



Product Specification: Refined Sunflower Oil

Product Overview

A premium, refined liquid oil derived from sunflower seeds (*Helianthus annuus* L.), ideal for baking, frying, and versatile culinary uses. Suitable for diet margarine production or bottling as a general-purpose cooking oil. Formulated to highlight high polyunsaturated fatty acid content for enhanced nutritional profiles.

Sensory Profile

- **Visual Clarity:** Clear and brilliant at room temperature
- **Consistency:** Liquid at 20°C
- **Flavor and Aroma:** Neutral (confirmed by sensory panel)
- **Hue:** Pale yellow (Max. 1.5 red, 15 yellow; Lovibond 5¼" cell)
- **Contaminants:** None detected
- **Cold Stability:** No clouding or solidification after 24 hours at 0°C
- **Shelf Life:** 24 months from manufacturing date

Analytical and Physical Properties

Parameter	Specification	Test Method
Specific Gravity at 20°C (g/mL)	0.918 – 0.923	NF ISO 6883
Refractive Index (nD at 40°C)	1.461 – 1.468 (indicative)	ISO 6320
Saponification Value (mg KOH/g)	188 – 194	AOCS Cd 3a-94
Iodine Value (calculated)	118 – 141	AOCS Cd 1c-85
Moisture Content (%)	< 0.07	NF ISO 662
Free Fatty Acids (% as oleic acid)	< 0.1	NF EN ISO 660
Alkalinity (ppm)	< 5	NF EN ISO 10539
Peroxide Value (meq/kg) – Tank Delivery (at dispatch)	< 1	NF ISO 3960
Peroxide Value (meq/kg) – Container Delivery (bottling)	< 2	NF ISO 3960
Phosphorus Content (ppm)	< 5	NFT 60-227

*Compliant with CODEX ALIMENTARIUS CXS 210-1999 (Amended 2003, 2005)

Corporate Office

Parth Consumer, Office No -604,
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Fatty Acid Composition*

Fatty Acid	Carbon Chain	Specification (%)	Test Method
Myristic	C14:0	< 0.2	-
Palmitic	C16:0	5 – 7.6	-
Palmitoleic	C16:1	< 0.3	-
Stearic	C18:0	2.7 – 6.5	-
Oleic	C18:1	14 – 39	Gas Chromatography
Linoleic	C18:2	50 – 74	NFT EN ISO 5508
Linolenic	C18:3	< 0.3	-
Arachidic	C20:0	0.1 – 0.6	-
Gadoleic	C20:1	< 0.3	-
Behenic	C22:0	0.3 – 1.5	-
Erucic	C22:1	< 0.3	-
Lignoceric	C24:0	< 0.5	-

*Aligned with CODEX ALIMENTARIUS CXS 210-1999 (Amended 2003, 2005). Total Trans Fatty Acids: < 1%

Nutritional Information (Average per 100g)

Nutrient	Value
Energy	3700 kJ / 900 kcal
Protein	0 g
Carbohydrates	0 g
Total Fat	100 g
Saturated Fats	9 – 14 g
Monounsaturated Fats	19 – 38 g
Polyunsaturated Fats	52 – 69 g
Cholesterol	Not Detected
Additives	None

Heavy Metals Analysis*

Metal	Unit	Limit	Test Method
Iron (Fe)	ppm	< 1.5	NF EN ISO 8294
Copper (Cu)	ppm	< 0.1	NF EN ISO 8294
Lead (Pb)	ppm	< 0.1	NF EN ISO 12193
Arsenic (As)	ppm	< 0.1	-

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*Conforms to EU Regulation 1881/2006 (and amendments) and CODEX STAN 210-1999 (Amended 2003, 2005)

Pesticide Residues

Category	Unit	Limit	Test Method
Organophosphorus	ppm	**	Gas Chromatography + specific detection
Organochlorine	ppm	**	ECD-NDP

**Compliant with EU Regulation 396/2005 (and amendments) – Survey-based analysis

Polycyclic Aromatic Hydrocarbons (PAHs)

Compound	Unit	Limit	Test Method
Benzo(a)pyrene (BaP)	ppb	< 2	ISO 15302:1998 (E)

Dioxins and Dioxin-Like PCBs***

Parameter	Unit	Limit
WHO-PCDD/F-TEQ	pg/g	0.75
WHO-PCDD/F-PCB-TEQ	pg/g	1.5

***In accordance with EU Regulation 1881/2006 (and amendments)

Mineral Oil Hydrocarbons

Parameter	Unit	Limit	Test Method
Mineral Oil Hydrocarbons C10-C56	mg/kg	< 50 (quantification limit)	Internal method per ITERG (FEDIOL recommendation) or external laboratory

General Notes

This product is a food-grade refined sunflower oil intended solely for edible purposes and does not require a Material Safety Data Sheet. It presents no health, safety, or toxicological hazards. This specification is for informational use only and does not guarantee performance. Prior laboratory evaluation is recommended before commercial implementation. No warranties, express or implied, for merchantability or fitness for a specific purpose are extended. These details are not intended as instructions that may infringe upon patent rights. All parameters ensure full compliance with relevant Codex and regulatory standards to support successful reporting and certification.

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