

**Trading Corporation of Bangladesh**  
**TCB Bhaban,1 Kawran Bazar, Dhaka-1215**

**SPECIFICATION FOR FORTIFIED EDIBLE SUNFLOWER OIL**

**1.1 Description** - The material shall be obtained from good quality sunflower seed cake or from undamaged, mature sunflower seeds from the plant *Helianthus annuus Linn. tam.* Composite by a process of solvent extraction or from sunflower seeds by a process of expression.

**1.1.1** Solvent extracted oil shall be obtained from the oleaginous material using solvent hexane.

**1.2** The material shall be clear and free from adulterants, sediment, suspended and other foreign matter, separated water, and added colouring and flavouring substances.

**1.2.1** The clarity of the material shall be judged by the absence of turbidity after keeping the filtered sample at 30 °C for 24 hours.

**1.3** Admixture with other oils - The material shall be free from admixture of other oils when tested according to the methods prescribed in Cl. 17 of BOS 1584.

**1.4** The product shall not contain aflatoxin, more than 5 µg/kg, when tested by the method prescribed in Annex A

**1.5** Hygienic Requirements - The material shall be manufactured and handled according to the hygienic requirements as prescribed in BOS 822.

**1.6** The material shall also comply with the requirements given in Table 1.

**Table-1 Requirements for Fortified Edible Sunflower Oil**

SI. No.	Characteristic	Requirement	Method of Test Ref. to BDS 1584
(1)	(2)	(3)	(4)
i)	Moisture and insoluble impurities, per cent by mass, <i>Max.</i>	0.1	9 and 10
ii)	Colour in a 1 inch cell on the Lovibond scale expressed as Y+SR, not deeper than	5	4
iii)	Refractive index at 40 °C	1.464-1.480	7
iv)	Saponification value (as KOH), mg/g	188 - 194	15
v)	Iodine value	100 - 140	19
vi)	Acid value, <i>Max.</i>	0.5	11
vii)	Unsaponifiable matter, per cent by mass, <i>Max.</i>	1.5	17
viii)	Peroxide value, expressed as mill equivalents of oxygen per kg, <i>Max.</i>	5.0	20
ix)	Flash point, Pensky-Martens (closed), °C, <i>Min.</i>	250	23
x)	Vitamin A, mg/kg	15-30	Annex B or C of BOS 1769

1.7 The product shall not contain any of the heavy metals in excess of the quantities prescribed in Table-2.

**Table -2 Limits for Heavy Metals**

SI. No.	Characteristic	Limit	Method of Test Ref. to
(1)	(2)	(3)	(4)
i)	Lead (as Pb), mg/kg, <i>Max.</i>	0.1	AOAC Method 974.27, 1990/2005
ii)	Arsenic (as As), mg/kg, <i>Max.</i>	0.1	AOAC Method 986.15, 1990/ 2005
iii)	Cadmium (as Cd), mg/kg, <i>Max.</i>	1.0	AOAC Method 974.27, 1990/2005
iv)	Mercury (total), mg/kg, <i>Max.</i>	0.25	AOAC Method 971.21, 1990/2005
v)	Iron (as Fe), mg/kg, <i>Max.</i>	1.5	AOAC Method 920.197, 1990/2005 /App. 0 of BOS 1769:2014
vi)	Copper (as Cu), mg/kg, <i>Max.</i>	0.1	AOAC Method 991.11, 1990/2005 /App. E of BOS 1769:2014

## 2. Permitted Food Additives

2.1 Addition of the following food additives to the materials not exceeding the prescribed levels are permitted:

INS No.	Antioxidants	Maximum Use level
304	Ascorbyl palmitate	500 mg/kg (singly or in combination)
305	Ascorbyl stearate	
307a	Tocopherol, <i>d-alpha</i>	300 mg/kg (singly or in combination)
307b	Tocopherol concentrate, mixed	
307c	Tocopherol, <i>di-alpha</i>	
310	Propyl gallate	100 mg/kg
319	Tertiary butyl hydroquinone(TBHQ)	120 mg/kg
320	Butylated hydroxyanisole (BHA)	175 mg/kg
321	Butylated hydroxytolouine (BHT)	75 mg/kg
any combination of gallates, BHA, or TBHQ not to exceed 200 mg/kg within individual limits		
389	Dilauryl thiodipropionate	200 mg/kg
330,	Citric acid	GMP
331(i)	Sodium dihydrogen citrate	GMP
331(iii)	Trisodium citrate	GMP
384	Isopropyl citrates	100 mg/kg (Singly or in combination)
472c	Citric and fatty acid esters of glycerol	
<b>Antifoaming agents (oils for deepfrying)</b>		
900a	Poly dimethylsiloxane	10 mg/kg