



NHR ORGANIC OILS  
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## *Product Specification*

# **Organic Watermelon Seed Oil**

### *(Citrullus lanatus)*

Product Name:	Organic watermelon seed oil
Supplier:	NHR Organic Oils 24 Chatham Place, Brighton, BN1 3TN, UK Email: <a href="mailto:info@nhrorganicoils.com">info@nhrorganicoils.com</a>

INCI (EU)	CITRULLUS LANATUS SEED OIL
CAS Registry No. (EU)	90244-99-8
EC# (EINECS/ ELINCS)	290-802-9
Sensory characteristics	Form: Liquid Colour: Dark yellow to brownish Odour: Species-typical

Statements:	
Aflatoxins, Total (B1, B2, G1, G2)	≤ 4,0 µg/kg
Dioxins and PCB (Polychlorinated biphenyl)	
Dioxins and furans (WHO-PCDD/ F-TEQ)	≤ 0,75 pg/g fat
Dioxins, furans and dioxin-like PCB (WHO-PCDD/F-PCB-TEQ)	≤ 1,50 pg/g fat
Sum of 6 non dioxin-like PCB	≤ 40 ng/g fat
Pesticides (In foodstuffs)	
In accordance with the regulation (EC) no. 396/2005 on maximum residue levels of pesticides in or on food and feed.	
Polycyclic Aromatic Hydrocarbons (PAH) In foodstuffs according to the regulation (EC) No 835/2011 amending regulation (EC) No 1881/2006	
Benzo[a]pyrene	≤ 2 µg/kg
PAH4 (Sum of benzo[a]pyrene, benzo[a]anthracene, benzo[b]flu- oranthene and chrysene)	≤ 10 µg/kg
Heavy metals (In foodstuffs)	
PB	< 0,100
Cd	< 0,070
Hg	< 0,100
Glycidyl fatty acid esters, expressed as glycidol <sup>1</sup> in edible vegetable oils and fats according to the COMMISSION REGULATION (EU) 2018/290 amending regulation (EC) No 1881/2006	
Vegetable oils and fats... <sup>2</sup>	≤ 1.000 µg/kg

Vegetable oils and fats for the production of baby food ... <sup>3</sup>	≤ 500 µg/kg
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<sup>1</sup> Glycidyl fatty acid esters are food contaminants found at highest levels in deodorized or refined vegetable oils and fats. Glycidyl fatty acid esters are hydrolysed into glycidol in the gastrointestinal tract. The European Food Safety Authority (EFSA) concluded that glycidol is a genotoxic and carcinogenic compound. It was therefore appropriate to establish maximum levels.

<sup>2</sup> Valid for Vegetable oils and fats placed on the market for the final consumer or for use as an ingredient in food with the exception of the foods referred to in 3.

<sup>3</sup> Valid for vegetable oils and fats destined for the production of baby food and processed cereal-based food for infants and young children. The suitability for this specific application must be expressly confirmed by us in writing.

Microbiology		
	Experience values, not binding	According to Eur. Ph. 9.0/5.01.08.00, 5.1.8, Cat.B
Total aerobic microbial count (TAMC), 30° C, ISO 4833-2	< 100 CFU/g	≤ 5 x 10 <sup>4</sup> CFU/g
Total combined yeasts/moulds count (TYMC), 25° C, § 64 LFGB L 01.00-37	< 100 CFU/g	≤ 5 x 10 <sup>2</sup> CFU/g
Enterobacteria, 37° C, BS ISO 21528-2:2004	< 100 CFU/g	
Bile salts, Gram-negative bacteria	-	≤ 1 x 10 <sup>2</sup> CFU/g
Escherichia coli, 44° C, ISO 16649-2	< 10 CFU/g	not detectable in 1 g
Bacillus cereus, 30° C, ISO 7932	< 10 CFU/g	-
Salmonella, BAX <sup>®</sup> System PCR Assay, Attestation AFNOR QUA 18/03-11/02	not detectable in 125 g	not detectable in 25 g
Coagulase positive Staphylococcus, 37° C, EN ISO 6888-1	< 1 CFU/ml	≤ 1 x 10 <sup>2</sup> CFU/g

