



Teleconference November 15th 2013

Structural Diverse
Herbal Presentation
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**QUALITATIVE AND QUANTITATIVE PARTICULARS OF THE ACTIVE
SUBSTANCE(S) OF A HERBAL MEDICINAL PRODUCT**

- **Standardised herbal substances / herbal preparations** are adjusted to a given content of constituents with known therapeutic activity within an acceptable tolerance; standardisation is achieved by adjustment of the herbal substances/herbal preparations with **excipients or by blending batches** of herbal substances and/or herbal preparations.

Example:

Sennae folium 415-500 mg, corresponding to 12.5 mg of hydroxyanthracene glycosides, calculated as Senno-side B



QUALITATIVE AND QUANTITATIVE PARTICULARS OF THE ACTIVE SUBSTANCE(S) OF A HERBAL MEDICINAL PRODUCT

- **Quantified herbal substances/herbal preparations** are adjusted to a defined range of constituents (active markers); **adjustment is exclusively achieved by blending batches** of herbal substances and/or herbal preparations.

Example:

Salicis cortex 4 g, corresponding to 40 to 48 mg of total phenolic glycosides, expressed as salicin



QUALITATIVE AND QUANTITATIVE PARTICULARS OF THE ACTIVE SUBSTANCE(S) OF A HERBAL MEDICINAL PRODUCT

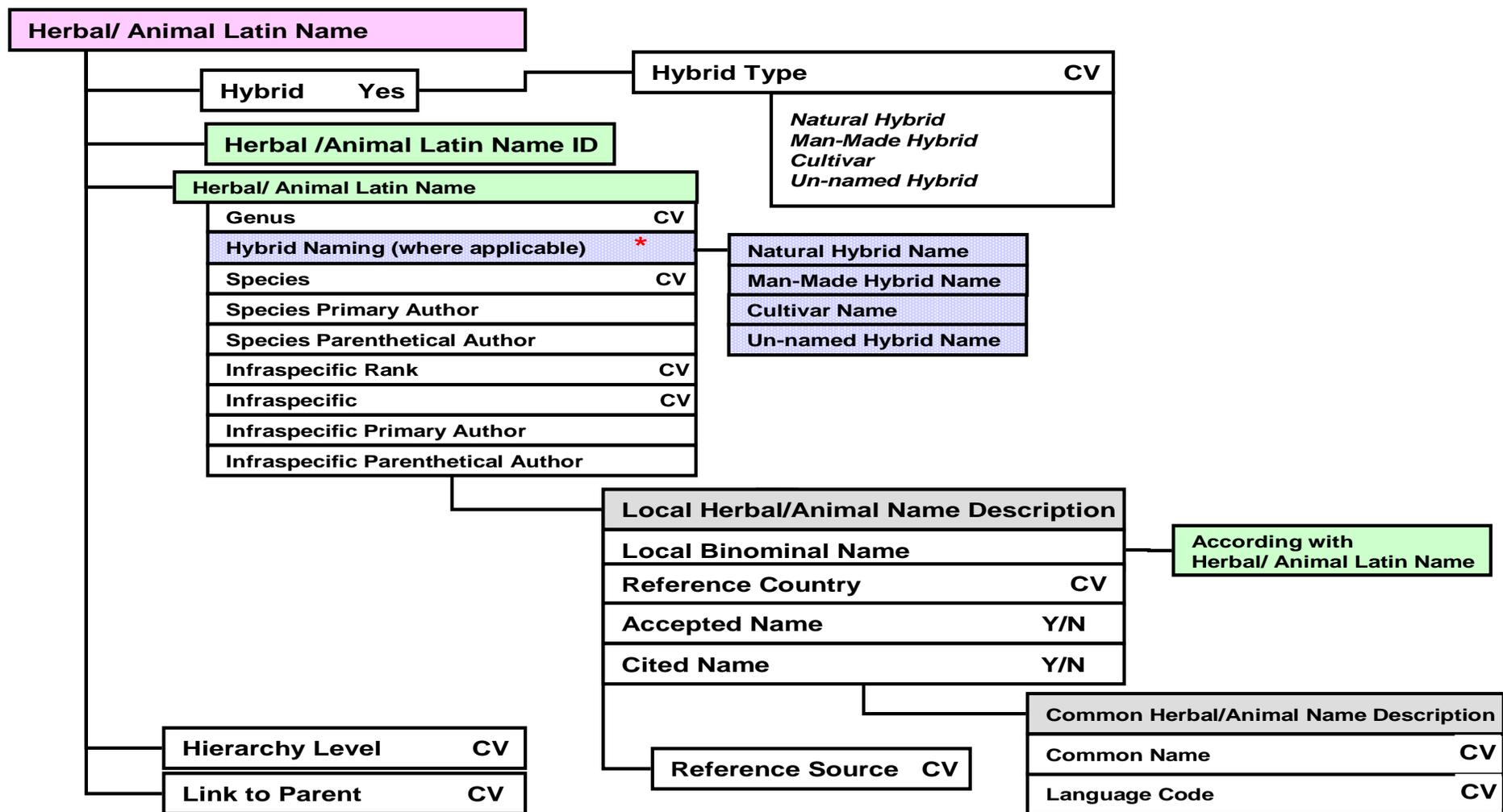
- **Other** herbal substances/herbal preparations are active substances for which neither constituents with known therapeutic activity nor active markers are known. These herbal substances/herbal preparations are **not adjusted** to a defined content of analytical marker.

