citrus x paradisi* Macfad.** *(Citrus paradisi* Macf., *Citrus grandis (*L.*) Osbeck var. Racemosa (*Roem.) B.C.Stone*, Citrus decumana* (L.*))*	1H: Fruit, pulp, rind, leaf.	Peel: psoralen, 5-hydroxypsoralen (bergaptol), 5-methoxypsoralen, 5-geranylpsoralen (bergamottin) (Stanley&Jurd, 1971). Oil: 5-Methoxypsoralen 0.0005-0.013% (IOFI, cited in TemaNord 1996:600). 5-Methoxypsoralen 120 mg/kg (Wagstaff, 1991). 5-Geranoxypsoralen, 5-[(6-hydroxy-3,7-dimethyl-2,7-octadienyl)oxy]psoralen and 5[(6,7-dihydroxy-3,7-dimethyl-2-octenyl)oxy]psoralen (Schulz et al, 1992)	No information found on possible synephrine content. Note that so called "grape-fruit seed extract" has been known to contain quarternary ammonium compound (benzethonium chloride). (e.g. RASFF 2005.634, 9 Sep 2005); 1X: fruit	IOFI (International Organization of Flavour Industries) cited in TemaNord 1996:600. SchultzH., Albroscheit ÄG., Nowak D. (1992) Charakterisierung von Grapefruitöl und –saft durch HPLC. Z Lebensm Unters Forsch 195.254-258. StanleyW.L, Jurd L. (1971) Citrus coumarinsJ Agric Food Chem 19(6):1106-1110. Wagstaff D.J. (1991) Dietary exposure to furocoumarins. Regulat Toxic Pharmacol. 14:261-272.
Clematis spp.	entire plant	Genus in which some species may contain protoanemonins and ranunculin (precursor) in the fresh herb	1P: only dried parts authorised for use, if proven by analysis not to contain aristolochic acid Clematis species are not known to contain aristolochic acid, however species *C. armandi* and *C.montana* may be described by the same Chinese Pin Yin name as an Aristolochia species.(1U) protoanemonin is converted into non-toxic anemonine through drying	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
Clematis armandii Franch.	1U: caulis		1P: only dried parts authorised for use, if proven by analysis not to contain aristolochic acid 1U: used in traditional Chinese medicine with the name "Mu Tong" 1F: Authorised for use in foodstuffs if it does not contain aristolochic acid Clematis species are not known to contain aristolochic acid, however species C.armandi and C.montana may be described by the same Chinese Pin Yin name as an Aristolochia species. (1U)	

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Clematis chinensis Osb. *(C. recta L.)*	1P: unspecified parts 1F: unspecified parts		1P: only dried parts authorised for use, if proven by analysis not to contain aristolochic acid Clematis species are not known to contain aristolochic acid, however species C.armandi and C.montana may be described by the same Chinese Pin Yin name as an Aristolochia species.(1U)	
Clematis chinensis Retz.	1P: unspecified parts 1F: unspecified parts		1P: only dried parts authorised for use, if proven by analysis not to contain aristolochic acid Clematis species are not known to contain aristolochic acid, however species C.armandi and C.montana may be described by the same Chinese Pin Yin name as an Aristolochia species.(1U)	
Clematis hexapetala L.f. *(C. hexasepala DC., C. forsteri J.F.Gmel.)*	1P: unspecified parts 1F: unspecified parts		1P: only dried parts authorised for use, if proven by analysis not to contain aristolochic acid Clematis species are not known to contain aristolochic acid, however species C.armandi and C.montana may be described by the same Chinese Pin Yin name as an Aristolochia species.(1U)	
Clematis hexapetala Pall. *(C. flammula L.)*	1P: unspecified parts 1F: unspecified parts		1P: only dried parts authorised for use, if proven by analysis not to contain aristolochic acid Clematis species are not known to contain aristolochic acid, however species C.armandi and C.montana may be described by the same Chinese Pin Yin name as an Aristolochia species.(1U)	
Clematis mandshurica Rupr.	1P: unspecified parts		Clematis species are not known to contain aristolochic acid, however species C.armandi and C.montana may be described by the same Chinese Pin Yin name as an Aristolochia species.(1U)	
Clematis montana Buch.-Ham. ex DC.	1U: caulis		1U: used in traditional Chinese medicine with the name "Mu Tong" Clematis species are not known to contain aristolochic acid, however species C.armandi and C.montana may be described by the same Chinese Pin Yin name as an Aristolochia species.(1U)	
Clematis vitalba L.	1B: leaves, flowers, herbaceous plant	Plant contains lactone protoanemonin. (Frohne-Pfänder, 1984; Duke, 1985)	Clematis species are not known to contain aristolochic acid, however species C.armandi and C.montana may be described by the same Chinese Pin Yin name as an Aristolochia species.(1U)	Frohne-Pfänder, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984); Duke CRC Handbook of medicinal herbs, CRC Press (1985)
Clivia miniata **Regel**	1F: unspecified parts	Amaryllidaceae alkaloids: lycorine. (Frohne-Pfänder, 1984)		Ieven M. A. et al. Isolation of alkaloids from C. miniata Regel J. Nat. Prod. 45 (5), 564-573 (1982)

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***Clusia rosea* Jacq.**	1F: unspecified parts	Floral resin: polyisoprenylated benzophenones (nemorosone) (Cuesta-Rubio et al, 2001)	Only studies found by one group on benzophenones. No other info found.	Cuesta-Rubio et al, Phytochemistry 57 (2001).
Cnidoscolus spp.	entire plant	Genus in whish some species may contain cyanogenic glycosides (linamarin) in entire plant. Cyanogenic glycosides ranging from 0,8 to 15 µg HCN equivalent / gram fresh weight. (Kuti&Konuru, 2004)	Euphorbiaceae roots eaten as potatoes and leaves eaten as salad for two species: *C. chayamansa* McVaugh and *C. aconitifolius* (P. Mill.) I.M. Johnston Genus in which some species may lead to a stinging nettle effect (this effect disappears when cooking or drying)	Kuti&Konuru, Agr Food Chem 52 (2004).
Cocculus spp.	1C: fruit	Genus in which some species (e.g. *C. orbiculatus, C. trilobus*) may contain different alkaloids among which bisbenzylisoquinoline alkaloids: e.g. tetrandrine	different types of alkaloids	http://prr.hec.gov.pk/Thesis/678.pdf
Cocculus orbiculatus* DC.** *(Cocculus trilobus* (Thunb.) DC.) ***(See Cissampelos pareira* L.*)				
***Coffea arabica* L.** *(Coffea vulgaris* Moench.*, (80 varieties; the two 'original' varieties are C. arabica (syn. var. typica) and C.arabica var. Bourbon)*	1H: Seeds (beans) 1X: fruit, seed	content of caffeine (dry weight): 1.6% (Somorin, 1974, as cited by Andersson et al, 2004); 1.0-1.1% (Mazzafera&Carvalho, 1992, as cited by Andersson et al, 2004); 1.2% (0.9-1.4%) (IARC, 1991) 1H: Green coffee beans: 1.2% caffeine on dry basis (commercial range 0.9-1.4)	Methylxanthin content in plant is influenced by variety, geographical location of growth, climate and cultural practice. Beverages (other than tea-coffe-based) with caffeine content >150 mg/L must be labelled with total caffeine level, also wording indicating "high caffeine content". When caffeine is used as a flavouring substance, the word "caffeine" must be stated along with the word "flavourings". Several countries have national legislations with limits for caffeine in special food categories.	Labelling: Directive 2002/67/EU July 18 2002, EGT L 191, 19.7.2002, p.20, Celex 32002L0067 Andersson H.C., Hallström H., Kihlman B.A. (2004) Intake of caffeine and other methylxanthines during pregnancy and risk for adverse effects in pregnant women and their foetuses, TemaNord 2004:565. IARC (1991) Monograph No 51, Coffee, tea, maté, methylxanthines and methyl-glyoxal Mazzafera P. and Carvalho A. (1992) Breeding for low seed caffeine content of coffee (Coffea L.) by interspecific hybridization. Euphytica 59:55-60. Somorin O. (1974) Caffeine distribution in C.acuminata, T.cacao, C.Arabica. J Fd Science 39:1055-1056

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***Coffea canephora* Pierre ex Froehner** *(Coffea robusta* Lind. ex De Wild)	1H: Seeds (beans)	content of caffeine (dry weight): 1.7% (Mazzafera&Carvalho, 1992 as cited by Andersson et al, 2004); 2.2% (1.5-2.6%) (IARC, 1991) 1H: Green coffee beans contain 2.2% caffeine on dry basis (commercial range 1.5-2.6).(CoE, 2007)	In general somewhat higher caffeine content in Robusta coffee compared to Arabica. Methylxanthine content in plant is influenced by variety, geographical location of growth, climate and cultural practice. Robusta coffee is more tolerant than Arabica coffe, and is therefore cultivated in a wider range of conditions which may contribute to the higher caffeine content compared to Arabica coffee. Beverages (other than tea-coffe-based) with caffeine content >150 mg/L must be labelled with total caffeine level, also wording indicating "high caffeine content". When caffeine is used as a flavouring substance, the word "caffeine" must be stated along with the word "flavourings".	Labelling: Directive 2002/67/EU July 18 2002, EGT L 191, 19.7.2002, p.20, Celex 32002L0067 Andersson H.C., Hallström H., Kihlman B.A. (2004) Intake of caffeine and other methylxanthines during pregnancy and risk for adverse effects in pregnant women and their foetuses, TemaNord 2004:565. IARC (1991) Monograph No 51, Coffee, tea, maté, methylxanthines and methyl-glyoxal Mazzafera P. and Carvalho A. (1992) Breeding for low seed caffeine content of coffee (*Coffea* L.) by interspecific hybridization. Euphytica 59:55-60. Natural sources of flavourings, Report No 2, Council of Europe (2007)
***Cola acuminata* (P.Beauv.) Schott & Endl.** *(Cola pseudo-acuminata* Engl.*, Sterculia acuminata* P.Beauv.*)*	1H: seeds	1H: Seeds: Caffeine 2.4-2.6%, theobromine <0.1%. (CoE, 2000)	Beverages (other than tea-coffe-based) with caffeine content >150 mg/L must be labelled with total caffeine level, also wording indicating "high caffeine content". When caffeine is used as a flavouring substance, the word "caffeine" must be stated along with the word "flavourings".	Labelling: Directive 2002/67/EU July 18 2002, EGT L 191, 19.7.2002, p.20, Celex 32002L0067 Natural sources of flavourings (Rep No 1), Council of Europe (2000)
***Cola nitida* (Vent.) Schott & Endl.** *(Cola acuminata (* P.Beauv.) Schott&Endl. *var. latifolia* K.Schum.*, Cola vera* K.Schum.*)*	1H: seeds 1G: seed with restriction on caffeine (max. 100 mg/dose max. 300 mg/day)	1H: Seeds: Caffeine 1.5-3.5%, theobromine 1%, theophylline. (CoE, 2000)	Beverages (other than tea-coffe-based) with caffeine content >150 mg/L must be labelled with total caffeine level, also wording indicating "high caffeine content". When caffeine is used as a flavouring substance, the word "caffeine" must be stated along with the word "flavourings".	Labelling: Directive 2002/67/EU July 18 2002, EGT L 191, 19.7.2002, p.20, Celex 32002L0067 Natural sources of flavourings (Rep No 1), Council of Europe (2000)
Colchicum spp.	entire plant	Genus in which some species may contain phenethylisoquinoline alkaloids: colchicine, ...		
***Colchicum autumnale* L.**	1B: bulbs, flowers, seeds 1C: seeds 1D: entire plant 1G: entire plant	Phenethylisoquinoline alkaloids: colchicine. Seeds 0.3-1.2% of total alkaloids, of which 0.8 % colchicine (Bruneton 1994). Leaves: 0.07-0.2% colchicine (Frohne et al. 2009) corm: 0.6% colchicine. (Duke, 1985)	Colchicine is sensitive to light and photoisomerized to lumicolchicines(pharmacologically inactive). The toxic dose in humans is around 10mg. The ingestion of doses greater than 40mg is always fatal within 3 days of the ingestion of the alkaloid. *Colchicum* seeds and corm are used for the extraction of colchicine.	Duke CRC Handbook of medicinal herbs, CRC Press (1985) Bruneton 1995 Pharmacognosy. Lavoisier Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1

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***Colchicum luteum* Baker**	1B:bulbs, seeds	phenethylisoquinoline alkaloids: colchicine. All parts of plant: Colchicine and structurally related substances, greatest concentration in seeds. (Frohne-Phänder, 1984)	*Colchicum luteum* is used in Indian medicine	Frohne-Pfänder, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984)
***Colchicum neapolitanum* Ten.** *(Colchium longiflorum* A.Cast.)	bulbs, seeds	phenethylisoquinoline alkaloids: colchicine, ...		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Colchicum variegatum* L.**	bulbs, seeds	phenethylisoquinoline alkaloids: colchicine, ...		
***Coleus forskohlii* (Willd.) Briq.** *(Plectranthus barbatus* Andr.)	1C: aerial parts 1D: entire plant	Diterpene: forskoline. (Samuelsson, 1999)	Raw material for forskoline extraction NF catalogue: used only as food supplement before 15/5/97. Any other food use fall under NF Regulation	Samuelsson G, Drugs of natural origin. 4th ed. Swedish pharmaceutical society, Swedish pharmaceutical press (1999)
***Colutea arborescens* L.**	1B: leaves, seeds	quinolizidine alkaloids: cytisine (Roth et al. 1988) Contains non-protein amino acid L-canavanine (5%) (Frohne-Pfänder, 1984)	Canavanine is a toxic aminoacid. (Rosenthal et al, 1976)	ROTH, L., DAUNDERER, M., KORMANN: Giftpflanzen, Pflanzengifte, ecotned, Landsberg, 1988 Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1 Rosenthal et al, Science Vol. 192. no. 4236, pp.
Comandra spp.			Genus with only one species *C. umbellata* and 4 subspecies. fruits and seeds are eaten. Semi parasitic plant. One report plant to be narcotic. Due to toxins from the host? No further details found	ROTH, L., DAUNDERER, M., KORMANN: Giftpflanzen, Pflanzengifte, ecotned, Landsberg, 1988
***Combretum micranthum* G.Don.** *(C.altum, C.floribundum, C.parviflorum, C.raimbaultil. (FAO, 2008))*		pyrrolidine alkaloids: combretine	Methanol extract of leaves: flavonoids (such as myricetin-3-O-rutinoside, orientin, vitexin), tannins, alkaloids (Olajide et al, 2003). Combretin identified as main alkaloid (Ogan, 1972, as cited by Olajide et al, 2003). Active substance(s) not identified. Moderate antiprotozoan activity of ethanol extract of leaves in vitro (Karou et al, 2003). Antiviral activity (Ferrea et al, 1993). Methanol extract p.o. showed antiinflammatory activity against carrageenan induced rat paw oedema and acetic acid induced vascular permeability in mice (Olajide et al, 2003). Antimicrobial activity has been tested, but references not available.) NF catalogue: used only as food supplement before 15/5/97. Any other food use fall under NF Regulation The shrub has traditional medicinal use in West Africa for a variety of diseases. It is inscribed in the French Pharmacopoeia.	Ferrea G., Canessa A., Sampietro F., Cruciani M., Romussi G., Bassetti D. (1993) In vitro activity of a *Combretum micranthum* extract against herpes simplex virus types 1 and 2. antivital Research 21: 317-325. Olajide O.A., Makinde J.M., Okpako D.T. (2003) Evaluation of the anti-inflammatory property of the extract of *Combretum micranthum* G.Don. (Combretaceae). J Ethnopharm 89:291-294
***Commiphora mukul* Engl.**	1Q: unspecified parts	essential oil 0.4% with mainly monoterpenes (myrcene). Diterpene (dimyrcene) 1Q: known to contain estragole in unspecified quantities;	Presence of estragole: no data found in the literature	Bruneton 1995, Hager's Handbuch 1992,

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***Conium maculatum* L.**	1B: leaves, fruit, herbaceous plant 1C: entire plant	piperidine alkaloids: coniine, content in immature fruit 3%, in mature fruit 1%. (Hagers Handbuch). In the rest of the plant :γ-coniine>active than coniine. Piperidine alkaloid coniin present in all parts of plant, high concentrations (-3.5%) in fruit. (Frohne-Pfänder, 1984)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008) Frohne-Pfänder, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984)
***Convallaria majalis* L.**	1B: flowers, leaves, herbaceous plant with flowers, roots 1C: entire plant 1D: entire plant 1G: entire plant	1S: cardenolides: convallatoxin The principal glycoside is convallatoxin.The glycosides appear to be formed in the leaves. Convalloside:glycoside of the seeds. Glucoconvalloside in the leaves.	Is much used in herbal medicine for its cardioactive properties which are similar to those of digitalis but much less cumulative.	
***Convolvulus scammonia* L.**	1A: resin 1B: roots 1C: roots, resin	1A: Strong laxative with irritant properties ; jalapin from scammonia resin Resin: Glycosides (scammonin 1,2,7,8) (Noda et al, 1992; Noda et al, 1990)		Noda et al, Phytochem 31(8),(1992). Noda et al, Phytochem 29(11),(1990).
***Copaifera officinalis* (Jacq.) L.**	1P: unspecified parts	Essential oil: sesquiterpenes *alpha* - and *beta* - caryophyllene, L-cadinene (Hagers Handbuch). Copaiba oil (from trunk of tree): 80% sesquiterpenes also diterpenes (Oliveira dos Santos et al, 2008)	Antiinflammatory, antibiotic action. (Oliveira dos Santos et al, 2008)	Natural sources of flavourings (Rep No 3), Council of Europe, (2008) Oliveira dos Santos et al, Mem Inst Oswaldo Cruz, 103(3), (2008)
***Coptis chinensis* Franch.**		isoquinoline alkaloids: berberine (Samuelsson, 1999)		Samuelsson G, Drugs of natural origin. 4th ed. Swedish pharmaceutical society, Swedish pharmaceutical press (1999)
***Coptis deltoides* C.Y.Cheng & P.K.Hsiao**		Coptis species contain alkaloid berberine. (Samuelsson, 1999)		Samuelsson G, Drugs of natural origin. 4th ed. Swedish pharmaceutical society, Swedish pharmaceutical press (1999)
***Coptis japonica* (Thunb.) Makino**	Root	Root: isoquinoline alkaloids: Berberine (6-7%), magnoflorine, coptisine (Hagers Handbuch). Coptis species contain alkaloid berberine. (Samuelsson, 1999)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008) Samuelsson G, Drugs of natural origin. 4th ed. Swedish pharmaceutical society, Swedish pharmaceutical press (1999)
***Corchorus olitorius* L.**	1B: seeds	Corchoroside A and B, cardiac glucosides (Hagers Handbuch). Cardenolide glucosides (erysimoside, olitoriside, corchoroside A, coroloside, helveticoside, cannogenol, periplogenin, digitoxigenin, glucoevatromonoside, deglucocoroloside, evatromonoside) (Nakamura et al, 1998)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998 Nakamura et al, Phytochem 49(7), (1998).
***Coriandrum sativum* L.**	1L: herb essential oil	1L: Fruit essential oil: 6% camphor; Herb essential oil : 3-9% camphor. (CoE, 2005)	fruit, leaf (1X)	Van Hellemont, 1988; Bruneton 1995; Hager's 1992 Active principles (constituents of toxicological concern) contained in natural sources of flavourings, Council of Europe (2005)
***Coriaria myrtifolia* L.**	Leaves, berries	Leaves, bulb, fruit contain sesquiterpene lactone: coriamyrtin, coriarin (Hagers Handbuch). Coriamyrtin. (Frodhe-Pfändner, 1984)	Coriamyrtin; strong convulsant poison. (Frodhe-Pfändner, 1984)	Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998 Frohne-Pfänder, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984)
***Coriaria thymifolia* Humb. & Bonpl.**	1F: unspecified parts	Sesquiterpenes (coriamyrtin, coriatine, pseudotutine, tutine). Hallucinogenic unidentified glucoside? (Duke, 1995)		Duke CRC Handbook of medicinal herbs, CRC Press (1985)
***Coronilla scorpioides* Koch.**	1B: flowering tops	Herb: coumarines: e.g. Scopoletin, ; cardiac glycosides: hyrcanoside and aglycone hyrcanogenine. (Hagers Handbuch)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Coronilla varia* L.**	1B: herbaceous plant with flowers 1C: entire plant	Cardiac glycosides and aglycones. (Frodhe-Pfändner, 1984)	especially seeds rich in coronilla-glycosides having digitalis-like activity	Frohne-Pfänder, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984)

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Corydalis spp.	entire plant	Genus in which some species may contain isoquinoline alkaloids: e.g. bulbocapnine, corydaline, corydine… (Zhong-Ze Ma et al 2008) Tuber: Alkaloids (bulbocapnine and others) 6% of dry weight. (Frohne-Pfändner, 1984) Tubers, methanol extract: Isoquinoline alkaloids (coptisine, palmatine, N-methyllaudanindine, allocryptopine, protopine, corycavidine, glaucine, corydine, bulbocapnine, corydaline, corypalmine, tetrahydropalmatine, canadine, thalictrivacine) (Sturm et al, 2007)		Zhong-Ze Ma et al. Isoquinoline alkaloids isolated from *Corydalis yanhusuo* and their binding affinities at the dopamine D1 receptor. Molecules 2008, 13(9), 2303-2312 Frohne-Pfänder, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984). Sturm et al, J Chromat 1159 (2007).
***Corydalis ambigua* Cham.& Schltdl.**	1C: roots	isoquinoline alkaloids: protoberberine (Mo et al, 2007; Xuan et al, 1994)		Mo et al, curr Med Chem 14(28), (2007). Zhu, Mem Inst Oswaldo Cruz, 86 Suppl. 2 (1991).
***Corydalis bulbosa* auct. non DC.**	1C: rhizome	Whole herb isoquinoline alkaloids (corydione, dehydronanteinine, stylopine, bicuculliine, adlumidine, nantenine, bulbocapnine, protopine, domesticine, corydine, predicentreine, oxonantenine, isoboldine, nandazurine) (Kiryakov et al, 1981)		Kiryakov et al, Planta Med 43(9),(1981).
***Corydalis cava* Schweigg. & Kort.** *(Corydalis tuberosa* DC.*)*	1B: rhizome 1C: roots Entire plant	tubers: 4%-6% alkaloids (bulbocapnine, corydaline, corydine,...) (Adsersen et al, 2007) Rhizomes: Protoberberine alkaloids (type 2: isoapocavidine, corydaline, tetrahydropalmine; type 1: palmatine, coptisine, dehydroapocavidine, dehydrocorydaline) (Halbsguth et al, 2003)		Adsersen et al, J Ethnopharmacol 113 (2007). Halbsguth et al, Planta Med 69(4), (2003).
***Corydalis intermedia* Merat.**	1B: rhizome	isoquinoline alkaloids: bulbocapnine, corydine, glaucine	See *Corydalis* spp.	
Corynanthe spp.	1F: unspecified parts	Genus in which some species may contain yohimbane alkaloids: e.g. corynanthine, yohimbine = quebrachin (Martindale, 1993)	*Alpha* -adrenerg blocking agent. (Martindale, 1993)	Martindale the extra pharmacopeia 30th ed, Pharmaceutical Press (1993)
***Corynanthe johimbe* K.Schum.** ***(See Pausinystalia johimbe (* K.Schum.) Pierre ex Beille)**		Yohimbine = quebrachin = corynine = aphrodine (Martindale, 1993)	Tree from Central Africa. Local medicinal plant. Alpha-adrenerg blocking agent. (Martindale, 1993)	Martindale the extra pharmacopeia 30th ed, Pharmaceutical Press (1993)
Cotoneaster spp.	whole plant	Genus in which some species may contain cyanogenic glycosides: Bark (prunasin); Fruit (amygdalin, prunasin). (Frodhe-Pfändner, 1984)		Frohne-Pfändner, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984)

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***Coumarouna oppositifolia* Taub.** *(Dipteryx oppositifolia* Willd.)	1B: seeds	Seed: Coumarin (Hagers Handbuch).		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Crinum asiaticum* L**	Bulbs	Bulb: Alkaloids e.g. lycorine, crinidine, crinamine (Hagers Handbuch). Bulbs: Phenantrhidine alkaloids (pratorimine, lycorine, criasiacitidine) (Min et al, 2001)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998. Min et al, Chem.Pharm. Bull, 49(9), (2001).
Crotalaria spp.	1C: aeriel parts	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids (Frodhe-Pfeundner, 1984)	Family:Leguminosae , Subfamily:Papilionaceae(550spp) The presence of these alkaloids in comfrey (*Symphytum officinalis*) led to it being banned for over-the-counter sale in the UK	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Crotalaria sessiflora* L.**	1S: unspecified parts	1S: pyrrolizidine alkaloids: monocrotaline		
***Crotalaria spectabilis* Roth**	1C: aeriel parts	Pyrrolizidine alkaloids, e.g. monocrotaline (Hagers Handbuch)	See *Crotolaria* spp.	Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
Croton spp.	1A: oil, seeds, seed fat 1B: oil, seeds 1C: seeds 1G: entire plant	Genus in which some species may contain diterpenic phorbol-esters (e.g. cascarillin) and isoquinoline alkaloids: e.g. isoboldine, norisoboldine, magnoflorine, (Hagers Handbuch)	tumorpromoting, cocarcinogenic, Family:Euphorbiaceae Genera:Crotonideae	Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Croton eluteria* Benn.** *(Croton elutheria (* L.) Sw., *Croton cascarilla, Clutia euteria* L., *Croton eluteria (* L.) Benn., *Croton cascarilloides* Geisleler, *Croton homolepidus* Müll. Arg.)	1F: unspecified parts	Diterpenoids: cascarillin and eluterins A-J (Fattorusso et al, 2002)		Fattorusso et al, J Agr Food Chem 50(18), (2002).
***Croton lechleri* Müll.Arg.**	1B: unspecified parts	Leaves: Morphinandienone alkaloid (sinoacutine), further (magnoflorine, isoboldine, norisoboldine, taspine, glaucine, thaliporphine). Sap: Phenanthrene alkaloid (taspine 1.3-20.4%). Leaves, different chemotypes: Chemotype 1 (glaucine, isoboldine, thaliporphine); Chemotype 2 (isoboldine, thaliporphine); Chemotype 3 (isoboldine); content of taspine did not vary with chemotype. Alkaloid profile of latex showed no significant difference with chemotype. (Jones, 2003)	1B: Plant not allowed by the Dietetics Committee Tree sap sold as "Sangre de drago" in S.America.	Jones, J Alt Compl Med 9(6), (2003).

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***Croton tiglium* L.**	1A: oil, seeds, seed fat 1B: oil, seeds 1C: seeds 1G: entire plant	1A: Presence of phorbol diesters Tetracyclic diterpene alcohol phorbol. (Frodhe-Pfeundner, 1984) Phorbol esters (Hagers Handbuch)	Seed oil purgative, very toxic. (Frodhe-Pfeundner, 1984)	Frohne-Pfändner, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984). Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
Cryptostegia spp.	entire plant	Genus in which some species may contain cardenolide glycosides and aglycones: e.g. oleandrigenin, Caecinostatic steroids gitoxigenin, 16-anhydrogitoxigenin, 16-propionylgitoxigenin, oleandrigenin, 3-rhamnoside. (Duke, 1985)	All parts may cause severe stomach and intestinal upset. Leaf is toxic. (Duke, 1985)	Duke CRC Handbook of medicinal herbs, CRC Press (1985) Cook D.R. et al, Suspected Cryptostegia grandiflora (ruber wine) poisoning in horses, Austr. Vet. J. 67 (9) 344 (1990)
***Cucurbita pepo* L.**		(Possible occurrence of tetracyclic triterpenes: cucurbitacins.)	Fruits of cultivated squash and other pumpkins have been cultured to be "free of cucurbitacins", and are assumed to contain a supressor gene or a mutation responsible for absence of cucurbitacins. However, back-mutations occur randomly which may lead to plants with toxic and bitter fruits. (Tema Nord, 2006)	Tema Nord 2006:556, Cucurbitacins in plant food, Nordic Council of Ministers.
***Cuminum cyminum* L.**	1Q: fruit 1H: fruit (seeds)	1Q: estragole content: 30ppm (fruit) 1H: Essential oil from fruit: eucalyptol 0.2-0.4%. (CoE, 2007)		Natural sources of flavourings, Report No 2, Council of Europe (2007)
***Cupressus sempervirens* L.**	cones	Fruit, essential oil: Main components *alpha*-pinene 53.56%; *alpha*-terpinene 18.90%; thymol 3.84%, terpinolene 3.15%. (Loizzo et al, 2008). Leaves: Phenolic compounds (cupressuflavone, amentoflavone, rutin, quercetin, quercetrin, myricitrin, comosiin, caffeic acid, *p*-coumaric acid). (Ibrahim et al, 2007)		Ibrahim et al, Nat Prod Res, 21(10), (2007). Loizzo et al, Chem Biodivers 5 (2008).