CFU = Number of colony-forming units

In addition, the microbiological values of our substances correspond to the publication "Microbiological limit and warning values for the evaluation of foods" (status: May 2012), a recommendation of the Professional Group "Food Microbiology and Hygiene", working group "Microbiological limit and warning values" of the "German Association for Hygiene and Microbiology" –

All our substances are neither drugs in the sense of paragraph 2 of the German Drug Law nor medical devices in the sense of paragraph 3 of the German Medical Devices Law. Therefore, the reference to the European Pharmacopoeia shall not give the impression that our substances are drugs.

<b>3 - monochloropropanediol (3-MCPD) and 3-MCPD fatty acid ester, expressed as 3-MCPD 1</b> in edible vegetable oils and fats according to the COMMISSION REGULATION (EU) 2020/1322, amending Regulation (EC) No 1881/2006	
Vegetable oils and fats placed on the market for the final consumer or for use as an ingredient in food falling within the following categories, with the exception of the foods referred to in category 4 and of virgin olive oils:	
Category 1 Oils and fats from coconut, maize, rapeseed, sunflower, soybean, palm kernel and olive oils (composed of refined olive oil and virgin olive oil) and mixtures of oils and fats with oils and fats only from this category.	≤ 1.250 µg/kg
Category 2 Other vegetable oils (including pomace olive oils) and mixtures of oils and fats with oils and fats only from this category.	≤ 2.500 µg/kg
Category 3 Mixtures of oils and fats from the two abovementioned categories (1 and 2).	*
Category 4 Vegetable oils and fats destined for the production of baby food and processed cereal-based food for infants and young children. The suitability of our substances for this specific application must be expressly confirmed by us in writing.	≤ 750 µg/kg**

<sup>1</sup> 3 - monochloropropanediol (3-MCPD) and 3-MCPD fatty acid ester:

3-MCPD fatty acid esters are compounds of various fatty acids with the element 3-monochloropropane-1,2-diol (abbreviated 3-MCPD), also called 3-Chloro-1,2-propanediol or simply 3-Monochloropropan-diol.

3-MCPD and its fatty acid esters are processing contaminants formed during the refinement process of vegetable oils.

<sup>1</sup>3-MCPD joined to fatty acids (3-MCPD fatty acid esters) as well as free, can be found in all deodorized or refined vegetable oils. 3- MCPD is not added to the deodorizing or refining process but is the result of a reaction between glycerol and chloride. The contents of MCPD esters in oils and fats depend on the intensity of the industrial procedures. But even the raw material is of major importance. For example, palm oils contain high levels of diglycerides and are therefore especially bound to form 3-MCPD esters.

\* The oils and fats used as ingredient for the mixture shall comply with the maximum level established for the oil and fat. Therefore, the level of the sum of 3-monochloropropanediol (3-MCPD) and 3-MCPD fatty acid esters, expressed as 3-MCPD in the mixture, shall not exceed the level calculated in accordance with Article 2(1)(c) of Regulation (EC) No 1881/2006. In case the quantitative composition is not known for the competent authority and the food business operator, not producing the mixture, the level of the sum of 3-MCPD and 3-MCPD fatty acid esters, expressed as 3-MCPD in the mixture shall in any case not exceed 2 500 µg/kg.

\*\* When the product is a mixture of different oils or fats of the same or of different botanical origins, the maximum level applies for the mixture. The oils and fats used as ingredient for the mixture shall comply with the maximum level established for the oil and fat under the categories 1, 2 and 3.

## GMO (Genetically modified organisms)

The substances are GMO free and therefore in accordance with Regulations (EC) No. 1829/2003 and No. 1830/2003. A labeling regarding presence of genetically modified organisms (GMO) is therefore not necessary.

## Plasticizers; Phthalates

The regulation (EC) No 1935/2004 of the European parliament and of the council of 27 October 2004 on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC is valid.