Example:

Valerianae radix 900 mg



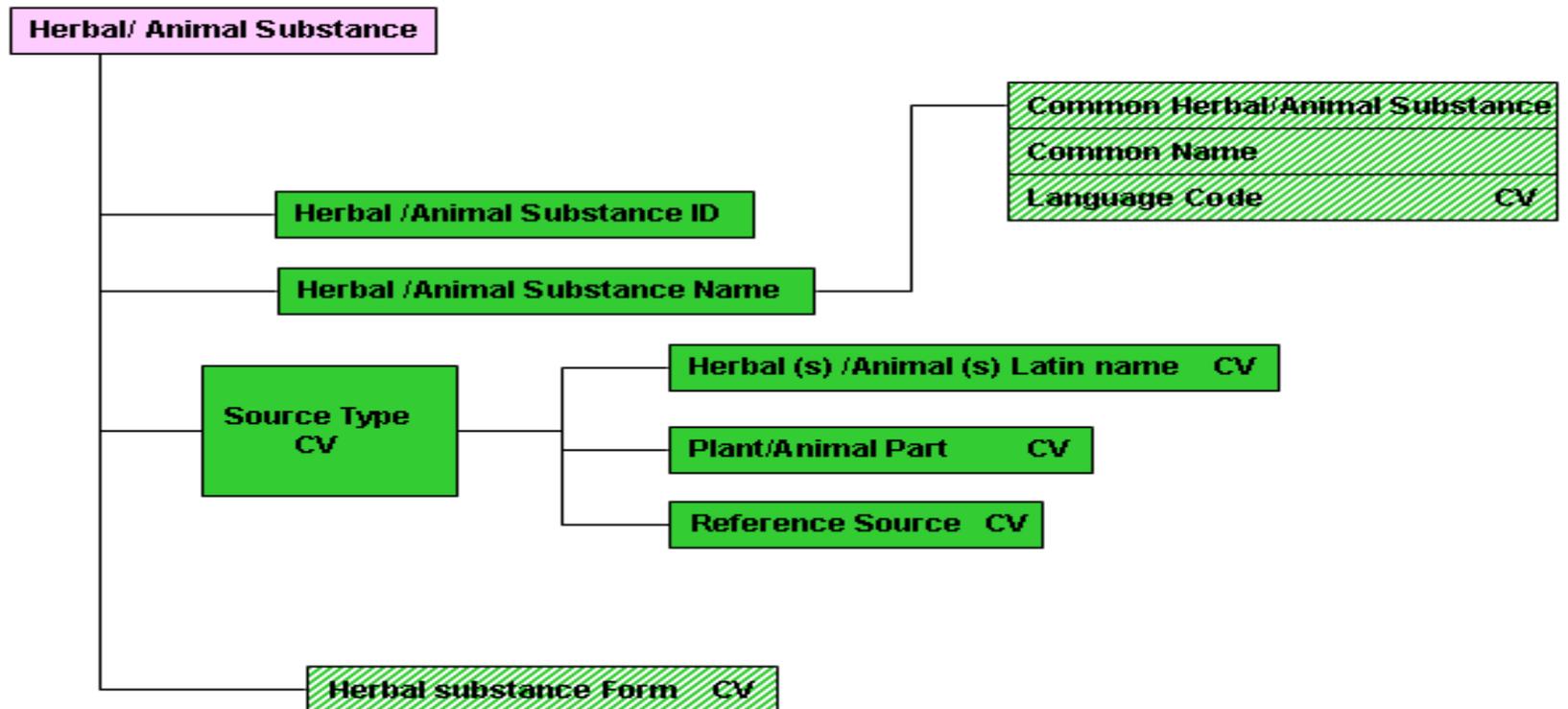
Herbal Naming Scheme