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***Curcuma phaeocaulis* Valeton**	rhizoma and root tuber	essential oil (+/- 1%) with 10 - 16% camphor	Essential oil composition similar to *C. longa*	Chinese Materia medica, Chemistry, pharmacology and applications, You-Ping Zhu, 1998
***Curcuma kwangsiensis* S.G.Lee & C.F. Liang**	rhizome, dried rhizome essential oil		Essential oil composition similar to *C. longa* but no info on the amount of cineole	Chinese Materia medica, Chemistry, pharmacology and applications, You-Ping Zhu, 1998
***Curcuma longa* L.** *(Curcuma domestica* Val., *Curcuma domestic* Loir., *Amomum curcuma* Jacq.*)*	1H: rhizome 1X: rhizome	1H: Essential oil of rhizomes: zingiberene 25%, minor amounts of eucalyptol, curcumin 0.3-5.4%. Oleoresin contains curcumin. (CoE, 2000) Essential oil content: contains camphor and cineole (up to 10%)		Natural sources of flavourings (Rep No 1), Council of Europe (2000) Chinese Materia medica, Chemistry, pharmacology and applications, You-Ping Zhu, 1998
***Curcuma wenyujin* Y.H.Chen & C.Ling**	root-tuber and rhizome		Essential oil composition similar to *C. longa*	Chinese Materia medica, Chemistry, pharmacology and applications, You-Ping Zhu, 1998
***Curcuma xanthorrhiza* Roxb.**		essential oil content: 3% to 12% with up to 40% 1,8 cineole and 14% curzerenone and 1% D camphor	essential oil content 3%-12% with 1% of camphor and 5% totylmethylcarbinol (uterine stimulating effect)	Van Hellemont, 1988; Bruneton 1995; Hager's 1992
***Cyclamen europaeum* L.** *(C. purpurascens* Mill.*)*	1B: tubers	toxic triterpene saponins: cyclamin (Frodhe-Pfändner, 1984)	cyclamine has a very high haemolytic index	Frohne-Pfändner, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984)
***Cynanchum vincetoxicum* (L.) Pers.** ***(See Vincetoxicum hirundinaria* Medik.)**				
***Cynodon dactylon* (L.) Pers.**	1F: unspecified parts	Cyanogenic glycosides		
Cynoglossum spp.	1A: herb 1B: herbaceous plant, roots 1C: entire plant 1D: entire plant	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids	Taxas:Tubiflorae,Family:Boraginaceae ,Cynoglossum(50-60spp)	
***Cynoglossum officinale* L.**	1A: herb 1B: herbaceous plant, roots 1C: entire plant 1D: entire plant	1A: pyrrolizidine alkaloids (also in Frodhe-Pfändner, 1984)		Frohne-Pfändner, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984)
***Cypripedium calceolus* L.**	1F: unspecified parts	Glycosides, quinones (e.g. cypripedin a non-terpenoid phenanthraquinone) (Barnes et al. 2007)	used for dermatitis	Barnes et al, Herbal Medicines 3rd ed., Pharmaceutical Press (2007)
Cytisus spp.	1F: unspecified parts	Genus in which some species may contain quinolizidine alkaloids: e.g. cytisine, …		
***Cytisus laburnum* L.** ***(See Laburnum anagyroides* Medik.)**	seeds, leaves, sprouts	in seeds quinolizidine alkaloids: cytisine		
***Cytisus purgans (* L.) Boiss.** *(C. galianoi* Talavera & P.E.Gibbs)	seeds, leaves, sprouts	in seeds 0.2 % quinolizidine alkaloids: 92% sparteine, in leaves and sprouts: : 0.5% alkaloids		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Cytisus scoparius* (L.) Link** *(Spartium scoparium* L., *Sarothamnus scoparius* (L.) Koch)	1S: unspecified parts	Quinolizidine alkaloids: sparteine, lupanine . Also piperidine alkaloids: e.g. ammodendrine (Frodhe-Pfändner, 1984)	Family:Fabaceae. Branches are a source of sparteine which is ganglioplegic & cardiac analeptic.	Frohne-Pfändner, Colour atlas of poisonous plants, Wolfe publishing Ltd (1984)
***Dalechampia scandens* L.**	leaves and stem	Cocarcinogenic diterpenes; cyanogenic glycosides, lectins. (Frohne et al. 2009) histamine (Jose et al. 2001)	stinging nettle like effect	Plantas de la flora yucatanense que provocan alguna toxicidad en el humano. Rev Biomed 2001; 12:86-96. José S. Flores, Gladiz C. O. Canto-Aviles, Ana G. Flores-Serrano Frohne D., Pfänder HJ, Anton R. 2009. Plantes a risques. Lavoisier Ed. Tec & Doc

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Daphne spp.	entire plant	Genus in which some species may contain diterpene esters: e.g. daphnane derivatives	cytotoxic and/or cocarcinogenic	Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Daphne genkwa* Siebold & Zucc.**	entire plant	diterpene esters in roots and buds (yuanhuacine, yuanhuadine) with antitumor activity		
***Daphne gnidium* L.**	bark	mezerein derivative : daphnetoxin		Stout G.H. et al, The isolation and structure of daphnetoxin, the poisonous principle of Daphne species, J. Am. Chem. Soc. 92 (4), 1070-1071 (1970)
***Daphne laureola* L.**	berries and entire plant	possible presence of diterpene ester daphnetoxin in bark		
***Daphne mezereum* L.**	bark, seeds	in bark :diterpene ester 0.02% daphnetoxin; coumarines: daphnin , mezerein in bark not present, in seeds : diterpene ester mezerein (0.1%) and daphnetoxin (0.02%)		
Datura spp.	1D: entire plant 1G: entire plant	Genus in which some species may contain tropane alkaloids: e.g. atropine, scopolamine,…		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998 Bruneton 1995 Pharmacognosy, Lavoisier
***Datura ferox* L.**	1D:entire plant	tropane alkaloids; atropine, scopolamine;		
***Datura inoxia* Mill.**	1D: entire plant	tropane alkaloids; atropine, scopolamine ; in leaves total alkaloids: 0.05%-0,5% and in flowers: 0,2%-0,5% (Hagers Handbuch 1998)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
Datura metel* auct non L. *(See D. inoxia* Mill.*)	1D: entire plant	tropane alkaloids; atropine, scopolamine ;		
***Datura metel* L.**	1C: leaves, seeds	tropane alkaloids: atropine, scopolamine,… in leaves total alkaloids: 0,5% and in flowers: 0,1%-0,8% (Hagers Handbuch 1998)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Datura sanguinea* Ruiz & Pav.**	1B: entire plant	tropane alkaloids: atropine, scopolamine,…		
***Datura stramonium* L.**	1B: leaves, seeds, heads 1C: leaves, seeds	tropane alkaloids: atropine, scopolamine,…total alkaloids: herb: 0,25%-0,36%; and in root: 0.18%-0.22%		
Delphinium spp.	1C: entire plant	Genus in which some species may contain diterpene alkaloids: e.g. ajacine, ajaconine, delcosine methyllycaconitine		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Delphinium ajacis* L.** *(Consolida ajacis* (L.) Schur)	1B: seeds	diterpene alkaloids: ajacine, ajaconine…		
***Delphinium consolida* L.** *(Consolida regalis* S.F.Gray)	1B: flowers, seeds 1C: entire plant	diterpene alkaloids: delcosine,…		
***Delphinium staphisagria* L.**	1B: seeds 1C: entire plant	diterpene alkaloids: delphinine, staphisine,…		
Derris spp.		Genus in which some species may contain rotenoids: e.g. rotenone	In Pesticides News No. 54, December 2001, pages 20-21: Rotenone is believed to be moderately toxic to humans with an oral lethal dose estimated from 300 to 500 mg/kg. A lowest lethal dose of 143 mg/kg has been cited in a child. Clinical experience seems to indicate that children, in particular, are rather sensitive to the acute effects of rotenone.	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4

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Derris elliptica Benth.	1B: root	rotenoids		
Derris malaccensis **Prain**	1B: root	rotenoids		
Dianthus caryophyllus **L.**	flowers	triterpene saponins, saponosides	plant is mentioned as an irritant (dermatitis) The plant has antifungal activity	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
Dicentra spectabilis **(L.) Lem.**	roots	isoquinoline alkaloids: 0.17% of combined alkaloids from the epigeal part and 0.25% from the roots: dihydrosanguinarine, sanguinarine, scoulerine, cheilanthifoline, corydine, and protopine have been obtained		
Dichondra repens **J.R.Forst. & G. Forst.**	1F: unspecified parts	Coumarins: scopoletin		
Dicoma anomala **Sond.**	1B: root		plant from South Africa. Family:Asteraceae.It is used as antelminthic. In particular in malarial infections such as plasmodium falciparum. The antiplasmodial activity was found to be present in the fraction wich contains 2 sesquiterpene dimers	
Dictamnus dasycarpus **Turcz.**	1G: entire plant;	Root: furoquinoline alkaloids: dictamnine, trigonelline, skimmianine (B-fagarine), γ-fagarine, dasycarpamine, platydesmine; aerial parts: psoralens, bergapten, xanthotoxin		
Dieffenbachia spp.	1C: entire plant	Genus known to contain oxalate raphides, proteolytic enzymes and cyanogenic glycosides (Kuballa et al, 1981)		Kuballa B. Et al (1981). Study of *Dieffenbachia* induced oedema in mice and rats hindpaw: respective role of oxalate needles and trypsin-like protease. Toxicol. Appl. Pharmacol. 58; 444-451
Digitalis spp.	1C: aeriel parts 1D: entire plant 1G: entire plant	Genus in which some species may contain cardenolides: digitalis glycosides e.g. digoxin, …		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
Digitalis ferruginea L.	1B: entire plant	digitalis glycosides: digitalin, digoxin, …		

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***Digitalis grandiflora* Mill.**	1B: entire plant	digitalis glycosides: in leaves: acetyldigitoxin alpha and beta, digiproside, digitoxin, digoxin, …		
***Digitalis lanata* Ehrh.**	1B: flowers, leaves, seeds	digitalis glycosides (0.5%-1.5%): digitalin, digoxin, …		Slifman N.R. et al, Contamination of botanical dietary supplements by D. lanata, New Engl. J. Med. 339 (12) 806-811 (1998)
***Digitalis lutea* L.**	1B: entire plant	digitalis glycosides: in leaves: acetyldigitoxin (0.01%-0.08%) , digitoxin (0.01%-0.022%), …		
***Digitalis purpurea* L.**	1B: flowers, leaves, seeds	digitalis glycosides (up to 0,6%): digitalin, digoxin, …		
Dioscorea spp.	tuber	Genus in which some species may contain pyrridinal alkaloids: dioscorin		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Dioscorea communis* (L.) Caddick & Wilkin** *(Tamus communis L.)*	1B: fruit, roots 1C: entire plant	oxalate present mainly in fruit; steroidal saponines: dioscin and gracillin;		Boll Soc Ital Biol Sper 1984; 60:2229-35
***Dioscorea hypoglauca* Palib.** *(Dioscorea colletii var. Hypoglauca (* Palib*))*	tuber	Tuber: pyrridinal alkaloids: dioscorine	Possible presence of pyrridinal alkaloids (dioscorine and/or the derivative dihydrodioscorine) and in some species oxalate and/or cyanogenics, and in chinese Materia Medica monograph on *D. bulbifera* , livertoxicity is mentioned for ethanolic extracts .	Philip T et al. (1980) Quaterly journal of drug research.
***Dioscorea opposita* Thunb.**	tuber	Tuber: pyrridinal alkaloids: dioscorine	*D. opposita* is cultivated as food (yam). It is called 'chinese yam'. Tuber is eaten uncooked in contrast to other species. contains 2% of dioscin (aglycon diosgenin). Sterols; phenolics: batatasines, (in Chinese pharmacopeia dopamine is mentioned); Contains oxalates in outer skin.	Materia medica, 3rd edition, D. Bensky et al., 2004
***Dioscorea villosa* L.**	tuber	Tuber: pyrridinal alkaloids: dioscorine	Possible presence of pyrridinal alkaloids (dioscorine and/or the derivative dihydrodioscorine) and in some species oxalate and/or cyanogenics, and in chinese Materia Medica monograph on *D. bulbifera* , livertoxicity is mentioned for ethanolic extracts saponin content varies from traces to 13%. LD50 (oral) for diosgenin in rats: > 8g/kg; IPmouse : > 3g/kg; LD50 dioscin ; see remark on *D. hypoglauca*	
Diploclisia spp.	1C: entire plant	Genus in which some species may contain aristolochic acid		
***Diplopterys cabrerana* (Cuatrec.) B.Gates**	1G: entire plant	Tryptamine alkaloids: dimethyltryptamine, harmane derivatives,…	hallucinogen	
***Dipteryx odorata* (Aubl.) Willd.**	1H: Fruit (seed)	1H: Seeds, pentan/dichlormethane extract: coumarin 3.6 g/kg, camphor >1 mg/kg. Seeds methanol extract: coumarin 23-25 g/kg; Tonka bean absolute: coumarin 390-510 g/kg (CoE, 2007)		Natural sources of flavourings (Rep No 2), Council of Europe, (2007).
***Dirca palustris* L.**	1F: unspecified parts	diterpene esters; daphnane esters (?)	no info on tox; only contact dermatitis from bark mentioned; Presence of daphanane esters not proven	
***Dryopteris filix-mas* (L.) Schott.**	1A: rhizome 1B: rhizome 1C: entire plant 1D: entire plan 1G: rhizome	acylphloroglucinoles ;	in herb phloroglucinol content is only 1/12 of rhizoma. filicic acid as anthelmintic component in oleoresin (nematode and tapeworm infestations)	

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***Dryopteris marginalis* (L.) Gray**	1B: rhizome	acylphloroglucinoles ;	in herb phloroglucinol content is only 1/12 of rhizoma. filicic acid as anthelmintic component in oleoresin (nematode and tapeworm infestations)	
Duboisia spp.	1F: unspecified parts	Genus in which some species may contain tropane alkaloids: e.g. atropine, scopolamine…		Pearn J. Clinical hyoscine poisoning with alkaloids of the native corkwood, Duboisia, Med. J. Aust. 2 (8), 422-423, (1981)
***Duboisia leichhardtii* F.Muell.**	1B: leaves	tropane alkaloids: atropine, scopolamine…		
***Duboisia myoporoides* R.Br.**	1B: leaves, plant top 1C: leaves	tropane alkaloids: atropine, scopolamine…		
***Ecballium elaterium* (L.) A.Rich.**	1B: unripened fruit, fruit juice 1C: fruit	fruit: 3.84% w/w cucurbitacines; stems : 1.34% w/w; leaves: 0.34% w/w	fruit juice is an anti-inflammatory product, activity based on cucurbitacine B.	Cucurbit Genetics Cooperative Report 26:66-69 (2003), Malta
Echium spp.	1F: unspecified parts	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Echium plantagineum* L.**	1B: unspecified parts	pyrrolizidine alkaloids (echimidine) from 0.3% to 0.9 %	purified oil from seeds: EU acceptation as food 2008/558/EC	
***Echium vulgare* L.**	1B: plant top, flowers	pyrrolizidine alkaloids		
***Elettaria cardamomum* (L.) Maton.**	1T: essential oil	essential oil : 1T: methyleugenol content: 0.1% 1L: it may contain eucalyptol (up to 51.3%) in essential oil. (CoE, 2005)	fruit (1X)	Active principles (constituents of toxicological concern) contained in natural sources of flavourings. Council of Europe Publishing, 2005.
***Embelia ribes* Burm.f.**	1B: fruit, seeds 1G: entire plant	benzoquinones : embelin (0.3 to 3.7% in fruits), vilangin,…	ocular effect (Low et al. 1985) with high dose of pure embelin in chicken; anthelminticum also anti-fertility agent?	
***Embelia robusta* Roxb.**	1B: fruit, seeds	benzoquinones : embelin (0.3 to 3.7% in fruits), vilangin,…	Family:Myrsinaceae.Contains embelic acid (tenicidal against the tape worm)	
Ephedra spp.	1C: aeriel parts 1D: entire plant 1O: dried stem or aerial parts 1G: entire plant	Genus in which some species may contain phenylethylamine alkaloids: e.g. ephedrine, pseudoephedrine,		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Ephedra distachya* L.**	1B: twigs	phenylethylamine alkaloids: ephedrine, pseudoephedrine,…		
***Ephedra equisetina* Bunge**	1B: twigs	phenylethylamine alkaloids: ephedrine, pseudoephedrine,…		

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***Ephedra intermedia* Schrenk & C.A.Mey.**	1B: herbaceous plant, stems	phenylethylamine alkaloids: ephedrine, pseudoephedrine,…		
***Ephedra major* Host.**	1B: herbaceous plant, stems	phenylethylamine alkaloids: ephedrine, pseudoephedrine,…		
***Ephedra nevadensis* S.Watson**	1B: leaves, stems	No ephedrine alkaloids present ?		General Technical Report IITF-WB-1, Edited by John K. Francis. International Institute of Tropical Forestry. http://www.fs.fed.us/global/iitf/pdf/shrubs/Ephedra%20nevadensis.pdf. Retrieved on 2008-08-24
***Ephedra sinica* Stapf**	1O: dried stem or aerial parts 1B: herbaceous plant, stems	phenylethylamine alkaloids (1%-3%): ephedrine, pseudoephedrine,…		Gurley B.J. et al, Ephedrine pharmacokinetics after ingestion of nutritional supplements containing E. sinica, Ther. Drug. Monitor, 20 (4), 439-445 (1998)
***Equisetum palustre* L.**	1B: herbaceous plant	piperidine alkaloid: palustrine	NF catalogue: Equisetum arvense used only as food supplement before 15/5/97. Any other food use fall under NF Regulation	
***Eranthis hyemalis* (L.) Salisb.**	root	chromenone glycosides: e.g. eranthin,	eranthin shows negative inotropic activity	4H-Chromenone Glycosides from *Eranthis hyemalis* (L.) SALISBURY; B. Kopp et al. Helvetica Chimica Acta, 2004, 74, 611-616
Erechtites spp.	1F: unspecified parts	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids: senecionine, seneciphylline		
***Erechtites hieraciifolius* (L.) Raf. ex DC.** *(Senecio hieracifolius L.)*	plant	toxic pyrrolizidine alkaloids: senecionine, seneciphylline		

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***Eryngium campestre* L.**		Essential oil (0.09% in fresh herb): furocoumarins present (bergapten 0.014% in fruits). Polyines from falcarinontype (falcarinon, falcarinolon,…)	Whole plant eaten as vegetable	Kartal M., Mitaine-Offer, A.-C., Paululat, T., Abu-Asaker, M., Wagner, H., Mirjolet, J.-F., Guilbaud, N. and Lacaille-Dubois, M.-A., 2006. Triterpene Saponins from *Eryngium campestre* , J. Nat. Prod., 69, 1105-1108. Küpeli, E., Kartal, M., Aslan, S. and Yesilada, E., 2006. Comparative evaluation of the anti-inflammatory and antinociceptive activity of Turkish *Eryngium* species. Journal of Ethnopharmacology, 107, 32-37. Stalinska, K., Guzdek, A., Rokicki, M. and Koj, A., 2005. Transcription factors as targets of the anti-inflammatory treatment. A cell culture study with extracts from some mediterranean diet plants. Journal of Physiology and Pharmacology, 56, Suppl 1, 157-169.
Erythrina spp.	1F: unspecified parts	Genus in which some species may contain benzyltetrahydroisoquinoline alkaloids: e.g. erythraline, erysodine		Bruneton J. « Plantes toxiques », 3ème édition, Ed. Tec et Doc-Lavoisier (2005), ISBN : 2- 7430-086-7
***Erythrina variegata* L.**	1B: bark	benzyltetrahydroisoquinoline alkaloids: erythraline, erysodine....	activity curare like	
***Erythrophleum suaveolens* (Guill. & Perr.) Brenan**	1B: bark	diterpenoid amides : cassaine, …	digitalis-like activity; toxin accumulates slowly in body	
Erythroxylum spp.	1C: entire plant	Genus in which some species may contain tropane alkaloids : e.g. cocaine	found in 14 species (there are about 50-60 species)	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Erythroxylum coca* Lam.**	1D: entire plant 1G: leaves 1B: leaves 1H: Leaves	Tropane alkaloids: cocaine 1H: Leaves: tropane alkaloids 0.1-2.5% of dry weight (cocaine 0.13-0.68% i.e. 70-80% of total alkaloids in Bolivian coca and 50% of total alkaloids in Peruvian coca). (CoE, 2008)	Only decocainised leaf extract allowed for flavouring purposes (CoE, 2008).	Natural sources of flavourings (Rep No 3), Council of Europe, (2008).
***Erythroxylum novogranatense* (Morris) Hieron.**	1D: entire plant 1G: leaves	tropane alkaloids: cocaine		
***Eschscholzia californica* Cham.**	Herb	isoquinoline alkaloids (0.29 to 0.38% of dry herb) with californidine (0.19% - 0.23%)	Chemical composition: main alkaloids (californidine - 1, escholtzine -2) and minor alkaloids (N-methyllaurotetanine -3, caryachine, O-methylcaryachine, protopine, glaucine, isocorydine) extracted from flowering aerial parts There is no toxicity IP or oral till 8g/KG BW (Gafner et al., 2006; Proença da Cunha et al., 2003)	Gafner, S, Dietz, B.M., McPhail, K.L., Scott, I.M., Glinski, J.A., Russell, F.E., McCollom, M.M., Budzinski, J.W., Foster, B.C., Bergeron, C., Rhyu, M.-R. And Bolton, J.L., 2006. Alkaloids from *Eschscholzia californica* and their capacity to inhibit binding of [^{3}H]8-Hydroxy-2-(di-N-propylamino)tetralin to 5-HT$_{1A}$ receptors in vitro. *J. Nat. Prod., 69, 432-435.* Proença da Cunha, A., Silva, A.P.da, Roque, O.R., 2003. Plantas e Produtos Vegetais em Fitoterapia. Fundação Calouste Gulbenkian, Lisboa.
***Eucalyptus globulus* Labill.**	1M: essential oil from leaves and branch tips 1O: essential oil from leaves and branch tips 1H: leaves, flowers 1G: leaf 1L: essential oil from leaves	1H: Leaves essential oil: eucalyptol 62.4-82.2%. Leaves essential oil from subspecies maldenii F.Muell: eucalyptol 68.9-80.2%.(CoE, 2000)	1,8-cineole: lethal doses as low as 0.05 ml have been reported in humans. (Bruneton, 1996)	Natural sources of flavourings (Rep No 1), Council of Europe, (2000). Bruneton J. (1996). Plantes toxiques - Vegetaux dangereux pour l'homme et les animaux. Tec&Doc ISBN 2-7430-169-0

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***Euonymus atropurpureus* Jacq.**	1B: bark, root bark, leaves, fruits	cardiotonic glycosides in fruits: eounoside, euobioside, euomonoside; 0.1% alkaloids: evonine, evozine, evorine,…	digitalis like effect	P. Melero et al. ;Molecules 2000, 5, 51-81
***Euonymus europaeus* L.**	1B: root bark, leaves, fruit, roots	cardiotonic glycosides in fruits: eounoside, euobioside, euomonoside; 0.1% alkaloids: evonine, evozine, evorine,…		
Eupatorium spp.	1B: herbaceous plant with flowers, roots	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids: e.g. supinine, rinderine		
***Eupatorium cannabinum* L.**	1B: herbaceous plant with flowers, roots 1G: entire plant	toxic unsaturated pyrrolizidine alkaloids: supinine, rinderine,…		
***Eupatorium perfoliatum* L.**	1B: herbaceous plant with flowers	unsaturated pyrrolizidine alkaloids present ?	no clear evidence yet for presence of hepatotoxic alkaloids.	
***Eupatorium purpureum* L.**	1B: rhizome 1C: entire plant	toxic unsaturated pyrrolizidine alkaloids		
***Eupatorium rugosum* Houtt.**	1C: entire plant	contains as necine base the hepatotoxic heliotridine		
***Eupatorium triplinerve* Vahl** *(Ayapana triplinervis (*Vahl) R.M.King & H.Rob.)	1B: leaves, herbaceous plant, rhizome, plant top	unsaturated pyrrolizidine alkaloids present ?		
Euphorbia spp.	1C: entire plant	Genus in which some species may contain co-carcinogenic diterpene-esters (phorbol esters) in the latex: e.g. tigliane, ingenane and daphnane types	These compounds are found in two families: Euphorbiaceae & Thymeleaceae. Some of these esters are tumor promoting if skin contact which in some cases with months to years latency Euphorbiaceae : toxic diterpenes are found in at least 14 of the 300 genera in this family. The concentrations of toxic compounds are very low (0.05-0.1%). In seeds of some species (e.g. *E. lathyris*) diterpenes in 0.4% concentration. Although the low concentration ,these diterpenes are tought responsable for the irritation of and tumor promoting effect on the skin and the mucosal membranes.	Poisonous plant contamination in edible plants. A. M. Rizk, Abdel-Fattah M. Rizk, CRC Press, 1991 ISBN 0849363691, 9780849363696
***Euphorbia amygdaloides* L.**	1B: herbaceous plant, root	diterpene-esters (tiglian, ingenan and daphnan types)		
***Euphorbia antiquorum* L.**	1B: resin	diterpene-esters (tiglian, ingenan and daphnan types)		
***Euphorbia canariensis* L.**	1B: resin	diterpene-esters (tiglian, ingenan and daphnan types)		
***Euphorbia cyparissias* L.**	1B: herbaceous plant, root	diterpene-esters (tiglian, ingenan and daphnan types)		
***Euphorbia esula* L.**	1B: herbaceous plant, root, resin	diterpene-esters (tiglian, ingenan and daphnan types)		
***Euphorbia helioscopia* L.**	1B: root	diterpene-esters (tiglian, ingenan and daphnan types)		
***Euphorbia lathyris* L.**	1B: herbaceous plant, root, resin, seeds	diterpene-esters (tiglian, ingenan and daphnan types)		
***Euphorbia palustris* L.**	1B: root	diterpene-esters (tiglian, ingenan and daphnan types)		

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Euphorbia peplis L.	1B: root	diterpene-esters (tiglian, ingenan and daphnan types)		
Euphorbia resinifera Berg	1B: resin	diterpene-esters (tiglian, ingenan and daphnan types)		
***Evernia prunastri* (L.) Ach.**	lichen	essential oil contains alpha and beta thujone. Estimate of thujones about 10% 1H: Extract of lichen: α- and β- thujone, camphor. (CoE, 2000)	used as flavouring in cigarettes	Natural sources of flavourings (Rep No 1), Council of Europe, (2000).
***Evodia ruticarpa* (A.Juss.) Benth.** *(Evodia rutaecarpa* (A.Juss.) Hook.f. ex Benth.)	fruit	indole akaloids: evodiamine, rutecarpine	maximum dosage 9 gr of dried fruit (American Botanical Council rating 2d = safe to use but with dosage restriction).	Botanical safety handbook
***Excoecaria agallocha* L.**	latex	diterpene esters, daphnane type similar to yanhuacine in *Daphne* species	antitumor and anti HIV. Contact with plant can cause temporarily blindness from there the name "blind your eye". Used in fertility regulations and having uterotonic activity	
***Fagus sylvatica* L.**	Fructus; Lignum;	Fructus: oxalates (2,95%); Lignum: carcinogen	Wood dust possibly mutagenic activity. Leaves used in cosmetology	NELSON E.; Archives of toxicology, 1993, vol. 67, no8, pp. 586-589
***Ferula assa-foetida* L.**	1H: gum resin	Gum resin: sesquiterpene coumarins. Essential oil (1% - 20% in resin) contains di- and polysulphides. Resin (10% to 65% of rhizoma and root): asacoumarin A and artefacts from it (farnesiferoles)	Convulsions with resin are described in lit. The richness in sulphur compounds may imbue this oil with a degree of sensitisation or irritancy	Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone.
***Ferula gummosa* Boiss.** *(F. galbaniflua* Boiss. & Bushe)	1H: essential oil, resin	Essential oil and resin: coumarins gummosin, umbelliferone and galbanic acid		
Ficaria ranunculoides* Roth *(See Ranunculus ficaria L.)				
***Ficus carica* L.**	leaves and stems (latex)	latex: furanocoumarins: psoralen and bergapten		Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone. Hager's Handbuch and literature in it.
***Foeniculum vulgare* Mill.**	1Q: essential oil from fruit 1H: Herb, seed, root.	1H: Herb essential oil: estragole 2.3-4.9%.; Seed essential oil (not fully mature): estragole 11.88-29-65%; Seed essential oil (unripe seed): Estragole 56.1%; Seed essential oil (ripe seed): estragole 61.8%. (CoE, 2008) 1Q - estragole content: fruit (70-4.018 ppm), essential oil (0.8->80%)	1P: food containing the fruit must have the warning for children under the age of 12 not to ingest quantities of estragole > 0.05 mg/kg bw/day	Natural sources of flavourings (Rep No 3), Council of Europe, (2008).
Foeniculum vulgare* Mill. *ssp. vulgare var. vulgare	1L: fruit essential oil	1L: 3.5-12% estragole in essential oil		

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***Foeniculum vulgare* Mill. *ssp. vulgare var. dulce* (Mill.) Batt. & Trab.**	1L: fruit essential oil 1H: Seed, root.	1H: Seed essentail oil: estragole 3.4-8.1%. (CoE, 2008) 1L: Seeds approx. 0.3% estragole. (CoE, 2005)	Fruit, leaf, shoot (1X)	Natural sources of flavourings (Rep No 3), Council of Europe, (2008). Active principles (constituents of toxicological concern) contained in natural sources of flavourings. Council of Europe, (2005).
***Fortunella japonica* (Thunb.) Swingle** *(Citrus japonica* Thunb.*); Fortunella margarita (Lour.) Swingle (Citrus margarita Thunb.)*	bark		1X: fruit ; Cold pressed peel oil: 93.7%limonene, 1.84% myrcene, 1.13% ethyl acetate. Essential oil from leaves (isoledene, elemol, beta-eudesmol, germacrene D) and fruits: 65% limonene. No data on toxicity found	Hyang-Sook Choi, 2005. J. of Agric. Food Chem., 53 (5): 1642-1647. Khaleel, A.E., El-Gayed, S.H., Nolte, J., Fobbe, R., 2001. Az. J. Pharm. Sci, 28, 258-266.
***Fritillaria imperialis* L.**	Bulbs	isosteroidal alkaloids in bulb: 0.1 -0.4% of dry weight: peimissine, imperialine		Li, Hui-Jun et al., 2006, Nat. Prod. Rep., 23:735-752.
***Galega officinalis* L.**	1I: herb Seeds	guanidine derivatives: galegine (0.1%-0.5% in seeds), peganine:	*toxic doses: 5-24g/kg dried plant. **Acute oral LD50: 5g/kg (Toxicity in liver and lung); galegine induces lactacidose	*(Bruneton, J., 1999. Plantes toxiques. Ed. Tec & Doc.). **Rasekh, H.R., Nazari, P., Kamli-Nejad, M., Hosseinzadeh, L., 2008, J. Ethnopharmacology, 116 (1), 21-26.
***Galipea officinalis* Hancock** *(Cusparia officinalis* (Hancock) Engl.)	Trunk, bark	Tetrahydroquinoline alkaloids (ca. 40%): angustureine, galipeine, cuspareine, galipinine; 5 quinoline alkaloids (eg. Galipine) and 1 furoquinoline (maculosidine).		Jacquemond-Collet et al., 2001, Phytochem. Anal. 12: 312-319. Rakotoson, J.H., Fabre, N., Jacquemond-Collet, I., Hannedouche, S., Fourasté, I., Moulis, C., 1998, Planta medica, 64(8), 762-3.
***Galium odoratum* (L.) Scop.** *(Asperula odorata* L.*)*	1G: herb 1H: herb	1H: Dried herb: coumarin 0.7-1.7% (mean content in April/May 1.06%, in August 0.44-0.93%). (CoE, 2000)	* The absolute is rich in coumarin ** Headspace of freshly cut woodruff found to be 80% coumarin	Natural sources of flavourings (Rep No 1), Council of Europe, (2000). *Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone.
***Garcinia cambogia* Desr.** *(Cambogia gutta* L.*)*	1D: entire plant 1G: fruit	Fruit: (-) Hydroxycitric acid (HCA). Gum resin	Testicular atrophy and toxicity reported in rats after p.o. dosing with an extract rich in HCA (Saito et al. 2005). Gum resin: Drastic purgative	Saito M, Ueno M, Ogino S, Kubo K, Nagata J, Takeuchi M (2005) High dose of *Garcinia cambogia* is effective in suppressing fat accumulation in developing male Zucker obese rat, but highly toxic to the testis. Food Chem Tox 43: 411-419.