For Phthalates, there are in the EU no specific maximum levels for foodstuff. The so-called ALARA-principle (As Low As Reasonable Achievable) is valid – the contents of undesired ingredients have to be as low as sensibly achievable. To minimize contamination with plasticizers, we exclude articles made of soft PVC from our entire processing chain. This definition aims to meet the high expectations consumers have of our organic edible oils. Excluding soft PVC is the most effective strategy to prevent plasticizer contamination. Some plasticizers may also originate from general environmental contamination, but at significantly lower levels than from soft PVC.

## Non-animal testing certification, Vegan statement, BSE and TSE statement

We reject any kind of animal testing within the production of our substances.

Hence we confirm herewith that the manufacture and development of our substances do not and have not involved the use of any animal product, by product or derivative and do not or have not involved testing of any sort on animals\* conducted at the initiative of my company or on its behalf, or by parties over whom we have effective control. The substances are qualified as vegan and thereby no risk of BSE/TSE.

\*We understand the word "animal" to refer to the entire Animal Kingdom, which is all vertebrates and all multi-cellular invertebrates.

## Statement regarding child labour

Herewith we declare to the best of our knowledge that our products are manufactured and / or processed without exploitative child labour within the meaning of the Convention 182 of the International Labour Organization (ILO).

## CITES statement

We declare to the best of our knowledge that we do not use any plants to manufacture our substances which are protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In some rare cases we use plants which are listed in CITES (e.g. prickly pear seeds). However, the plants we use are cultivated which means that the restrictions of CITES do not apply.

Nanotechnology, Radiation treatment, CMR-Materials

The substances are not irradiated and contain neither nanoparticles nor CMR hazardous stuffs that act carcinogen (cancer causing), mutagen or reprotoxic.

REACH registration number/SVHC

According to the regulation (EC) No 987/2008, amending regulation (EC) No 1907/2006, these substances are exempt from the obligation to register in compliance to REACH. Our substances do not contain SVHC. SVHC (Substances of Very High Concern) is a chemical substance (or part of a group of chemical substances), which have been identified under the REACH Regulation as having particularly hazardous properties. SVHC can have serious effects to human health or the environment. In this short explanation of the abbreviation SVHC, the term "substance(s)" has the usual meaning in the chemical terminology and has nothing to do with the meaning of this term under our above-mentioned definition.

3-MCPD fatty acid esters

3-MCPD fatty acid esters are compounds of various fatty acids with the element 3-monochloropropane-1,2- diol (abbreviated 3-MCPD), also called 3-Chloro-1,2-propanediol or simply 3-Monochloropropanediol.

3-MCPD joined to fatty acids (3-MCPD fatty acid esters) as well as free, can be found in all deodorized or refined vegetable oils. 3- MCPD is not added to the deodorizing or refining process but is the result of a reaction between glycerol and chloride.

The Federal Institute for Risk Assessment considers the previously derived TDI value (Tolerable Daily Intake) of 2 microgram 3-MCPD per kg body weight to be confirmed. This Statement is based on scientific experimental results concerning the toxicology of 3-MCPD. This dose can be taken during a lifetime without health risks (statement no. 006/2013 of the Federal Institute for Risk Assessment from April 3rd, 2012).

Also in January 2018, the European Food Safety Authority (EFSA) published an "Update of the risk assessment on 3-monochloropropane diol and its fatty acid esters" (DOI: 10.2903/j.efsa.2018.5083), setting a tolerable daily intake (TDI) of 2 µg/kg body weight and day for free 3-MCPD.

Mineral oils (MOSH und MOAH), POSH and PAO

Mineral oils are essentially composed of two chemically and structurally discrete types of fraction. The primary fraction (proportion: 75% to 85%) is made up of MOSH (Mineral Oil Saturated Hydrocarbons), while the secondary fraction (proportion: 15% to 25%) is composed of MOAH (Mineral Oil Aromatic Hydrocarbons).

For these contaminants, there are no specific maximum levels for foodstuff within the EU. The so-called ALARA-principle (As Low As Reasonable Achievable) is valid – the contents of undesired stuffs have to be as low as sensibly achievable.

