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August 3, 2020

Office of Food Additive Safety (HFS-200) Center for Food Safety and Applied Nutrition Food and Drug Administration 5001 Campus Drive College Park, MD 20740-3835

Subject: GRAS Notification - Arachidonic Acid (ARA)

Dear Sir:

On behalf of BASF Corporation, ToxStrategies, Inc. (its agent) is submitting, for FDA review, a copy of the GRAS notification as required. The enclosed document provides notice of a claim that the food ingredient, arachidonic acid, described in the enclosed notification is exempt from the premarket approval requirement of the Federal Food, Drug, and Cosmetic Act because it has been determined to be generally recognized as safe (GRAS), based on scientific procedures, for addition to food.

If you have any questions or require additional information, please do not hesitate to contact me at 630-352-0303, or <u>dschmitt@toxstrategies.com</u>.

Sincerely,

Donald F. Schmitt, M.P.H. Senior Managing Scientist



# GRAS Determination of ARA-Rich Oil for Use in Infant Formula

JULY 22, 2020

# **Tox**Strategies

Innovative solutions
Sound science

# GRAS Determination of ARA-Rich Oil for Use in Infant Formula

#### SUBMITTED BY:

BASF Corporation 100 Park Avenue Florham Park, NJ 07932

#### SUBMITTED TO:

U.S. Food and Drug Administration
Center for Food Safety and Applied Nutrition
Office of Food Additive Safety
HFS-200
5100 Paint Branch Parkway
College Park, MD 20740-3835

#### CONTACT FOR TECHNICAL OR OTHER INFORMATION

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## **Table of Contents**

Acronyms	6
§ 170.225 Part 1, GRAS Notice: Signed Statements and Certificati	ion7
(1) GRAS Submission	7
(2) Name and Address	7
(3) Name of Notified Substance	7
(4) Intended Use in Food	7
(5) Statutory Basis for GRAS Determination	7
(6) Pre-Market Approval Statement	8
(7) Availability of Information	8
(8) Data and Information Confidentiality Statement	8
(9) GRAS Certification	8
(10) Name/Position of Notifier	8
(11) FSIS Statement	8
§ 170.230 Part 2, Identity, Method of Manufacture, Specifications Physical or Technical Effect	
Identity	9
Empirical Formula and Chemical Structure of ARA	9
Common or Chemical Names	9
Trade Name	9
ARA Source	9
Manufacturing Process	10
Description of Oil Refining Process	12
Product Specifications	13
Stability Data	20
§ 170.235 Part 3, Dietary Exposure	22
§ 170.240 Part 4, Self-Limiting Levels of Use	23
§ 170.245 Part 5, Experience Based on Common Use in Food	24
§ 170.250 Part 6, GRAS Narrative	
Safety 25	
Introduction	
Safety Data	26

Human Studies	26
Human Infant Studies	27
Toxicological Studies	30
Safety Data Summary	33
Basis for the GRAS Determination	33
Introduction	33
Safety Determination	34
General Recognition of the Safety of ARA-Rich Oil	34
§ 170.255 Part 7, Supporting Data and Information	37
References	37

Appendix A Certificates of Analysis

# List of Figures

Figure 1.	Structural formula of ARA	9
Figure 2.	Crude ARA-rich oil production	10
Figure 3.	Oil refining process for ARA Oil Gold	12
List of	Tables	
Table 1.	Fermentation medium ingredients	11
Table 2.	Reagents/processing aids used in refining of ARA-rich oil	13
Table 3.	Specifications for BASF ARA-rich oil	14
Table 4.	Analytical results for six non-consecutive lots of BASF ARA-rich oil compared to product specifications (in-house: typical values/results)	15
Table 5.	Analytical results for six non-consecutive lots of BASF ARA-rich oil compared to product specification (external third-party results)	16
Table 6.	Fatty acid profile for ARA-rich oil (external third-party results)	17
Table 7.	Sterol content and sterol isomers of BASF ARA-rich oil (external third-party results)	18
Table 8.	Microbiological test results for BASF ARA-rich oil (external third-party results)	19
Table 9.	Long-term stability. Storage at +2 to +8°C	20
Table 10.	Long-term Stability. Storage at -18°C	21
Table 11.	Regulatory approvals for use of ARA in infant formula	25

#### Acronyms

ACC anterior cingulate cortex

ADME absorption, distribution, metabolism, and excretion

ARA arachidonic acid

ARASCO arachidonic acid single-cell oil

bLf bovine lactoferrin

CAS Chemical Abstracts Service CFR Code of Federal Regulations

cGMP current Good Manufacturing Practices

COA Certificate of Analysis

CCTCC China Center for Type Culture Collection

DHA docosahexaenoic acid

DHASCO docosahexaenoic acid single-cell oil

EU European Union

FAO Food and Agricultural Organization

FCC Food Chemicals Codex

FDA U.S. Food and Drug Administration FD&C Food, Drug, and Cosmetic (Act) FSANZ Food Standards Australia New Zealand