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***Garcinia hanburyi* Hook.f.**	1B: resin, gum	Gum resin	Gum resin: Drastic purgative. (Braun & Frohne 1987)	Braun H, Frohne D (1987) Heilpflanzen Lexikon für Ärzte und Apotheker. 1987.
***Garcinia indica* (Thou.) Choisy**	1G: fruit	Fruit: (-) Hydroxycitric acid.		Saito M, Ueno M, Ogino S, Kubo K, Nagata J, Takeuchi M (2005) High dose of Garcinia cambogia is effective in suppressing fat accumulation in developing male Zucker obese rat, but highly toxic to the testis. Food Chem Tox 43: 411-419
***Gaultheria procumbens* L.**	entire plant	Essential oil from the leaves: 98% of methyl salicylate	acute oral LD50: 1.2g/kg.	Bruneton, J., 1999. Plantes toxiques. Végétaux dangereux pour l'Homme et les animaux. Editions Tec & Doc. Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone
***Geissospermum vellosii* Allem.**	1B: bark	Indole and beta-carboline alkaloids: geissospermine, flavopereirine, vellosine, geissoschizoline (and derivatives, geissoschizoline N4-oxide (2) and 1,2-dehydrogeissoschizoline), pausperadine		
Gelsemium spp.	1F: unspecified parts	Genus in which some species may contain indol- and oxindolalkaloids : e.g. gelsemine, sempervirine		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Gelsemium sempervirens* (L.) Ait.**	1B: root, rhizome 1C: root 1G: entire plant	oxindolalkaloids : gelsemine, sempervirine Roots, flowers, nectar and leaves have all been reported to contain the alkaloids		Frohne D, Pfänder HJ. Giftpflanzen (1997). Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart. Rujjanawate C, Kanjanapothi D, Panthong A (2003) Pharmacological effect and toxicity of alkaloids from *Gelsemium elegans* Benth. J Ethnopharmacol (2003) 89: 91-95

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***Genista tinctoria* L.**	1B: flowers, herbaceous plant 1C: aeriel parts	alkaloids: anagyrine, cytisine (0.7-0.8%), sparteine, lupanine, lupinine		Gazaliev et al., 1991, Chemistry of Natural Compounds, 27 (3):259-269 Wink, M., 1986, Naturwissenschaften 73, S 210.
***Glaucium corniculatum* (L.) Rudolph *ssp. refractum* (Nab) Cullen**	Aerial parts	aporphine alkaloids: predicentrine, glaufidine, dehydrocorydine; noraporphines: (+)-norbracteoline. * corydine, isocorydine, protopine, α-allocryptopine, thalicmidine ** bulbocapnine (1.2%), dicentrine (0.7%), protopine (0.42%), corydine (<0.1%), glaucine (<0.1%), α-allocryptopine (<0.1%)		Shamma, M. & Guinaudeau, H., 1985, Nat Prod Reports. *Kintsurashvili & Vachnadze, 2000, Chemistry of Nat Compounds, 36, 2:225-226. **Shafiee, A. Et al., 1985, J. Nat. Prod., 48(5):855-856
***Globularia alypum* L.**	1B: leaves, root	Chlorinated iridoid glucoside, globularioside and 5 known iridoid glycosides, globularin, globularicisin, globularidin, globularinin and globularimin.(Nour-Eddine Es-Safi et al, 2006)	Flavone glycosides from aerial parts. **Hydroxycinnamic acid derivatives predominated and flavonoids. *Hypoglycaemic effect, LD50 of aqueous extract 14.5g/kg. At a doses of 20 mg/kg lowered significantly blood glucose levels and gradually after 6 hours	Veitch & Grayer, 2008, Nat Prod. Reports, 25:555-611. *Jouad et al., 2002, J ethnopharmacology 81:351-356. **Djeridane et al, 2007, Eur Food Res Tecnhnol 224:801-809. Nour-Eddine Es-Safi et al .Iridoid Glucosides from the Aerial Parts of Globularia alypum L. (Globulariaceae).CHEMICAL & PHARMACEUTICAL BULLETIN Vol. 54 (2006) , No. 1 85
***Globularia vulgaris* L.**	Aerial parts		Aucubin, gardoside, geniposidic acid, mussaenosidic acid,catalpol esters (globularin), asperuloside, hesperuloside.	Taskova et al, 2006, Phytochemistry 67:286-301.
Gloriosa spp.	entire plant	Genus in which some species may contain tropolone alkaloids, e.g. colchicine…	Gloriosa simplex colchicine: flowers (1.05-1.18%), leaves (0.87-2.36%), tubers (0.66-0.92%)	Ntahomvukiye et al, 1984, Plant.Med. Phytother., 18:24-27.
***Gloriosa superba* L.**	1B: seeds, tubers 1C: entire plant	colchicine (*modified phenethylisoquinoline alkaloid). ** 1,2-didemethylcolchicine and analogous ***Colchicine (0.3%) and gloriosine	severe gastroenteritis, vomiting, diarrhoea and also central nervous system manifestations and cardiotoxicity; more than 0.8mg/kg of colchicine can be lethal.	*Bentley, R., 2008, Nat. Prod. Reports, 25:118-138 **Chaudhuri et al., 1993, J. Nat Products 56(7):1174-1176. ***Mendis, S., 1989, Postgraduate Medical J., 65:752-755.
***Glycyrrhiza glabra* L.**	root	1Q: known to contain estragole in unspecified quantities (?) Roots: 2-15% triterpene saponines with glycyrrhizin (potassium and calcium salts of glycyrrhizic acids) as major components (Wichtl 2002). The content of glycyrrhizin is 2-9% (WHO 1999)	glycyrrhizinic acid: known to induce mineralocorticoid effects (hypertension as consequence) . 20: root	Scientific Committee on Food (SCF) (2003) Opinion of the Scientific Committee on Food on Glycyrrhizinic acid and its ammonium salt SCF/CS/ADD/EDUL/225 Final 10 April 2003. Wichtl M (2002). Teedrogen und Phytopharmaka. Wissenschaftliche Verlagsgesellschaft mbH. WHO Monographs on selected Med. Pl., 1999, vol.1.

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***Glycyrrhiza uralensis* Fisch. ex DC.**	Root		American licorice - *Glycyrrhiza lepidota* , european licorice - *G. glabra* , Chinese licorice - *G. uralensis* (*isoliquiritin, isoliquiritigenin from roots).	*Kim et al., 2008, Eur. J. Pharmacology, 584:175-184.
***Gossypium arboreum* L.**	1B: root bark, seeds	Gossypol, a triterpenoid aldehyde, is found in all *Gossypium* species (Percy et al. 1996). Stem contain 0.4, roots 9.4 mg/g dry weight (Nomeir & Abou-Donia (1982).	Human data on oral ingestion of gossypol as an male antifertility drug showed irreversible sterility in some of the treated men and hypokalaemia was another finding (Waites et al. 1998).	Nomeir AA, Abou-Donia (1982) Gossypol: High-performance liquid chromatographic analysis and stability in various solvents. JAOCS 59: 546-548. Percy RG, Calhoun MC, Kim Hl (1996) Seed gossypol variation within *Gossypium barbadense* L. cotton. Crop Sci: 36: 193-197. Waites GMH, Wang C, Griffin PD. (1998) Gossypol: reasons for its failure to be accepted as a safe, reversible male antifertility drug. Int J Androl 21: 8-12
***Gossypium barbadense* L.**	1B: root bark, seeds	Total gossypol, a triterpenoid aldehyde, content ranged from 3.0-34.0 g/kg seed (Percy et al. 1996).	Human data on oral ingestion of gossypol as an male antifertility drug showed irreversible sterility in some of the treated men and hypokalaemia was another finding (Waites et al. 1998).	Percy RG, Calhoun MC, Kim Hl (1996) Seed gossypol variation within *Gossypium barbadense* L. cotton. Crop Sci: 36: 193-197. Waites GMH, Wang C, Griffin PD. (1998) Gossypol: reasons for its failure to be accepted as a safe, reversible male antifertility drug. Int J Androl 21: 8-12
***Gossypium herbaceum* L.**	1B: root bark, seeds 1X: seed oil	Gossypol, a triterpenoid aldehyde, is found in all Gossypium species (Percy et al. 1996). Gossypol.	Human data on oral ingestion of gossypol as an male antifertility drug showed irreversible sterility in some of the treated men and hypokalaemia was another finding (Waites et al. 1998).	Percy RG, Calhoun MC, Kim Hl (1996) Seed gossypol variation within *Gossypium barbadense* L. cotton. Crop Sci: 36: 193-197. Waites GMH, Wang C, Griffin PD. (1998) Gossypol: reasons for its failure to be accepted as a safe, reversible male antifertility drug. Int J Androl 21: 8-12
***Gratiola officinalis* L.**	1B: herbaceous plant with flowers, roots 1C: entire plant	*Cucurbitacin I-glucoside, Cucurbitacin E-glucoside, gratioside.	**From *Gratiola* mother tincture (homeopathic): Cucurbitacin E (0.0065%), Cucurbitacin 1 (0.0031%), Cucurbitacin I-glucoside (0.0006%), Cucurbitacin E-glucoside (0.0011%)	*Sturm & Stuppner, 2000, Phytochemical Analysis, 11:121-127. **Kaya, GI, 2008, Pharmazie 63(12): 851-853.

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Grewia spp.	Mucilaginous bark or dried bark, flowers and young shoots.	Genus in which some species may contain harmane alkaloids (beta-carbolines) in some species	alkaloids present in : *Grewia tilaefolia* ; *Grewia hirsuta* ; *Grewia asiatica* ; *Grewia tenax* . *From *G. bicolor:* harman, 6-methoxyharman, 6-hydroxyharman. **Grewia gum from the bark is used for its binding properties in paracetamol tablet formulation.	Review of herbal ingredients for use in unlicensed herbal medicinal products. MCA sept 2001 *Jaspers et al., 1986, J. Ethnopharmacol., 17(3): 205-211. **Martins et al., 2008, African J. Pharmacy and Pharmacology, vol 2:1-6
***Griffonia simplicifolia* (M.Vahl x DC.) Baill.**	1G: seed	5-hydroxytryptophan: 20.83% on a fresh weight basis		Lemaire & Adosraku, 2002, Phytochemical Anal. 13: 333-337.
***Guarea rusbyi* (Britton) Rusby**	1B: bark	triterpene derivatives: anthothecol; rusbine alkaloid (action *Ipecacuanha* like)		
***Guatteria gaumeri* Greenm.**	bark	alpha asarone	α-Asarone from bark; sub-chronic treatment (10 and 20 mg/kg, 5 days/week, for 8 weeks) did not produce germinal mutations *G. boliviana* - bisbenzylisoquinolione alkaloids	Chamorro et al., 1993, Rev. Invest. Clin., 45(6): 597-604.
***Gynocardia odorata* R.Br.**	1B: seeds; leaves	cyanogenic glycosides: gynocardin from leaves and seeds		Webber & Miller, 2008, Biochemical systematics and ecology 36:545-553.
***Hagenia abyssinica* J.F.Gmel.** ***(See Brayera anthelmintica* Kunth.)**	flowers	* Kosotoxin, protokosin, kosin (α-, β-) /	Kosotoxin is cytotoxic. Oral intake by mice: no toxicity up to 200mg/Kg. anthelminticum probably causing optic atrophy in humans. ** visual deficits and retinotoxicity *** Acyl, dimeric (kosin) and trimeric (protokosin from female flowers) phloroglucinol compounds reported from *H. abyssinica*	* Abegaz et al., 1999, Pure Appl. Chem., 71(6): 919-926. ** Low et al., 1985, Toxicology and Applied Pharmacology, 81(2): 220-230. *** Singh & Bharate, 2006, Nat. Prod. Rep, 23: 558-591.
***Harungana madagascariensis* Lam. ex Poir.** *(Haronga madagascariensis* (Lam. ex Poir.) Choisy)	Roots	** Harunmadagascarins A e B (prenylated polyphenolic anthranoids)		Ndjakou Lenta et al. 2006. Anti-plasmodial activity of some constituents of the root bark of *H. madagascariensis* LAM. Chemical and Pharmaceutical Bulletin. Vol. 55, N° 3 464.
***Hedeoma pulegioides* (L.) Pers.**	1V: oil 1H: herb	1V: pulegone and menthofuran 1H: essential oil: pulegone 30-80%, menthofuran, eucalyptol. (CoE, 2007)	Essential oil: 60-80% d-pulegone (neurotoxic and hepatotoxic), Acute oral LD50: 0.4g/kg	Natural sources of flavourings (Rep No 2), Council of Europe, (2007). Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone
***Hedera helix* L.**	1B: bark, wood, seeds 1C: leaves, fruit, resin	leaves: saponins (2.5%-5.7%): alpha-hederin	Hederine haemolytic index: 150000. Intoxication reported for berries	Cooper MR, Johnson AW (1998). Poisonous plants and fungi in Britain. Animal and human poisoning. Second Edition. The Stationery Office. Frohne D, Pfänder HJ. Giftpflanzen (1997). Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart.
***Hedychium flavum* Roxb.**	1L: rhizome	1L: it may contain eucalyptol (up to 42%) in essential oil	Essential oil main components of aerial parts: β-Pinene (50%), β-Caryophyllene (27%) and α-Humulene (2%) - Mollenbeck et al., 1997, Flavour Fragr. J., 12:63-69	Active principles (constituents of toxicological concern) contained in natural sources of flavourings. Council of Europe Publishing, 2005.
Heimia spp.	Leaves	Genus in which some species may contain biphenylquinolizidine lactone alkaloids: e.g. dehydrodecodine, heimidine,...	alkaloids present in :*Heimia salicifolia* , *H. myrtifolia* , and *H. montana*	Rumalla et al., 2008, Phytochemistry, 69: 1756-1762.

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Heliotropium spp.	1C: entire plant	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids: e.g. heliotrine, cynoglossine		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Heliotropium europaeum* L.**	1B: leaves, herbaceous plant 1G: leaves	toxic unsaturated pyrrolizidine alkaloids: heliotrine and cynoglossine		Roeder E. Medicinal plants in Europe containing pyrrolizidine alkaloids, Pharmazie, 50 (2), 83-98 (1995)
***Heliotropium indicum* L.**	1F: unspecified parts	toxic unsaturated pyrrolizidine alkaloids: heliotrine and cynoglossine	Lactone pyrrolizidine alkaloids (helindicine, lycopsamine) isolated from roots	Souza et al., 2005, J. Braz. Chem. Soc., 16 (6B): 1410-1414.
Helleborus spp.	Herb	Genus in which some species may contain alkaloids: celliamine, sprintillamine (act as aconitine), cardiac glycosides: bufadienole hellebrin, and toxic saponins: helleborin	Risk of confusion with *Veratrum* species	Database: Plants poisonous to livestock, Cornell University (www. Ansci. Cornell.edu/plants/christmas rose)
***Helleborus foetidus* L.**	1B: rhizome with roots 1C: entire plant	Steroid alkaloids: nervine, pseudonervine; saponine mixture: helleborin: tox saponins act as digitalis		Holliman A. et al., H. foetidus poisoning of cattle. Vet. Rec. 127 (13). 339-340 (1990)
***Helleborus niger* L.**	1B: rhizome with roots 1C: entire plant	saponine mixture: helleborin; tox saponins act as digitalis		
***Helleborus orientalis* Lam.**	1B: rhizome with roots	saponine mixture: helleborin; tox saponins act as digitalis		
***Helleborus viridis* L.**	1B: rhizome with roots 1C: entire plant	alkaloids: celliamine, sprintillamine (act as aconitine)		Johnson C.T. et al, Suspected H. viridis poisoning of cattle, Vet. Rec. 89, 202 (1971)
***Hepatica nobilis* Schreb.** *(Anemone hepatica* L.)	1B: leaves, herbaceous plant 1G: herb	protoanemonin	protoanemonin only present in fresh herb and is converted into non toxic anemonine by drying.	
***Heracleum mantegazzianum* Sommier & Levier**	Stem and fruit	furocoumarins (1.3%)		Pira et al., 1989, Contact Dermatitis 21: 300-303.
***Heracleum sphondylium* L.**	1P: unspecified parts	furocoumarins		
***Herniaria glabra* L.**			Herb: 3-9% triterpensaponine (Wichtl 2002). A lyophylised aqueous extract of the whole plant (not specified if aerial) were p.o. administered to group of Wistar rats (5 males and 5 females/group) in doses of 0, 1, 2, 4 g/kg bw. day for 90 days. Suppression on body weight gain between dosed group and controls after 90 days (> 20% in all dosed groups vs. controls). Histopathological study of liver and kidneys only revealed toxic effects in the highest dosed group. Oral LD_{50} of an aqueous extract in mice was 8.5 g/kg bw. (Rhiouani *et al.* 2008).	Rhiouani H, El-Hilaly J, Israili ZH, Lyoussi B (2008) Acute and sub-chronic toxicity of an aqueous extract of the leaves of *Herniaria glabra* in rodents. J Etnopharmacol 118: 378-386. Wichtl M (2002). Teedrogen und Phytopharmaka. Wissenschaftliche Verlagsgesellschaft mbH

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***Hippomane mancinella* L.**	Fruits, leaves, sap	phorbolesters, alkaloid in fruit possibly physostigmine,	phorbolesters: cocarcinogenicity (leaves, sap)	Bandaranayake, W.M., 2002, Wetlands Ecology and Management 10: 421-452
***Holarrhena antidysenterica* Wall. ex A.DC.**	1B: root bark, seeds	steroid alkaloids: conessine, isoconessimine, kurchessine,…		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Hoslundia opposita* Vahl**	1T: unspecified parts	Essential oil of plant leaves with 55 to 76% eugenol		Chagonda & Chalchat, 2005, Flavour Fragr. J., 20: 193-195
***Humulus lupulus* L.**	1N: inflorescence in accordance with European Pharmacopoeia	8-prenylnaringenin	8-prenylnaringenin is the strongest natural phyto-oestrogen known today. 1P: food containing the plant must have the warning not to ingest more than the equivalent of 400 micrograms per day of 8-prenylnaringenin	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Huperzia serrata* (Thunb.) Trevis** *(Lycopodium serratum* Thunb.*)*	1P: caulis, flos, folium	The lycopodium alkaloids are quinolizine, or pyridine and α-pyridone type alkaloids. Many different alkaloids belonging to the lycopodine class, lycodine class (e.g. huperzine A), Fawcettimine class and miscellaneous group have been identified in *H. serrata* (Ma & Gang 2004). *Lycopodium* alkaloids with acetylcholinesterase inhibition activity belong to the lycopodine class.	Huperzine A (0,007%), a acetylcholineesterase inhibitor that has been tried on 100.000 people in China for effect on memory deficiencies in aged and Alzheimer disease (Ma & Gang 2004).	Ma X, Gang DR. (2004) The *Lycopodium* alkaloids. Nat Prod Rep 21: 752-772
Hura crepitans L.	latex	huratoxin (monoester from tricyclic diterpene)	Euphorbiaceae	Polidoro et al., 2008, Environmental Research, 108: 98-106
***Hyacinthus orientalis* L.**	Flowers	1Q: known to contain estragole in unspecified quantities (presence could not be confirmed)		Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone.
***Hydnocarpus anthelmintica* Pierre & Gagnep.**	1B: oil, seeds	cyanogenic glycosides		

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***Hydnocarpus kurzii* Warb.**	1B: oil, seeds	cyanogenic glycosides		
***Hydnocarpus laurifolius* (Dennst.) Sleumer** *(H. pentandra* (Buch.-Ham.) Oken)	1B: oil, seeds	cyanogenic glycosides		
***Hydrastis canadensis* L.**	1R: rhizome 1B: rhizome with roots 1C: roots 1D: entire plant 1G: entire plant	1S: isoquinoline alkaloids: hydrastine, berberine		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
Hyoscyamus spp.	1G: entire plant	Genus in which some species may contain tropane alkaloids: e.g. atropine, hyoscyamine,…		Bruneton J. « Plantes toxiques », 3ème édition, Ed. Tec et Doc-Lavoisier (2005), ISBN : 2- 7430-086-7
***Hyoscyamus albus* L.**	1B: leaves, herbaceous plant, seeds	tropane alkaloids: Atropine, hyoscyamine,…		
***Hyoscyamus muticus* L.**	1B: leaves, herbaceous plant, seeds	tropane alkaloids: Atropine, hyoscyamine,…		
***Hyoscyamus niger* L.**	1D: entire plant	tropane alkaloids: Atropine, hyoscyamine,…		
***Hypericum perforatum* L.**	1H: Flower tops, herb, leaves and caulis. 1G: flower (fresh), herb 1I: herb	1H: Herb: Xanthone derivatives, alkaloids, hypericin 0.0095-0.466%; Flowers: hypericin 16.2%; Seed: hypericin. (CoE, 2000)	1P: food containing the herbaceous parts must have the warning not to ingest more than the equivalent of 700 micrograms of hypericin per day and to "consult a physician if medicinal products are taken"; 1G: The intake of herb should equivalete max. 0.1 mg totalhypericin per daily dose. Warning of photosensitivity	Natural sources of flavourings (Rep No 1), Council of Europe, (2000).
***Hyptis suaveolens (* L.) Poit.**	1T: unspecified parts	methyleugenol in unspecified quantities	Methyleugenol not found in essential oils of plant aerial parts (Tachakittirungrod & Chowwanapoonpohn, 2007, CMU. J. Nat. Sci., 6(1): 31	
***Hyssopus officinalis* L.**	1Q: bud 1H: Flowers, flower tips, herb, leaves. 1T: oil extract of aerial parts, plant	1Q: estragole content: 1-260 ppm (bud) 1T: methyleugenol content: 43.9%; 0.54% (oil extract of aerial parts); 100ppm (plant) 1H: herb and leaves essential oil : methyleugenol 0.09-3.8%, estragole 4.8%, eucalyptol, carvacrol, thujones traces (CoE, 2007)	Essential oil from leaves and flowering tops: 40% pinocamphone, 30% Iso-pinocamphone. Acute oral LD50: 1.4mL/kg (neurotoxic).	Natural sources of flavourings (Rep No 2), Council of Europe, (2007). Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone.

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***Ilex aquifolium* L.**	1B: bark, leaves, fruit 1C: aeriel parts	cyanogenic glycosides: menisdaurin from ripe fruits	vomiting, spasms. In children can be lethal	Nahrstedt & Wray, 1990, Phytochemistry, 29, 12:3934-3936 / Vanaclocha & Cañigueral, 2003, Fitoterapia, Masson Ed.
***Ilex paraguariensis* A. St.-Hil.**	1G: leaves	leaves: caffeine 0.2-2.0%, theobromine 0.1-0.2%, theophylline 0.05%	NF Catalogue: ongoing request for *Ilex kudingcha* . 1G: leaves with restriction on caffeine (max. 100 mg/dose max. 300 mg/day) - see footnote 1G:(footnote) Total amount of caffeine from preparations with *Cola nitida* , *Ilex paraguiensis* and *Paullinia cupana* to be controlled.	Leung, AY, 1980. Encyclopedia of common natural ingredients used in food, drugs and cosmetics, Wiley.
***Ilex vomitoria* Ait.**	1B: leaves, fruit	fruits hallucinogenic		
***Illicium anisatum* L.** *(I. religiosum S*iebold & Zucc.*)*	1B: bark, fruit 1C: fruit 1D: entire plant 1G: fruit	sesquiterpenelacton : anisatin; 1T: methyleugenol content: 9.8%		
***Illicium verum* Hook.f.**	1Q: fruit, essential oil 1H: seeds	1Q: estragole content: 280-6500 ppm (fruit), 0.6-6% (essential oil) 1H: Star anise oil: estragole 0.34-5.04%, safrole -0.14%. (CoE, 2000) Essential oil from fruit: 75%-90% Trans-anethole, <1% Safrole		Natural sources of flavourings (Rep No 1), Council of Europe, (2000). Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone.
***Indigofera tinctoria* L.**	1F: unspecified	cyanogenic glycosides		
***Ionidium ipecacuanha* Vent.**	1B: roots	alkaloids	Information found only on ipecacuanha alkaloids (*Cephaelis ipecacuanha*)	
Ipomoea spp.	Whole plant	Genus in which some species may contain irritating resins for the gastrointestinal system * and ***Ipomoea* species contain indolizidine alkaloids and serotonin-hydroxycinnamic acid conjugates. From aerial parts were isolated pyrrolizidine alkaloids (I. hederifolia, I. neei) e.g. ipangulines (platynecine). In shoot tips and young leaves total ipangulines concentrations are up to 0.45% (dry wt basis). Seeds show similar alkaloid patterns *** From leaves of I. carnea (intoxication of livestock) were isolated alkaloidal glycosidase inhibitors swainsonine (IC50 0.02µM), calystegines B1 (IC50 2.1µM), B2 (IC50 0.75µM), C1 (IC50 0.84µM). Swainsonine results in lysosomal storage disorder that mimics α-mannosidosis in humans.		* Liddell, J.R., 2000, Nat. Prod. Rep. 17:455-462. ** Jenett-Siems et al., 1998, Phytochemistry, 47(8): 1551-1560. *** Ikeda et al., 2003, J. Agric. Food Chem, 51: 7642-7646.

