



NHR ORGANIC OILS  
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## Product Specification

# Organic Siberian Pine Nut Oil

(*Pinus sibirica*)

Cedar nut oil is the fixed oil expressed from the seeds of the Siberian Pine,  
*Pinus sibirica* (Du Tour), Pinaceae

Description	
Latin name	<i>Pinus sibirica</i> (Du Tour), Pinaceae
INCI (EU)	PINUS SIBIRICA SEED OIL
Registry Number (EU)	68956-68-3 <sup>1</sup>
EC# (EINECS/ ELINCS)	273-313-5 <sup>1</sup>
Reference CPNP	1454588
Customs tariff number	1515 90 59

<sup>1</sup> Number of an expressed oil of vegetable origin consisting primarily of triglycerides of fatty acids (Vegetable oil)

Physicochemical characteristics		
Parameter	Method	Range & unit
Dichte Density Densité	20 °C DGF C-IV 2d	0,917 g/ml
Brechungsindex (BI) Refractive index Indice de réfraction	20 °C DIN EN ISO 6320, refractometrie	1,473
Säurezahl (SZ) Acid value Acidité	DGF C-V 2, Titration	≤ 4,0 <sup>1</sup> mg KOH/g (KOH = NaOH)
Freie Fettsäuren (FFS) Free fatty acids (FFA) Acides gras libres (AGL)	Calculated in oleic acid (DGF C-V 2)	≤ 2,02 <sup>1</sup> %
Verseifungszahl (VZ) Saponification value Indice de Saponification	EN ISO 3657, calculation	200 mg KOH/g (KOH = NaOH)

Jodzahl (IZ) Iodine value Indice d'iode	ISO 3961:2013	99,3 g I <sub>2</sub> /100g Not drying
Peroxidzahl (POZ) Peroxide value Indice de peroxyde	ISO 27107, Potentiometrie	≤ 10,0 <sup>1</sup> meq O <sub>2</sub> /kg oil
Anisidinzahl (AZ) Anisidine value Indice d'anisidine	DGF-C-VI 6e	< 10
Totox-Zahl (= Anisidinzahl + 2 x Peroxidzahl) Totox value (= Anisidine + 2 x Peroxide value) Indice Totox (= Indice d'anisidine + 2 x de peroxyde)		≤ 20,0 meq O <sub>2</sub> /kg oil
Extraktionsmittel Extractant Moyen d'extraction	-	- (mechanical pressing)

<sup>1</sup> The acid value, peroxide value and free fatty acids increase steadily during storage. However the product will have under suitable storage conditions at the end of the best before date an acid value ≤ 4.0 mg KOH / g, a peroxide value ≤ 10.0 meq O<sub>2</sub> / kg oil and free fatty acids ≤ 2.02 %.

### Fatty Acids composition

According to DGF C-VI 10a

Name	Family	Symbol <sup>1</sup>	% *
Palmitinsäure Palmitic acid	Saturated	16:0	6,7
Stearinsäure Stearic acid	Saturated	18:0	3,8
Ölsäure Oleic acid	<b>Omega-9</b> , mono unsaturated	18:1	22,2
Gondosäure (Delta-11-cis-Eicosen-/ Icosensäure) + weitere C20:1-Isomere Gondoic acid (cis-11-icosenoic acid = cis-11-Eicosenoic acid) + Further C20:1 isomers	<b>Omega-9</b> , mono unsaturated	20:1	0,7

Name	Family	Symbol <sup>1</sup>	% *
Linolsäure + weitere C18:2-Isomere Linoleic acid + further C18:2 isomers	<b>Omega-6</b> , poly unsaturated	18:2	47,9
Pinolensäure + weitere C18:3-Isomere Pinolenic acid + further C18:3 isomers	<b>Omega-6</b> , poly unsaturated	18:3	14,4
C20:3-Isomere C20:3 isomers	Poly unsaturated	20:3	1,4

<sup>1</sup> Number of carbon atoms and of double bonds.

Further ingredients (Unsaponifiable fraction)	mg/kg (ppm) *
Sterols	2420
Tocopherols	409
Vitamin E, active	257,4

Sterols LC-GC-FID	% *
24-methylen-cholesterol	0,3
Beta-sitosterol	52,3
Brassicasterol	< 0,1

Campestanol	1,3
Campesterol	6,1
Cholesterol (Cholesterin) <sup>1</sup>	0,2
Clerosterol	0,7
Delta-5,23-stigmastadienol	< 0,1
Delta-5,24-stigmastadienol	1,2
Delta-5-avenasterol	34,3
Delta-7-avenasterol	0,6
Delta-7-campesterol	< 0,1
Delta-7-stigmasterol	< 0,1
Sitostanol	2,8
Stigmasterol	0,2

<sup>1</sup> According to EU Health Claims Regulation No. 1024/2006 it is principally not permitted to use the term "Free from Cholesterol" on any product packaging, even in case that the oil not contain more than 5 mg Cholesterol per 100 g.

<b>Vitamin E/ Tocopherols</b> according to DGF F-11 4a, LC-FLD	<b>mg/kg (ppm)*</b>
Vitamin E, active <sup>1</sup>	257,4
Alpha-Tocopherol (a)	236
Beta-Tocopherol ( )	173
Gamma-Tocopherol (y)	< 10
Delta-Tocopherol (o)	< 10

<sup>1</sup> Calculated from the tocopherols.

\* The given values are to be considered as approximate average values, which are based on scientific references and/or analysis