* Hybrid Naming applies when the herbal/animal is a hybrid

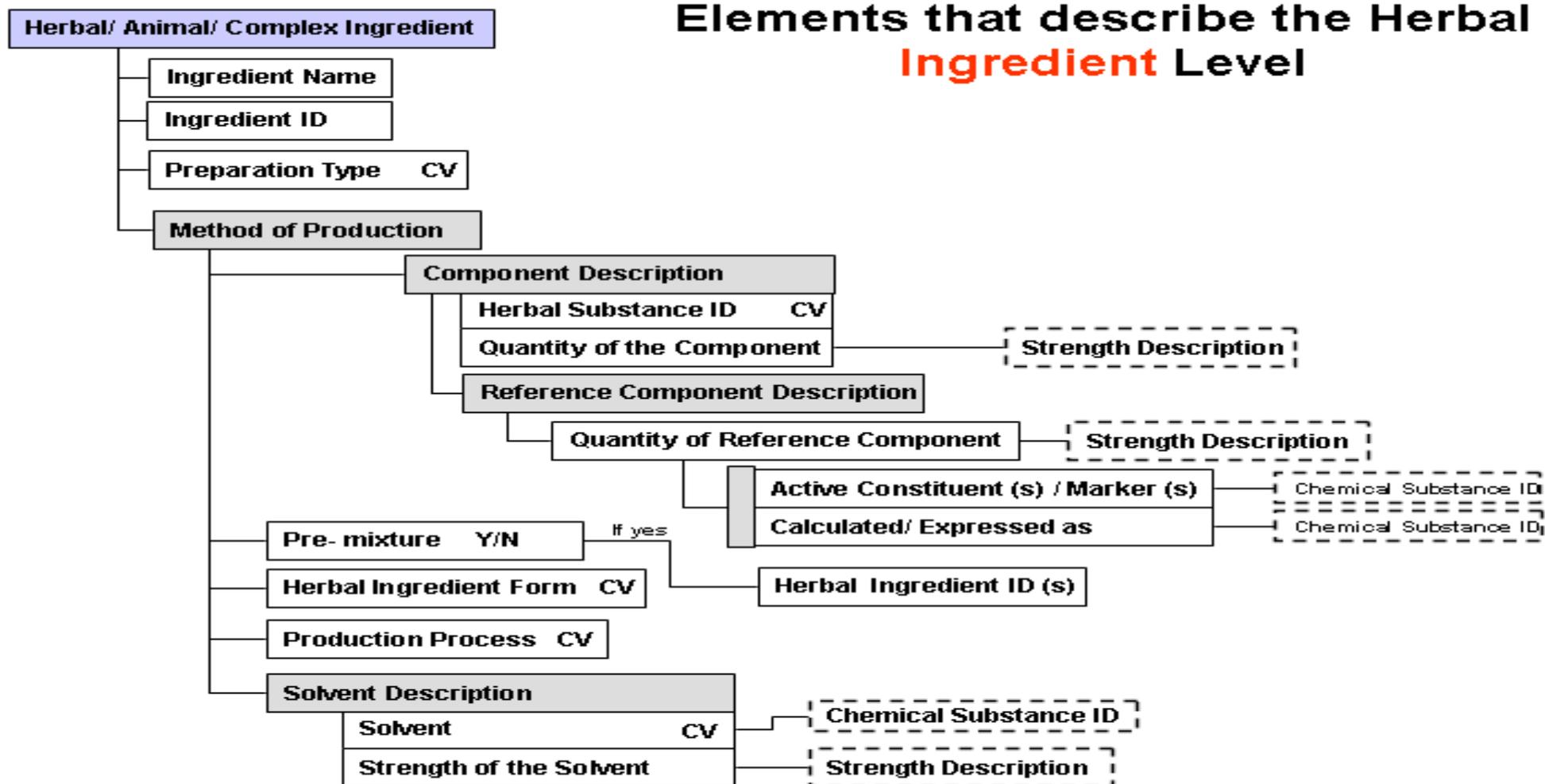
Defining Elements