

## Technical Data Sheet

# REFINED AND BOTTLED SUNFLOWER OIL

This information data sheet replaces all the previous ones, for this product

*This document is prepared to inform the customer on the product specification. Only signed by the customer this document is considered to be a specification sheet. Else the information in this technical data sheet is considered as informative, and may be subject to change. Please contact Bunge to receive the most recent version of the document.*

**Product description:**

Refined, winterized and deodorized sunflower oil processed under controlled hygienic conditions and produced from quality seeds.

**Compliance with Food legislation:**

This product complies with all current and relevant EU legislation. Bunge's "Food Safety Information" is available upon request and contains legal limits for contaminants, quality and food safety parameters.

### 1. TECHNICAL SPECIFICATIONS <sup>1)</sup>

		Min	Max	Typical Values	Reference method <sup>2)</sup>
<b>Analysis parameters</b>					
<b>Sensory:</b>					
Taste	-	Smooth, characteristic aroma, free of foreign or rancid flavor			<i>Bunge Internal method</i>
Appearance at room temp.	-	Light, shiny, pale greenish yellow color, liquid at room temperature and free of foreign particles			<i>Bunge Internal method</i>
Odor		Characteristic, free of foreign odor			<i>Bunge Internal method</i>
<b>Chemical:</b>					
Free Fatty Acid, <i>as oleic</i>	%	-	0.15	<0.1	<i>EN-ISO 660:1999</i>
Peroxide Value, <i>at loading</i>	meq/kg	-	2.0	< 1	<i>ISO 3960:2007</i>
Colour Lovibond 5.25"	Red/Yellow	-	1.5/20	< 1/10	<i>CC13E-92</i>
<b>Fatty Acid Composition:</b>					
		UNI EN ISO 12966			<i>EN-ISO 5509:2000 &amp; EN-ISO 5508:1995</i>
Chain lengths less than C14	%		0.1		
C14:0	%		0,2		
C16:0	%	5	7.6		
C16:1	%		0.3		
C18:0	%	2,4	6.5		
C18:1	%	14	39,4		
C18:2	%	48,3	74		
C18:3	%		0.3		
C20:0	%	0,1	0.5		
C22:0	%	0,3	1,5		
C24:0	%		0.5		
Trans Fatty Acids	%		1	< 0.6	

## Technical Data Sheet

# REFINED AND BOTTLED SUNFLOWER OIL

This information data sheet replaces all the previous ones, for this product

<b>Conformity parameters</b>					
<b>Chemical:</b>					
Moisture Content	%	-	0.1	< 0.05	UNI EN ISO 662
Soap (as sodium oleate)	Presence /absence	max 10 ppm			Italian NGD C8 1976
Iodine Value	mg I <sub>2</sub> / g oil	118	141	100	Calculated
Saponification Value	mg KOH / g oil	188	194	-	Calculated
Cold Test (5 ½ h at 0°C)	Positive /Negative	Negative			ISO/TS 23647
<b>Other Parameters</b>					
Colesterol	%		0,5		EN ISO 12228-1 (2014)
Brasicasterol	%		0,2		EN ISO 12228-1 (2014)
Campesterol	%	6,5	13		EN ISO 12228-1 (2014)
Stigmasterol	%	6	13		EN ISO 12228-1 (2014)
Beta - Sitosterol	%	50	70		EN ISO 12228-1 (2014)
Delta 5-Avenasterol	%		6,9		EN ISO 12228-1 (2014)
Delta 7-stigmastenol	%	6,5	24		EN ISO 12228-1 (2014)
Delta 7-Avenasterol	%	3	7,5		EN ISO 12228-1 (2014)
Other Sterols	%		9,5		EN ISO 12228-1 (2014)
TOTAL STEROLS	ppm	1700	5200		EN ISO 12228-1 (2014)

1) The specification for quality is final at loading in compliance with all Trading rules

2) Bunge reserves the right to use internal analytical method that is in compliance with the International Reference Method.

