Commodities International Shipping and Survey

CISS Group PTE. LTD.
10, Anson Road, #29-05 A, International Plaza, Singapore, 079903.
e-mail: inspection@ciss-group.com

CERTIFICATE No.: UA01143

ORIGINAL

CERTIFICATE OF ANALYSIS

In pursuance of an order received from our principal, requesting us to carry out inspection we hereby confirm as follows:

Description of goods:	CRUDE SUNFLOWER SEED OIL - UKRAINE ORIGIN, IN BULK. FOR FOOD USE AFTER APPROPRIATE REFINING
Vessel:	MT KARRUCA
Quantity:	6001,500 MT
B/L No. & Date:	NO.1, 2 AND 3 DD 17.10.2021
Shipper:	"ODESKA TORGOVA KOMPANIA" LLC Ukraine, Odessa region, Odessa, Church str.,19 "IZMAIL-TRANSBULKTERMINAL" LLC Ukraine, Odessa region, Izmail, Aerodromne shosse,2 LLC "MEISEN" Ukraine 54001, Nikolaev, Nikolskaya str., building 61/11
Consignee:	To Order
Notify address:	CASA OLEARIA ITALIANA SPA VIA BAIONE 200 70043 MONOPOLI (BARI)
Port of loading:	IZMAIL, UKRAINE
Port of discharge:	Monopoli, Italy
Vessel Tanks Nos.:	1P,2P,3P,4P,5P,6P,7P,8P,9P,1S,2S,3S,4S,5S,6S,7S,8S AND 9S

RESULTS OF QUALITY INSPECTION

Representative samples of the oil have been drawn from each ship's tank 1P,2P,3P,4P,5P,6P,7P,8P,9P,1S,2S,3S,4S,5S,6S,7S,8S AND 9S of MT KARRUCA and sealed from vessel`s tanks after competition of loading according to FOSFA CONTRACT No.54. One vessel's sample were submitted for analysis to FOSFA approved chemical laboratory. The following results of analysis have been obtained:

No	Test Description	Units	Method	Results
1	Moisture and volatile matter	%	ISO 662:2016	0,16
2	Insoluble Impurities	%	ISO 663:2017	0,05
3	FFA	%	ISO 660:2009	0,43
4	Phosphorus content	ppm	ISO 10540-1:2003	121
5	Flash point at 121oC	n/a	ISO 15267:1998	no flash

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№	Test Description	Method*	Units**	Results
1	Sum of dioxins (WHO-PCDD/Fs-TEQ)	EN 16215:2020	pg/g fat	<0,75
2	Sum of dioxins and dioxin-like PCBs (WHO-PCDD/Fs-PCB-TEQ)	EN 16215:2020	pg/g fat	<1,25
3	Sum of PCBs non-dioxin-like	EN 16215:2020	ng/g fat	<40
4	2,3,7,8-TCDD	EN 16215:2020	pg/g fat	<0,04
5	1,2,3,7,8-PeCDD	EN 16215:2020	pg/g fat	<0,04
6	1,2,3,4,7,8-HxCDD	EN 16215:2020	pg/g fat	<0,01
7	1,2,3,6,7,8,HxCDD	EN 16215:2020	pg/g fat	<0,01
8	1,2,3,7,8,9-HxCDD	EN 16215:2020	pg/g fat	<0,01
9	1,2,3,4,6,7,8-HpCDD	EN 16215:2020	pg/g fat	<0,001
10	OCDD	EN 16215:2020	pg/g fat	<0,00006
11	2,3,7,8-TCDF	EN 16215:2020	pg/g fat	<0,004
12	1,2,3,7,8-PeCDF	EN 16215:2020	pg/g fat	<0,0012
13	2,3,4,7,8-PeCDF	EN 16215:2020	pg/g fat	<0,012
14	1,2,3,4,7,8-HxCDF	EN 16215:2020	pg/g fat	<0,01
15	1,2,3,6,7,8-HxCDF	EN 16215:2020	pg/g fat	<0,01
16	2,3,4,6,7,8-HxCDF	EN 16215:2020	pg/g fat	<0,01
17	1,2,3,7,8,9-HxCDF	EN 16215:2020	pg/g fat	<0,01
18	1,2,3,4,6,7,8-HpCDF	EN 16215:2020	pg/g fat	<0,001
19	1,2,3,4,7,8,9-HpCDF	EN 16215:2020	pg/g fat	<0,001
20	OCDF	EN 16215:2020	pg/g fat	<0,00006
21	dioxin-like PCB 77	EN 16215:2020	pg/g fat	<0,00005
22	dioxin-like PCB 81	EN 16215:2020	pg/g fat	<0,00015
23	dioxin-like PCB 126	EN 16215:2020	pg/g fat	<0,05
24	dioxin-like PCB 169	EN 16215:2020	pg/g fat	<0,015
25	dioxin-like PCB 105	EN 16215:2020	pg/g fat	<0,0003
26	dioxin-like PCB 114	EN 16215:2020	pg/g fat	<0,0003
27	dioxin-like PCB 118	EN 16215:2020	pg/g fat	<0,0003
28	dioxin-like PCB 123	EN 16215:2020	pg/g fat	<0,0003
29	dioxin-like PCB 156	EN 16215:2020	pg/g fat	<0,0003
30	dioxin-like PCB 157	EN 16215:2020	pg/g fat	<0,0003
31	dioxin-like PCB 167	EN 16215:2020	pg/g fat	<0,0003