for Herbal Substance

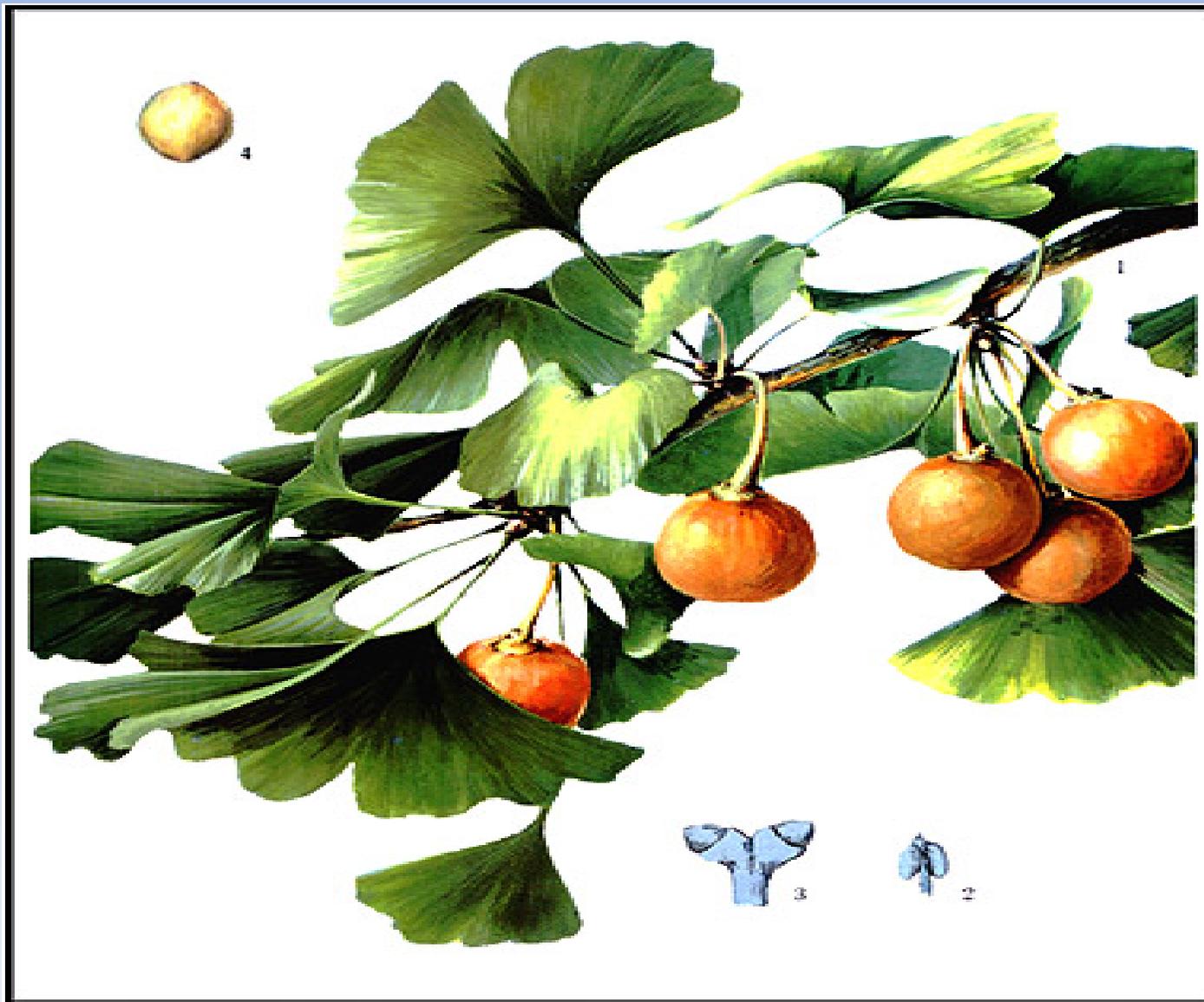
Elements that describe the Herbal Substance