GRAS Generally Recognized as Safe GMP Good Manufacturing Practices

GRN GRAS Notification LBWI low-birth-weight infant

LCPUFA long-chain polyunsaturated fatty acids

LF lactoferrin

MRI magnetic resonance imaging

NAA n-acetylaspartate

NOAEL no-observed-adverse-effect level

PL phospholipid

PPL plasma phospholipid PRC Peoples Republic of China PUFA polyunsaturated fatty acids

RBC red blood cell USC United States Code

WHO World Health Organization

# § 170.225 Part 1, GRAS Notice: Signed Statements and Certification

#### (1) GRAS Submission

BASF Corporation (BASF), through its agent, ToxStrategies, Inc., hereby notifies the U.S. Food and Drug Administration (FDA) of the submission of a Generally Recognized as Safe (GRAS) notice for the use of arachidonic acid (ARA)-rich oil in infant formula, in accordance with Subpart E of 21 CFR § 170.

#### (2) Name and Address

BASF Corporation Nutrition and Health 100 Park Avenue Florham Park, NJ 07932

#### (3) Name of Notified Substance

The name of the substance that is the subject of this GRAS determination is arachidonic acid-rich oil from the fungus *Mortierella alpina*.

#### (4) Intended Use in Food

The ARA-rich oil is intended for use as a direct food ingredient in nonexempt and pre-term exempt infant formula, in accordance with current Good Manufacturing Practices (cGMP), and in combination with a source of docosahexaenoic acid (DHA). The ratio of DHA to ARA would range from 1:1 to 1:2. The intended use level is similar to all other approved uses for incorporation of ARA in infant formula. BASF does not manufacture infant formula. The company only manufactures ARA-rich oil for use in infant formula; BASF provides an alternative source of ARA for incorporation into infant formula. Therefore, it is envisioned that BASF's ARA ingredients could be used in any exempt (pre-term or term) or nonexempt formula that contains ARA.

## (5) Statutory Basis for GRAS Determination

BASF, through its agent, ToxStrategies, Inc., hereby notifies FDA of the submission of a GRAS notice for ARA-rich oil that meets the specifications described herein and has been determined to be GRAS through scientific procedures in accordance with 21 CFR § 170.30(a) and (b).

#### (6) Pre-Market Approval Statement

BASF further asserts that the use of the ARA-rich oil, as described below, is exempt from pre-market approval requirements of the Federal Food, Drug, and Cosmetics Act, based on a conclusion that the substance is GRAS under the conditions of their intended use.

#### (7) Availability of Information

The data and information that serve as the basis for this GRAS determination, as well as any information that has become available since the GRAS determination, will be sent on request, or are available for the FDA's review and copying during customary business hours from ToxStrategies, Inc., Naperville, II...

#### (8) Data and Information Confidentiality Statement

None of the data and information in the GRAS determination is exempt from disclosure under the Freedom of Information Act, 5 U.S.C. 552.

#### (9) GRAS Certification

To the best of our knowledge, the GRAS determination is a complete, representative, and balanced review. BASF is not aware of any information that would be inconsistent with a finding that the proposed use of the ARA-rich oil in infant formula (pre-term and term infants), meeting appropriate specifications, and used according to eGMP, is GRAS. Recent reviews of the scientific literature revealed no potential adverse health concerns.

#### (10) Name/Position of Notifier

Donald F. Schmitt, M.P.H. Senior Managing Scientist ToxStrategies, Inc. Agent for BASF Corporation -Tes 31, 2020

#### (11) FSIS Statement

Not applicable.

# § 170.230 Part 2, Identity, Method of Manufacture, Specifications, and Physical or Technical Effect

#### Identity

The arachidonic acid (ARA) product that is the subject of this GRAS determination is in an oil form. The oil is a clear, light yellow to orange liquid oil that is manufactured by fermentation from the fungus *Mortierella alpina*, followed by separation and extraction from the biomass, and subsequent refining and standardization, which results in a refined oil suitable for human consumption. It is a mixture of triglycerides containing mostly polyunsaturated fatty acids (PUFA), in which the predominant fatty acid (approximately 40%) is ARA.

#### **Empirical Formula and Chemical Structure of ARA**

The empirical formula for ARA is C<sub>20</sub>H<sub>32</sub>O<sub>2</sub>. The systematic name is cis-5,8,11,14-eicosatetraenoic acid, and is often written as 20:4 n-6, where the numbers indicate the number of carbon atoms in the molecule (20), the number of double bonds (4), and the number of carbon atoms from the methyl terminus to the first double bond (6). The molecular weight of ARA is 304.46 g/mol. The structural formula for ARA is represented below in Figure 1.

Arachidonic acid (C20:4n-6)

Figure 1. Structural formula of ARA

#### Common or Chemical Names

The preparation under consideration is referred to as: Arachidonic acid-rich oil from *Mortierella alpina*, ARA oil, ARA-rich oil, or *Mortierella alpina* oil—CAS No. 68424-59-9; glycerides, C14-C22 and C16-C22 unsaturated.

#### Trade Name

ARA Oil Gold.

#### **ARA Source**

ARA-rich oil is obtained from the fermentation of the fungi *Mortierella alpina*. The two possible production strains have been derived from wild strains, isolated from soil. No recombinant technology has been used in the production strains (strain 1: XM027, strain 2: CNCM I-4642); therefore, they can be considered not genetically modified organisms.