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№	Test Description	Method*	Units**	Results
32	dioxin-like PCB 189	EN 16215:2020	pg/g fat	<0,0003
33	non-dioxin-like PCB 28	EN 16215:2020	ng/g fat	<0,100
34	non-dioxin-like PCB 52	EN 16215:2020	ng/g fat	<0,100
35	non-dioxin-like PCB 101	EN 16215:2020	ng/g fat	<0,100
36	non-dioxin-like PCB 138	EN 16215:2020	ng/g fat	<0,100
37	non-dioxin-like PCB 153	EN 16215:2020	ng/g fat	<0,100
38	non-dioxin-like PCB 180	EN 16215:2020	ng/g fat	<0,100
39	TEQ (WHO) for PCDD/Fs including LOQ for non-quantified congener	EN 16215:2020	pg/g fat	0,170
40	TEQ (WHO) for dioxin-like PCBs including LOQ for non-quantified congener	EN 16215:2020	pg/g fat	0,068
41	TEQ (WHO) for PCDD/Fs + dioxin-like PCBs including LOQ for non-quantified congener	EN 16215:2020	pg/g fat	0,238
42	Non-dioxin-like PCBs	EN 16215:2020	ng/g fat	0,600

No	Test Description	Method	LOQ***	Units	Results
1	MERCURY	EN 13806:2002	0,050	mg/kg	ND,less than 0,050
2	LEAD	ISO 12193:2004	0,050	mg/kg	ND,less than 0,050
3	CADMIUM	ISO 15774:2000	0,010	mg/kg	ND,less than 0,010
4	COPPER	ISO 8294:1994	0,400	mg/kg	ND,less than 0,400
5	IRON	ISO 8294:1994	1,000	mg/kg	ND,less than 1,000
6	ARSENIC	EN 14627:2005	0,050	mg/kg	ND,less than 0,050

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1	Capronat acid (C6:0)	DSTU ISO 5508-2001	%	0,05	ND,less than 0,05
2	Caprylat acid (C8:0)		%	0,05	ND,less than 0,05
3	Caprycat acid (C10:0)		%	0,05	ND,less than 0,05
4	Lauriat acid (C12:0)		%	0,05	ND,less than 0,05
5	Myristat acid (C14:0)		%	0,05	0,09
6	Palmitat acid (C16:0)		%	0,05	6,10
7	Palmitoleic acid (C16:1)		%	0,05	0,10
8	Margaric acid (C17:0)		%	0,05	ND,less than 0,05
9	Heptadecenoic acid (C17:1)		%	0,05	ND,less than 0,05
10	Stearat acid (C18:0)		%	0,05	3,42
11	Oleat acid (C18:1)		%	0,05	31,00
12	Linoleat acid (C18:2)		%	0,05	57,80
13	Linolenat acid (C18:3)		%	0,05	0,07
14	Arachidate acid (C20:0)		%	0,05	0,23
15	Gadoleic acid (C20:1)		%	0,05	0,16
16	Eicosadienoic acid (C20:2)		%	0,05	ND,less than 0,05
17	Behenat acid (C22:0)		%	0,05	0,64
18	Erucate acid (C22:1)		%	0,05	ND,less than 0,05
19	Docosadienoic acid (C22:2)		%	0,05	ND,less than 0,05
20	Lignocerat acid (C24:0)		%	0,05	0,23
21	Nervonic acid (C24:1)		%	0,05	ND,less than 0,05

No	Test Description	Method	Units	LOQ***	Results
1	Mineral oil (Hydrocarbons C10-C56)	ISO 17780:2015	mg/kg	20,0	ND,less than 20

№	Test Description	MRL	Method	LOQ***	Units	Results
1	Aflatoxin B1	NS	DSTU EN 12955-2001	1,0	µg/kg	ND,less than 1,0
2	Sum of aflatoxins B1,B2,G1,G2	NS	DSTU EN 12955-2001	2,5	µg/kg	ND,less than 2,5

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№	Test Description	Method	Units	Results
1	Cholesterol	ISO 12228-1:2014	%	0,16
2	Brassicasterol		%	ND,less than 0,10
3	Campesterol		%	8,57
4	Stigmasterol		%	8,98
5	Beta-sitosterol		%	55,74
6	Delta-5-avenasterol		%	5,27
7	Delta-7-stigmastenol		%	11,68
8	Delta-7-avenasterol		%	4,58
9	Others		%	5,02
10	Total sterols		mg/kg	4159,5

