



SUPA EXPORT®

Passion For Import - Export Solutions

Specifications

CRUDE SUNFLOWER OIL

1. Product quality specification for: Product of oil for food industry, CRUDE SUNFLOWER OIL, produced from selected sunflower seed in accordance with:

- ◆ Sunflower oil, crude (SRPS E.K2.020/1980)
- ◆ Law regulations for health safety of subjects of general use („Sl. Glasnik RS”, br.92/2011).
- ◆ Law regulations for ionizing radiation protection and nuclear safety (“Sl. glasnik RS”, br. 36/2009 i 93/2012)
- ◆ Law regulations for GMO (“Sl. glasnik RS”, br. 41/2009) and
- ◆ Law regulation for standardisation (“Sl. glasnik RS”, br. 36/2009).

2.Product characteristics are in accordance with Regulations: SRPS E.K2.020/1980 Sunflower oil, crude. Regulations for quality and other requests for edible oil and fats, margarines, mayonnaise and other similar products (Sl.list SCG, br. 23/06 i “Sl. Glasnik RS”, br. 43/2013).

Identification parameters	Limit	Determining method
Relative density (20°C/water 20°C)	0,917-0,928	Denz itometric
Refraction index n_D (40°C)	1,472-1,476	Refraktometric
Iodine number (gJ2/100g)	114-143	Jodometric titration
Saponification number (mgKOH/g oil)	189-195	Gravimetric
Fatty acid content %(m/m)		GC/FID
C14:0	Max.0,2	
C16:0	5,0-7,6	
C16:1	Max.0,3	
C17:0	Max.0,2	
C18:0	2,7-6,5	
C18:1	14,0-39,4	
C18:2	48,3-74,0	
C18:3	Max.0,3	
C20:0	0,1-0,5	
C20:1	Max.0,3	
C22:0	0,3-1,5	
C24:0	Max.0,5	



PRODUCT SPECIFICATION

No.1

Quality standards	Limit	Determining method
Colour of oil according to Lovibond	3 r and 30 y	Lovibond
Appearance	Transparent	Senzoric test
Taste and odour	typical	Senzoric test
Free fatty acid (as oleinic) % (m/m)	Max.3,0	Volumetric
Unsoap matter % (m/m)	Max.1,5	Gravimetric
Water % (m/m)	Max.0,30	KF titration
Flash point (°C)	Min.225	Close cup
Total phosphor content %(m/m)	Max.0,025	Spectrofometric

3. Heavy-armature relay metal, pesticide and mycotoxin content is regulated according to Regulative for the maximum level of residues of pesticides in food and feed, and for food and feed in which are determined the maximum allowable amounts of residues of plant protection products (Sl.glasnik RS br. 29/2014 i 37/2014 - ispr. i 39/2014), European Regulation no. 396/2005 and Product standards GMP + BA1.

Permissible metal, non-metal and specific foodstuff contaminant content.

Heavy-armature relay metal	Limit	Determining method
Copper content (Cu) (mg/kg)	Max.0,4	ICP/MS
Plumbum content (Pb) (mg/kg)	Max.0,1	ICP/MS
Arsenic content (As) (mg/kg)	Max.0,4	ICP/MS
Iron content (Fe) (mg/kg)	Max.5,0	ICP/MS

4. The content of polycyclic aromatic hydrocarbons (PAHs) is regulated by Product Standards GMP+BA1.

The content of polycyclic aromatic hydrocarbons (PAHs)	Action limit	Rejection limit	Determining method
The content of polycyclic aromatic hydrocarbons (PAHs) (µg/kg)	15	50	GC/MS

5. The content of C₁₀ - C₄₀ is regulated by Product Standards GMP+BA1.

The content of C ₁₀ - C ₄₀	Limit	Determining method
The content of C ₁₀ - C ₄₀ (mg/kg)	1000	GC/MS



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6. The content of dioxins is regulated by Product Standards GMP+BA1.

The content of dioxins	Action limit	Rejection limit	Determining method
The content of dioxins (ng/kg)	0.5	0.75	GC/MS
The content of dioxin-like PCBs (ng/kg)	-	0.5	GC/MS
The content (sum) of dioxins and dioxin-like PCBs (ng/kg)	-	1.5	GC/MS

7. **Radionuklide content** is regulated according to Regulative about limits for radioactive contamination of persons, working and life environment and decontamination methods ("Sl.glasnik RS", br.38/2011).

8. **Microorganism content** is regulated according to Guide for the application of microbiological criteria for foods (first edition June 2011) Chapter IV.

Microbiological characteristics	Limit	Determining method
Enterobacteriaceae (CFU / g)	0	Isolation and identification of Enterobacteriaceae

9. **Genetic modification** is regulated according to Law regulatives about identifying agricultural and food product generated from genetically modified organism (Sl. list SRJ, br. 6/03).

Genetic modification	Limit	Determining method
Genetic modification	Max 0,9%	PCR



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10. Packaging, Purchase and delivery

Packing material directly in contact with foodstuff is regulated according to Regulative about requirements for health safety of subjects for general use which can be released in goods traffic (Sl.list SFRJ, br. 26/83, 61/84, 56/86, 50/89 i 18/91).

Product code	Product name	Packaging
20000000	Crude sunflower oil	bulk

PACKAGING AND TRANSPORT

Packaging: Crude sunflower oil is packed and delivered in bulk in car tanks and wagon tanks. Product declaration contains data for qualitative identification of product.

Transport: Transport with safe and dry conditions, protected from extern influences.

Storage conditions: Storage in cool and dry place, protected from extern influences.

Durability: 12 months.

11. Product application

Product application

Crude sunflower oil is used for human nutrition. Oil originated from plants has significant role in terms of nutrition, physiology and psychology of human organism because it has high content of essential fatty acid and vitamins soluble in fats. Crude sunflower oil is used as a raw materials in the manufacture of animal feed, in quantities up to 5%.

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