Strain 1 XM027 had been characterized by its morphological characters, as well as by gene analysis, as *Mortierella alpina*.

Strain 2 CNCM I-4642 had been registered in France with the Collection Nationale de Cultures de Microorganismes under number CNCM I-4642, and additionally in China, with the China Center for Type Culture Collection (CCTCC) under number M 209116. It has been characterized by sequencing the D1-D2 region of the gene encoding the 25S RNA as a strain of the *Mortierella alpina* type.

#### Manufacturing Process

The following are descriptions of the processes used to manufacture the crude ARA-rich oil and then refine and standardize the ARA-rich oil isolated from the fermentation process (see Figures 2 and 3). The process steps employed to refine the crude oil are similar to what is practiced in the refining of vegetable oils.

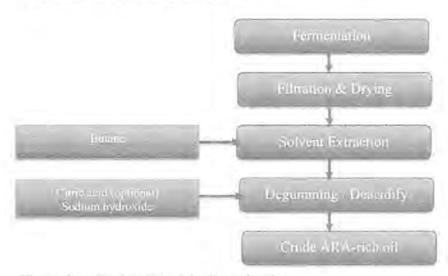


Figure 2. Crude ARA-rich oil production

The crude ARA-rich oil is produced by a heterotrophic fermentation process with the single cell fungus *Mortierella alpina*. Fermentations of ARA-rich oil based on *Mortierella alpina* have been described in previous GRAS notifications (GRNs) 041, 080, 094, 326, and 730 (FDA, 2000, 2001a,b, 2006, 2010, 2018). The fermentation process uses a medium containing glucose (dextrose) as a carbon source, and yeast powder as a nitrogen source (Table 1). The microorganism is maintained on nutrient agar plate or flasks before production. Following inoculation of the microorganism into shake flasks, the cultivation process is scaled up through multiple stages of transfers, and finally into a series of production fermentation vessels. All vessels, pipelines, and fermentation media are subjected to a rigorous, timed, and controlled sterilization process prior to the transfer of the microorganism. The fermentation is carried out under axenic conditions (i.e., only one organism present). During the fermentation process, more sterile carbon substrate

(i.e., glucose) is added to the fermenter to allow higher cell growth and more oil synthesis. Operating parameters such as temperature, pH, aeration, and agitation are controlled throughout the process to ensure that the results in terms of cell growth, oil synthesis, and the oil's fatty acid profile are reproducible. The vessel is operated under positive pressure to prevent any contamination by foreign organisms.

Table 1. Fermentation medium ingredients

Ingredient	Function	CFR Citation		
Water	Raw material	#		
Glucose (Dextrose)	Nutrient	21 CFR § 184.1857, 184.1865, 184.1866		
Yeast powder Nutrient		21 CFR § 184,1553; 21 CFR § 184,1983		
Processing aids				
Vegetable oil (rapeseed oil)	Defoamer	21 CFR § 184.1555		
Food-grade antifoam	Defoamer	21 CFR § 173.340		
Sodium hydroxide	Acidity regulator	21 CFR § 184.1763		
Citric acid	Acidity regulator	21 CFR § 184.1033		
Butane	Solvent	21 CFR § 184.1165		

Once fermentation is complete (as determined by carbon usage, cell growth, oil synthesis activity, and/or oil fatty acid profile), the crude oil that accumulates intracellularly is recovered from the biomass via a solvent extraction process. The fungus thalli are separated from the fermentation broth by filtration. The biomass is spray-dried, and the oil is extracted with the solvent butane from the dried biomass. Following evaporation of the solvent, the solvent-free oil is optionally degummed by an acid solution (citric acid). Then it is deacidified by an alkali solution. After centrifugation to remove the water and impurities, a crude ARA-rich oil is obtained for further refining.

Figure 3 represents the ARA-rich oil refining processes and is followed by a narrative description of the refining/processing steps employed in the production of the ARA oil ingredient. Table 2 lists the reagents and processing aids used in the refining of the ARA-rich oil.

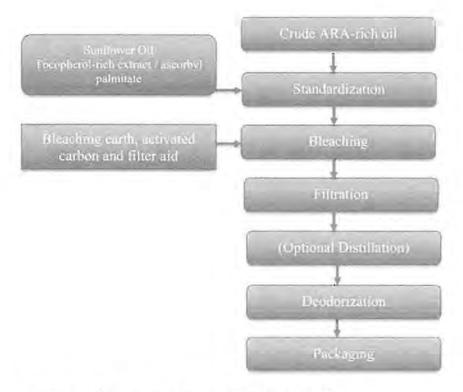


Figure 3. Oil refining process for ARA Oil Gold

#### Description of Oil Refining Process

#### Standardization

Crude ARA-rich oil is obtained and naturally varies in the levels of ARA. Therefore, the oil must be standardized with sunflower oil (high-oleic type) to the specified minimum content of ARA. In the same step, tocopherol-rich extract and/or ascorbyl palmitate is added to protect the oil from oxidation during manufacturing, as well as during storage of the finished product. All ingredients are blended under nitrogen blanketing by weight to achieve the specified values.