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***Ipomoea jalapa* (L.) Pursh**	1B: roots 1C: roots	1T: methyleugenol content: 9.8%	NF catalogue: *Ipomoea hederacea* L.: no history of use in EU before 15/5/97 - safety assessment under NF regulation required	
***Ipomoea nil* (L.) Roth**	1B: seeds			
Ipomoea operculata* (Gomes) Mart. *(See Operculina macrocarpa (L.) Urb.)	Roots		From roots were identified glycosidic acids: operculinic acids A, B, C, D, E and n-decanoic, n-dodecanoic acids	Ono et al., 1989, Chem. Pharmacol. Bull. 37: 241-244.
***Ipomoea orizabensis* (Pellet.) Ledeb.ex Steud.**	1B: root, resin 1G: entire plant	glucoresins		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Ipomoea purga* (Wender.) Hayne** *(Exogonium purga* (Wender.) Benth.)	1A: resin 1B: leaves, root, resin, tubers 1C: roots, seeds 1G: entire plant	glucoresins	1A: Strong laxative with irritant properties	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Ipomoea simulans* Hanbury**	1B: root			
***Ipomoea tricolor* Cav.** *(I. rubrocaerulae* Hook.)	1D: entire plant 1G: entire plant	clavine alkaloid in seeds: lysergine		
Ipomoea turpethum* (L.) R.Br. *(See Operculina turpethum (L.) S.Manso)	stem		Acrylamide derivative isolated from stem	Harun-ur-Rashid et al., 2002, Pakistan J. of Biological Sciences 5(9): 968-969.
***Ipomoea violacea* L.**	1B: seeds 1C: root			Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Iris pseudoacorus* L.**	1B: rhizome			
***Isatis tinctoria* L.**	leaves	quinoline alkaloid from leaves: tryptanthrin		Michael, J.P., 2005, Nat. Prod. Rep., 22: 627-646
***Jateorhiza palmata* (Lam.) Miers**	Roots	furoditerpenic lactones; isoquinoline alkaloids in roots: berberine, jatrorrhizine, palmatine, bisjatrorrhizine		Sturm & Stuppner, 1998, Electrophoresis, 19: 3026-3032
***Jatropha curcas* L.**	1B: seeds	toxalbumine curcin (ricin like)	Family: Euphorbiaceae	Abdu-Aguye I. et al, Acute toxicity studies with J. curcas L. , Human. Toxicol. 5, 269-274 (1986)
***Joannesia princeps* Vell.**	1B: fruit, seeds	diterpene: joannesialactone	Family: Euphorbiaceae	Achenbach and Benirschke. 1997. Joannesialactone and other compounds from *J. princeps*. Phytochemistry Vol. 45, Issue 1 149-157
***Juglans regia* L.**	1A: fruit, shell leaves, seeds (EHIA list) 1X: fruit, seed	1A: May contain naphthoquinone juglone (with the exception of the nuts)		
***Juniperus oxycedrus* L.**	1B: oil, wood	Essential oil from wood: beta-cadinene (major component), para-cresol, guaiacol.	Unrectified oil is carcinogenic	Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone

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***Juniperus phoenicea* L.**	1B: plant top			
***Juniperus procera* Hochst. ex Endl.**	1B: wood			
***Juniperus sabina* L.**	1B: leaves, plant top 1C: entire plant 1D: entire plant	1A: sabinene, thujones, essential oil: 20-53% sabinyl acetate, 20-42% sabinene.	Essential oil from leaves and twigs is abortifacient.	Tisserand, R. and Balacs, T., 1995. Essential oil safety. A Guide for Health Care Professionals. Churchill Livingstone.
***Juniperus thurifera* L.**	1B: plant top			
***Juniperus virginiana* L.**	1B: wood			
***Justicia adhatoda* L.** *(Adhatoda vasica* Nees*)*	1G: leaves	in the leaves-quinazoline alkaloids: e.g. vasicine. Rajani & Pundarikakshudu (1996) isolated up too 1.8% vasicine in the leaves. Amounts of alkaloids in the leaves: 0.3-2.1% (dry weight basis) (Rajani & Pundarikakshudu 1996).	Aqueous extract of the leaves caused 100% abortifacient activity in 7 pregnant female rats (Nath et al. 1992	Nath D., Sethi N., Singh R.K., Jain A.K. (1992) Commonly used Indian abortifacient plants with special reference to their teratologic effects in rats. J Ethnopharmacol 36: 147-154. Rajani M, Pundarikakshudu K. (1996) A note on the seasonal variation of alkaloids in *Adhatoda vasica* Nees. Int J Pharmacognocy 34: 308-309.
***Kalmia latifolia* L.**	Leaves	hydroquinon: arbutin and diterpenes: e.g. andromedotoxin		Verlangieri, A. J., Gawlikowski, J. N., Shapiro, R. 1976. Acute toxicity of *Kalmia angustifolia*, (sheep laurel) extracts in the rat. Vet. Toxicol., 18: 122-124. Frohne D, Pfänder HJ. Giftpflanzen. Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche
***Laburnum anagyroides* Medik. *(= L. vulgare* J.Presl*., Cytisus laburnum* L.)**	1B: flowers, root, branch with flowers 1C: entire plant	quinolizidine alkaloid: cytisine		
***Lactuca virosa* L.**	1B: herbaceous plant, condensed juice 1C: entire plant	sesquiterpenelactones: lactucin, lactucopicrin		
***Larrea divaricata* Cav.**	1G: entire plant	1S: nordihydroguaiaretic acid	renal and hepatotoxicity reported for nordihydroguaiaretic acid	
***Larrea tridentata* (Ses. & Moc. ex DC.) Cov.**	1G: entire plant	nordihydroguaiaretic acid	renal and hepatotoxicity reported for nordihydroguaiaretic acid	Arteaga S, Andrade-Cetto A, Cardenas R. "*Larrea tridentata* (Creosote bush), an abundant plant of Mexican and US-American deserts and its metabolite nordihydroguaiaretic acid." *J Ethnopharmacol.* 2005 Apr 26;98(3):231-9.

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***Lathyrus sativus* L.**	1C, 1X: seeds	From 0.02-2.5% of the neurotoxic amino acid ß-N-oxalyl-α,ß-diaminopropionic acid (ß-ODAP)/ ß-N-oxalylamino-L-alanine (BOAA) in the dry seed (Cheeke 1989, Yan et al. 2006).	1X: "use of the seed may give rise to health concern - rarely used" Neurolathyrism with the symptoms of irreversible spastic paresis seen after ingestion of the seeds (Spencer et al. 1986). Little information on the toxic dose for humans. Ludolph & Spencer (1996) suggest a dose of BOAA of 15-150 mg/kg bw/day or an accumulated dose of 1.35-13.5 g/kg bw/day.	Cheeke PR. Toxicants of plant origin. Volume III. Proteins and amino acids. CRC Press Inc. 1989. pp.169-201, Ludolph AC, Spencer PS. Toxic models of upper motor neuron disease. Journal of the Neurological Sciences (1996) 139 (Suppl). 53-59. Spencer, PS, Roy, DN. Ludolph A, Hugon J, Dwivedi MP and Schaumburg HH. (1986) Lathyrism: evidence for role of the neuroexcitatory aminoacid BOAA. Lancet, November 8: 1066-1067. Yan Z-Y, Spencer PS, Li Z-X, Liang Y-M, Wang Y-F, Wang C-Y, Li F-M. (2006) *Lathyrus sativus* (grass pea) and its neurotoxin ODAP. Phytochemistry 67: 107-121.
***Laurus nobilis* L.**	1T: leaves 1H: berries, leaves	1T: methyleugenol content: 213-2.608ppm 1H: Leaves essential oil: alkenyl benzenes (eugenol 1.44-2.03%, methyleugenol 1.7-11.8%), eucalyptol 34-53% (CoE, 2000)	1X: The leaves are used as food (spice)	Natural sources of flavourings (Rep No 1), Council of Europe, 2000.
***Lavandula angustifolia* Mill.** *(L.officinalis* Chaix*., L.vera* DC*.)*	1H: Flowers, flower tips, herb.	1H: Herb and flower tips essential oil : thujones, eucalyptol 3.32-30%, camphor 0.59%. Fresh flower essential oil : eucalyptol 5.81%, camphor 13.32%. (CoE, 2008)	Flower: 1-3% essential oil with mainly linalylacetate and linalool. Presence of cineole (up to 30%) and camphor (0.2% - 0.6%). In L. angustifolia essential oil: linalool in 25%-38% and linalyl acetate in 25%-45%. However in *L. angustifolia* ssp *pyrenaica* (North east Spain) linalool in 20-66%, borneol in 6%-32% and camphor in 2%-14%. Important to look what ssp is used	Handbook of Herbs and Spices vol 2, K.V. Peter, Woodhead publ limited, 2004, ISBN 1 85573 7213; Neaf and Morris; Lavender-lavandin a comparison, 1992, Riv. Ital. EPPOS, 3, feb, 364-377; Garcia-Vallejo et al. 1989 Essential oils of the genus *Lavandula* in Spain, Proc. ICEOFF, New Dehli, 4, pp 15-26 Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Lavandula latifolia* Medik.** *(Lavandula spica* auct., non L*.)*	1L: herb essential oil 1H: Flowers, flower tips, herb.	1H: Aerial parts essential oil: eucalyptol 33%, camphor 5%. (CoE, 2008) Essential oil from flowers: 1,8 cineol (23-48%), linalool (15-55%), camphor (11-18%). Essential oil from leaves: Cineol (47-55%) and camphor (32-44%)(Munoz-Bertomeu et al. 2007)		Munoz-Bertomeu J, Arrillaga I, Seguar J (2007) Essential oil variation within and among natural populations of *Lavandula latifolia* and its relation to their ecological areas. Biochemical Systematics and Ecology 35: 479-488.
***Lawsonia inermis* L.** *(Lawsonia alba* Lam.*)*	1F: unspecified parts	Lawsone (2-hydroxy-1,4- naphtoquinone). The dried leaves contain of 1-2% lawsone. (SCCNFP 2002).		SCCNFP (2002): Opinion on the Scientific Committee on Cosmetic Products and Non-Food Products Intended for Consumers concerning *Lawsonia inermis,* henna (adopted by the SCCNFP during the 21st Plenary meeting of 17 September 2002)

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***Ledum palustre* L.**	1A: herb, entire plant 1C: entire plant	Toxic diterpenes acetylandromedol (Frohne & Pfänder 1997).	1A: Contains an essential oil that is an irritant to the gastro-intestinal system, kidneys and urinary tract	Frohne D, Pfänder HJ. 1997. Giftpflanzen. Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart.
***Leonurus japonicus* Houtt.** *(Leonurus heterophyllus* Sweet*)*	1P: unspecified parts	The pyrrolidine alkaloid stachydrine and also leonurine alkaloid (psychoactive) are found in the aerial parts in concentrations of 0.1-0.2% and 0.01-0.05%, respectively (Chao *et al.* 2004)	1P: only fruit and herbaceous part permitted in food products, with the warning that it is prohibited from use by pregnant women	Chao Z, Ma L-L, Zhou X-J. 2004 [Determination of stachydrine and leonurine in Herba Leonuri by ion-pair reversed-phase high-performance liquid chromatography.] DI 1 Jun yi da xue xue bao 24 (11): 1223-11226
***Leonurus sibiricus* L.**	1P: unspecified parts	alkaloid : leonurine, stachydrine and diterpenes: leosibericin, …	1P: only fruit and herbaceous part permitted in food products, with the warning that it is prohibited from use by pregnant women. Leonurine has an uterotonic effect. Together with the diterpenes there is a psychoactive effect. Herb is called marihuanilla. Same effect as marihuana when smoken.	
***Lepidium meyenii* Walp.** *(Lepidium peruvianum* Chacon*)*	1G: entire plant	Imidazole alkaloids: lepidiline A, B and C in the root (Jin *et al* . 2007). Total amount of the alkaloids, macamides, ranged from 0.0016-0.0123% in the dried root (McCollom *et al.* 2005).	Some animal studies indicate that the root or preparations from the root exert effects on the hormone system and/or sexual behaviour in laboratory animals (Zheng et al. 2000, Cicero et al. 2000, Oshima et al. 2003). 1P: authorised for use only if analytical reports show that there are no alkaloids present	Cicero et al. 2001. J Ethnopharmacol 75: 225-229. McCollom *et al.* 2005. Phytochem Anal 16: 463-469. Jin *et al.* 2007. J Sci Food Agric 87: 2251-2258. Oshima *et al* . 2003. J Vet Med Sci 65: 1145-1146. Zheng *et al.* 2000. Urology 55: 598-602.
***Leucanthemum vulgare* Lam.** *(Chrysanthemum leucanthemum* L.*)*	1C: flowering tops	Pyrrolizidine alkaloids: platiphylline and senecionine isolated from the flower (Sagareishivili 2000: Alkaloids of *Leucanthemum vulgare.* Chem Nat Comp 36: 327).		Sagareishivili 2000: Alkaloids of *Leucanthemum vulgare* . Chem Nat Comp 36: 327)
***Leucojum vernum* L.**	1F: unspecified parts	Amaryllidaceae alkaloids: lycorine in bulb and leaves (Roth et al. 1984). Three alkaloids: lycorine, homolyrorine and 2-O-acetyllycorine were isolated from the bulbs (Szlavik *et al.* 2004).		Roth L, Daunderer M, Kormann K. 1984 Giftpflanzen – Pflanzengifte. Schlavik L, Gyuris A, Minarovits J, Forgo P, Molnar J, Hohmann J. 2004. Alkaloids from *Leucojum vernum* and antivretroviral activity of amaryllidacea alkaloids. Planta Medica 70: 871-873

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***Levisticum officinale* W.J.D.Koch**	1B: latex 1X: leaf, fruit 1H: Roots (fresh or dried), herb, fruits.	1H: Root: coumarin, furocoumarins (mainly bergapten, umbelliferone, psoralen); Root seeds: furocoumarins (iperatoerin 12.82 mg/kg, 5-methoxypsoralen 6.38 mg/kg, psoralen 3.8 mg/kg, 8-methoxypsoralen 0.5 mg/kg); Leaves: furocoumarin (5-methoxypsoralen), carvacrol; Stems: α-,β-thujones, estragole. (CoE, 2008)	leaf, fruit (1X)	Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Ligustrum vulgare* L.**	1B: bark , leaves; all parts	secoiridoid glucosides (8,85% in ripe fruits)	Fruit, leaf and bark classified as poisonous (+) (Roth et al. 1984).	Roth L, Daunderer M, Kormann K. 1984 Giftpflanzen – Pflanzengifte.
***Lilium brownii* F.E.Br. ex Miellez**	1P: unspecified parts	Bulb reported to contain steroidal saponins and steroidal alkaloids (Mimaki & Sashida 1990). Lilin, a protein with a strong mitogenic acitvity was isolated from the bulbs (Wang & Ng 2002).	1P: only tubercules authorised for use in foodstuffs	Mimaki Y, Sashida Y. 1990. Steroidal saponins and alkaloids from the bulbs of *Lilium brownii* var. *colchesteri* . Chemical & Pharmacutical Bulletin. 38: 3055-3059. Wang H, Ng TB. 2002. Isolation of lilin, a novel arginine - and glutamate-rich protein with potent antifungal and mitogenic activities from lily bulbs. Life Sci 70: 1075-1084.
***Linum usitatissimum* L.**	1N: dried ripe seed in accordance with European Pharmacopoeia 1O: dried ripe seed 1L: seed 1H: Seed.	1H: Linseed oil (30-45% of seed): cyanogenic glycosides (diglucosides linostatin and neolinostatin 2.6 resp. 3.5 mg/kg)traces of monoglucoside linamarin. The content of HCN in the seed varied from 217-541 mg/kg in German samples of seeds (Schilcher & Wilkens-Sauter 1986). Others have reported variation in HCN content from 140-370 mg/kg in seeds from Australia, New Zealand and Canada (Haque & Bradbury 2002). The main cyanogenic glycosides are the diglucosides linustatin and neolinustatin (Niedzwiedz-Siegien 1998, Schilcher & Wilkens-Sauter 1986). The monoglucoside linamarin is sometimes found in low levels or traces (Oomah et al. 1992, Schilcher & Wilkens-Sauter 1986).	Lignan (pinoresinoldiglucosid) acting as phytoestrogen. Seed of L. usitatissimum L. ssp. usitatissimum (1X)	Natural sources of flavourings (Rep No 3), Council of Europe, (2008) Haque MR, Bradbury JH (2002) Total cyanide determination of plants and foods using the picrate and acid hydrolysis methods. Food Chem 77: 107-114. Niedzwiedz-Siegien I (1998) Cyanogenic glucosides in *Linum usitatissimum.* Phytochem, 49: 59-63. Oamah BD, Mazza G, Kenaschuk EO (1992) Cyanogenic compounds in flaxseed. J Agric Food Chem, 40: 1346-1348. Schilcher H von, Wilkens-Sauter M (1986) Quantitative Bestimmung cyanogener Glykoside in *Linum usitatissimum* mit Hilfe der HPLC. Fette Seifen Anstrichmittel 88: 287-290.
***Lippia integrifolia* Hieron.**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities	Presence of methyleugenol could not be confirmed from the literature	

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***Lippia junelliana* (Moldenke) Tronc.**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities. Methyleugenol content in leaf essential oil varied from 0.1-2.9% in samples from 16 regions in Argentina. Eugenol was found in 2/16 samples in concentrations from 0.1-0.2% (Juliani et al. 2002)		Juliani HR, Koroch AR, Juliani HR, Trippi VS, Zygadlo JA. 2002. Intraspecific variation in leaf oils of *Lippia junelliana* (mold.) tronc. Biochem Syst Ecol 30:163-170
***Lippia laxibracteata* Herzog**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities		
***Lippia turbinata* Griseb.**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities		
***Liquidambar styraciflua* L.**	Bark		external use only	
Lithospermum spp.	1F: unspecified parts	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids: e.g. lithosenine, intermedine, lycopsamine		
***Lithospermum officinale* L.**	aerial parts	Pyrrolizidine alkaloids in aerial parts: lithosenine and acetyllithosenine (Krenn et al. 1994).	Extracts from leaves showed lowering effects on thyroid hormones and antigonadotropic effects in rats (Sourgens et al. 1986)	Krenn L, Wiedenfeld H, Roeder E. 1994. Pyrrolizidine alkaloids from *Lithospermum officinale*. Phytochem 37: 275-277. Sourgens H, Winterhoff H, Gumbinger HG, Kemper FH. 1986. Effect of *Lithospermum officinale* and related plants on hypophyseal and thyroid hormones in the rat. International Journal of Crude Drug Research 24: 53-56.
***Litsea cubeba* (Lour) Pers.**	1H: fruit	Wood: a phenanthrene alkaloid, litebamine, with acetylcholinesterase activity. Laureotetanine is another alkaloid isolated from the plant (Huang et al. 2008)		Huang C-H, Huang W-J, Wang S-J, Wu P-H, Wu W-B. 2008. Litebamine, a phenanthrene alkaloid from the wood of *Litsea cubeba* , inhibits rat smooth muscle cell adhesion and migration on collagen. European J Pharm. 596: 25-31.

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Lobelia spp.	1G: entire plant	Genus in which some species may contain piperidine alkaloids: e.g. lobeline		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Lobelia inflata* L.**	1B: leaves, herbaceous plant with flowers, seeds 1C: entire plant	More than 20 piperidine alkaloids with lobeline as the major and most bioactive alkaloid of the plant (Felpin & Lebreton 2004).		Felpin F-X, Lebreton. 2004. History, chemistry and biology of alkaloids from *Lobelia inflata.* tetrahedron 60: 10127-10153.
***Lobelia nicotianaefolia* Heyne**	1B: leaves	Lobeline		
***Lobelia siphilitica* L.**	1B: root			
***Lolium temulentum* L.**	1B: seeds	saturated pyrrolizidine alkaloids: loline , perloline, temuline and temulentiine.	The nature of the toxicity has not been elucidated satisfactorily. Fungi in or on the seeds are implicated in the toxic reactions (Cooper & Johnson 1998, Frohne & Pfänder 1997). Several species of *Lolium* and other cool-season grasses (Poaceae subfamily Pooideae) tend to harbor symbiotic, seed-transmitted, fungi that enhance their fitness by various means. These fungal endophytes – species of *Neotyphodium* or *Epichloë* (Clavicipitaceae) – are known for production of antiherbivore metabolites such as the bioprotective loline alkaloids. Lolines are saturated pyrrolizidines with an exo-1-amine and an ether bridge between C-2 and C-7.	Frohne D, Pfänder HJ. Giftpflanzen (1997). Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart C. L. Schardi et al. Phytochemistry Volume 68, Issue 7, April 2007, Pages 980-996

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Lonchocarpus spp.	1F: unspecified parts	Genus in which some species may contain rotenoids: e.g. rotenone		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Lonchocarpus nicou* (Aubl.) DC.**	1B: root	Root contains rotenone		
***Lonicera caprifolium* L.**	Fruit and Root		Ingestion of the fruits has in some cases given rise to acute intoxication. The toxic effects are thought to be due to saponines. Traces of alkaloids have been found (Frohne & Pfänder 1997).	Frohne D, Pfänder HJ. Giftpflanzen (1997). Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart
***Lonicera japonica* Thunb.**	1P: unspecified parts	Flower buds contain pyridinium alkaloid-coupled secoiridoids (Song et al. 2008). Triterpenoid saponins (Lin et al. 2008).	1P: only flowers and stems authorised for use in foodstuffs	Lin L-M, Zhang, XG, Zhu J-J, Gao H-M, Wang Z-M, Wang W-H. 2008. Two new triterpenoid saponins from the flowers and buds of *Lonicera japonica.* J Asian Nat Prod Res 10: 925-9. Song W, Li S, Wang Y, Wu Y, Zi J, Gan M, Zhang Y, Liu M, Lin S, Yang Y, Shi J. 2008. Pyridinium alkaloid-coupled secoiridoids from the flower buds of *Lonicera japonica* . J Nat Prod 71: 922-
***Lophophora williamsii* (Salm-Dyck) J.M.Coult.** *(Echinocactus williamsii* Lem. ex Salm-Dyck, Anhalonium lewinii Henning	1C: entire plant	psychoactive amines: mescaline		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
Lupinus spp.	Seeds	Genus in which some species may contain quinolizidine alkaloids. Presence of a teratogenic quinolizidine alkaloid, anagyrine, has been reported in some species	In some Lupinus species one of the alkaloids is the toxic anagyrine. Examples of these species are *L. leucophillus, L. sulfureus, L. sericeus*	Lee ST *et al* . 2007. Lupine induced "crooked calf disease" in Washington and Oregon: identification of the alkaloid profiles in *Lupinus sulfureus* , *Lupinus leucophyllus* , and *Lupinus sericeus* . S. T. Lee et al., Journal of agriculture and food chemistry, 55 (26), pp 10649–10655. Pilegaard K, Gry J. Alkaloids in edible lupin seeds. TemaNord (in press)
***Lupinus albus* L.**	1B: fresh seeds 1X: seed	Total alkaloids in seeds: < 100- 30,700 mg/kg dry weight. The main constituent is lupanine (57-86% of total alkaloid). No anagyrine is found.	Case reports indicate that acute intoxications of adults caused by lupin alkaloids may occur after intake of 25-46 mg lupin alkaloids kg/bw and case stories concerning small children indicate that intake of 11-25 mg/kg bw may be lethal (Pilegaard & Gry	Pilegaard K, Gry J (2008) Alkaloids in edible Lupin seeds. A toxicological review and recommendations. TemaNord 2008: 605. ISBN 978-92-893-1802-0.

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***Lupinus reflexus* Rose**	1C: seeds	quinolizidine alkaloids in seeds (mg/g dry matter): sparteine 26.63 and, lupanine 2.9 (Ruiz & Sotelo 2001)		Ruiz MA, Sotelo A. 2001. Chemical composition, nutritive value, and toxicologica evaluation of Mexican wild lupins. J Agric Food Chem 49: 5336-5339
Lycium spp.	Fruit	Genus in which some species may contain tropane alkaloids	The amount for these alkaloids found in the literature is in the ppb range - the fruit was analysed	
***Lycium barbarum* L.**	1B: fruit 1S: entire plant	Atropine in fruits collected in pharmacies and markets in China: 19 ppb (w/w) (Adams 2006). In an Indian sample atropine was reported in fruits 0.95 %, shoots 0.93%, and roots 0.42% (dry weight). Hyoscyamine was found in 0.25% in roots, 0.33% in shoots and 0.29% in fruits (Harsch 1989)	1P: only the use of the fruit and the peel is authorised . The amount of atropine is in the ppb range and hence far too low to be of concern. Tropane alkaloids were formerly claimed to be present; new research demonstrated their absence (Hagers' Handbook 1998)	Adams, M et al. (2006) HPLC-MS trace analysis of atropine in *Lycium barbarum* berries. Phytochemical analysis 17, 5: 279-283. Harsh ML. (1989) Tropane alkaloids from *Lycium barbarum* L. *in vivo* and *in vitro* . Curr Sci. 58: 817-818.
***Lycium chinense* Mill.**	1G: entire plant	spermine alkaloid in root Polyhydroxy alkaloids (calystegines) in the root (Dräger 2004)	1P: only the use of the fruit and the peel is authorised	Dräger 2004. Chemistry and biology of calystegines. Nat Prod Rep 21: 211-223.
***Lycopodium clavatum* L.**	1G: entire plant	Herb: 0.1-0.4% lycopodium alkaloids with lycopodine as the major alkaloid.	Longer use can cause irritation due to the relative toxic alkaloids and therefore Wichtl (2002) warns against longer use.	Wichtl M (2002). Teedrogen und Phytopharmaka. Wissenschaftliche Verlagsgesellschaft mbH.
***Lycopodium saururus* Lam.** *(Huperzia saurus* (Lam.) Trevis.*)*	1B: herb	Eight lycopodium alkaloids belonging to the flabellidane group (e.g. sauroxine, lycodine) or the lycopodane group (e.g. lycopodine, clavolonine) isolated from the aerial parts.	The alkaloid extract showed a marked inhibition of acetylchlolinesterase in vitro (Ortega et al. 2004). Reports on 20 cases of use of infusions from this plant for induction of abortion. No information on dose. Symptoms: Vomiting (16/20), abdominal pain (7/20) and neurological depression (3/20) (Ciganda & Laborde 2003). Depending on concentration, decocts of the plant has been the cause of severe adverse effects such as vomiting, diarrhea, convulsions and even death (references in Ortega et al. 2006)	Ciganda C, Laborde A (2003) Herbal infusions used for induced abortion. J Toxicol Clin Toxicol 41: 235-239. Ortega MG, Agnese AM, Carbrera JL (2004) Anticholinesterase activity in an alkaloid extract of *Huperzia saururus* . Phytomedicine 11: 539-543
Lycopus europaeus L. *(L. mollis* A.Kern.*, Lycopus menthifolius* Mabille*)*	1E: unspecified parts (1E 2)	Alkaloids and coumarin (Beer *et al.* 2008).	Little information on constituents. The essential oil can't be used contemporaneously with thyroid medicaments. An ethanolic extrac administered orally to rats gave rise to reduction in levels of thyroid hormons, and LH (Winterhoff et al. 1994).	Beer AM, Wiebelitz KR, Schmidt-Gayk H. 2008. *Lycopus europaeus* (gypsywort): effects on the thyroidal parameters and symptoms associated with the thyroid function. Phytomedicine 15: 16-22 He Jing et al, 2007.Studies of the chemical costituents of *Lycopus europaeus* Linn.*Jiefangiun Yaoxue Xuebao* 23(6) 432-433 Winterhoff H, Gumbinger HG, Vahlensieck U, Kemper FH, Schmitz H, Behnke B. 1994. Endocrine effects of *Lycopus europaeus* following oral application. Arzneimittel-Forschung 44: 41-45
Lycoris spp.	1F: unspecified parts	Genus in which some species may contain Amaryllidaceae alkaloids: e.g. lycorenine		
Lyonia spp.	1F: unspecified parts	Genus in which some species may contain toxic diterpenes: e.g. andromedotoxin (acetylandromedol)		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1