Defining Elements describing the Herbal Ingredient

Elements that describe the Herbal Ingredient Level







Herbal substance

- Botanical name
- Genus, Species, Author
- Family
- Common name
- Plant part used
- Growth state
- Description
- Marker
- Reference

Herbal preparation

- Description
- DER
- Extraction solvent
- Manufacturing process
- Marker content

Herbal medicinal product

-
-

Ginkgo

The declaration in section 2 of the SmPC of the herbal medicinal product:

Each capsule contains 60 mg of extract (as dry extract, refined) from Ginkgo biloba L., folium (Ginkgo leaf) (35 – 67 : 1), corresponding to:

13.2 mg to 16.2 mg of flavonoids expressed as flavone glycosides

1.68 mg to 2.04 mg of ginkgolides A, B and C

1.56 mg to 1.92 mg of bilobalide.

First extraction solvent: Acetone 60 % m/m.

or

Each capsule contains 60 mg of extract (as dry extract, refined) from Ginkgo biloba L., folium (equivalent to 2.1 g – 4.0 g of Ginkgo leaf), corresponding to:

13.2 mg to 16.2 mg of flavonoids expressed as flavone glycosides

1.68 mg to 2.04 mg of ginkgolides A, B and C

1.56 mg to 1.92 mg of bilobalide.

First extraction solvent: Acetone 60% m/m.