#### Bleaching

Bleaching is a standard process in vegetable oil refining. The process removes unwanted oxidation by-products and environmental pollutants. The process also binds color pigments and yields a lighter colored oil. During this process, the oil is protected by nitrogen and by the addition of tocopherol-rich extract (antioxidant E306 / mixed tocopherols) against oxidation. The ARA-rich oil is mixed with activated carbon, bleaching earth (also called diatomaceous earth or silicates) and filter aid (silicates). It is kept under agitation at heated conditions for a defined time. Afterward, the bleaching earth, filter aid, and activated carbon are removed by filtration.

#### Distillation (optional process)

The oil is distilled at high temperatures under very low pressure. Under these conditions, free fatty acids and free sterols are removed. This process is optional, and it is applied only in cases where the crude oil contains higher levels of free fatty acids or sterols that cannot be removed by the subsequent refining processes.

#### Deodorization

The bleached ARA-rich oil is refined further by deodorization to yield a fully refined oil with mild sensory aspects. In this process, the oil is passed through a deodorizer column at hot temperatures and under reduced pressure. Steam is flushed against the oil stream. Volatile substances are removed under these conditions. The refined ARA-rich oil is then packaged in drums under nitrogen and subsequently warehoused.

Table 2. Reagents/processing aids used in refining of ARA-rich oil

Material	Category	Used in Manufacturing Step
Crude ARA-rich oil	Raw material	Standardization
Sunflower oil (high oleic)	Raw material	Standardization
Tocopherol-rich concentrate E 306	Antioxidant	Standardization
Ascorbyl palmitate E 304 (optional ingredient for customer specifications)	Antioxidant	Standardization
Bleaching earth/silica	Processing aid	Bleaching
Activated carbon	Processing aid	Bleaching
Filter aid	Processing aid	Bleaching
Filter	Processing aid	Filtration
Steam	Processing aid	Deodorization
Nitrogen	Processing aid	Bleaching & Packaging

#### **Product Specifications**

The specifications for BASF's ARA-rich oil from *Mortierella alpina* are found in Tables 3, 3.1, and 3.2. Analytical results for six non-consecutive lots of the proposed BASF ARA-rich oil can be found in Tables 4 and 5 and Appendix A.

Table 3. Specifications for BASF ARA-rich oil\*

Parameter	ARA Oil Gold	Test Method		
Appearance	Clear yellowish to orange liquid oil at 40°C	Visual inspection		
Acid value (mg KOH/g)	≤1.0	ISO 660		
Free fatty acids (%)	≤0.45	ISO 660		
Peroxide value (meq O2/kg)	≤4.0	ISO 3960		
Anisidine value	≤20	DIN EN ISO 6885		
Unsaponifiable matter (weight %)	≤3.5	PhEur 2.5.7		
Moisture (weight %)	≤0.05	ISO 8534 (Karl-Fischer titration)		
Content Arachidonic Acid (mg/g as triglyceride)	≥400	IA-057055 (inhouse GC based on PhEur 2.4.29)		
Trans fatty acids, sum (area-%)	≤1.0	IA-001057 (inhouse GC)		

<sup>\*</sup>Further quality parameters monitored are listed in Tables 3.1 and 3.2

Table 3.1. Heavy-metal limits

Parameter	Limit (mg/kg)	Test methods
Arsenic	max. 0.1	AAS/ICP
Cadmium	max. 0.01	AAS/ICP
Lead	max. 0.02	AAS/ICP
Mercury	max. 0.01	AAS/ICP

Table 3.2. Microbiological specifications

Parameter	Limits	Test methods  DIN EN ISO 4833-2 mod		
Total aerobic mesophilic count (cfu/g)	max. 1000			
Yeasts and molds (cfu/g)	max. 100	ISO 21527 mod		
Salmonella sp.	negative/25g	DIN EN ISO 6579-1		
Enterobacteriaceae	negative/g	ISO 21528 mod		
Staphylococci coagulase pos.	negative/g	DIN EN ISO 6888-1 mod		
Pseudomonas aeruginosa	negative/g	ISO 13720 mod		

Table 4. Analytical results for six non-consecutive lots of BASF ARA-rich oil compared to product specifications (BASF: typical values/results)

Parameter	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold
Sample Number	Specifications	Lot 0020265261	Lot 0020265618	Lot 0020265740	Lot L26013	Lot L26028	Lot L26057
Appearance	Clear yellowish to orange liquid oil at 40°C	Complies	Complies	Complies	Complies	Complies	Complies
Acid value (mg KOH/g)	≤1.0	0.1	0.1	0.1	0.1	0.1	1.0
Free fatty acids (%)	≤0.45	0.07	0.07	0.07	0.06	0.04	< 0.05
Peroxide value (meq O2/kg)	≤4.0	<0.1	<0.1	<0.1	<0.1	0.1	1.7
Anisidine value	≤20	10	10	10	3.6	5.6	4.4
Unsaponifiable matter (weight %)	≤3.5	2.2	2.2	2.2	2.3	2.0	2.2
Moisture (weight %)	≤0.05	0.00	0.00	0.00	0.01	0.01	0.01
Content arachidonic acid (mg/g as triglyceride)	≥400	447	447	447	414	413	404
Trans fatty acids (area-%)	≤1.0	0.4	0.4	0.4	0.3	0.3	0.2