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***Magnolia denudata* Desr.**	1Q: unspecified parts	1Q: estragole in unspecified quantities.	The presence of estragole could not be confirmed from the literature	
***Magnolia fargesii* (Finet &Gagnep.) W.C.Cheng** *(M. biondii* Pamp.)	1Q: unspecified parts	1Q: estragole in unspecified quantities.	The presence of estragole could not be confirmed from the literature	
***Magnolia kobus* DC.**	1Q: unspecified parts	1Q: estragole in unspecified quantities.	The presence of estragole could not be confirmed from the literature	
***Magnolia officinalis* Rehder & Wilson**	1C: entire plant	Phenolic compounds (magnolol, honokiol), volatile oils, Lignans, isoquinoline alkaloids. The bark: honokiol 28.7-37.3 mg/g, magnolol: 33.0-60.6 mg/g (Chen et al. 2006).	Not to be used with substances acting on the CNS.To avoid in pregnancy. No genotoxicity .	Chen G, Xu X, Zhu Y, Zhang L, Yang P. 2008. Determination of honkiol and magnolol in *Cortex Magnoliae Officinalis* by capillary electrophoresis with electrochemical detection. J Pharm Biomed Anal 41: 1479-1484 Li Ning et al., 2007. Evaluation of the in vitro and in vivo genotoxicity of *Magnolia* bark extract. *Regulatory Toxicology and Pharmacology* . 49(3), 154-159. Youn Ui-Joung et al. 2007. Cytotoxic lignans from the stem bark of *Magnolia officinalis. Journal of natural products,* 70(10) 1687-1689 Wang, Hong-yan et al.2007. *Huaxi Yaoxue Zazhi* . 22(1), 30-33
***Magnolia salicifolia* Maxim.**	unspecified parts	presence of estragole according Azuma H 1997. No quantity mentioned		Azuma, H., Toyota, M., Asakawa, Y., Yamaoka, R., Garcia-Franco, J.G., Dieringer, G., Thien, L.B., and Kawano, S. 1997. Chemical divergence in floral scents of *Magnolia* and allied genera (Magnoliaceae). Pl. Spec. Biol. 12:69-83.
***Mahonia aquifolium* (Pursh) Nutt.**	1F: unspecified parts	Aporphine alkaloids: corytuberine, magnoflorine, isothebaine and isocorydine. Isoquinoline alkaloids: berberin, berbamine and oxyacanthine		
***Maianthemum bifolium* (L.) F.W.Schmidt**	1F: unspecified parts	cardiac glycosides. Steroidal glycosides derived from spirostanol and furostanol		Sibiga A. et al. Steroid saponins of M. bifolium L. Isolation of the saponin fraction and identification of aglycones and sugars , Herb. Polon. 31 (1/2), 21-28 (1986)
***Mallotus philippinensis* Müll.Arg.**	1A: acorn, trichome 1B: acorn 1C: fruit, acorn, trichome, roots	rottlerin (chalcone)	1A: Strong laxative. Excessive doses could cause gastroenteritis, diarrhea, vomiting ; rottlerine (chalcone) is anthelmintic. A seed extract dose-dependently reduced serum levels of hormones (FSH, LH and estradiol) and number of ovulated eggs and corpora lutea in female rats (Thakur et al. 2005)	Thakur SC, Thakur SS, Chaube SK, Singh SP. 2005. An etheral extract of Kamala (*Mallotus phillipinensis* (Moll. Arg.) Lam.) induce adverse effects on reproductive parameters of female rats. Reprod Tox 20: 149-156.
***Mandragora officinarum* L.** *(M. autumnalis* Bertol.*, M. acaulis* Gaertn.*, M. vernalis* Bertol.)	1B: leaves,herbaceous plant, root 1C: entire plant 1D: entire plant 1G: entire plant	tropane alkaloids: scopolamine, L-hyoscyamine		
***Manihot esculenta* Crantz** *(Manihot utilissima* Pohl.)	1B: juice 1L: root 1X: root	Root known to contain Linamarin corresponding to 10-200 mg HCN/Kg of plant part. Root contain 15-400 mg HCN/kg fresh weight, but varieties with high content may contain from 1300-2000 mg/kg (Padmaja 1995)		Active principles (constituents of concern) contained in natural sources of flavourings. CoE Publishing 2005
***Marrubium vulgare* L.**	1H: herb, leaves	Diterpene lactones: marrubiine		
***Marsdenia cundurango* Rchb.f.**	1H: Stem bark. 1G: bark	1H: Stem bark: coumarin, furocoumarin. (CoE, 2000)		Natural sources of flavourings (Rep No 1), Council of Europe. (2000)
Meconopsis spp.	1F: unspecified parts	Genus in which some species may contain isoquinoline alkaloids: e.g. mecambrine		

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***Medicago sativa* L.**	aerial parts 1G: herb	coumarins: medicagol; pyrrolidine alkaloids in the seeds : stachydrine (0.18%), homostachydrine, trigonelline (0.36%)	sprouts: food use	yuan, Xiaoqing et al.2008. Purification and characterisation of a hypoglicemic peptide from *Momordica Charantia* L. var. *abbreviata* Ser. Food Chemistry. 111(2) 415-422
***Melaleuca alternifolia* (Maiden & Betche) Cheel**	1H: Leaves 1C: leaves 1G: essential oil from leaf	1H: essential oil of leaves: Sesquiterpenes 13.7%, eucalyptol 10-60%. (CoE, 2008) ; WHO monograph: Contains not lessential than 30% (w/w) of terpinen-4-ol (4-terpineol) and not more than 15% (w/w) of 1,8-cineole (also known as cineol, cineole or eucalyptol). The oil must contain: not lessential than 3.5% sabine; 1–6% a-terpinene; 10–28% g-terpinene; 0.5–12.0% p-cymene; not lessential than 30% terpinen-4-ol; and 1.5–8.0% a-terpineol, as measured by gas chromatography	Essential oil: only traces of methyleugenol	Hammer K.A. et al. 2006. A review of the toxicity of *Melaleuca alternifolia* (tea tree) oil. *Food and Chemical toxicology* . 44(5), 616-625 WHO monograph Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Melaleuca leucadendron* (L.) L.** *(M. leucadendra* (L.) L.*)*	1T: methyleugenol - oil 1H: leaves	1T: methyleugenol content: 99% 1H: essential oil of leaves: Eucalyptol 50-70%. Indonesian cajeput oil: eucalyptol 65.2%, methyleugenol. (CoE, 2007)	*M. leucodendron chemotype 1, 2a, 1N: methyleugenol content respectively: 1.6%, 94.6%, 6.7%. Chemotype 2 = methyleugenol form: 95%-97%*	Faraq R.S. 2004. Chemical and biological evaluation of the essential oils of different *Melaleuca* species. *Phytotherapy research* . 18(1), 30-35; Brophy JJ (1999) "Potentially Commercial Melaleucas" in Tea Tree – the Genus *Melaleuca* eds. Ian Southwell & Robert Lowe. Harwood Academic Publishers. Brophy et al. (1999) J Essen Oil Rec 11, 327-
***Melia azedarach* L.**	1B: bark, flowers, leaves, seeds 1C: fruit, leaves	contains azadirachtin A (a limonoid commonly referred to as azadirachtin) and other tetranotriterpenes (meliatoxins) in the fruits.	used in pesticides .	OelrichsP.B. et al, Toxic tetranortriterpenes of the fruits of M. azedarach, Phytochemistry 22 (2), 531-534 (1983) Del C., Mendrez M. et al, Intoxicacao experimental pelas folhas de M. azedarach em bovines Pesqui. Vet. Brasil 22 (1), 19-24 (2002)

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***Melilotus officinalis* (L.) Pall.** *(M. officinalis* Lam.)	1O: dried flowering tops 1G: herb	1Q: known to contain estragole in unspecified quantities. Could not be confirmed The herb contains coumarin and derivates.	In certain conditions of conservation (high degree of humidity) may lead to the formation of dicoumarol, an anticoagulant agent	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Melittis melissophyllum* L.**	1F: unspecified parts	Coumarin		
***Menispermum canadense* L.**	fruit, root	contains isoquinoline alkaloids: berberine,…	fruits induce picrotoxine like seizures	
***Mentha canadensis* L.** *(M.arvensis var. piperascens* Malinv. ex Holmes)	1V: essential oil	essential oil : pulegone and menthofurane		
***Mentha spicata* L.** *(Mentha viridis* (L.) L.)	1L: herb 1H: Flower tips, herb, leaves.	1L: known to contain eucalyptol (up to 6%) in essential oil. 1H: Herb essential oil: pulegone 1.7-1.9%, eucalyptol 6-6.8%, carvacrol, menthofuran; Carvone-rich chemotype herb essential oil: eucalyptol 0.5%; Dihydrocarvyl acetate-rich chemotype herb essential oil: eucalyptol 2.2%; Dihedrocarvone-rich chemotype herb essential oil: eucalyptol 0.5-3.2%. (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Mentha pulegium* L.**	1B: leaves, herb with flowers, oil 1H: Herb.	1H: Herb essential oil: pulegone 71.3-90%, menthofuran, eucalyptol, carvacrol, thujones; (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Mentha x piperita* L.**	1M: fresh epigaeal parts, dried leaves 1N: essential oil in compliance with the European Pharmacopoeia, whole, cut or dried leaves 1O: fresh epigaeal parts, dried leaves 1H: Flower tips, herb, leaves. 1V: oil 1G: herb, leaf	1L: Known to contain eucalyptol (up to 18%) in essential oil 1H: Herb essential oil: eucalyptol 2.4-18.5%, pulegone 0.1-5.4%, methofuran 0.1-7.4%, carvacrol, coumarin		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)

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***Menyanthes trifoliata* L.**	1H: leaves collected during the flowering season 1G: leaf 1I: leaves	Leaves: Bitter iridoidglycosides: e.g. menyanthine; anthranoids: e.g. emodin, aloe-emodin, chrysophanol; monoterpene alkaloids: e.g. gentianine According to Wichtl (2002) the 0.035% mixture of alkaloids may be an artefact 1H: leaves: Bitter secoiridoid glycosides (1%, including dihydrofoliamenthin, menthiafolin and swerosid); coumarin,	Do not use with active intestinal infiammation, colitis or diarrhoea. Reports on monoterpene alkaloids gentianin and gantianidin are probably artefacts. (CoE, 2007)	Capasso R. et al. 2000. Phytotherapy and quality of herbal medicines. *Fitoterapia* 71(S) S58-S65 Natural sources of flavourings, Report No 2, Council of Europe, 2007.
Mercurialis spp.	entire plant	Genus in which some species may contain cocarcinogenic diterpenes, e.g. ingenol esters		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Mercurialis annua* L.**	1B: leaves, herb with flowers		Poisoning described in cattle, sheep, and horses with gastrointestinal symptoms including diarrea with later development of haemolytic anaemia (Cooper & Johnson 1998)	Cooper MR, Johnson AW. Poisonous plants and fungi in Britain. Animal and human poisoning. Second Edition. The Stationery Office. 1998.
***Mercurialis perennis* L.**	1B: herbaceous plant 1G: entire plant	Toxic and cocarcinogenic diterpenes: ingenol esters and irritants.	Gastrointestinal symptoms in humans: vomiting and diarrhoa after intake of various amounts of the aerial parts both fresh and cooked (Mortensen 1999, Cooper & Johnson 1998).	Cooper MR, Johnson AW. Poisonous plants and fungi in Britain. Animal and human poisoning. Second Edition. The Stationery Office. 1998. Mortensen OS. 1999. Ikke alt grønt er sundt. Ugeskr Læger 19 April 1999: 2384.
Mesembryanthemum spp.	1F: unspecified parts	Genus in which some species may contain indole alkaloids: mesembrine, and oxalic acid	mesembrine is narcotic. *Mesembryanthemum* spp are now named *Sceletium* spp. Mesembrine in *S. expansum* , *S. tortuosum* and *S. anatomicum*	Jacob R.H. et al, Acute oxalate toxicity of sheep associated with slender iceplant (M. nodiflorum), Aust. Vet. J. 66 (3), 91-92 (1989)
***Mesembryanthemum crystallinum* L.** *Cryophytum crystallinum* (L.) N.E.Br.	entire plant	Oxalic acid (Roth 1984). Possible presence of alkaloids		Roth L, Daunderer M, Kormann K. 1984 Giftpflanzen – Pflanzengifte.
***Michelia hedyosperma* Y.W.Law**	1T: unspecified parts	Essential oil: methyleugenol in unspecified quantities	The presence of methyleugenol could not be confirmed from literature search.	
Mimosa spp.	1F: unspecified parts	Genus in which some species may contain tryptamine alkaloids: e.g. mimosine, and mimonosides	Teratogenic effect described for *M. tenuiflora* (Willd) Poir (Medeiros et al. 2008).	Medeiros RTM, de Figueiredo APM, Benício TMA, Dantas FPM, Riet-Correa (2008) Teratogenicity of M*imosa tenuiflora* seeds to pregnant rats. Toxicon 51: 316-319. Jiang Y. et al, Effects of saponins from M. tenuiflora on lymphoma cells and lymphocytes, Phytother. Res. 6 (6), 310-313, (1992)
***Mitragyna speciosa* Korth.**	1G: entire plant	Leaves: At least 10 different alkaloids. Indole-monoterpenic alkaloids e.g.: mitragynine (accounting for 2/3 of alkaloids present) and 7-hydroxymitragynine (opioid agonists)(Kumarnsit *et al.* 2006)		Kumarnsit E, Keawpradub N, Nuankaew W (2006) Acute and long-term effects of alkaloid extracts of *Mitragynia speciosa* on food and water intake and body weight in rats. *Fitoterapia* 77: 339-345
***Momordica charantia* L** (*M.chinensis, M.elegans,M.indica, M.operculata, M. sinensis*).	1G: leaf, stem Seeds	Cucurbitane triterpenoids (momordicicosides and momordicines) isolated from fruits, leaves and stem (Fatope et al. 1990, Chang et al. 2008). Seeds: a lectin (momodin).	Some seed extracts showed antispermatogenic activity in rats (Naseem et al. 1998). 1X fruit	Chang C-I, Chen C-R, Liao Y-W, Cheng H-L, Chen Y-C, Chou C-H. (2008) Cucurbitane-type triterpenoids from the stems of M*omordica charantia. J Nat Prod 71: 1327-1330.* Fatope MO, Takeda Y, Yamashita H, Okabe H, Yamauch T (1990) New cucurbitane triterpenoids from *Momordica charantia. J Nat Prod (1990) 53: 1491-1497.* Naseem MZ, Patil SR, Patil SR, Patil RSB (1998) Antispermatogenic and androgenic activities of M*omordica charantia* (Karela) in albino rats. J Etnopharmacol (1998) 61: 9-16.

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Montanoa tomentosa **Cerv.**	1G: Entire plant	Leaves contain oxepane diterpenoids e.g. zoapatanol and montanol and kaureonic acids (Cheeke 1989, Robles-Zepeda et al. 2009).	The leaves exert uterine activity (Landgren et al. 1979)	Cheeke PR. Toxicants of plant origin. Volume IV. Phenolics. CRC Press Inc. 1989. Landgren BM, Aedo AR, Hagenfeldt K, Diczfalusy E (1979) Clinical effect of orally administerede extracts of *Montanoa tomentosa* in early human pregnancy. 135: 480-484. Roblez-Zepeda RE, Lozoya-Gloria E, Lopez MG, Villarreal ML, Ramirez-Chavez E, Molina-Torres J (2009) *Montanoa tomentosa* glandular trichomes containing kaurenoic acids chemical profile and distribution. Fitoterapia 80: 12-17.
Moringa oleifera **Lam.**	1B: wood, root	root bark: two alkaloids: moringine (= benzylamine)and moringinine. Total alkaloid content in root bark: 0.1%	Antifertility effects of aqueous extract of roots have been reported (Shukla et al. 1988)	Shukla S, Mathur R, Prakash AO (1988) Antifertility profile of the aqueous extract of *Moringa oleifera* roots 22: 51-62.
Mucuna pruriens **(L.) DC.**	1G: entire plant	Seeds: 3.6-8.4% L-Dopa. N,N-dimethyltryptamine, butofetenine, 5-methoxy-N,N-dimethyltryptamine and other alkaloids (Infante *et al.* 1990). Four tetrahydroisoquinoline alkaloids (Misra & Wagner 2004)		Infante ME, Perez AM, Simao MR, Manda F, Baquete EF, Fernandes AM, Cliff J (1990) Outbreak of acute toxic psychosis attributed to *Mucuna pruriens* . Lancet Nov 3, 336: 1125. Misra L, Wagner H (2004) Alkaloidal constituents of *Mucuna pruriens* seeds: 65: 2565-2567
Myoporum laetum **G.Forst.**	1F: unspecified parts	Toxic constitutents reported to be furanosesquiterpenoid essential oils (Raponso *et al.* 1998)	Intoxication with liver toxicity after feeding of the leaves to cattle and sheep	Raponso JB, del Carmen Mendez M, Riet-Correa F, De Andrane GB (1998) Experimental intoxication by *Myoporum laetum* in sheep. Vet Human Tox 40:132-135.
Myristica fragrans **Houtt.** *(M. moscata* Thunb.*, M. officinalis* L.*)*	1L: seed essential oil 1K: seed, aril	1L: seed essential oil contains elimicin (up to 7.5%) and myristicin (1.3% in the seed and 2.7% in mace) (CoE, 2005). Seed and aril are foods (1X), spice . Seed and mace contain safrole	eucalyptol or 1,8-cineole or p-cineole with a NOEL of 300 mg/kg bw; methyleugenol along with its 1-hydroxy-metabolite is mutagenic in many systems and able to induce DNA adducts and liver tumours in mice; myristicin, present in the oleoresin and having mutagenic activities and capable of inducing the formation of DNA adducts and its metabolite (1-hydroxy-myristicin) is considered carcinogenic; safrole, a weak carcinogen in rats and mice, transplacental carginogen in mice and mutagenic in a variety of assays. Safrole is a genotoxic carcinogen (SCF, 2001)	Opinion of the Scientific Committee on Food on the safety of the presence of saafrole in flavourings and other food ingredients with flavouring properties, SCF, 2001, http://europe.eu.int/comm/food/fs/sc/scf/index_en.html

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***Myrrhis odorata* (L.) Scop.**	1H: fruit, aeriel parts, roots 1L: essential oil	1L: estragole (up to 75% in essential oil) (CoE, 2005) 1H: Fruit essential oil: alkenylbenzenes (mainly trans-anethole 76-85%, methyleugenol, estragole 1.2-1.7%). Leaf essential oil: Transanethole 82-85%. (CoE, 2007)		Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005. Natural sources of flavourings, Council of Europe, 2007.
***Myrtus communis* L.**	1Q: plant 1T: leaf oil	1Q: essential oil estragole content: 58-88 ppm 1T: methyleugenol content: 0.2%-6%; 2.3% (leaf oil)		Teuscher E., Anton R. et Lobstein A. « Plantes aromatiques », Ed. Tec et Doc-Lavoisier (2005), ISBN : 2-7430-0720-6
Narcissus spp.	entire plant	Genus in which some species may contain some Amaryllidaceae alkaloids: lycorine, galanthamine, homolycorine, haemanthamine,...		Bruneton, J., 1999. Plantes toxiques. Ed. Tec & Doc.
***Narcissus poeticus* L.**	1H: flowers	Amaryllidaceae alkaloids: lycorine, ...	Flowers: six kaempferolglycosides. (CoE, 2007)	Natural sources of flavourings, Report No 2, Council of Europe, 2007.
***Narcissus pseudo-narcissus* L.**	1B: bulb, flowers, leaves	Bulbs: major alkaloids galanthamine and haemanthamine, minor alkaloids: lycoramine and narwedine (Gotti et al. 2006) Bulbs: alkaloids: lycorine, haemanthamine, tazettine, galanthamine, lycorenine, hippeastrine, oduline, homolycorine, masinine, poetaricin, poetarianine, goleptine, golceptine, joquilline. Bulbs, flowers, leaves: Glucoside scillaine (or scillitoxin). (CoE, 2008).		Gotti R, Fiori J, Bartolini M, Cavrini V (2006) Analysis of Amaryllidaceae alkaloids from Narcissus by GC-MS and capillary electrophoresis. J Pharmaceutical and Biomedical Analysis 42: 17-24. Natural sources of flavourings, Report No 3, Council of Europe, 2008.
***Nardostachys grandiflora* DC.** *(N. jatamansi* DC.*)*	Root	Essential oil (aromadendrene, cubeb-11-ene, epi-α-selinene, spirojatamol, valeranone); sesquiterpene aldheyde (nardal);sesquiterpene acid (nardin);neolignans and lignans;sesquiterpenoids (Jatamols A e B, Spirojatamoil); Cumarine terpenic (Jatamansin)		1)Tanaka Ken, Komatsu Katsuko. 2008. Comparative study on volatile components of Nardostachys rhizome. *Journal of Natural Medicines* . 62(1) 112-116.2)Duke J.A., Ayensu E.S. 1985. *Medicinal Plants of China* .References Publications Inc.
***Naregamia alata* Wight. & Arn.**	1B: herb, root, juice	alkaloids: naregamine,…		
***Nectandra coto* Rusby**	1B: tree bark	Nectandra contains isoquinoline alkaloids berberine and sipirine and lignans such as nectandrin A and nectandrin B , (Le Quesne et al., 1980)		LE QUESNE, P W, LARRAHONDO J E, RAFFAUL R F (1980) Antitumor plants X Constituents of *Nectandra rígida.* J Nat Prod 43: 353-359
***Nectandra puchury-major* Nees & Mart. ex Nees**	1B: seeds	Nectandra contains isoquinoline alkaloids berberine and sipirine and lignans such as nectandrin A and nectandrin B , (Le Quesne et al., 1980)		LE QUESNE, P W, LARRAHONDO J E, RAFFAUL R F (1980) Antitumor plants X Constituents of *Nectandra rígida.* J Nat Prod 43: 353-359
***Nectandra rodiei* Hook.**	1B: bark	Nectandra contains isoquinoline alkaloids berberine and sipirine and lignans such as nectandrin A and nectandrin B , (Le Quesne et al., 1980)		LE QUESNE, P W, LARRAHONDO J E, RAFFAUL R F (1980) Antitumor plants X Constituents of *Nectandra rígida.* J Nat Prod 43: 353-359
***Nepeta cataria* L.**	1H: herb	1H: Herb, fresh: camphor. (CoE, 2000) psychoactive alkaloid in leaves; nepetalactones	Not to be taken during pregnancy	Natural sources of flavourings (Rep No 1), Council of Europe, (2000) Tucker, A. O. and S. S. Tucker. 1988. Catnip and the catnip response. Economic Botany 42:214–226.
Nerium spp.	1C: entire plant	Genus in which some species may contain cardenolid glycosides: e.g. stropeside, oleandrin, …		Bruneton J. « Plantes toxiques », 3ème édition, Ed. Tec et Doc-Lavoisier (2005), ISBN : 2- 7430-086-7
***Nerium oleander* L.**	1B: bark, flowers, leaves, roots 1C: entire plant	cardenolid glycosides: stropeside, oleandrin		

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Nicotiana spp.	1D: entire plant 1G: entire plant	Genus in which some species may contain pyridine alkaloids: nicotine and anabasine	in *Nicotiana glauca* (Tree tobacco) 99% of the alkaloids is anabasine	PDR for Herbal Medicines.2004 Thomson ed.; Bruneton, ed . Lavoisier, 1995
***Nicotiana rustica* L.**	1B: leaves	pyridine alkaloids: nicotine, anabasine	nicotine in leaves: 9%	
***Nicotiana tabacum* L.**	1B: leaves	pyridine alkaloid: nicotine, anabasine	Anabasine is teratogenic, nicotine not. Nicotine in leaves: 1%-3%. Lethal dosage 40-100 mg/adult	PDR for Herbal Medicines.2004 Thomson ed.; Bruneton, ed . Lavoisier, 1995
***Nierembergia veitchii* Berkeley ex Hook.**	1C: entire plant	calcinogenic glycosides (1,25-dihydroxycholecalciferol)		Riet-Correa F. et al, Enzootic calcinosis in sheep , experimental reproduction with N. veitchii, Presq. Vet. Bras. 13 (1-2), 21-24, (1993)
***Nigella damascena* L.**	1C: entire plant	damascenine alkaloid, seed essential oil (0,5%) was characterized by almost 100% sesquiterpenes, of which [beta]-elemene (73,2 %) represented about three-quarters of the total amount.		Essential Oils of *Nigella sativa* L. and *Nigella damascena* L. Seed Journal of Essential Oil Research: JEOR , May/Jun 2004 by Moretti, A, D'Antuono, L Filippo Elementi S
***Nigella sativa* L.**	1B: seeds	isoquinoline alkaloid in seeds; essential oil of seeds (0,5%-1,5%)and for 90% monoterpenes, mainly composed of p-cymene (33,8 %) and thymol (26,8 %), only small amounts of thymoquinone (3,8 %))	only seeds and oil from seeds have history of use in EU	Essential Oils of *Nigella sativa* L. and *Nigella damascena* L. Seed Journal of Essential Oil Research: JEOR , May/Jun 2004 by Moretti, A, D'Antuono, L Filippo Elementi S
***Nuphar lutea* (L.) Sibth. & Sm.**	1B: flowers, root	deoxynupharidine alkaloid		J Ethnopharmacol. 1986 Dec ;18 (3):273-96 Toxicity of plant material used as emergency food during famines in Finland. M M Airaksinen, et al
***Nymphaea alba* L.** *(Castalia alba (L.)Wood., Castalia speciosa* Salisb.*)*	1B: flowers, root	quinolizidine alkaloids; nupharine and nymphaeine alkaloid in seeds		Chopra. R. N., Nayar. S. L. and Chopra. I. C. Glossary of Indian Medicinal Plants (Including the Supplement). Council of Scientific and Industrial Research, New Delhi. 1986
***Nymphaea lotus* L.**	1B: flowers, root	quinolizidine alkaloids; nupharine alkaloid in seeds	*Nymphaea lotus* whole plant is considered mutagenic and cytotoxic.	A.A. Sowemimoa, F.A. Fakoyab, I. Awopetuc, O.R. Omobuwajoa and S.A. Adesanya. Toxicity and mutagenic activity of some selected Nigerian plants.Journal of Ethnopharmacology, Volume 113, Issue 3, 25 September 2007, Pages 427-43
***Nymphaea odorata* Ait.**	Rhizome	quinolizidine alkaloids; nupharine alkaloid in seeds		J Nat Prod. 2003 Apr ;66 (4):548-50 12713413 (P,S,G,E,B) Phenolic compounds from *Nymphaea odorata*.
Ochrosia spp.	1F: unspecified parts	Genus in which some species may contain indole alkaloids: ellipticine,...	Cytotoxic; formerly used as anticancer agent	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4

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***Ocimum basilicum* L.**	1H: Leaves and flowering tops. 1Q: plant, essential oil 1T: plant 1A: essential oil 1L: essential oil of leaves or herb	1Q: estragole content: 238-8780 ppm (plant), 5-85% (essential oil) 1T: methyleugenol content: 13-1400ppm 1A: Presence of high amounts of estragole, genotoxic and carcinogenic in rodents 1L: it contain also camphor estragole (0.4% in the herb) and eucalyptol (8% in the essential oil) 1H: Leaves and flowering tops essential oil: estragole 20-50%, eucalyptol 7.710%, methyleugenol 2%, camphor 1%, α- and β-thujones, safrole, carvacrol.(CoE, 2008)	1X: leaves used as food	Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Ocimum canum* Sims.**	1Q: essential oil	estragole content: 52%; The essential oil of O. canum from S.Tome was characterized by its high content of trans-methyl cinnamate (79.7 %)		
***Ocimum gratissimum* L.**	1T: buds	estragole in unspecified quantities 1T: methyleugenol content: 9.835ppm Chemotypes high in 1,8-cineole, trans-ß-ocimene, camphor, linalool, methyl chavicol, geraniol, citral eugenol, methyl cinnamate, methyl eugenol, ß-caryophyllene, and elemene, and ß-bisabolene were identified		Simon, J.E., J. Quinn, and R.G. Murray. 1990. Basil: A source of essential oils. p. 484-489. In: J. Janick and J.E. Simon (eds.), Advances in new crops. Timber Press, Portland, OR
***Ocimum micranthum* Willd.**	1T: unspecified parts	methyleugenol in unspecified quantities	Leaf oil variation in eugenol content from 98% at 12:00 p.m. to 11% at 5:00 p.m. The presence of methyleugenol could not be confirmed from the literature	Essential Oil Composition of the Leaves of *Ocimum micranthum* Willd. Journal of Essential Oil Research: JEOR , May/Jun 2004 by de Vasconcelos Silva, Maria Goretti, et al.
***Ocimum nudicaule* Benth.**	Leaves	Essential oil: estragole content: 98% (1Q)		
***Ocimum selloi* Benth.**	Leaves and flowers	estragole content: 51.1% (essential oil), 94.95% (essential oil from the leaves), 92.54% (essential oil of flower) (1Q)		
***Ocimum suave* Willd.**	1T: oil, leaf and flower oil, buds	1T: methyleugenol content: 2% (oil),65.49%- 66.18 (leaf and flower oil),2.240ppm (buds)		
***Ocimum tenuiflorum* L.** *(Ocimum sanctum* L.*)*	1M: fresh or dried leaves 1G: entire plant 1Q: leaf 1T: plant, leaf	1Q: known to contain estragole in unspecified quantities (O. sanctum), 1Q: estragole content: 39.950 ppm (leaves) 1T: methyleugenol content: 15-100 ppm (plant), 50ppm (leaves)	NF catalogue: used only as food supplement before 15/5/97. Any other food use fall under NF Regulation	See annex 3 of the EFSA advice on the draft guidance document on the safety assessment of botanicals and botanical preparations