№	Test Description	Method	LOQ***	Units	Results
1	Benzo[a]pyrene	ISO 15753:2016	0,2	µg/kg	0,7
2	Benz(a)antracene	ISO 15753:2016	0,2	µg/kg	0,9
3	Benz(b)fluoranthrene	ISO 15753:2016	0,3	µg/kg	0,9
4	Chrysene	ISO 15753:2016	0,2	µg/kg	1,4

№	Test Description	Method	LOQ***	Units	Results
1	Acetamiprid	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
2	Aldrin	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
3	Amitraz	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
4	Acephate	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
5	Azinphos-methyl	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
6	Acetochlor	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
7	Alachlor	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
8	Atrazine	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
9	Azoxystrobin	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
10	Anthraquinone	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
11	Bifenthrin	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
12	Boscalid (Nicobifen)	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
13	Biphenyl	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
14	Bromopropylate	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
15	Captafol	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
16	Carbaryl	EN 1528:1996	0,020	mg/kg	ND, less than 0,020

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№	Test Description	Method	LOQ***	Units	Results
17	Carbofuran	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
18	Carboxin	EN 1528:1996	0,050	mg/kg	ND, less than 0,050
19	Chlordane	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
20	Chlorothalonil	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
21	Chlorfenvinphos	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
22	Chlorpyrifos	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
23	Chlorpyrifos-methyl	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
24	Cyfluthrin	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
25	Cyhalothrin-Lambda	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
26	Cypermethrin	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
27	Cyproconazole	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
28	Cyprodinil	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
29	DDT	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
30	DDD	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
31	DDE	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
32	Dimethoate	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
33	Deltamethrin	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
34	Diazinon	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
35	Dichlorvos	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
36	Dieldrin	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
37	Difenoconazole	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
38	Disulfoton	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
39	Endosulfan	EN 1528:1996	0,050	mg/kg	ND, less than 0,050
40	Endosulfan alfa	EN 1528:1996	0,050	mg/kg	ND, less than 0,050
41	Endosulfan beta	EN 1528:1996	0,050	mg/kg	ND, less than 0,050
42	Endosulfan sulfate	EN 1528:1996	0,050	mg/kg	ND, less than 0,050
43	Endrin	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
44	Ethion	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
45	Ethoxyquin	EN 1528:1996	0,050	mg/kg	ND, less than 0,050
46	Famaxodone	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
47	Fenitrothion	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
48	Fenthion	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
49	Fipronil	EN 1528:1996	0,005	mg/kg	ND, less than 0,005
50	Fenvalerate	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
51	Fludioxonil	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
52	Heptachlor	EN 1528:1996	0,010	mg/kg	ND, less than 0,010

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53	Heptachlor epoxide	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
54	Haloxyfopmethyl	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
55	Haloxyfop-p-methyl	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
56	Hexachlorobenzene (HCB)	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
57	HCH alfa isomer	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
58	HCH beta isomer	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
59	HCH gamma isomer (Lindane)	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
60	Imazalil	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
61	Iprodione	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
62	Isoprothiolane	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
63	Linuron	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
64	Malathion	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
65	Metalaxyl	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
66	Methamidophos	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
67	Methidathion	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
68	Methoxychlor	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
69	Monocrotophos	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
70	Metazachlor	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
71	Mepiquat	EN 15662:2018	0,500	mg/kg	ND, less than 0,500
72	Methomyl	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
73	Naled	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
74	Nitrofen	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
75	Omethoate	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
76	Oxadixyl	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
77	Ortho-phenyl phenol	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
77	Phorate	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
79	Parathion-methyl	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
80	Pendimethalin	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
81	Permethrin	EN 1528:1996	0,050	mg/kg	ND, less than 0,050
82	Pirimiphos-methyl	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
83	Prochloraz	EN 1528:1996	0,100	mg/kg	ND, less than 0,100
84	Procymidone	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
85	Propiconazole	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
86	Phosphamidone	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
87	Simazine	EN 1528:1996	0,010	mg/kg	ND, less than 0,010

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88	Tetramethrin	EN 1528:1996	0,050	mg/kg	ND, less than 0,050
89	Tebuconazole	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
90	Thiamethoxam	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
91	Trifloxystrobin	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
92	Trichlorfon	EN 1528:1996	0,020	mg/kg	ND, less than 0,020
93	Trifluralin	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
94	Terbufos	EN 1528:1996	0,010	mg/kg	ND, less than 0,010
95	Vinclozolin	EN 1528:1996	0,020	mg/kg	ND, less than 0,020

Remarks:

* In accordance with Directive (EU) nr. 2017/644 (for Food).

** Content of PCDD/Fs and dioxin-like PCBs is recalculated to Toxic Equivalents (TEQ) values excluding non-dioxin-like PCBs.

***LOQ — limit of quantification.

The oil is homogeneous, of good, sound and merchantable quality.

DATED: 20 OCTOBER, 2021
For and on behalf of CISS GROUP Ukraine LLC
Registered Superintendent and Surveyor Member of FOSFA