Table 5. Analytical results for six non-consecutive lots of BASF ARA-rich oil compared to product specification (external third-party results; RSSLa and Eurofinsb)

Parameter	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold	ARA Oil Gold
Sample Number	Specifications	Lot 0020265261a	Lot 0020265618a	Lot 0020265740a	Lot L26013a	Lot L26028 <sub>b</sub>	Lot L26057b
Acid value (mg KOH/g)	≤1.0	0.2	0.2	0,2	0.2	<0.2	<0.2
Free fatty acids (%)	≤0.45	0.11	0.11	0.10	0.08	<0.1	<0.1
Peroxide value (meq O2/kg)	≤4.0	1.92*	2.47*	3.03*	0.58*	1.4*	1.3
Anisidine value	≤20	1.3	0.6	<0.1	<0.1	<1	3.1
Unsaponifiable matter (weight %)	≤3.5	1.9	1.9	2.0	1.8	1.6	1.4
Moisture (weight %)**	≤0.05	0.00	0.00	0.00	0.01	0.01	0.01
Content arachidonic acid (mg/g as triglyceride)	≥400	456	443	453	434	439	406
Trans fatty acids (area-%)	≤1.0	0.3	0.3	0.3	0.6	0.5	0.5

<sup>\*</sup>Peroxide value analyzed in sample bottles several weeks after production; test results not representative for product in original drums and storage conditions.

<sup>\*\*</sup>Moisture content not analyzed by third-party lab; results taken from internal BASF analysis.

As seen in Table 6 below, all the fatty acids detected are well-known components of the human diet and are found in both animal and vegetable food sources. The data are presented as area % of total fatty acids. The major fatty acids in the ARA-rich oil are ARA, palmitic acid, and oleic acid. When compared to the fatty acid profile of the spectrum of other ARA oils of previous GRAS notifications, the proposed ARA-rich oil is comparable (GRNs 041, 080, 094, 326, 730). The sterol content of the proposed ARA-rich oil has also been determined (Table 7). Microbiological testing results can be found in Table 8.

Table 6. Fatty acid profile for ARA-rich oil (external third-party results; RSSLa and Eurofinsb)

		ARA Oil Gold [Area %]					
Fatty Acids		0020265261a	0020265618a	0020265740a	L26013a	L26028b	L26057b
13:0	Tridecanoic acid	0.1	0.1	0.1	0.1	< 0.05	< 0.05
14:0	Myristic acid	0.2	0.3	0.2	0.4	0.4	0.4
14:1	Myristoleic acid	nd	nd	nd	nd	< 0.05	< 0.05
15:0	Pentadecanoic acid	0.1	0.1	0,1	0.2	0.1	0.1
16:0	Palmitic acid	5.9	5.9	5.9	10.3	10.2	9.9
16:1	Palmitoleic acid	0.1	0.1	0.1	0.2	0.2	0.2
17:0	Heptadecanoic acid	0.3	0.4	0.4	0.4	0.4	0.4
17:1	Heptadecenoic acid	nd	nd	nd	nd	0.1	0.1
18:0	Stearic acid	9.5	9.5	9.5	8.8	8.8	8.4
18:1 (n-9)	Oleic acid	21.9	21.8	21,9	15.8	16.0	20.2
18:1 trans	Trans oleic acid	0.1	0.1	0.1	0.2	0.1	0.1
18:2 (n-6)	Linoleic acid	5.8	5.8	5.8	5.5	5.8	6.0
18:2 trans	Trans linoleic acid	0.2	0.2	0.2	0.5	0.4	0.4
18;3 (n6)	Gamma-Linolenic Acid	2.3	2.3	2.3	2.4	< 0.05	2.4
18:3 (n3)	Alpha-Linolenic acid	0.3	0.3	0.3	nd	< 0.05	< 0.05
20:0	Arachidic acid	1.0	1.0	1.0	0.9	0.9	0.8
20:1	Eicosenoic acid	0.6	0.6	0.6	1.2	0.7	0.7
20:2 (n-6)	11, 14 Eicosadienoic acid	0.4	0,4	0.4	0.8	0.8	0.8
20:3 (n-6)	8,11,14 Eicosatrienoic acid	1.6	1.6	1.6	3.9	3.9	3.6
20:3 (n-3)	11, 14, 17 Eicosatrienoic acid	nd	nd	nd	nd	<0.05	0.4
20:4 (n-6)	Arachidonic acid (ARA)	44.9	45.0	45.0	43.6	43.9	40.6
20:5 (n-3)	Eicosapentaenoic acid (EPA)	0.1	0.1	0.1	0.2	0.1	0.1
21:0	Heineicosanoic acid	nd	nd	nd	nd	0.1	< 0.05