Until today, there is consensus that the main reason and primary input source of mineral oil fractions into the food chain can be seen in the usage of newspaper ink containing mineral oil. By using imprinted newsprint papers (waste paper) within the recycling chain and its reprocessing for the production of packaging material based on recycled fibers, a causal connection to food contamination results.

Besides the identified main input paths of MOSH/MOAH from paper packaging material there is also the possibility of contamination during the extraction and processing processes, e.g. by using lubricants during the level of primary production.

In order to minimize these contaminations, we renounce packaging materials at our primary packaging in our entire process chain, which contain recycled fibers and/or are imprinted, as well as storage cartons and transport cartons that were produced from recycled corrugated board material. Instead, we use alternative packaging materials made from plastic (synthetic materials), glass, aluminum, jute, cotton and/or combined barrier materials. When choosing suitable packaging materials sustainability and reusability are important factors.

In addition to these practical measures in the packaging sector, a sensitization in the processing of raw material takes place with regard to other sources of mineral oils. Potential sources during processing and trading chains via machine contact and/or pre-packaging as well as via using technical auxiliary materials are minimized by using the „good manufacturing practice“.

#### Storage and Shelf life

Our shelf life descriptions require proper storage in our closed original sales containers, but our substances are usually stable and can after opening the containers reach undamaged the best before date, but it is advised to cover the substances with an inert gas such as nitrogen. In any case, containers, especially opened, should be stored at a cool (preferably 10 - 20° C), tightly closed, protected from light, in dry and well-ventilated place. Low temperatures of less than 15 °C can result in a simple form of winterization. The substance becomes opaque and settles at the bottom. Crystals, flakes and droplets are formed (natural crystallization). This so called flocculation (of waxes, mucilages and high melting glycerides) is a normal and reversible process. At warming up at room temperature, the substance becomes clear again.

The separated harder fraction has a lower iodine value and therefore a higher melting point than the substance from which it was separated. That is why the dissolution process can take few days. In case of small containers (bottles), the shaking may additionally support the dissolution process. By warming up the containers (to 30° C at max.), the dissolution process can be accelerated. This form of winterization is no chemical, but a purely physical process. It does not affect the quality of the substance, but instead is a proof of the naturalness of the substance and that it was not refined. The

harder fraction may in no case be precipitated out or filtered off, since it, separated from the main fraction, can of course not become a clear substance again.

### Sediment

A small amount of sediment (also known as decantate or depot) remaining in the sales units cannot be avoided and does not at all influence the quality of the substance. The sediment rather proves the naturalness of the substance and that it has not been refined. By shaking or stirring, the sediment dissolves in the substance, but our recommendation is, to actually leave it at the bottom.

### Halal & Kosher statement

We declare to the best of our knowledge that our substances meet the following requirements:

- They do not contain pork-derived ingredient
- They do not contain alcohol and during manufacturing, we do not use alcohol, alcohol-derived ingredients, pork, or pork-derived ingredients
- They do not contain wine or wine-vinegar
- They do not contain gelatin
- They do not contain any dairy products
- They do not contain any meat products
- Products produced by us were not manufactured with equipment/machineries, which was used producing products, which contain any of the above mentioned.

In addition, we declare that the raw material used in our factory plant do not pose any problem for halal/kosher certification, such as e.g. dairy derivatives, meat derivatives, fats, enzymes, grapes, gelatin, alcohol, wine etc.

At plant, there is also no use of steam return system or spray dryer.

### Important information

The analysis report, the Material Safety Data Sheet (MSDS) and the safety evaluation of the substance has to be observed. Due to these specifications, all former versions become invalid. A legally binding assurance of certain characteristics or of the appropriateness in a specific context of usage cannot be derived from our specifications. Hence, all specifications have to be validated by the customer himself and do not release him from testing the substances immediately and fully upon receipt and release products for further use.

Furthermore, the specifications do not release him from his quality responsibility and duty to take care when processing our substances.

A publication of the whole or any part of these specifications requires our prior approval.