THE PLANT MATERIAL WE USE AS RAW MATERIAL FOR PRODUCING

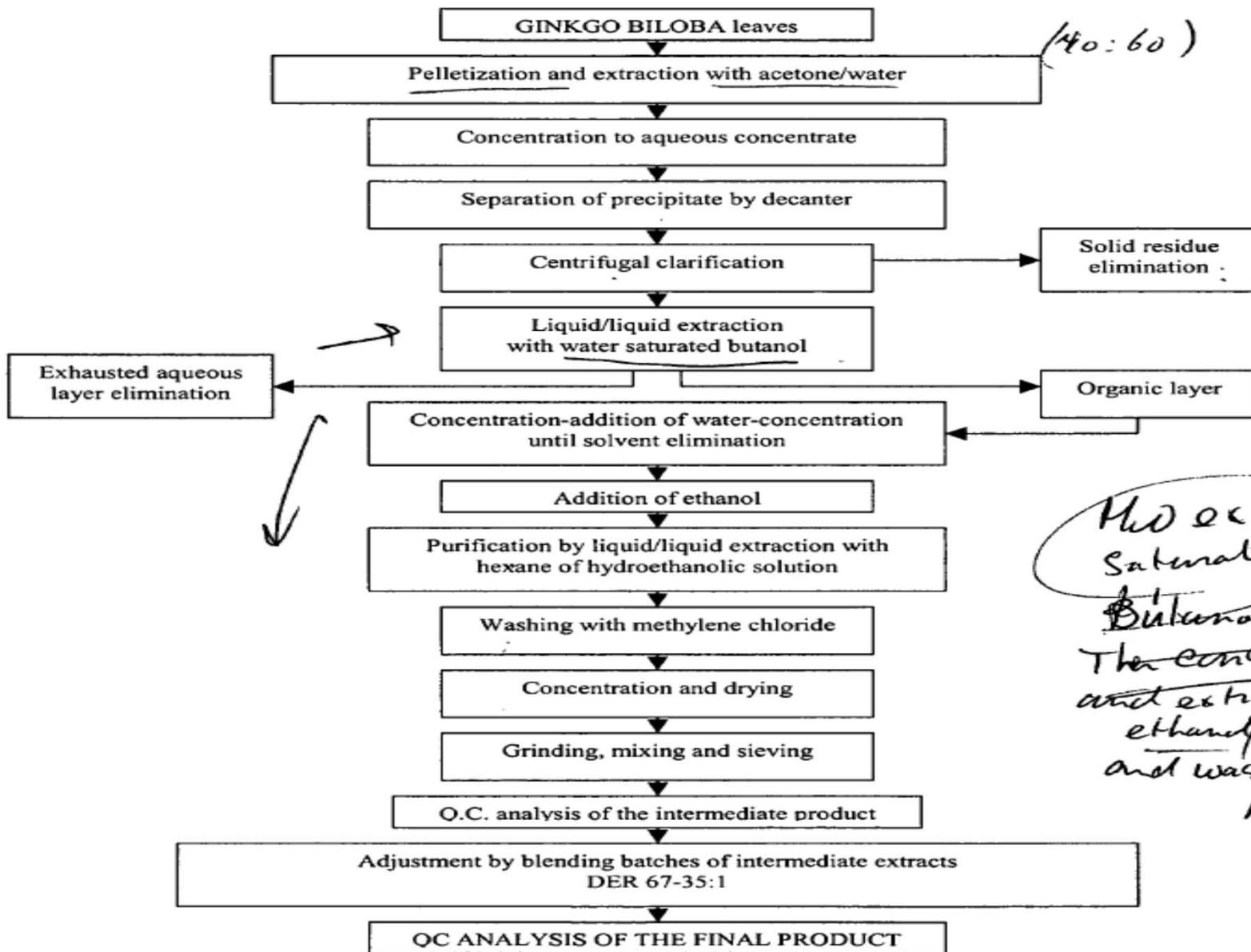
GINKGO BILOBA DRY EXTRACT

COMPLIES WITH THE FOLLOWING CHARACTERISTICS:

Scientific Name:	<i>Ginkgo biloba</i> L
Botanical Family:	Ginkgoaceae
Country of Origin:	China, France
Cultivated/wild:	Cultivated
Vegetative Stage:	Before green leaves turn to yellow
Harvesting Period:	June - October
Part of the Plant Utilized:	Leaves
Fertilizer treatment:	N + P + K
Treatments during growth:	None
Drying Conditions:	By machine (dryer) or natural drying
Decontamination process:	None (Irradiation, Ethylene oxide, PH3, ...)
Phytosanitary treatment:	None
Storage Conditions:	Bags at room temperature

1 Brief flow diagram of the manufacturing process

Scheme of preparation



The extract saturated with Butanol. The concentrated and extracted ethanol/hexane and washed with methylene chloride.

- Dry refined extract from Ginkgo leaf.
- Quantity of the genuine extract: 100 % genuine extract.
- DER genuine: 35 – 67 : 1.
 - Quantification: 22.0 to 27.0 % of flavonoids expressed as flavone glycosides.
 - 2.8 to 3.4 % of ginkgolides A, B and C.
 - 2.6 to 3.2 % of bilobalide.
- Other excipients: 0 %.
- First extraction solvent: Acetone 60 % m/m.

GINKGO DRY EXTRACT, REFINED AND QUANTIFIED

- Definition of the European Pharmacopeia:
Refined and quantified dry extract produced from **Ginkgo leaf** (1828) .
- Content:
 - flavonoids, expressed as flavone glycosides (Mr 756.7): 22.0 per cent to 27.0 per cent (dried extract);
 - bilobalide: 2.6 per cent to 3.2 per cent (dried extract);
 - ginkgolides A, B and C: 2.8 per cent to 3.4 per cent (dried extract);
 - ginkgolic acids: maximum 5 ppm (dried extract).