		ARA Oil Gold [Area %[						
Fatty Acids		0020265261a	0020265618a	0020265740a	L26013a	L26028b	L26057b	
22:0	Behenic acid	1.9	1.9	1.8	1.7	1.8	1.8	
22:1	Docosenoic acid	nd	nd	nd	0.1	0.1	0.1	
22:5 (n-3)	Docosapentaenoic acid (DPA)	nd	nd	nd	nd	< 0.05	0.1	
24:0	Lignoceric acid	1.6	1.6	1.6	1.5	1.4	1.3	
24:1	Tetracosenoic acid	0.1	0.1	0.1	0.4	0.4	0.4	
22:6 (n-3)	Docosahexaenoic acid (DHA)	nd	nd	nd	0.3	0.2	0.3	
	Trans fatty acids	0.3	0.3	0.3	0.6	0.5	0.5	
	Not identifiable fatty acids	0.9	0.9	0.9	0.8	3.2	0.4	

nd - not detected

Table 7. Sterol content and sterol isomers of BASF ARA-rich oil (external third-party results; ITERG)

	ARA Oil Gold							
Parameter (%)	0020265261	0020265618	0020265740	L26013	L26028	L26057		
Cholesterol	0.1	0.1	0.1	0.1	0.1	0.1		
5 alpha cholesta-8, 14 dien-3beta-ol	5.0	5.0	4.9	3.3	3.4	3.4		
Desmosterol	76.8	77.0	77.2	83.5	82.4	82.8		
Zymosterol	0.5	0.6	0,5	1,2	1.7	1.6		
Ergosterol	3.2	3.3	3.3	4.9	5.0	4.5		
Cholest7, 24 die-3 beta-ol	1.9	1.9	1.9	1.4	1.5	1.0		
Campesterol	1.7	1.7	1.6	<0,1	<0.1	0.2		
Stigmasterol	0.5	0.4	0.4	0.1	<0.1	0.2		
Iso fucosterol	5.9	5.8	5.8	5.0	5.3	4.7		
Fucosterol	<0.1	< 0.1	<0.1	<0.1	< 0.1	0.2		
Beta-Sitosterol	3.7	3.5	3.6	0.5	0.5	0.9		
Delta-5,24 Stigmastadienol	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1		
24 Methyldesmosterol	0.5	0.5	0.5	0.1	0.1	0.2		
Stigma-5-ene-3beta-ol	0.2	0.2	0.2	<0.1	< 0.1	0.1		
Delta-7 Campesterol + Delta-5 Avenasterol + Delta-7 Stigmasterol + Delta-7 Avenasterol	20% of total sterols	20% of total sterols	20% of total sterols	20% of total sterols	20% of total sterols	20% of total sterols		
Other sterols	10% of total sterols	10% of total sterols	10% of total sterols	10% of total sterols	10% of total sterols	10% of total sterols		
Total sterols (mg/kg)	13429	13583	13542	19416	17353	17131		

Table 8. Microbiological test results for BASF ARA-rich oil (external third-party results; Labor LS)

Microbiological Analysis						
Lot number	0020265261	0020265618	0020265740	L26013	L26028	L26057
Salmonella sp.	negative/25g	negative/25g	negative/25g	negative/25g	negative/25g	negative/25g
Enterobacteriaceae	negative/g	negative/g	negative/g	negative/g	negative/g	negative/g
Total aerobic mesophilic count 30°C (cfu/g)	<100	<100	<100	<100	<100	<100
Staphylococci coagulase pos.	negative/g	negative/g	negative/g	negative/g	negative/g	negative/g
Pseudomonas aeruginosa	negative/g	negative/g	negative/g	negative/g	negative/g	negative/g
Yeasts (cfu/g)	<100	<100	<100	<100	≈100	<100
Molds (cfu/g)	<100	<100	<100	<100	<100	<100

Numerous other analyses of the proposed ARA-rich oil product have been conducted but are not included in the product specifications (e.g., microbiological contaminants such as coliform bacteria, *Escherichia coli*, Enterobacteriaceae, yeast, molds, *Salmonella*, *Staphylococci coagulase*, *Pseudomonas aeruginosa*; other inorganic impurities such as chromium, manganese, molybdenum, nickel, phosphorus, silicon, and sulfur; dioxins and furans, polychlorinated dibenzo-p-dioxins, and polychlorinated dibenzofurans; dioxin-like polychlorinated biphenyls (PCBs); pesticides; polycyclic aromatic hydrocarbons (PAHs) and benzo(a)pyrene; mycotoxins; and phthalates. Results of these additional analyses are included in the Certificates of Analysis (COAs) found in Appendix A, and the results are also summarized in tables that precede the COAs. In summary, the analytical results confirm that the finished ARA-rich oil product meets the analytical specifications and confirms the lack of levels of impurities or contaminants of toxicological concern.

#### Residual solvents information in BASF ARA-rich oil

The solvent n-butane is used in the extraction of the crude ARA oil from the dried biomass. The product is controlled via monitoring to meet requirements for residual n-butane and n-hexane to a limit of <1 mg/kg. These tests are carried out in house by headspace GC-MS. All six lots that have been presented in the previous sections had been tested on the presence of n-butane and presence of n-hexane. No solvent residues could be detected in the refined ARA-rich oil. All test results are below 0.01 mg/kg, the limit of quantification for the test method applied.