<b>2. GENERAL INFORMATION</b>			
2.1	Supplier	Name	Bunge ITALIA S.P.A.
		Address	Via Baiona 203 48123 Ravenna Italy
		Phone	+39 (0) 544 537 711
2.2	Production Location(s)	Porto Corsini (Ravenna)	
2.3	Product delivered as	Bulk / Bottled	
2.4	Raw material (soft seeds/ beans/ crude oils) <i>For the most up to date information on the countries of origin, please ask for our origin statement</i>	Mainly sourced in Ukraine, Romania, Slovenia and Italy	
2.5	Biological/Ecological Product	No	
2.6	Primary packaging (type + material)	Bottled with material suitable for food stuff, according to <a href="#">Regulation EU 10/2011</a> . <b>Formats:</b> 25 L metal cans, 1L / 5L /10 L PET Bottles	
2.7	Shelf life after loading/packaging	Max 14 months for PET Bottles at proper storage Max 18 months for cans See 2.9. The peroxide value must be lower than 7 meq	

### Bunge Italia S.p.A.

Via Baiona, 203 – 48123 Ravenna - Italy

Phone: +39 (0)544 537711

www.bunge.com

Issue Date: 02/07/2018  
Version: 01

### Technical Data Sheet

## REFINED AND BOTTLED SUNFLOWER OIL

This information data sheet replaces all the previous ones, for this product

		O <sub>2</sub> /kg oil.
2.8	Batch code	Shelf life on caps or on top of the cans
2.9	Recommended storage condition at customer	Supplied on EPAL pallet, wrapped in PE stretch. Storage conditions should be ≤ 20°C, dry warehouse & avoiding light
2.10	Process Description	Crude Sunflower oil is refined, bleached and deodorized.

### 3. COMPOSITION INFORMATION ([Regulation \(EU\) 1169/2011](#))

3.1	Botanical origin	Sunflower ( <i>Helianthus annuus L.</i> ),
3.2	Composition in descending order of weight	Sunflower Oil

### 4. NUTRITIONAL INFORMATION [Regulation \(EU\) 1169/2011](#)

	Typical g / 100g		Typical g / 100 ml (only for liquids) (calculated with density of 920 g/l)	
	mandatory	voluntary	mandatory	voluntary
Energy	900 kcal/ 3700 kJ		828 kcal/ 3404 kJ	
Fat of which, saturates mono-unsaturates (cis) polyunsaturates (cis)	100 12	26 62	92 11.04	26.26 57.04
Carbohydrates (mono-, di-, oligosaccharides/ starches /polyols) of which, sugars	0		n/a n/a	
Proteins	0		n/a	
Salt	< 0.05 mg		n/a	
Is this product suitable for Vegans Vegetarians (Ovo)-Lacto Vegetarians Coeliacs	Yes Yes Yes Yes			
Free from alcohols	Yes			

### 5. CHEMICAL/ PHYSICAL (INDICATIVE)

Viscosity at 20°C	~ 62 mPa.s
Refractive index $n_{D40}$	1.461 - 1,468
Density at 20°C	918 - 923 kg/m <sup>3</sup>
Flash point	~ 200 °C

**Bunge Italia S.p.A.**

Via Baiona, 203 – 48123 Ravenna - Italy  
Phone: +39 (0)544 537711  
www.bunge.com

Issue Date: 02/07/2018  
Version: 01

### Technical Data Sheet

## REFINED AND BOTTLED SUNFLOWER OIL

This information data sheet replaces all the previous ones, for this product

### 6. RELATED DOCUMENTS

#### SAFETY DATA SHEET (MSDS):

Please ask for the applicable document

#### General Product Information (GPI):

*The aim of this document is to inform our customers about the status of refined vegetable oils products under the relevant legislation (contaminants, microbiological standards, allergens, GMO).*

Please ask for the applicable document using reference: **FSI-001**

Herewith the Customer confirms to agree with above mentioned specifications:

#### Customer:

Name and function:

E-mail address:

Date:

Signature:

Reviewed and approved by:

Ramon Arnalot

Corporate Quality and Food Safety Coordinator

DATE: 02/07/2018