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***Ocotea odorifera* (Vell.) Rohwer**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities		
***Ocotea pretiosa* (Nees) Mez.**	1T: wood oil	1T: methyleugenol content: 0.1-78% Safrole		European Medicines Agency London, 23 November 2005 Doc Ref: EMEA/HMPC/138363/2005
***Oenanthe aquatica* (L.) Poir.**	1B: fruit, root	contains myristicin (alleged psychotrope) and oenanthotoxin	All parts of the plant are poisonous (polyacetylenes) disappear on heating	Grieve. A Modern Herbal. Penguin 1984 ISBN 0-14-046-440-9 Launert. E. Edible and Medicinal Plants. Hamlyn 1981 ISBN 0-600-37216-2 Frohne. D. and Pfänder. J. A Colour Atlas of Poisonous Plants. Wolfe 1984 ISBN 0723408394 Cooper. M. and Johnson. A. Poisonous Plants in Britain and their Effects on Animals and Man. HMSO 1984 ISBN 0112425291 Duke. J. A. and Ayensu. E. S. Medicinal Plants of China Reference Publications, Inc. 1985 ISBN 0-917256-20-4
***Oenanthe crocata* L.**	1C: entire plant	oenanthotoxin , l-oenanthenol and 14-desoxi-oenanthoxin (Jean-Blain 1973).	(polyacetylenes) disappear on heating	Journal of Ethnobiology 25(2):228-239. 2005 J. A. R. GÜE. L. LO. VAN DE PUTTE
***Oenanthe phellandrium* Lam.**	1C: fruit	oenanthotoxin	(polyacetylenes) disappear on heating	
***Operculina macrocarpa* (L.) Urb.** *(Ipomoeaa operculata* (Gomes) Mart., *Merremia macrocarpa* (L.) Roberty)	1G: entire plant	glucoresins derivatives	Roots: strong laxative/ drastic purgative	
***Operculina turpethum* (L.) S.Manso** *(Ipomoea turpethum* (L.) R.Br.)	1B: root 1C: rhizome 1G: entire plant	glucoresins derivatives	Roots: strong laxative/ drastic purgative	
Opopanax spp.	1P: unspecified parts	Genus in which the essential oil from some species may contain furanocoumarines (furano- and dihydrofuranocoumarins)		J Nat Prod. 2004 Apr;67(4):532-6.Coumarins from *Opopanax chironium* . New dihydrofuranocoumarins and differential induction of apoptosis by imperatorin and heraclenin
***Origanum majorana* L.**	1Q: plant fruits, herb (EHIA list) 1L: herb essential oil	1Q: estragole content: 96-550 ppm 1L: Herb essential oil: camphor , 2%. (CoE, 2005)	leaf (1X)	Active principles (constituents of chemical concern) contained in natural sources of flavourings. Council of Europe. 2005
Ornithogalum spp.	1G: entire plant	Genus in which some species may contain cardenolides	Cardenolides are found in *O. umbellatum* (rhizome), *O. boucheanum* (leaves and bulb), *O. caudatum* (bulb) (Frohne & Pfänder 1997, Roth 1984)).	Ghannamy U.et al. 1987, Cardenolides aus *O. boucheanum* . 53(2), 172-8. D.Frohne, H.J. Pfander, -Poisonous Plant, II ed, Manson publisher
Orobanche spp.	1F: unspecified parts	Genus in which some species may contain substances of concern - see remark	Orobanche: parasitic plant using sap from host plant. If in host for example quinolizidine alkaloids (e.g. sparteine) are present then these alkaloids are also found in Orobranche	Medicinal and Aromatic Plants XII. Nagata, Toshiyuki; Ebizuka, Yutaka (Eds.) , Springer Verlag 2002. ISBN: 978-3-540-41686-9
Oxalis spp.	1F: unspecified parts	Genus in which some species may contain oxalates		PDR for Herbal Drug. Thomson ed. 2004
Papaver spp.	entire plant	Genus in which some species may contain alkaloids, e.g. morphine, codeine, ..., rhoeadine…		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1

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***Papaver bracteatum* Lindl.**	1B: unripened fruit	Codeine		
***Papaver somniferum* L.**	1J: entire plant	Alkaloids content: 20-30%. Thebaïne (0.2-1%), codeine(0.2-3.5%), morphine(3-23%), noscapine(2-10%), papaverine(0.5-3%)	Also seeds that normally do not contain alkaloids can be contaminated	PDR for Herbal Drug. Thomson ed. 2004
***Paris quadrifolia* L.**	1C: entire plant 1D: entire plant 1G: entire plant	spirostanic saponines: pennogenin tetraglycoside (Tg)	Cardiovascular effects of pennogenin tetraglycoside (Tg) [82657-46-3] extd. from *P. quandrifolia* were investigated in mice, bull-frogs and rabbits. Tg doses of 1-10 mg/kg (i.v.) produced a fall in blood pressure	Cardiovascular effects of pennogenin tetraglycoside (Tg) extracted from *Paris quadrifolia* Linn. Gomita, Yutaka; et al.. Yakugaku Zasshi (1982), 102(5), 495-8. 2)
***Parthenocissus quinquefolia* (L.) Planch.**	leaves	Rhapide crystals of calciumoxalate in berries and leaves up to 2%	Cases have been reported of illness and death resulting after berries of Virginia creeper were ingested. In another case, two children became ill after swallowing the juice from chewed leaves. Symptoms included vomiting, purging, and tenesmus. The children collapsed and were in stupor for 2 h. A dozen ripe berries were fed to a guinea pig, which died within 36 h (Warren 1912). Modern reports view these cases as circumstantial.	Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp
***Paullinia cupana* Kunth**	1G: seed 1H: Seeds, guarana (pulp of the dried seeds)	1H: Guarana paste: Caffeine 2.6-7%. Seeds: Caffeine 4.3%; essential oil from Paullinia cupana: carvacrol, estragole; Guarana powder: Up to 4.4% caffeine. (CoE, 2007)	seed (20)	1)Guarana (*Paullinia cupana*): toxic behavioral effects in laboratory animals and antioxidants activity in vitro. Mattei R et al. Journal of ethnopharmacology (1998), 60(2), 111-6. Natural sources of flavourings (Rep No 2), Council of Europe, (2007) H. Benoni, P.Dallakian, K. Taraz "Studies on the essential oil from guarana" Z. Lebensm. Unters. Forsch. 203, 95-98 (1996)
***Pausinystalia johimbe* (K.Schum.) Pierre ex Beille** *(= Corynanthe johimbe* K.Schum.*)*	1B: bark 1C: entire plant 1D: entire plant 1G: bark	The bark of *P. yohimbe* has a total alkaloid content of 2-15 %, but 1.7-3.4% by weight is yohimbine. cyclic-indole alkaloids (Yohimbine alkaloids) that are present in the bark of *P. yohimbe* : Yohimbine (=corynine, quebrachine), a-yohimbine (=corynanthidine, isoyohimbine), b-yohimbine, d-yohimbine (=(-)-Ajmalicine), corynanthine, corynantheine, dihydrocorynantheine, allo-yohimbine (=dihydroyohimbine), Pseudo-yohimbine and tetrahydromethylcoynantheine.		Bruneton 1995. Pharmacognosy. Lavoisier
Pedilanthus spp.	entire plant	Genus in which some species may contain cytotoxic diterpenes : e.g. oxygenated jatrophane diterpenes, phorbolesters,…	Belongs to the Euphorbiaceae. The latex is known to contain different skin-irritating compounds belonging to tiglian and phorbolesters	W. Mongkolvisut et al. J Nat Prod. 2007 Sep;70(9):1434-8.

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***Peganum harmala* L.**	1B: herbaceous plant, seeds 1C: entire plant 1D: entire plant 1G: entire plant	harman alkaloids: harmine, harmaline;β-carbolines such as: harmine, harmaline (identical with harmidine), harmalol and harman and quinazoline derivatives: vasicine and vasicinone		Toxicity of *Peganum harmala* ; review and a case report.IRANIAN JOURNAL OF PHARMACOLOGY & THERAPEUTICS. Massoud M et al 2002, 1 -1-4
***Pelargonium sidoides* DC.**	1T: leaf oil	essential oil content: methyleugenol 4.3% ; methyleugenol (4.3%) and elemicin (3.6%)		O. Kaiser et al. Flavour and Fragrance Journal, 1998, vol 13, 3, pp 209-213
***Perilla fructescens* Britton**	leaves and seeds	The phenylpropanoid chemotype contains myristicin (phenylpropanoid) (Koezuka et al. 1986a,b), which is reported to have hallucinogenic properties (Seto and Keup 1969)	1P: only the Perilla aldehyde chemotype is authorised for use in food NF catalogue: used only as food supplement before 15/5/97. Any other food use fall under NF Regulation; Plant must be properly dried to avoid the appearance of the toxic perilla keton	• Koezuka, Y., G. Honda, and M. Tabata. 1985a. An intestinal propulsion promoting substance from *Perilla frutescens* and its mechanism of action. Planta Med. 6:480-482 ; • Seto, T.A. and W. Keup. 1969. Effects of alkylmethoxybenzene and alkylmethylenedioxybenzene essential oils on pentobarbital and ethanol sleeping time. Arch.
***Persea americana* Mill** *(Persea drymifolia* Schltdl. & Cham)	leaf	Essential oil from the leaves: estragole (3-85%); methyleugenol (3%) ester of a C21 fatty acid: acetate of (2R)-(12Z, 15Z)-2-hydroxy-4-oxoheneicosa-12,15-dienol (Bruneton 1999)		Morton J. 1987. Avocado in Fruits of Warm Climates. Bruneton, J., 1999. Plantes toxiques. Ed. Tec & Doc
Petasites spp.	1C: leaves, rhizome 1G: entire plant	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids		Bruneton J. « Plantes toxiques », 3ème édition, Ed. Tec et Doc-Lavoisier (2005), ISBN : 2- 7430-086-7
***Petasites officinalis* Moench** *(Petasites hybridus* (L.) Gaertn.)	1A: leaves 1B: leaves, root 1D: entire plant	1A:pyrrolizidine alkaloids: e.g. senecionine		
***Petroselinum crispum* (Mill.) A.W.Hill**	1H: Fruit (seed), herb (leaves , flowering tops), root. 1A: fruit 1B: oil 1C: fruit 1H: fruit, seeds, herb (leaves and flowering tops), roots 1L: seed and herb essential oil 1X: leaf, root (depending on convar. of species)	1A: seeds contain significant quantities of essential oil with toxic apiole. 19,650 - 36,580 ppm in Seed; 0.36 - 22 ppm in Leaf ; 58-80% in fruit 1L: it contain elimicin and myristicin (727 mg/kg plant) 1H: Leaves: furocoumarin (psoralen 3.210.5%, bergapten 6.4-14.7%, 8-methoxypsoralen 0.53-5.3%, isopimpinellin 1.6-8%); Parsley leaf oil: Alkenylbenzenes (myristicin 1.5-14%, apiol 0.9-8.1%); Common parsley seed oil: Alkenylbenzenes (myristicin 2.4-37%, elemicin -8.8%, apiol 11-67%); Italian parlsey seed oil: Alkenylbenzens (myristicin 0.7-40%, elemicin -2-5, apiol 30-68%); Curly parsley seed oil: Alkenybenzenes (myristicin 45-62%, elemicin -12.2%, apiol -7.2%). (CoE, 2007)	Apiole (fruit) is used to induce abortion	PDR for herbal drug 2004 Thomson ed. http://www.erowid.org/archive/rhodium/chemistry/parsnips.html

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***Petunia violacea* Lindl.**	1F: unspecified parts	Undefined alkaloids	Solanaceae family; halucinogenic	
***Peumus boldus* Molina**	1T: leaves	in leaves isoquinoline alkaloids: boldine, ... 1T: methyleugenol content: 100-125 ppm or 1.19%		Food Research International. Volume 38, Issue 2, March 2005, Pages 203-213 Extraction of boldo (*Peumus boldus* M.) leaves with supercritical CO2 and hot pressurized water J.M. del Vallea,T. Rogalinskib, C. Zetzlb and G. Brunnerb
***Phaseolus lunatus* L.**	1L:seed 1X: seed	1L: Seed known to contain cyanogenic glycoside linamarin from 100 to 3000 mg HCN/Kg of seed. (CoE, 2005) Lectin	Lectin inactivated by cooking	Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005.
***Phaseolus vulgaris* L.**	1L: seed	lectin 1L: Seed: cyanogenic glycoside linamarin 20 mg/kg. (CoE, 2005)	Lectin inactivated by cooking	Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005.
***Phellodendron amurense* Rupr.**	bark	isoquinoline alkaloids: Berberine (major alkaloid, up to 8%), palmitine	1P: only the bark is permitted in food products with the warning that it is prohibited from use by pregnant women	
Philodendron spp.	1C: entire plant	Genus in which some species may contain oxalate raphides		
***Physalis alkekengi* L.**	1C: fruit, roots	solanine in immature fruit	anti-estrogen activity of fruit components	
***Physostigma venenosum* Balf.**	1B: seeds 1C: seeds	indole alkaloids: physostigmine (eserine)		
Phytolacca spp.	1C: roots, seeds	Genus in which all plant parts of some species may contain triterpenoid saponines (e.g. phytolaccatoxin). Mitogenic lectins (Cooper & Johnson 1998; Frohne & Pfänder 1997).		Cooper MR, Johnson AW. (1998) Poisonous plants and fungi in Britain. Animal and human poisoning. Second Edition. The Stationery Office. 1998. Frohne D, Pfänder HJ. Giftpflanzen (1997). Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart.
***Phytolacca americana* L.**	1B: leaves, fruit, root 1D: entire plant 1G: entire plant	All plant parts contain triterpenoid saponines (e.g. phytolaccatoxin) and mitogenic lectins (Cooper & Johnson 1998; Frohne & Pfänder 1997)		Cooper MR, Johnson AW. (1998) Poisonous plants and fungi in Britain. Animal and human poisoning. Second Edition. The Stationery Office. 1998. Frohne D, Pfänder HJ. Giftpflanzen (1997). Ein Handbuch für Apotheker, Ärzte, Toxikologen und Biologen. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart
***Picramnia antidesma* Sw.**	1F: unspecified parts	anthracenes: aloe emodin, aloe emodin anthron, picramnioside A, B, C		
***Pieris formosa* (Wall.) D.Don.**	plant	diterpenes: grayanotoxines (Ericaceae)	grayanatoxin = andromedotoxin	Hollands R.D. et al, P. formosanum poisoning in the goat, Vet. Rec. 118 (14), 407-408, (1986) Zhang E.L. et al, Study on the mechanism of action of P. formosanum, Ind. Vet. J. 78 (12), 1098-1101, (2001)
***Pieris japonica* (Thunb.) D.Don.ex G.Don.**	plant	diterpenes: grayanotoxines (Ericaceae)		

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Pilocarpus spp.	entire plant	Genus in which some species may contain imidazole alkaloids: e.g. pilocarpine, pilocarpidine, pilosine,...	*Pilocarpus jaborandi* Holmes known for its high pilocarpine content	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Pilocarpus jaborandi* Holmes**	1B: leaves 1C: leaves	1S: pilocarpine		
***Pilocarpus microphyllus* Stapf.**	1B: leaves, roots	Pilocarpine		
***Pilocarpus pennatifolius* Lem.**	1B: leaves	Pilocarpine		
***Pilocarpus racemosus* Vahl**	1B: leaves	Pilocarpine		
***Pimenta racemosa* (Mill.) J.W.Moore**	1Q: leaves 1T: leaves	essential oil: 1Q: estragole content: 30- 10.745 ppm (leaves) 1T: methyleugenol content: 4.31-14.65 ppm (leaves)		
***Pimpinella anisum* L.**	1L, 1Q: fruit 1H: fruit (seeds)	1L, 1Q: estragole content: 400-1050 ppm 1H: Fruit (seed): furocoumarins traces. Anise oil: Alkenylbenzenes (estragole 1-5%). (CoE, 2007)	Essential oil: estragole content: 400-1050 ppm	Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005 Natural sources of flavourings (Rep No 2), Council of Europe, (2007)
***Pimpinella major* (L.) Huds.**	1G: root	contains furocoumarins: pimpinellin, sphondin	Trans-epoxypseudoisoeugenyl tiglate as the major constituent (37.34 and 19.54%)	Bohn, Irene; Kubeczka, Karl Heinz; Schultze, Wulf. The essential root oil of *Pimpinella major.* Planta Medica (1989), 55(5), 489-90.
***Pimpinella saxifraga* L.**	1H: Root, herb.	1H: Root oil: Furocoumarins; Roots: Furocoumarins 0.025% (angelicin, pimpinellin, sphondin, imperatoin, bergapten, isobergapten, esopimpinellin, peucedanin, scopoletin, umbelliferon, umbelliprenin, xanthotoxin). (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Pinellia ternata* (Thunb.) Breitenb.** *(P. tuberifera* Ten.*)*	1G: entire plant	total alkaloids 0.0155% -0.0652%; in root: ephedrine 25 ppm only	sedative effect and not stimulating	Phytochemical Study of the Rhizome of *Pinellia ternata* and Quantification of Phenylpropanoids in commercial *Pinellia* Tuber by RP-LC Mei-hua Han1, Xiu-wei Yang. (2006). Journal Chromatographia, 64(11-12)
***Piper betle* L.**	1C: entire plant	8% essential oil (leaves) 1Q: estragole content: 1.02 - 4.0% 1T: methyleugenol content: 4.1%		
***Piper methysticum* G.Forst.**	1M: dried rhizome 1C: entire plant 1D: entire plant 1G: roots	Kavalactones (kava pyrones, 5-12%): chief components include (+)-kavain; dihydrokavain (marindinie),(+)-methysticin, dihydromethysticin, yangonin, desmethoxy-yangonin. Chalcones: including flavokavin A and B	Contraindicated in patients with endogenous depression because it increases the danger of suicide, in pregnancy and in nursing mothers. Hepatotoxicity, , diskinesia, increase in pupil diameter, drug interactions (alchool, alprazolam, CNS depressants, dopamine, psychoactive	Nerurkar, PV *et al* (2004). "In vitro toxicity of kava alkaloid, pipermethystine, in HepG2 cells compared to kavalactones". *Toxicological Sciences* 79 (1): 106–111. doi:10.1093/toxsci/kfh067. PMID 14737001. PDR for Herbal Drug, 2004 Thompson ed.

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***Piptadenia peregrina* Benth**	Plant	indolamines: bufotenine, 5-MeO-dimethyltryptamine); total alkaloid amount in seeds 1%-2%	hallucinogen	Alkaloids and flavonoids of *Piptadenia peregrina* from Haiti. Absence of alkaloids in *Piptadenia africana* . Paris, Rene R.; Saint-Firmin, Annette; Etchepare, Simone. Annales Pharmaceutiques Francaises (1967), 25(7-8), 509-13.
***Piscidia piscipula* (L.) Sarg.** *(P. erythrina L.)*	1B: root bark 1G: root	the rotenoids : rotenone, millettone, isomillettone		
***Pluchea sagittalis* (Lam.) Cabrera**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities	The chemical components of patchouli oil are b-patchoulene, a-guaiene, caryophyllene, a-patchoulene, seychellene, a-bulnesene, norpatchoulenol, patchouli alcohol and pogostol. The presence of methyleugenol could not be confirmed from literature search	
***Podophyllum hexandrum* Royle** *(Podophyllum emodi* Wall.*)*	1B: roots, resin, rhizome 1C: roots 1D: entire plant 1G: entire plant	podophyllotoxin		Assessment of diversity in *Podophyllum hexandrum* by genetic and phytochemical markers. Sultan, P. et al. Scientia Horticulturae (Amsterdam, Netherlands) (2008), 115(4), 398-408
***Podophyllum peltatum* L.**	1B: roots, resin, rhizome 1C: roots 1D: entire plant 1G: entire plant	glucoresins from roots (3-6%) containing podophyllotoxin (20%), peltatin ;	podophyllotoxin is a mitotic spindle poison	Rosenstein, G., Rosenstein, H., Freeman, M., Weston, N. 1976. *Podophyllum* - a dangerous laxative. Pediatrics, 57: 419-421. Bruneton 1995. Pharmacognosy. Lavoisier
***Pogostemon cablin* Benth.**	1P: unspecified parts	essential oil: sesquiterpene derivatives (norpatchoulenol)	skin irritation - Patchouli	PDR for Herbal Drug. 2004 III ed Thomson ed.
***Polianthes tuberosa* L.**	1H: flowers	sapogenins: tigogenin, hecogenin,	Spirostanol pentaglycosides , cholestane glycoside . glycosides and a long chain alcohol;Steroidal glycosides. Steroidal saponin	Steroidal glycosides from the aerial parts of *Polianthes tuberosa* . Mimaki, Yoshihiro;et al.. Journal of Natural Products (2000), 63(11), 1519-1523
Polygonatum spp.	1G: entire plant	genus in which some species may contain steroidal saponins	Species formerly thought to contain cardiac glycosides. However recent studies could not confirm their presence. EDIBLE PARTS: Young shoots can be boiled for 10 minutes and served like asparagus. Whole shoots can be cut up and put into salads. The rootstocks can be added to stew or boiled for 20 minutes and eaten like potatoes. (Peterson 1978)	Peterson, L. 1978. A Field Guide to Edible Wild Plants. Houghton Mifflin Co., Boston, 330 pp. \

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***Polygonatum multiflorum* (L.) All.**	1B: rhizome	spirostannic saponines		
***Polygonatum odoratum* Druce** *(P. officinale* All.)	1B: rhizome	steroidal saponines; chelidonic acid;	no cardiac glycosides present as in older literature stated	
***Polygonum multiflorum* Thunb.**	1G: root	anthraquinones : emodin, chrysophanol		Australian Government:CMEC 58, COMPLEMENTARY MEDICINES EVALUATION COMMITTEE; Extracted Ratified Minutes Fifty-eighth Meeting 18 August 2006
***Polypodium filix-mas* L. *(See Dryopteris filix-mas* (L.) Schott.)**				
***Polypodium vulgare* L.**	1B: rhizome 1G: root	ecdysterone;-ecdysone + polypodine B) Five phytoecdysteroids not previously reported in P. vulgare have been isolated from methanol exts. of cultures of the prothalli of this species. Among them, inokosterone, pterosterone and abutasterone had already been identified in other plants, whereas 24-hydroxyecdysone and 5-hydroxyabutasterone are described for the first time.	Although we have found no reports of toxicity for this species, a number of ferns contain carcinogens so some caution is advisable. Many ferns also contain thiaminase, an enzyme that robs the body of its vitamin B complex. In small quantities this enzyme will do no harm to people eating an adequate diet that is rich in vitamin B, though large quantities can cause severe health problems. The enzyme is destroyed by heat or thorough drying, so cooking the plant will remove the thiaminase.No toxicology data found on polypody rhizome.Polypody rhizome can be regarded as safe under normal conditions of use.	New ecdysteroids from *Polypodium vulgare* . Coll, Josep et al. Tetrahedron (1994), 50(24), 7247-52. *Polypodium vulgare* L., rhizoma. EMEA MONOGRAPHS 2008
***Poncirus trifoliata* (L.) Raf.**	Fruit	acridone alkaloids: 5 hydroxy-norachronycine; coumarins	Severe stomach pain and nausea; skin irritation with prolonged contact.	The first isolation of an acridone alkaloid from *Poncirus trifoliata* . TIAN-SHUNG WU (1) ; RU JIN CHENG ; SHIOW-CHYN HUANG ; FURUKAWA H. (1986); Journal of natural products, vol. 49, no6, pp. 1154-1155
***Prunus amygdalus* Batsch. *(See Amygdalus communis* L.)**				
***Prunus armeniaca* L.** *(Armeniaca vulgaris* Lam.*)*	1L: seed 1X: fruit 1H: Fruit pulp and seeds	1L: known to contain 120-4000 mg HCN/Kg seed 1H: Seeds: cyanogenic glucoside (amygdalin -6.5%). (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Prunus laurocerasus* L.**	1B: leaves 1C: fruit	cyanogenic glycosides,: prunasin (0.5-2.5%), 50-210 mg HCN/100 gm)		PDR for Herbal Drug, 2004 Thomson ed.
***Prunus macrophylla* Siebold & Zucc.**	1B: leaves	cyanogenic glycosides,: prunasin		
***Prunus persica* (L.) Batsch**	1B: seeds 1L: seed 1X: fruit	1L: Known to contain prunasin corresponding to 470 mg HCN/Kg. Seed		Frohne. D. and Pfänder. J. A Colour Atlas of Poisonous Plants. Wolfe 1984 ISBN 0723408394
***Pseudocaryophyllus guili* (Speg.) Burret**	1T: leaf oil, fruit	1T: methyleugenol content: 5%		Essential oil of *Pseudocaryophyllus guili* . De Fenik, Ines J. S.; Retamar, Juan A. Fac. Bioquim., Quim. Farm., Univ. Nac. Tucuman, Tucuman, Argent. Anais da Academia Brasileira de Ciencias (1972), 44(Suppl.), 175-80
Psoralea spp.	1F: unspecified parts	Genus in which some species may contain furanocoumarines: e.g. psoralen		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1

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***Psoralea corylifolia* L.**	1B: seeds	contains psoralen;	essential oil: acetic acid Et ester (1.61%), linalool (3.56%), trans-caryophyllene (26.8%), calarene (4.48%), alpha-humulene (3.28%), 1s,cis-calamenene (3.16%), caryophyllene oxide (9.83%) and iso psoralen (3.02%).	Studies on chemical constituents from seed of *Psoralea corylifolia* . Liu, Hua; Bai, Yanjing; Chen, Yayun; Zhao, Yuying. Zhongguo Zhongyao Zazhi (2008), 33(12), 1410-141; Analysis of chemical constituents of the essential oils from *Psoralea corylifolia* by headspace-GC-MS. Yang, Zai-bo; Zhong, Cai-ning; Deng, Wei-xian; Mao, Hai-li. Fenxi Shiyanshi (2008), 27(4), 87-90
Psoralea penthaphylla L.	1B: root	Psoralen		
***Psychotria viridis* Ruiz. et Pav.**	1G: entire plant	tryptamine alkaloids: N,N-dimethyltryptamine		*Psychotria viridis* - a botanical source of dimethyltryptamine (DMT). Blackledge, Robert D.; Taylor, Charlotte M. Microgram Journal (2003), 1(1-2), 18-22. Isolation of the alkaloid N,N-dimethyltryptamine from chacruna (*Psychotria viridis* R. & P.). Reyna Pinedo, Victor; Torpoco Carmen, Virginia. Boletin de la Sociedad Quimica del Peru (1994), 60(1), 21-3
***Pteridium aquilinum* (L.) Kuhn.**	1B: rhizome 1G: entire plant	thiaminase and HCN; sesquiterpene ptaquiloside B	Ptaquiloside is a carcinogenic compound (formation of an alkylant conjugated dienone) and it's transformation in ptaquiloside B leads to an neurotoxic compound	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Pterocarpus marsupium* Roxb.**	Heart wood, bark and latex	5,7,2-4 Tetrahydroxy isoflavones 6-6glucoside (cardiotonic and cardiotoxic);		
***Pulmonaria officinalis* L.**	root	Pyrrolizidine alkaloids possibly in the roots, not in the leaves	no clear evidence of the presence of toxic unsaturated pyrrolizidine alkaloids	
***Pulsatilla pratensis* Mill.**	1B: herbaceous plant with flowers	protoanemonin in fresh herb, saponines	protoanemonin is converted in non toxic anemonine on drying	
***Pulsatilla vulgaris* Mill.** *(Anemona pulsatilla* L.*)*	1B: leaves, herbaceous plant with flowers, roots 1C: entire plant 1D: entire plant	protoanemonin in fresh herb, saponines	protoanemonin is converted in non toxic anemonine on drying	
***Punica granatum* L.**	1B: tree bark, root bark 1G: root	Total pyridine alkaloids from the root/bark (0.5-0.7%), e.g. pelletierine, pseudo pelletierine, iso-pelletierine, and methylisopelletierine	isopelletierine is the most potent taenicide Sánchez-Lamar et al. reported that the fruit hydroalcoholic extract is genotoxic in vitro + in vivo. Fruit and fruit juice are consumed	Sánchez-Lamar et al. (2008). Assessment of the genotoxic risk of *Punica granatum* L. (Punicaceae) whole fruit extracts. J Ethnopharmacol. 12;115(3):416-22.