#### Stability Data

ARA-rich oil is a triglyceride oil that is high in polyunsaturated fatty acids, consisting predominantly of ARA. The product contains only traces of water (<0.05%; aw value ≤0.4 analyzed in analogue omega-3 oils). Due to this low water activity, the shelf life of the product is limited by neither hydrolysis (increase in acid value) nor microbiological growth or spoilage. The shelf life of this product is therefore limited only by oxidation. The product is protected by several means against such oxidation. A tocopherol-rich extract and/or ascorbyl palmitate is added during the manufacturing process. The oil is packed into innercoated metal drums under nitrogen blanketing. This impermeable packaging under a modified atmosphere provides the primary protection against oxidation. Furthermore, the finished products are stored under refrigerated (2 to 8°C) or frozen (−18°C or colder) conditions.

12-month stability testing (Tables 9 and 10) is complete; 24-month stability results are pending. Based on analogous polyunsaturated omega-3 oils under similar storage conditions, the following storage conditions are recommended: 12 months under refrigerated conditions and 24 months under frozen conditions.

Table 9. Long-term stability. Storage at +2 to +8°C Batch number: 002025618. Start: January 20, 2019

Parameter	Unit	Specification	Start	3 m	6 m	9 m	12m
Odor	ļ.	fatty, not rancid	ók	ok	ok	ok	ok
Assay ARA as TG	mg/g	min. 400	447	445	450	449	443
Trans fatty acids	0/0	max. 1.0	0.4	0.21	0.19	0.14	0.14
Acid value	mg KOH/G	max, 1.0	0.1	0.1	0.1	0.1	0.1
Peroxide value	meq/kg	max. 4.0	<0.1	1.3	1.8	2.3	1.7
Anisidine value	8	max. 20	10	nt	nt	nt	nt
Unsaponifiable matter	%	max. 3.5	2,2	nt	nt	nt	nt
Tocopherols	mg/kg	-	2352	2057	2012	1984	2022

Assay (Assay: ARA in % as triglycerides, in months, in not tested)

Table 10. Long-term Stability. Storage at -18°C Batch number: 002025618. Start: January 20, 2019

Parameter	Unit	Spec.	Start	3 m	6 m	12 m
Odor	-	fatty, not rancid	ok	ok	ok	ok
Assay ARA as TG	mg/g	min. 400	447	443	449	442
Trans fatty acids	%	max. 1.0	0.4	0.21	0.2	0.14
Acid value	mg KOH/G	max. 1.0	0.1	0.1	0.1	0.1
Peroxide value	meq/kg	max. 4.0	<0.1	0.5	0.7	0.5
Anisidine value	-	max. 20	10	nt	nt	nt
Unsaponifiable matter	%	max. 3.5	2.2	nt	nt	nt
Tocopherols	mg/kg	-	2352	2041	2030	2018

Assay (Assay: ARA in % as triglycerides, m; months, m; not tested)

## § 170.235 Part 3, Dietary Exposure

BASF does not manufacture infant formula, but manufactures only the ARA-rich oil ingredient for use in infant formula. As such, the product provides an alternative source of ARA for incorporation in infant formula. Therefore, BASF's ARA ingredient could be used in any exempt (pre-term or term) or non-exempt formula that contains ARA.

ARA Oil Gold is intended for use as a direct ingredient in exempt (pre-term or term) and non-exempt (term) infant formula, in accordance with current Good Manufacturing Practices (cGMP), and in combination with a source of docosahexaenoic acid (DHA). The ratio of DHA to ARA would range from 1:1 to 1:2. The intended use level is similar to all other approved uses for incorporation of ARA in infant formula. As presented and discussed in previous GRAS submissions (FDA, 2001a,b, 2006, 2010, 2018), it is assumed that infants consume about 100–120 kcal/kg bw/day, of which fat constitutes approximately 50% of calories, or approximately 5.6–6.7 g fat/kg bw/day (1 g of fat is equivalent to 9 kcal) for term and pre-term infants, respectively. Assuming incorporation of the proposed ARA ingredient at a maximum use level of 0.75% of total fat, the intake of ARA would be 41–50 mg/kg bw/day. This ARA intake estimate is in agreement with current recommendations for ARA consumption by pre-term and term infants of 35–45 mg/kg bw/day (Koletzko et al., 2014).

## § 170.240 Part 4, Self-Limiting Levels of Use

The use of ARA-rich oil in infant formula is controlled as described in Part 3. For this reason, there are no self-limiting levels of use.

## § 170.245 Part 5, Experience Based on Common Use in Food

The statutory basis for our conclusion of GRAS status in the notice is not based on common use in food.

#### § 170.250 Part 6, GRAS Narrative

#### History of Use/Regulatory Approval of Arachidonic Acid-Rich Oil

ARA-rich oils from the fungus *Mortierella alpina* are considered GRAS for use in food for human consumption, including infant formula (FDA 2001a,b, 2006, 2010, 2018). Global infant formula standards in the Food Chemicals Codex (FCC), as well as those in the European Union (EU), China, and Australia, allow the addition of ARA to infant formula (EU Commission, 2006; PRC, 2010; FSANZ, 2014). The source of the ARA-rich oils is the fungi *Mortierella alpina*. Table 11 lists a number of approvals of ARA from algal/fungal sources for incorporation in pre-term and term infant formula.