Ginkgo biloba L., folium

Definition of the European Pharmacopoeia:

Whole or fragmented, dried leaf of *Ginkgo biloba* L.

Content: not less than 0.5 per cent of flavonoids, expressed as flavone glycosides (M_r 757) (dried drug).

Partial presentation of ICI-Substance record [CBG-MEB Record]

Active Ingredient Synonym:	"Aceton-water (40-60) dry extract of Ginkgo biloba leaves L. cultivated in China (Shandong, Jangsu, Sichuan, France, Korea, US and Australia)"; "Dry extract of the Maidenhair, kew tree leaves"; "Dry extract of the Yen Xing leaves"; "36GK60690"
Origin:	
Latin Name:	EXTRACTUM FOLIAE GINKGO BILOBA L.
INN Name:	GINKGO BILOBA LEAVES DRY EXTRACT (ACETONE-WATER 60-40)
English Name:	GINKGO BILOBA LEAVES DRY EXTRACT (ACETONE-WATER 60-40)(Ratio 67-35 = 1)
Inactive Ingredient Name:	
Notes:	The dry extract is obtained from green leaves harvested June - Oktober by extracting with acetone-water (60:40). The crude extract is washed with saturated H ₂ O/butanol, ethanol-water, hexaan, methylene chloride. The ratio herbal substance-Native herbal preparation 67-35 = 1. It contains: Polyphenols, Terpenes (Ginkgolide A, B, C, Bilobalide), Flaonoids (Campferol, Quercetin and Isorhamnetin), Flavonic dimers, Flavanes, Organic acids, Ginkgoic acids. The final dry extract contains 5% dehydrated glucose syrup.



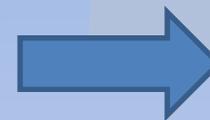
Herbal substance

- Botanical name
- Genus, Species, Author
- Family
- Common name
- Plant part used
- Growth state
- Description
- Marker
- Reference

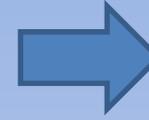


Herbal preparation

- Description
- DER
- Extraction solvent
- Manufacturing process
- Marker content



Herbal medicinal product



Ginkgo leaf

Description: Whole or fragmented, dried leaf of Ginkgo biloba L.

Reference: European Pharmacopoeia

Genus: *Ginkgo*

Species: *biloba*

Author: L (Linnaeus)

Family: Ginkgoaceae

Common name: Ginkgo, Maidenhair tree

Plant part used: leaves

Growth state: before leaves turn yellow
collected June to October

Processing: dried leaves

Marker : not less than 0.5 per cent of flavonoids, expressed as flavone glycosides

Herbal preparation

- Description
- DER
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Herbal medicinal product



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Growth state: before leaves turn yellow
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Processing: dried leaves

Marker : not less than 0.5 per cent of flavonoids, expressed as flavone glycosides



Ginkgo extract, refined quantified

- Description: dry extract refined acetone 60% extract, from Ginkgo biloba L., folium (35 – 67 : 1), corresponding to: 13.2 mg to 16.2 mg of flavonoids expressed as flavone glycosides, 1.68 mg to 2.04 mg of ginkgolides A, B and C , and 1.56 mg to 1.92 mg of bilobalide.
- Reference: European Pharmacopoeia
- Drug to Extract Ratio: 35-67:1
- Extraction solvent: acetone 60%
- Genuine extract content: 100%
- Excipients:
- Physical form: dry
- Marker content:
 - flavonoids, expressed as flavone glycosides (Mr 756.7): 22.0 per cent to 27.0 per cent (dried extract);
 - bilobalide: 2.6 per cent to 3.2 per cent (dried extract);
 - ginkgolides A, B and C: 2.8 per cent to 3.4 per cent (dried extract);
 - ginkgolic acids: maximum 5 ppm (dried extract)