

## CERTIFICATE OF ANALYSIS

<b>Product Name</b>	VALERIAN ROOT
<b>Botanical name</b>	Valeriana officinalis L.s.l.
<b>Part used</b>	Roots (fraction: whole)
<b>Batch No.</b>	HBM-12SZK/2025
<b>Manufacture date</b>	Apr 2025
<b>Expiry date</b>	Apr 2028
<b>Shelf life</b>	36 months

### Organoleptic

Item	Specification
Colour	The rhizome is yellowish-grey or pale brownish-grey.
Odour	Strong, aromatic, typical of valerian; free from foreign and off odours.
Flavour	Spicy, sweet-bitter.

### Physical & Chemical Data

Item	Specification	Result
Moisture (%)	≤12.0	9.59
Total ash (%)	≤12.0	11.92
Acid insoluble ash (%)	≤5.0	4.86
Foreign matter (stems) (%)	≤5.0	1.72
Foreign matter (others) (%)	≤3.0	0.73
Essential oil content (%)	≥0.4	0.45
Sesquiterpenic acids as valeric acid (%)	≥0.17	0.19

### Heavy Metals

Item	Specification
Mercury (mg/kg)	≤0.1
Lead (mg/kg)	≤0.5
Cadmium (mg/kg)	≤1.0
Arsenic (mg/kg)	≤0.5

**PAHs**

Item	Result
Benzo[a]pyrene (µg/kg)	≤10
Sum of benzo[a]pyrene, chrysene, benz[a]anthracene, benzo[b]fluoranthene (µg/kg)	≤50

**Mycotoxins**

Item	Specification
Ochratoxin A (µg/kg)	≤10
Aflatoxin B1 (µg/kg)	≤2
Aflatoxins B1, B2, G1 & G2 (µg/kg)	≤4

**Plant Toxins**

Item	Specification
Tropane alkaloids, TA (µg/kg)	≤25
Pyrrolizidine alkaloids, PA (µg/kg)	≤200

**Perchlorate**

Item	Specification
Perchlorate (µg/kg)	≤75

**Radionuclides**

Item	Specification
Cesium Cs-137 (Bq/kg)	≤400
Strontium Sr-90 (Bq/kg)	≤200

**Microbiological Tests**

Item	Specification	Result
Total aerobic microbial count (CFU/g)	≤1.0×10 <sup>7</sup>	1.0×10 <sup>6</sup>
Salmonella (in 25 g)	Negative	Negative in 25 g
Yeasts and moulds (CFU/g)	≤1.0×10 <sup>5</sup>	1.0×10 <sup>4</sup>
E. coli (CFU/g)	≤1.0×10 <sup>3</sup>	<10

**Allergen Information**

Item	Specification
EU 1169/2011 Annex II allergens	Product does not contain any listed allergen ingredients/additives.

**Impurities & Product Status**

<b>Item</b>	<b>Specification</b>
Impurities	Product is free from metallic, magnetic, adulterants, wood, glass particles, sand.
Infestation	Product is free from living insects; practically free from moulds, dead insects, insect fragments and rodent contamination.
GMO statement	Product does not contain and is not made from GMOs (Regulation (EC) 1829/2003).
ETO	Not treated by ethylene oxide (Regulation (EC) No 396/2005; (EU) 2020/1540).
Nanomaterials	No nanomaterials per EU REACH 2018/1881 and EFSA guidance.
Treatment	Not treated with ionizing radiation (Directive 1999/3/EC).
Fumigation	Only phosphine allows for fumigation treatment.

**Notes**

<b>Remarks</b>	Country of origin: Poland. Product description: Dried, whole, cut or fragmented underground parts of <i>Valeriana officinalis</i> L.s.l., including the rhizome surrounded by the roots and stolons.
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The above items are based on routine batch analysis; some items are based on periodic analysis.