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***Pyrularia pubera* Michx.**	fruits and seeds	thionin toxic proteins in fruits and seeds: purothionin, viscotoxin, phoratoxin, crambim and thionin		University of Giorgia. D.B. Warnel. School of forest ressources outreach publication FOR05-3
Quassia spp.	1I: wood	Genus in which some species may contain quassinoids. Some species may also contain indole alkaloids: carboline, canthine-6-one	Reproductive toxicity by oral and IP injection in animals insecticidal activity and cytotoxic properties	
***Quassia amara* L.**	1H: Wood.	contains quassinoids and indole alkaloids: carboline, canthine-6-one 1H: Methanolic extract from wood: Quassin. (CoE, 2008)	Reproductive toxicity by oral and IP injection in animals insecticidal activity and cytotoxic properties	Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Quassia simaruba* L.f.** *(Simaruba amara* Aubl.*)*	wood	quassine mixture; alkaloids : carboline, canthine-6-one;	Reproductive toxiciy by oral and IP injection in animals insecticide activity and cytotoxic properties Jamaica Quassia extract showed at high doses a promoting activity for rat hepathocarcinogenesis	Bruneton, J., 1999. Plantes toxiques. Ed. Tec & Doc. Woo et al. 2007. Promoting potential of a Jamaica quassia extract in a rat medium-term hepatocarcinogenesis bioassay. Food Chem Toxicol. 2007 Jul;45(7):1160-4. Parveen et al. 2003. A comprehensive evaluation of the reproductive toxicity of *Quassia amara* in male rats. Reprod Toxicol.
***Quillaja saponaria* Molina**	1I: bark	calciumoxalate in bark (11%) complex saponins mixture	the toxicity of saponins depends on their structure and administration route	
Ranunculus spp.	herb and root	Genus in which some species may contain protoanemonin in the fresh herb	protoanemonin is converted in non toxic anemonine on drying in Ranunculus ternatus, two new indolopyridoquinazoline alkaloidal glycosides in the root of Ranunculus repens, two potent inhibitors of urease activity	Zhang et al. 2007. Two new indolopyridoquinazoline alkaloidal glycosides from *Ranunculus ternatus* . Chem Pharm Bull (Tokyo). 2007 Aug;55(8):1267-9. Khan et al 2006. New natural urease inhibitors from *Ranunculus repens* . J Enzyme Inhib Med Chem. 2006 Feb;21(1):17-9.
***Ranunculus acris* L.**	1B: herbaceous plant, roots 1C: entire plant	protoanemonin in the fresh herb	protoanemonin is converted in non toxic anemonine on drying	
***Ranunculus arvensis* L.**	1C: entire plant	protoanemonin in the fresh herb	protoanemonin is converted in non toxic anemonine on drying	
Ranunculus bulbosus L.	1B: herbaceous plant, roots 1C: entire plant	protoanemonin in the fresh herb	protoanemonin is converted in non toxic anemonine on drying	
***Ranunculus ficaria* L.** *(Ficaria ranunculoides* Roth*)*	1B: fruit, herbaceous plant, roots	protoanemonin in the fresh herb	protoanemonin is converted in non toxic anemonine on drying	
***Ranunculus flammula* L.**	1B: herbaceous plant, roots	protoanemonin in the fresh herb	protoanemonin is converted in non toxic anemonine on drying	
***Ranunculus sceleratus* L.**	1B: herbaceous plant, roots	protoanemonin in the fresh herb	protoanemonin is converted in non toxic anemonine on drying	

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Rauvolfia spp.	1C: entire plant	Genus in which some species may contain indolomonoterpenic alkaloids: yohimbane, heteroyohimbane; dihydroindole derivatives: reserpine, rescinnamine, ajmalicine (= raubasine), ajmaline…		Bruneton, J., 1999. Plantes toxiques. Ed. Tec & Doc.
***Rauvolfia canescens* L.** *(Rauvolfia tetraphylla* L.)	entire plant	indolomonoterpenic alkaloids: reserpine, rescinnamine, ajmalicine		
***Rauvolfia serpentina* Benth. ex Kurz** *(Ophioxylon serpentimum* L.*., O.trifoliatum* Gaertn.*, Rauvolfia trifoliata* (Gaertn.) Baill.)	1B: root 1C: entire plant	indolomonoterpenic alkaloids: reserpine, rescinnamine, ajmalicine		
***Rauvolfia vomitoria* Afzel.**	1B: root bark, root	indolomonoterpenic alkaloids: reserpine, rescinnamine, ajmalicine		
***Ravensara aromatica* Sonn.** *(Agathophyllum aromaticum* Willd.*)*	leaves	essential oil: Methyl chavicol (79.7%), Methyl eugenol (8.5%)		Chemical composition of *Ravensara aromatica* Sonn. leaf essential oils from Madagascar. Ramanoelina, Panja A. R.; Rasoarahona, Jean Roger E.; Gaydou, Emile M. Journal of Essential Oil Research (2006), 18(2), 215-217.
***Rhamnus cathartica* L.** *(Rhamnus catharticus* L.)	1C: entire plant 1G: fruit	Hydroxyanthracene derivatives: cascarosides and free anthraquinones: emodin, aloe-emodin	Fresh bark contains free anthrones, irritating for the gastrointestinal system	
***Rhamnus frangula* L.** *(Frangula alnus* Mill.*)*	1G: bark	hydroxyanthracene derivatives (6%): gluco-frangulins, emodin anthrone, dianthrones: palmidine C,…	Fresh bark contains free anthrones, irritating for the gastrointestinal system	

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***Rhamnus purshianus* DC.** *(Frangula purshiana (*DC.*)* J.C.Cooper*, R. purshiana* DC.*)*	1H: Bark 1C: entire plant 1G: bark	hydroxyanthracene derivatives (8%): about 60% cascarosides, free anthraquinones: emodin, aloe-emodin,... Free aglycones in bark less than 1%. (CoE, 2008)	Fresh bark contains free anthrones, irritating for the gastrointestinal system	Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Rheum officinale* Baill.**	radix, rhizoma	Hydroxyanthracene derivatives: (2.2%- 6%): anthraquinones: rhein, emodin,..; dianthrones: sennosides A, B, palmidin C,…	Different other Rheum species are used from which the most important is Rheum tanguticum. For all Rheum species, the emodine and aloe-emodine amount should be kept under control. 1P: food containing the rhizome must have the warning not to ingest more than the equivalent of 25 mg/day of anthraquinones (calculated as rhein) and "not to give to children of less than 12 years of age; consult a physician if pregnant or nursing; consult a specialist for prolonged use"	Anthraquinones containing plants reconsidered, L. Delmulle and K. Demeyer, Standaard uitgeverij 2008; ISBN 978 90 341 9290 5
***Rheum palmatum* L.**	radix, rhizoma	Hydroxyanthracene derivatives: (2.2%- 6%): anthraquinones: rhein, emodin,..; dianthrones: sennosides A, B, palmidin C,…	Different other Rheum species are used from which the most important is Rheum tanguticum. For all Rheum species, the emodine and aloe-emodine amount should be kept under control. 1P: food containing the rhizome must have the warning not to ingest more than the equivalent of 25 mg/day of anthraquinones (calculated as rhein) and "not to give to children of less than 12 years of age; consult a physician if pregnant or nursing; consult a specialist for prolonged use"	Anthraquinones containing plants reconsidered, L. Delmulle and K. Demeyer, Standaard uitgeverij 2008; ISBN 978 90 341 9290 5
Rhododendron spp.	Leaves & flowers	Genus in which some species may contain toxic diterpenes: andromedotoxins, grayanotoxins in R. chrysanthum Pall.; in R. simsii Planch : ursolic acid		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1

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***Rhododendron ferrugineum* L.**	1C: entire plant	toxic diterpenes: andromedotoxins, grayanotoxins		
Rhodomyrtus spp.	berries		If eaten, the finger cherries cause permanent blindness but could be due to fungal toxins?	Hazards in the wet tropics N°31 November 1995 Flecker 1944 -
Rhynchosia spp.	roots and seeds	Genus in which some species may contain isoquinoline alkaloids;	seeds contain narcotic alkaloids. No info for other parts	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Rhynchosia volubilis* Lour**	roots		Water and ethylacetate extracts have negative impact on rats and mice pregnancy and reproduction	Wang et al. 2007. Comparison of the anti-fertility effects of four extracts from the roots of *Rhynchosia volubilis* Lour. Zhonghua Nan Ke Xue. 2007 Oct;13(10):871-5.
***Ricinus communis* L.**	1B: seeds 1C: seeds 1G: entire plant	ricin (toxalbumine)	Ricin is not present in the oil (watersoluble). *Ricinus* oil is a strong laxative	
***Rivea corymbosa* (L.) Hallier.f.**	1C: aeriel parts seeds	alkaloid rivergamide ; ergot alkaloids (ergoline, lysergic acid derivatives)		
***Rivina humilis* L.**	entire plant	Phytolaccatoxin	Family of Phytolaccaceae	
***Robinia pseudoacacia* L.**	1B: leaves, seeds bark, leaves and roots	Toxalbumin: robin (1,6% in bark), phasin	Protein synthesis inhibitor activity	Hui et al. 2004. A rare ingestion of the Black Locust tree. J Toxicol Clin Toxicol. 2004;42(1):93-5.
***Roemeria hybrida* (L.) DC.**	1F: unspecified parts	beta carboline alkaloids (Papaveraceae): roecarboline and norroecarboline		
***Rohdea japonica* (Thunb.) Roth**	1G: entire plant	Cytotoxic and cardiotonic activity: rhodexin A		Masuda et al. 2003. Cytotoxic screening of medicinal and edible plants in Okinawa, Japan, and identification of the main toxic constituent of *Rhodea japonica* (Omoto). Biosci Biotechnol Biochem. 2003 Jun;67(6):1401-4.
***Rosmarinus officinalis* L.**	1O: flowering tops 1H: Leaves. 1L: leaves	1L: camphor and eucalyptol (13 to 31%) in herb essential oil (CoE, 2005) 1H: Leaves essential oil: eucalyptol 11.2-47%, pulegone 0.98%, camphor 13-31%, carvacrol 1.7%. (CoE, 2008)		Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005. Natural sources of flavourings (Rep No 3), Council of Europe (2008)
***Rubia tinctorum* L.**	1A: roots 1B: roots 1C: roots 1D: root	1A: Presence of lucidin (1,2,3-hydroxy anthraquinone) with genotoxic and most likely carcinogenic activity		Negativmonographie Rubiae tinctorum radix Bundesanzeiger n° 162 (29.08.1992)
***Rumex rugosa* Campd.** *(Rumex acetosa* L.)	1G: herb	Presence of oxalate		

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***Ruta graveolens* L.**	1A: herb, leaves 1C: aeriel parts 1D: entire plant 1G: herb	0,4-1,4% quinoline alkaloids: arborinine, graveoline (rutamine), …; coumarins, bergapten, psoralen, … essential oil: macrocyclic terpenes (methyl nonyl cetone…)	1A: Causes phototoxic and genotoxic reactions; anticonceptional activity, causes fatal intoxication when used to induce abortion	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Salacia reticulata* Wight**	root		pregancy problems with root extract	Ratnasooriya et al. 2003. Adverse pregnancy outcome in rats following exposure to a *Salacia reticulata* (Celastraceae) root extract. Braz J Med Biol Res. 2003 Jul;36(7):931-5.
***Salvia divinorum* Epling et Jativa**	1D: entire plant 1G: entire plant 1J: entire plant	diterpenes: salvinorin A	psychotropic activity	Babu et al. 2008. Opioid receptors and legal highs: *Salvia divinorum* and Kratom. Clin Toxicol (Phila). 2008 Feb;46(2):146-52. Grundmann et al. 2007. *Salvia divinorum* and salvinorin A: an update on pharmacology and analytical methodology. Planta Med. 2007 Aug;73(10):1039-46. Epub 2007 Jul 12. Erratum in: Planta Med. 2007
***Salvia lavendulifolia* Vahl**	1H: herb	1H: essential oil: Eucalyptol 11.841.2%, camphor 10-39%. (CoE, 2007)	NF catalogue: *Salvia hispanica* no history of use in EU before 15/5/97 - safety assessment under NF regulation required	Natural sources of flavourings (Rep No 2), Council of Europe, (2007)
***Salvia officinalis* L.**	1O: dried leaves 1H: Herb, leaves.	1O: dried leaves containing not lessential than 1.5% v/m essential oil calculated in reference to anhydrous drug essential oil of leaves: α-thujone 12-65%, β-thujone 1.2-35.6% (total thujone content 30-60%), eucalyptol 8-22.5%, camphor 4.4-30%, estragole, carvacrol. (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008) Raal et al. 2007. Composition of the essential oil of *Salvia officinalis* L. from various European countries. Nat Prod Res. 2007 May;21(5):406-11.
***Salvia sclarea* L.**	1H: herb, flowers	Herb essential oil: Estragole 49%, eucalyptol 3.23%, camphor, Flower essential oil; eucalyptol traces, camphor. (CoE, 2007)	Several Salvia species, e.g. *S. dominica* L., *S. lanigeria* Desf., *S. spinosa* L. exhibit in their leaves or aerial parts toxic activity against several human cell lines	Natural sources of flavourings (Rep No 2, Council of Europe, (2007) Fiore et al. 2006. In vitro antiproliferative effect of six *Salvia* species on human tumor cell lines. Phytother Res. 2006 Aug;20(8):701-3.

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***Sambucus ebulus* L.**	1B: bark , fruit, herbaceous plant, roots 1C: entire plant	ebuloside;cyanogenic glycosides lectine named selid	Ethylacetate extract showing high toxicity in mice *S. racemosa* L. contains acidic lectin in bark	Citores et al 1998 - Vittorio Ebrahimzadeh et al. 2007. Separation of active and toxic portions in *Sambucus ebulus*. Pak J Biol Sci. 2007 Nov 15;10(22):4171-3. Rojo et al. 2003. Isolation and characterization of a new d-galactose-binding lectin from *Sambucus racemosa* L. Protein Pept Lett. 2003 Jun;10(3):287-93.
***Sanguinaria canadensis* L.**	1B: rhizome, roots	1S: benzophenanthridine alkaloids: sanguinarine, chelerethrin, sanguirulin berberine, protopine		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Sanicula europaea* L.**	Leaves	Presence of triterpene saponins in the leaves: Saniculoside R-1, Saniculoside N		Schöpke et al. 1998. Saniculoside R-1: a new triterpenoid saponin from *Sanicula europaea* . Planta Med. 1998 Feb;64(1):83-5. Arda et al. 1997. Saniculoside N from *Sanicula europaea* L. J Nat Prod. 1997 Nov;60(11):1170-3.
Sansevieria spp.	1F: unspecified parts	Genus in which some species may contain steroidal saponines		
***Saponaria officinalis* L.**	1C: entire plant 1G: root ; seeds	triterpenoid saponins: saponarioside A and B (major) and others. In seeds ribosome inactivating protein: saporin	Greek Food Codex article 138 defines:"halva"as the product manufactured of sesame pulp(tahini),natural sugars and a minimal quantity of extract of soapwort roots./According to the Danish study "List of Drugs "the evaluated as safe level of intake of Saponaria officinalis is 100mg/person/day. Saporin is not able to enter the cells without prior recombinant treatment	Girbes T, Ferreras JM. Description,distribuition,activity and phylogenetic relationship of ribosome inactivating proteins in plants,funghi & bacteria.Mini Rev Chem.2004;4(5):461-76 Bolognesi A, et al.Induction of apoptosis by ribosome inactivating proteins and related immunotoxins. Int J Cancer.1996;68(3):349-55 Flavell DJ. Saporin immunotoxins. Curr Top Microbiol Imunol.1998;234:57-61 Structure -Activity Relationships of Haemolytic Saponins.Pharmaceutical Biology(Formerly International Journal of Pharmacognosy, Volume 40,Number 4,June 2002,pp.253-262(10) Journal of Natural products .Volume 62, Issue 12, Dicember 1999, pages 1655-1659
Sassafras spp.	1C: entire plant	Genus in which the essential oil from some species may contain safrole, isosafrole, methyleugenol (e.g. 1.1% for *S. albidum*).....		Teuscher E., Anton R. et Lobstein A. « Plantes aromatiques », Ed. Tec et Doc-Lavoisier (2005), ISBN : 2-7430-0720-6

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***Sassafras albidum* (Nutt.) Nees.** (*Sassafras officinale* Nees & Eberm)	1T: oil extract of root bark 1A: wood, root 1G: roots 1H: Rootbark, leaves.	1A: Plant contains a toxic substance. 1H: Root bark essential oil (yield 6-9%): safrole 80%, apiol, asarone, camphor, elemicin, myristicin, thujones, methyleugenol. Alkaloids o.02% (boldine, cinnamolaurine, isoboldine, norboldine, noecinnamolaurine, reticuline). (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Satureja montana* L.**	1T: plant 1H: Herb, leaves.	1T: methyleugenol content: 25-415 ppm 1H: Herb and leaves essential oil: carvacrol 30-40%, eucalyptol 0.59%, camphor 0.21%, thujones. (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Sauropus androgynus* (L.) Merr.**	1G: entire plant	leaves contain papaverine (0.5%)	Plant cultivated as vegetable (leaves are eaten). In Taiwan, lung problems seen with high intake of leaves (3400 mg papaverine/week when therapeutic dosage is 2100 mg/week))	Kao C.H. et al. Respiration 1999; 66:46-51
Saussurea spp.	1F: unspecified parts	Genus in which some species may contain lignans and sesquiterpene lactones		
***Saussurea lappa* (Decne) Sch.Bip.**	1U: root 1C: roots	lignans, chalcones, cytotoxic sesquiterpene lactones		
Sceletium spp. ***See Mesembryanthemum spp.***				
***Schinus terebinthifolius* Raddi**	Stem bark		1X: Fruit as spice stem bark decoction showing mutagenic properties in bacteria (Ame's test)	de Carvalho et al. 2003. Evaluation of mutagenic activity in an extract of pepper tree stem bark (Schinus terebinthifolius Raddi). Environ Mol Mutagen. 2003;42(3):185-91.
***Schisandra chinensis* (Turcz.) Baill.**	fruit (EHIA list) 1G: fruit	Lignans: rubisandrins A (1a+1b) and B (2) and gomisin J (3), (+/-)-gomisin M1 (4), (+/-)-gomisin 2 (5), schisanhenol (6), deoxyschisandrin, schisantherin B, schisandrin, tigloylgomisin P, gomisin O, angeloylgomisin P, and epigomisin O	NF Catalogue: Not subject to NF Regulation (berries) Gomisin has anti-HIV properties	Chromatographia Volume 66,Issue 1-2 Ju;y 2007,p.125-128 Journal of Chromatography B,812(2004)357-371
***Schisandra sphenanthera* Rehd. et Wills.**	fruit	Cadinane type compounds in fruit oil and delta-cadinene derivatives with cytotoxic activity		Song et al. 2007. Compositions and biological activities of essential oils of *Kadsura longepedunculata* and *Schisandra sphenanthera* . Am J Chin Med. 2007;35(2):353-64
***Schoenocaulon officinale* Gray** (*Sabadilla officinarum* Brandt et Ratzeb.)	1B: seeds 1C: seeds	Steroidal alkaloids: veratrine (mixture of cevadine, veratridine)		
Scindapsus spp.	1F: unspecified parts	Genus in which some species may contain oxalate and inflammatory protein derivatives		

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Scopolia spp.	entire plant	Genus in which some species may contain tropane alkaloids: e.g. hyoscyamine, atropine, scopolamine, and tetrahydroxy-nortropane alkaloids: calystegines.		Asano et al. 1996. Calystegine B4, a novel trehalase inhibitor from *Scopolia japonica* . Carbohydr Res. 1996 Oct 31;293(2):195-204.
***Scopolia carniolica* Jacq.**	1B: leaves, roots, rhizome 1C: entire plant	hyoscyamine, atropine, scopolamine (traces)		
***Scopolia japonica* Maxim.**	1B: rhizome	hyoscyamine, atropine, scopolamine (traces)		
***Selenicereus grandiflorus* Britton & Rose** *(Cactus grandiflorus* L.*)*	1C: aeriel parts	biogenic amines: tyramine (0,3% in dry matter), N-methyltyramine, N,N - dimethyltyramine (= hordenine)	some positive inotropic effect mentioned probably due to the biogenic amines	
***Semecarpus anacardium* L.f.**	1B: fruit	anacardic acid: anthelmintic	Chloroform soluble fraction of the nuts shows toxicity (LD50 230 mg/kg in rats). Fruits have to be treated before consumption (leaching in water) because of sensitising activity	Kesava Rao et al. 1979. Toxicological study of *Semecarpus anacardium* nut extract. Indian J Physiol Pharmacol. 1979 Apr-Jun;23(2):115-20. Oelrichs et al. 1997. Isolation and characterisation of urushiol components from the Australian native cashew (*Semecarpus australiensis*). Nat Toxins. 1997;5(3):96-8.
Senecio spp.	1A: herb, roots 1D: entire plant 1G: entire plant 1I: herb	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids: senecionine, riddelliine	well known hepatotoxicity, mutagenic and carcinogenic properties. Riddelliine, a pyrrolizidine alkaloid, is found in Senecio riddellii and other Senecio species, including S. longibus, which is used as a herbal remedy in the south-western USA. Riddelliine was evaluated by IARC (2002) IARC found no data on the carcinogenicity of riddelliine in humans but found sufficient evidence in experimental animals for the carcinogenicity of riddelliine. Riddelliine was classified in Group 2B (riddelliine is possibly carcinogenic to humans)	International Agency for Research in Cancer (IARC)(2002) Senecio species and riddelliine.
Senecio aureus L.	1B: leaves, herbaceous plant			

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Senecio cineraria DC.	1B: herbaceous plant, juice			
Senecio jacobaea L.	1B: leaves, herbaceous plant 1C: entire plant			
Senecio nemorensis L.	1B: leaves, herbaceous plant			
Senecio vulgaris L.	1B: leaves, herbaceous plant 1C: entire plant 1D: entire plant			
Sesbania spp.	roots, flowers, bark, leaves	genus in which some species may contain toxic amino acids: e.g. L-canavanine	Sesbanimide A (glutarimide derivative) causing diarrhea and CNS depression	Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Sida acuta* Burm.f.**	1C: entire plant	polyhydroxylated quinolizidine alkaloids derivatives (swainsonine)	Effect similar to *Ephedra*	Matsui et al. 2007. The plant alkaloid cryptolepine induces p21WAF1/CIP1 and cell cycle arrest in a human osteosarcoma cell line. Int J Oncol. 2007 Oct;31(4):915-22. Marchei et al. 2006. A rapid and simple procedure for the determination of ephedrine alkaloids in dietary supplements by gas chromatography-mass spectrometry. J Pharm Biomed Anal. 2006 Aug 28;41(5):1633-41. Epub 2006 Mar 31.
***Sida cordifolia* L.**	roots and seeds	polyhydroxylated quinolizidine alkaloids derivatives (swainsonine) Indoloquinoline alkaloid (cryptolepine) associated with cytotoxic activity	Effect similar to *Ephedra*	Matsui et al. 2007. The plant alkaloid cryptolepine induces p21WAF1/CIP1 and cell cycle arrest in a human osteosarcoma cell line. Int J Oncol. 2007 Oct;31(4):915-22. Marchei et al. 2006. A rapid and simple procedure for the determination of ephedrine alkaloids in dietary supplements by gas chromatography-mass spectrometry. J Pharm Biomed Anal. 2006 Aug 28;41(5):1633-41. Epub 2006 Mar 31.

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***Sida rhombifolia* L.**	entire plant	polyhydroxylated quinolizidine alkaloids derivatives (swainsonine)	Effect similar to *Ephedra*	Matsui et al. 2007. The plant alkaloid cryptolepine induces p21WAF1/CIP1 and cell cycle arrest in a human osteosarcoma cell line. Int J Oncol. 2007 Oct;31(4):915-22. Marchei et al. 2006. A rapid and simple procedure for the determination of ephedrine alkaloids in dietary supplements by gas chromatography-mass spectrometry. J Pharm Biomed Anal. 2006 Aug 28;41(5):1633-41. Epub 2006 Mar 31.
***Sinomenium acutum* (Thunb.) Rehder & E.H.Wilson**	1C: entire plant 1G: entire plant	Phenanthrene alkaloid : sinomenine; might contain aristolochic acid	Release of histamine. Convulsive central excitation at high doses in animals.	Health Canada - Advisory 2005-08, March 3 2005 Yamasaki 1976. Pharmacology of sinomenine, an anti-rheumatic alkaloid from *Sinomenium acutum* . Acta Med Okayama. 1976 Feb;30(1):1-20
***Smilax officinalis* Kunth**	1G: root	Steroidal saponins: sarsaporin,parallin, sarsasapogenin, neotigogenin.		British Herbal Pharmcopeia, Edition1983 Bernardo et al. 1996. Steroidal saponins from *Smilax officinalis* . Phytochemistry. 1996 Sep;43(2):465-9
Solanum spp.	entire plant	Genus in which some species may contain glycosidic steroidal alkaloids: e.g. solanidine, tomatidine,...	A lot of species are consumed as food, e.g. eggplant. Steroidal alkaloids content depends on the time of harvesting, ripeness and part of the plant, e.g. solasodine, spirosolane, non-spirosolane types.	Keeler et al. 1990. Spirosolane-containing *Solanum* species and induction of congenital craniofacial malformations. Toxicon. 1990;28(8):873-84.
***Solanum carolinense* L.**	1B: fruit leaves	glycosidic steroidal alkaloids: solanine Phytosteroidal glycosides: carolinoside… in the leaves	aglycone carolinone has an estrogen-like structure	Thacker et al. 1990. Carolinoside: a phytosteroidal glycoside from *Solanum carolinense* . Phytochemistry. 1990;29(9):2965-70
***Solanum dulcamara* L.**	1B: fruit, stems 1C: entire plant 1D: entire plant (1P) 1G: entire plant	1H: Stem: Glycoalkaloids (solanine, soladulcidine, solasodine, α-cahconine, β-lycotrioside, β-lycotetraoside, dulcamarine, α-soladulcine, β-soladulcine, α-slamarine, solasonine, solamargine. (CoE, 2008)	Species deleted as flavouring source due to toxicological reasons (CoE, 2008)	Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Solanum nigrum* L.**	1B: leaves, fruit, herbaceous plant 1C: entire plant 1D: entire plant 1G: entire plant	glycosidic steroidal alkaloids: solanine	alkaloid content in leaves from 0 to 2% of the dry weight Unripe fruit alkaloid content: 1,3% average	Bruneton, J., 1999. Plantes toxiques. Ed. Tec & Doc.
***Solanum malacoxylon* Sendtn.**	leaves	glycosidic steroidal alkaloids: solanine	Hypercalcaemia and/or hyperphosphataemia and mineralisation of cardivascular and pulmonary systems in animals	Boland 1998. *Solanum malacoxylon* : a toxic plant which affects animal calcium metabolism. Biomed Environ Sci. 1988 Dec;1(4):414-23.
***Solanum melonga* L.** (*S. ovigerum* Dun.)	1X: fruit	glycosidic steroidal alkaloids: solanine	The ripe fruit is consumed as food (eggplant)	
Solanum tuberosum L.	leaves, berries	glucoalkaloids, also in germinated tuber	tuber is food (1X)	
***Sophora secundiflora* (Ortega) Lag. ex DC.**	seeds	Quinolizidine alkaloids: cytisine (0,25%), N-methylcytisine, anagyrine, epi-lupinine, delta5-dehydrolupanine		Hatfield et al. 1977. An investigation of *Sophora secundiflora* seeds (Mescalbeans). Lloydia. 1977 Jul-Aug;40(4):374-83. Izadoost et al. 1976. Structure and toxicity of alkaloids and amino acids of *Sophora secundiflora* . J Pharm Sci. 1976 Mar;65(3):352-4

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Sophora tonkinensis **Gagnepain**	1C: entire plant	Quinolizidine alkaloids: cytisine, methylcytisine, tonkinensines A and B		
Sorbus domestica **L.**	berries	parasorbin acid; destroyed on cooking		
Soymida febrifuga **Juss.**	1B: tree bark	methylangolensate and deoxyandirobin	Family: Meliaceae Methyl angolensate(MA) a natural tetranortriterpenoid inhibits growth of T-cell leukemia & chronic myelogenous leukemia cells	
Spartium junceum **L.**	1B: flowers, seeds 1C: entire plant	cytisine; sparteine (quinolizidine alkaloid) Triterpenoid saponin :junceoside		Meyler's Side Effects of Drugs: The International Encyclopedia of Adverse Drug Reactions and Interactions,2006, Page 3174,J.Arronson Phytochemistry, V.34,(1993)847-852
Spigelia anthelmia **L.**	1B: herb	alkaloid : Spiganthine & isoquinoline,actinidine,choline and acylated cholines & flavonoides. Ryanodines[a)ryanodine-type b)10-epi-Ryanodines with a 9-OH group c)10-epi-Ryanodines with a Δ8,9-double bond d)10-epi-Ryanodines with an epoxy group. Ryanodine and spiganthine are known for their cardiac activities.		Phytochemistry 57(2001)285-296 Veterinary Parasitology 117(2003)43-9 Journal of Ethnopharmacology 92(2004)257-261
Spigelia marilandica **L.**	1C: entire plant	Spigeline (volatile alkaloid) - mild cardiac activity		Ellingwood's-Agents that act as Anthelmintics,Chapter2,Page 5 Practitioner, July 1887;Amer.Chem.Jour.,i.138
Sprekelia spp.	bulbs	Genus in which some species may contain pyrrolophenanthedine-type compounds, e.g. Lycorine and pseudolycorine Amaryllidaceaealkaloids: Ismine, Haemanthamine		Planta Med 2002, 68;454-457 Roth, Daunderer, Kormann; Giftpflanzen Pflanzengifte, Comed Verlagsgesellschaft, 4th ed. 1994

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***Stachys officinalis* (L.) Trevis.**	1P: unspecified parts	toxic compounds unknown (diterpenes?)	Info found on *S. tuberifera* Nand. (stachyose accumulates in edible tubers) (Bruneton). *S.officinalis* : Class 1 (safe if used appropriately) (American herbal products ass.)	American herbal products ass., Botanical safety handbook, CRC press, 1997.
***Stellaria media* (L.) Vill.**	1C: entire plant	Saponins	leaves are consumed Saponins are poorly absorbed	American herbal products ass., Botanical safety handbook, CRC press, 1997.
Stellaria dichotoma L.	1C: entire plant	Saponins	leaves are consumed Saponins are poorly absorbed	
Stephania spp.	1C: roots	Genus in which some species may contain bisbenzylquinoleinic alkaloids: tetrandrine, fangchinoline, ..		Phytochemistry, V.24,pp3084-3085,1985
***Stephania sinica* Diels**	1S: unspecified parts	bisbenzyltetrahydroquinoleinic alkaloids: tetrandrine, fangchinoline, .. A new alkaloid from the roots:cupanine	Cardiac depression (Menispermaceae)	Phytochemistry, V.24,pp3084-3085,1985
***Stephania tetranda* S.Moore**	1U: root 1B: root	bisbenzyltetrahydroquinoleinic alkaloids: tetrandrine, fangchinoline, ..	1U: used in traditional Chinese medicine with the name "Fang Ji". "Fang Ji" also used for Aristolochia-species, species may be confused for one-another.	Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
Sternbergia spp.	1F: unspecified parts	Genus in which some species may contain Amaryllidaceae alkaloids: lycorine, sternbergine, hippamine, ...		Fitoterapia 76(2005) 226-229 2 Jimenez et al., 1976 Journal of natural products, Vol.49 No.I ,Jan-Feb 1986 ournal of natural products,Vol.52, No 4, Jul-Aug 1989
***Stillingia sylvatica* L.**	1B: roots 1C: roots	diterpenes, cyanogenic glycosides	Fresh root: caustic latex (may be irritating to mucosa) Class 2c (not to be used while nursing) (American herbal products ass.)	American herbal products ass., Botanical safety handbook, CRC press, 1997.
Strophanthus spp.	1C: seeds	Genus in which some species may contain cardenolid glycosides, e.g. oubaine and aglycones: e.g. strophantidins		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
***Strophanthus gratus* Baill.**	1S: unspecified parts	cardenolid glycosides		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1994
***Strophanthus hispidus* DC.**	1B: seeds	cardiac glycosides (ouabain)		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1995
***Strophanthus kombe* Oliver**	1B: seeds	cardiac glycosides (ouabain)		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1996
Strychnos spp.	1F: unspecified parts	Genus in which some species may contain indole alkaloids(e.g. strychnine, …) and some other species bisbenzylisoquinoline alkaloids (e.g. tubocurarine,...)		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
***Strychnos colubrina* L.**	1B: wood	strychnine;		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1994
***Strychnos ignatii* Berg.**	1B: seeds	2.5%-4% alkaloids in seeds from which 50% strychnine;		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1995
***Strychnos malaccensis* Benth.**	1B: bark	strychnine;		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1996

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***Strychnos nux- vomica* L.**	1A: seeds 1B: bark, seeds 1C: seeds 1D: entire plant	2.5%-3% alkaloids in seeds from which 50% strychnine;		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1997
***Strychnos toxifera* Schomb. ex Benth.**	1B: bark	toxiferine (bisbenzylisoquinoline alkaloids)	used intravenously as curare agent	Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1998
***Symphoricarpus albus* S.F.Blake**	berries	haemolytic saponines and unknown irritating agent.		Roth, Daunderer, Kormann; Giftpflanzen Pflanzengifte, Comed Verlagsgesellschaft, 4th ed. 1994
Symphytum spp.	1D: entire plant	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids		
***Symphytum officinale* L.**	1B: herbaceous plant, roots 1C: entire plant 1D: entire plant	Root: 0.2-0.4% pyrrolizidine alkaloids (lycopsamine, intermedine and acetyalted derivatives symphytine and echimidine. Leaves: smaller quantities than root, young leaves being the richest. (Bruneton). Leaves contain 0.45-1.3% pyrrolizidine alkaloids, content highest in new leaves. (Roth)	*S. officinale* may be adulterated with e.g. *S. asperum* and *S. x uplandicum* , which contain echimidine, one of the most toxic pyrrolizidine alkaloids. Not for internal use (American Botanical safety handbook).	Roth, Daunderer, Kormann; Giftpflanzen Pflanzengifte, Comed Verlagsgesellschaft, 4th ed. 1994. Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993. American herbal products ass., Botanical safety handbook, CRC press, 1997
***Symphytum tuberosum* L.**	1S: unspecified parts	pyrrolizidine alkaloids		
***Syzygium aromaticum* (L.) Merr. & L.M.Perry** *(Caryophyllus aromaticus* L.*, Eugenia caryophyllata T*hunb. (nom. illeg.) Mansfeld *)*	1M: dried flower bud 1T: flowers	1Q: known to contain estragole in unspecified quantities 1T: methyleugenol content: 310-340 ppm 1T (about Eugenia caryophyllata: known to contain methyleugenol in unspecified quantities Essential oil: main component eugenol (Hagers Handbuch) essential oil from cloves Eugenol(59.3%)& β-caryophyllene (24.9%)1		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998 Experimental parasitology 115(2007)168-172
Tabebuia spp.	1I: bark	Genus in which some species, e.g. *T. impetiginosa* , may contain naphtoquinones, e.g. lapachol and beta-lapachone		
***Tabebuia impetiginosa* (Mart. ex. DC.) Standl.**	1G: bark	quinones: e.g. lapachol (2-hydroxy-3-(3-methyl-2-butenyl-)-1,4-naphtoquinone. Also : b-lapachone	Family:Bigoniaceae ; *T. impetigionosa* has been given a Generally Regarded as Safe Status (GRAS) by the FDA. Although, the isolated compounds, like lapachol, have shown Vitamin K toxicity, the 'synergistic' effect of the mixture of compounds in Red Lapacho tea, appear to cancel this, since there are some pro-Vitamin K compounds in Red Lapacho (Mowrey, 2001).	A Global Ethnopharmacological Commodity,Journal of Ethnopharmacology(2008) Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Tabernanthe iboga* Baill.**	1B: root bark, leaves 1C: roots 1G: entire plant 1I: entire plant	Bulbs: Indolalkaloids such as ibogaine (Hagers Handbuch; Bruneton)	May act as CNS stimulant. (Bruneton)	Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998. Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
Tagetes spp.	Whole plant	genus in which the essential oil of some species may contain estragole and/or thiophen derivatives (e.g. alpha terthienyl)	thiophen derivatives induce phototoxicity in humans and animals	Roth, Daunderer, Kormann; Giftpflanzen Pflanzengifte, Comed Verlagsgesellschaft, 4th ed. 1994
***Tagetes filifolia* Lag.**	1Q: essential oil 1T: unspecified parts	1Q: estragole content: 61.2% (essential oil) 1T: known to contain methyleugenol in unspecified quantities		
***Tagetes florida* Sweet**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities		
***Tagetes lucida* Cav.**	1Q: essential oil	1Q: estragole content: 45% (essential oil)		
***Tagetes mandonii* Sch.Bip.**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities		

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***Tamus communis* L. *(See Dioscorea communis* (L.) Caddick & Wilkin)**	1B: fruit, roots 1C: entire plant	oxalate raphides		
***Tanacetum balsamita* L.**	1F: unspecified parts	The volatile constituents of *Tanacetum balsamita* L. ssp. *balsamitoides* (Schultz-Bip.) Grierson : the leaf oil : bornyl acetate (47.7%), pinocarvone (27.1%), camphor (9.3%) and terpinolene (5.4%), while the flower oil contains bornyl acetate (55.2%), pinocarvone (34.2%), camphor (2.8%) and terpinolene (2.0%) and the stem oil contains bornyl actate (49.2%), pinocarvone (28%), camphor (9.5%) and terpinolene (6%).	essential oil: fatalities are recorded	Journal of Essential Oil Research: JEOR , Sep/Oct 2005 by Jaimand, K, Rezaee, M B
***Tanacetum cinerariifolium (*Trevir.) Sch.Bip.** *(Chrysanthemum cinerariifolium (*Trevir). Vis., *C. cinerariaefolium (*Trevir). Vis., *Tanacetum cinerariaefolium* (Trevir.)	1C: flowering tops; leaves	Leaf extract (seedlings): pyrethrins (pyrethrin, jasmolin, cinerarin, both type I esters with chrysanthemoyl moiety and type II esters with pyrethoryl moiety with additional ester linkage). (Matsuda et al, 2005)		Matsuda et al, Phytochem 66 (2005)
***Tanacetum parthenium* (L.) Sch.Bip.** *(Chrysanthemum parthenium* (L.) Bernh.)	1I: herb 1L: herb essential oil	sesquiterpenelacton: parthenolide in aerial parts 1L: herb essential oil 42-64% camphor (CoE, 2005)		Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005.
***Tanacetum vulgare* L.** *(Chrysanthemum vulgare* (L.) Bernh.)	1A: flowers, herb 1C: flowering tops 1D: entire plant 1L: herb essential oil	1A: essential oil :thujone 1L: herb essential oil 21.9% camphor (CoE, 2005) and thujones (up to 80%)		Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005.

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Taxus spp.	all parts except arils	Genus in which some species may contain diterpenic pseudoalkaloids (taxoids): e.g. taxine, taxol, cephalomannine	*T. baccata* L. : only arils are exempt of taxoids	Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
***Taxus baccata* L.**	1B: branches with leaves, seeds 1C: entire plant 1D: entire plant	diterpenic pseudoalkaloids: taxine, taxol, cephalomannine		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1994
***Taxus brevifolia* Nutt.**	1G: entire plant	diterpenic pseudoalkaloids: taxine, taxol, cephalomannine		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1995
Tephrosia spp.	1F: unspecified parts	Genus in which some species may contain rotenoids: e.g. rotenone		Pesticide Biochemistry & Physiology 69,63-76(2001)
Teucrium spp.	1C: aerial parts	Genus in which some species are known to contain furanoneoclerodane diterpenoids: e.g. teucrine,…	*Teucrium chamaedrys* L. and *T. polium* L.. Human hepatotoxicity described for these species. In *T. chamaedrys* L. contains teucrin A. representing 60-70% of the furanoneoclerodan diterpenoids present in the aerial parts. The content of teucrin A in *T. chamaedrys* L. has been reported to be 0.03% in Italian and 0.15% in Spanish plant material (dried and finely ground).(Teucrin A intake estimates	Mostefa-Kara et al. 1992. Fatal hepatitis after herbal tea. Lancet 340, p. 674 Fau et al. 1997. Gastroenterology 113 (4) 1334-1346
***Teucrium chamaedrys* L.**	1A: herb 1B: herbaceous plant with flowers 1D: entire plant 1G: entire plant 1H: Herb flower tips. 1L: entire plant	1L: Known to contain Teucrin A.; it represent 60-70% of the furano neo-clerodana diterpenoids present in the aerial parts of *Teucrium chamaedrys* L. The content of teucrin A in *Teucrium chamaedrys* L. has been reported to be 0.03% in Italian and 0.15% in Spanish plant material (dried and finely ground).(Teucrin A intake estimates available). 1H: Herb: Teucrin A, camphor, pulegone, carvacrol. (CoE, 2008)	1A: Hepatotoxic	Active principles (constituents of toxicological concern) contained in natural sources of flavourings. Council of Europe, (2005). Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Teucrium polium* L.**	1F: unspecified parts	furano-neoclerodanes: heptotoxic when activated (similar to menthofurane from pulegone)		Polymeros D. et al, Acute cholestatic hepatitis caused by T. polium with transient appearance of antimicrobial antibody J. Clin. Gastroenterol., 34 (1), 100-101, (2002)
Thapsia spp.	1T: unspecified parts	Genus in which the essential oil of some species may contain methyleugenol		

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***Thapsia garganica* L.**	1B: root bark, resin; fruit	Four phenylpropanoids and a thapsigargin analogue have been isolated from the fruits; Thapsigargin also in root.	Thapsigargin a hexaogygenated tetraacylated sesquiterpene lactone is a major skin irritating constituent isolated from the roots thapsigargin is a tumor promoter in a two stage-mouse skin carcinogenesis experiment. The phenylpropanoids were found to be potent cytotoxins	Br.J.Pharmacol. (1988),94,917-923 Phytochemistry 67(2006) 2651-2658 European Journal of Pharmacology 588(2008)85-92
Thevetia spp.	1F: unspecified parts	Genus in which some species may contain cardiac glycosides and aglycones: e.g. thevetoside,…		Roth, Daunderer, Kormann; Giftpflanzen Pflanzengifte, Comed Verlagsgesellschaft, 4th ed. 1994
***Thevetia neriifolia* Juss. *(See T. peruviana* (Pers.) K.Schum.)**				
***Thevetia peruviana* (Pers.) K.Schum.** *(Cerbera thevetia* L.*, C. peruviana* Pers.*)*	1B: seeds 1C: entire plant	Cardenolides (4%-6%) : peruvoside, thevetine,...	cardiotonic, similar effect as in Nerium oleander. Peruvoside (cardiac glycoside) effect like ouabain on failing human heart Thevetin (glucoside) has a digitalis-like action one eighth to one seventh as toxic as ouabain, weight for weight	Natural Product Research, Volume 3, Issue 1 August 1993,pages 37-43 Br Med J.1970 September 26;3(5725):70-743 Journal of Pharmacology and Experimental Therapeutics, Vol.51,Issue 1,23-24,1934
Thuja ssp.	1G: entire plant	Genus in which the essential oil of some species may contain thujones		BMJ v.319,December 1999
***Thuja occidentalis* L.**	1B: bark , leaves, herbaceous plant, wood, tops 1C: aeriel parts 1L: essential oil	1L: Known to contain thujones (up to 64%) in essential oil (CoE, 2005) alpha-thujone (39-56%), fenchone (6-15%), beta-thujone (7.2-11%),		Active principles (constituents of chemical concern) contained in natural sources of flavourings, Council of Europe, 2005. Journal of essential oil resarch v.5(2)p.117-122 Mar-Apr 1993
***Thuja plicata* Donn. ex D.Don.**	1B: wood; leaves	Leaf essential oil: Thujones (main constituent 80-85%), fenchone, esters of borneol.(Rudloff, 1962)		Rudloff, Phytochemistry, 1962, 1: 195-202.
***Thymus serpyllum* L. emend. Mill.**	1H: Herb.	1H: Herb essential oil: Carvacrol 37%, camphor, eucalyptol. (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Thymus vulgaris* L.**	1M: whole leaves, flowering tops 1N: herb 1O: whole leaves, flowering tops 1H: Herb, leaves.	1H: Herb and leaves essential oil: carvacrol 9-60%, eucalyptol 1.15%, camphor 0.3%. (CoE, 2008)	1P: food containing the herbaceous parts must have the warning not to ingest more than 4 g/day of the dry herb	Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Thymus zygis* L.**	1H: Herb.	1H: Herb essential oil (yield 0.5-1.2%): carvacrol 25%, eucalyptol 20'%, camphor 3.9%. (CoE, 2008)		Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
Trichocereus spp.	1C: entire plant	Genus in which some species may contain phenylethylamine alkaloids: e.g. mescaline, …		Frohne D., Pfänder H.J. et Anton R. « Plantes à risques », Ed. Tec et Doc-Lavoisier (2009), ISBN :978-2-7430-0907-1
***Trichocereus pachanoi* Britton & Rose**	1C: entire plant	mescaline: 25-100mg per 100 gr fresh cactus		
***Trichodesma incanum* Bunge**	1F: unspecified parts	pyrrolizidine alkaloids: trichodesmine		Biochemical Systematics & Ecology 32(2004)915-930
***Trichosanthes kirilowii* Maxim.**	1U: fruit Root	Root: trichosantin (234-amino acid protein) (Bruneton)	1P: permitted in food products only if the analytical reports show that the product does not contain trichosanthin 1U: used in traditional Chinese medicine with the name "Ma Dou Ling" Trichosantin has abortifacient properties. (Bruneton)	Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
***Trollius europaeus* L.**	1F: unspecified parts	protoanemonin	protoanemine is converted in non toxic anemonine on drying	Journal of Bacteriology, January 1998,p.400-402
***Turbina corymbosa* (L.) Raf.** *(Ipomoea burmanni* Choisy*)*	Seeds, leaves	Seeds, leaves, stem: Indole alkaloids (ergolinealkaloid, lysergic acid derivative). Dried leaf: 0.016-0.027 ergoline alkaloids (Ergin and erginin). Dried stem: 0.010-0.012 ergoline alkaloids (ergine and erginine). (Hagers Handbuch)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998

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Tussilago spp.	1F: unspecified parts	Genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Tussilago farfara* L.**	1A: flowers, roots 1B: capitula, leaves, roots 1C: entire plant 1G: entire plant;	1A: Presence of pyrrolizidine alkaloids (senkirkine, tussilagine, isotussilagine)		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
***Tylophora asthmatica* Wight. & Arn.** ***(See T. indica* Merr.)**				
***Tylophora indica* Merr.** *(T. asthmatica* Wight. & Arn., *Cynanchum indicum* Burm.f.)	1B: leaves, roots	alkaloid: tylophorine, tylocebrine & tylophorinine	Tylophorine has a paralyzing action on the heart muscle	Medicinal Plants:Chemistry & Properties, M.Daniel,p.38, 2005
Urginea spp.	1B: bulbs	Genus in which some species may contain cardiac glycosides and aglycones: e.g.glucoscillarine, scillarine, scillarenine,…		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Urginea indica* (Roxb.) Kunth**	1B: bulbs	similar to U. maritima but no glucoscillarin A Cardioactive glycosides (mainly proscillaridin A, scillaren A) (Hagers Handbuch)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Urginea maritima* (L.) Baker** *(Scilla maritima* L.*, U.scilla* Steinh., *Drimia maritima* (L.) Stearn)	1B: bulbs 1C: bulbs 1G: bulbs	1S: scillarine A, scillarenine Scillarenin glucosides or scillarigenin (glucoscillaren A and scillaren A) or 11-beta hydroxylated derivative (scilliphaeosidin). Also scillicyanoside		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
***Vanillosmopsis arborea* (Gardner) Baker** *(Eremanthus arboreus* (Gardner) MacLeish*)*	1Q: essential oil (wood bark) 1T: bark oil	1Q: estragole content: 36 % (essential oil (wood bark)) 1T: methyleugenol content: 5.9% Leaf essential oil: safrole (0.74%). Rind essential oil: methyleugenol (5.9%), estragole (3.6%), elemicin (2.7%). Wood essential oil: main components: e.g. estragole, elemicin, methyleugenol. (Hagers Handbuch)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Vataireopsis araroba* (Aguiar) Ducke** *(Andira araroba* Aguiar)	1B: wood dust	quinone: chrysarobin,	internal use causes watery stools. Only used topically in case of eczema and psoriasis	
Veratrum spp.	1C: entire plant	Genus in which some species may contain steroid alkaloids: e.g. protoveratrines, and alkamine esters such as jervine derivatives (furanopiperidine). Cyclopamine	cyclopamine (teratogenic alkaloid)	Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993 Phytochemistry 1969,Vol.8,pp.223-225
***Veratrum album* L.**	1B: herbaceous plant, roots, rhizome 1C: entire plant 1D: entire plant	1S: protoveratrines A and B ; steroid alkaloids		
***Veratrum californicum* Durand**	1C: entire plant	steroidal alkaloid: cyclopamine		
***Veratrum sabadilla* Retz.**	1C: entire plant	steroid alkaloids		
***Veratrum viride* Ait.**	1B: herbaceous plant, rhizome 1C: entire plant	steroid alkaloids		
Vinca spp.		genus in which some species may contain indole alkaloids e.g. vincamine,…		Bruneton J., « Pharmacognosie », 3ème édition, Ed. Tec et Doc-Lavoisier (1999), ISBN : 2-7430-0315-4
***Vinca major* L.**	1P: folium, herba 1B: leaves, herbaceous plant; 1G: entire plant	indole alkaloids: vincamine, akuammine		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998

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***Vinca minor* L.**	1P: herba 1G: entire plant 1A: herb, leaves 1B: leaves, herbaceous plant 1C: aerial parts 1D: entire plant	indole alkaloids: vincamine, eburnamenine 1A: Hematologic modification have been observed in rabbits (leukocytopenia, lymphocytopenia, lowered globulin level)		Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998
***Vincetoxicum hirundinaria* Medik.** *(V. officinale* Moench, *Asclepias vincetoxicum* L., *Cynanchum vincetoxicum* (L.) Pers.*)*	1B: root, rhizome 1C: roots	isoquinoline alkaloids, asclepiadine (vincetoxin analogs) (Bruneton) Roots :Glycosides:cynatratoside E, cynatrtoside C hirundicoside B,hirundicoside C,hirundicoside D.Other costituents:sitosterol, syringic acid, 2-hydroxyacetophenone(as the major constituent of the essential oil.) (Bruneton) Aerial parts: Phenanthroindolizidine alkaloids (10β-antofine N-oxide; 10β,13α,14β-hydroxyantofine N-oxide; 10β,13α-secoantofine N-oxide, also 13α-secoantofine, 13α-6-O-desmethylsecoantofine). (Staerk et al, 2000; Staerk et al,		Staerk et al, J Nat Prod, 63 (2000). Staerk et al, J Nat Prod, 65 (2002). Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
***Viscum album* L.**	1B: fruit 1C: fruit, leaves 1D: entire plant (1P) 1G: entire plant	viscotoxins and lectins	1H: Deleted as source of flavouring due to toxicological reasons. (CoE, 2008)	Hagers Handbuch der Pharmazeutischen Praxis, Springer Verlag, 1998 Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
Voacanga spp.		genus in which some species may contain indole alkaloids		
***Voacanga africana* Stapf. & S.Elliot.**	1B: seeds	indole alkaloids : tabersonine (aspidospermane-like)		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
***Voacanga thouarsii* Roem. & Schult.**	1B: seeds	indole alkaloids : tabersonine (aspidospermane-like)		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993
Wikstroemia spp.	all parts	genus in which some species may contain coumarins (e.g. daphnoretin, daphnine) , diterpenes (daphnane orthoesters : e.g. huratoxine, simplexine)	daphane-esters are tumor promoting.	Natural sources of flavourings (Rep No 3), Council of Europe, (2008)
***Wisteria floribunda* (Willd.) DC.**	entire plant	wisterine and lectins	All parts of the plant are considered toxic especially the pods and seeds	R.Wiechelt,vol.3 pp.412-413 Elsevier 1998
***Wisteria sinensis* (Sims) DC.**	entire plant	wisterine and lectins	All parts of the plant are considered toxic especially the pods and seeds	R.Wiechelt,vol.3 pp.412-413 Elsevier 1999
***Withania somnifera* (L.) Dunal**	1B: entire plant 1C: entire plant 1G: entire plant	cytotoxic lactones: withaferine A,withanolides in root: piperidine alkaloids: anaferine, anahygrine and various alkaloids including withanine,somniferine, somnine,tropine, …		Bruneton, Pharmacognosy Phytochemistry Medical plants, Lavoisier Publishing,1993 Progress in Neuro-psychofarmacology & Biological Psychiatry 32(2008)1093-1105 Steroids 73(2008)245-251
Xanthium spp.	1C: flowering tops	Genus known to contain diterpenes: carboxyatractyloside	Toxicosis usually associated with the consumption of the seedlings in the cotyledon stage which contain a high concentration of carboxyatractyloside. Seeds also known to contain the toxin	Journal of Veterinary Diagnostic Investigation, V.2, Issue 4,263-267
***Xanthium strumarium* L.**	1B: leaves, fruit, herb, root	diterpenes; carboxyatractyloside alkaloid xanthatin		1Terrestrial Plant-Derived Anticancer Agents and Plant Species Used in Anticancer Research
***Xysmalobium undulatum* (L.) R.Br.**	1B: root	cardenolides: sophoroside types		Planta medica, 1997, vol. 63, no4, pp. 343-346
***Yucca filamentosa* L.**	roots, leaves	saponides: sarsasapogenin , tigogenin (1,4% in leaves)	tigogenin used for synthesis of steroidal hormones	
***Zanthoxylum alatum* Roxb.**	bark	furocoumarins (bergapten, umbelliferone,…) phenanthridine alkaloids: e.g. chelerythrine derivatives		
Zigadenus spp.	entire plant	Genus in which some species may contain steroid alkaloids: e.g. zygadenine, zygacine (neurotoxic)	Extremely poisonous genus	J.Agr.Food Chem.199745(4) Journal of Ethnopharmacology 52(1996)

COMPENDIUM OF BOTANICALS THAT HAVE BEEN REPORTED TO CONTAIN TOXIC,ADDICTIVE, PSYCHOTROPIC, OR OTHER SUBSTANCES OF CONCERN

This compendium lists in alphabetical order botanicals without any judgment on whether these are suitable or not suitable for food applications in Europe. This compendium is part of a preliminary work undertaken by EFSA to harmonise the methodology across its panels for assessing the safety of botanicals and botanical preparations used in food. Without prejudice to the existing legal framework, such compendium has no legal status and may not be used as support or evidence in any disagreement or dispute pertaining to the legal classification of products or substances. This compendium is a living document and is therefore open for additional contributions and comments.

Botanical name	Parts of plants of possible concern	Chemical of concern / toxic effect	Remarks	Specific References
Zingiber officinale **Roscoe**	1T: unspecified parts	1T: known to contain methyleugenol in unspecified quantities	The presence of methyleugenol could not be confirmed from literature search. An increased percentage of resorbed implantations were found in both dosed groups of pregnant rats receiving an infusion made from 20 g/l or 50 g/l freshly grated ginger compared to a control group (P <0.05). No signs of maternal toxicity were observed, neither were any gross morphological malformations in the treated foetuses (Wilkinson 2000).	Fenaroli's handbook of flavour ingredients, Fifth Edition, George Burdock, p.715 Wilkinson JM (2000) Effect of ginger tea on the fetal development of Sprague-Dawley rats. Reprod Toxicol 14: 507-512.

BOTANICALS THAT HAVE BEEN REPORTED TO CONTAIN TOXIC, ADDICTIVE, PSYCHOTROPIC, OR OTHER SUBSTANCES OF CONCERN, BUT FOR WHICH THE WORKING GROUP COULD NOT FIND ENOUGH INFORMATION, OR FOR WHICH THE AVAILABLE INFORMATION COULD NOT BE VERIFIED

This "insufficient information" list regroups botanicals that appear in one of the sources of information, but for which the working group could not find enough information on possible substances of concern, or for which the information present could not be verified. This Compendium makes no judgment on whether listed botanicals are suitable or not suitable for food applications in Europe. Without prejudice to the existing legal framework, such compendium has no legal status and may not be used as support or evidence in any disagreement or dispute pertaining to the legal classification of products or substances. This compendium is a living document and is therefore open for additional contributions and comments.

Botanical name	Parts of plants of possible concern	Chemical of concern / toxic effect	Remarks	Specific references
Acanthea virilis **Pharm. ex Wehmer**				
Allamanda cathartica **L.**	1B: bark , leaves, seeds			
Artemisia nitida **Bertol.**	1F: unspecified parts			
Artemisia pallens **Wall. ex DC.**	1F: unspecified parts			
Bupleurum scorzonerifolium **Willd.**				
Catalpa bignonioides **Walter**	1B: bark, fruit			
Chlorocodon whiteii **Hook.f.** *(Mondia whiteii* (Hook.f.) Skeels)	1B: root			
Cola ballayi **Cornu ex Heckel**			No info found. Species listed in Hagers Handbuch, but no specific information.	
Convolvulus scoparius **L.f.**	1P: unspecified parts			
Forestiera spp.	1F: unspecified parts	Alkaloids in seeds??		
Garcinia morella **Desr.**	1B: gum		external use only	
Haematoxylum campechianum **L.**	1P: bark and wood		Very little information on this species found. Apart from as a source of haematoxylin used for staining slides of tissue in histology and	
Homalomena spp.	1F: unspecified parts		Family Araceae	
Leucophae spp.	1F: unspecified parts		no information on possible insecticidal activity could be found in BIOSIS, FSTA and	
Lythrum (unspecified species)	1I: herb	acidic orotic derivatives, pyrimidinone (vicine, convicine,…), high tannin content	vicine is causing favism	
Malpighia glabra **L.** *(Malpighia punicifolia* L.)	1B: bark		fruit (1X)	
Mangifera indica **L.**	1B: bark		Fruit (1X) latex: dermatological problems	
Mentzelia (unspecified species)	1I: herb			
Moringa aptera **Gaertn.**	1B: unripened fruit			
Muscari comosum **(L.) Mill.**	1F: unspecified parts			
Origanum vulgare **L.**	1P: herba		leaf of O. vulgare L. ssp. vulgare (1X)	
Palicourea densiflora **Mart.**	1B: bark			
Richardia scabra L.	1F: unspecified parts	oxalates	probably calciumoxalate but no raphides	
Saponaria rubra Lam.	seeds	saponins		
Solandra grandiflora Sw.	1F: unspecified parts			
Solanum laciniatum Ait.	1C: entire plant			
Solanum pseudoquina A.St.-Hil.	1C: entire plant	probably spirosolane derivatives		
Solanum sessiliflorum Dun.	1C: entire plant			
Solanum toxicarium Rich.	1C: entire plant			
Solenostemma argel Hayne	1B: leaves			
Spatiphyllum spp.	1F: unspecified parts	Genus in which some species may contain oxalate raphides (?)		
Vernonia nigritiana **Oliv. & Hiern.**	1B: root		plant is considered non toxic	