Table 11. Regulatory approvals for use of ARA in infant formula

Year Approved	Country	Submission				
2001	USA	GRN 41: DHASCO and ARASCO				
2001	USA	GRN 80: ARASCO (arachidonic acid-rich single-cell oil)				
2006	USA	GRN 94: Docosahexaenoic acid-rich oil from tuna (DHA-rich tuna oil) and arachidonic acid-rich oil from <i>Mortierella alpina</i> (AA-rich fungal oil)				
2010	USA	GRN 326: Arachidonic acid-rich oil from M. alpina strain 149-N18				
2013	EU	Regulation (EU) No. 609/2013: Arachidonic acid-rich oil from the fungus Mortierella alpina; infant formula and follow-on formula				
2018	USA	GRN 730: Arachidonic acid-rich oil from Mortierella alpina strain LU 166				

As summarized above, ARA, produced via fermentation employing *Mortierella alpina* has been approved previously and sold for incorporation in infant formula. The approvals authorized the addition of ARA at levels up to 0.75% of the total fatty acids in both exempt (pre-term and term) and non-exempt formulas.

#### Safety

#### Introduction

Essential polyunsaturated fatty acids (PUFA) of the omega-3 (n-3) and omega-6 (n-6) series, such as DHA and ARA, are of critical importance during early life, and they are known to play an essential role in growth and development. Intakes in pregnancy and early life are believed to have effects on the quality of growth and neurological and immune function in later life (Koletzko et al., 2014). ARA oil and powder products are currently marketed for use in infant formula. The BASF ARA oil product from *Mortierella alpina* has a lipid (fatty acid) profile similar to that of currently marketed ARA from *Mortierella* 

alpina (FDA, 2010, 2018). Numerous studies and publications support the safety of ARA and ARA oils, including in vitro studies, in vivo animal studies, and clinical studies in humans. Studies include absorption, distribution, metabolism, and excretion (ADME); acute and subchronic toxicity; reproductive and developmental toxicity; and mutagenicity and genotoxicity, along with clinical and epidemiological studies. Kroes et al. (2003) and Kremmyda et al. (2011) have reviewed and summarized the well-understood metabolism of dietary ARA, which is similar to other dietary fatty acids. The ADME of ARA has also been reviewed and summarized in previous GRNs 041, 080, 094, 326, and 730 (FDA, 2001a,b, 2006, 2010, 2018). The published data, as well as reviews conducted by regulatory authorities, support a conclusion that BASF's ARA-rich oil product is safe for use in exempt (pre-term and term) and non-exempt infant formulas.

#### Safety Data

Literature searches were performed to identify available safety data on ARA through May 2020 in both infants and adult consumers. This included searching sources of information such as publicly available assessments, databases, or reviews from organizations that included the European Food Safety Authority (EFSA), Joint FAO/WHO Expert Committee on Food Additives (JECFA), U.S. FDA, and the World Health Organization (WHO), general internet searching, and searching databases such as Embase, MEDLINE, TOXLINE, and PubMed.

#### Human Studies

As described above, ARA has been evaluated by the FDA and other global regulatory agencies over the past 20 years for proposed incorporation in infant formula. All of the GRAS notices provided information and/or clinical study data that supported the safety of the proposed ARA ingredients for use in infant formula. In all of the studies summarized in these notifications, there were no significant adverse effects/events or tolerance issues in infants attributable to ARA-supplemented formulas when compared to control-group infant formulas. The studies reviewed in these notifications supported the safe use of ARA in infant formula up to 0.75% of total fatty acids.

A review of data published since 2013 conducted as part of this GRAS notification supports the summaries provided in previous GRAS notifications (Table 10). Studies of ARA in infant formulas at concentrations up to 0.91% and 0.72% of total fatty acids in pre-term and term infants, respectively, did not report serious adverse effects and very often concluded that the addition of ARA to infant formula resulted in benefits to growth and development (FDA, 2010, 2018).

GRNs 041, 080, 094, 326, and 730 provided comprehensive summaries of the clinical study literature regarding ARA, relevant to supplementation of infant formula, from *Mortierella alpina*, also containing DHA from algal oil sources (FDA, 2001a,b, 2006, 2010, 2018). Therefore, this notification includes only summaries of clinical studies published since the most recent GRN on the supplementation of infant formula with ARA for use in exempt (pre-term or term) or non-exempt infant formulas. A comprehensive literature search for clinical trials evaluating DHA in infant formula (published 2015–present) was performed, and titles and abstracts were reviewed.

Only those studies measuring the effects of supplemental ARA on relevant measures of morbidity and growth/development were considered for inclusion. Given the lack of reported serious adverse events, the clinical studies summarized below were selected to provide a representation of the safety and beneficial effects of ARA.

#### **Human Infant Studies**

GRN 730 (FDA, 2018) summarized the results of human clinical studies in both pre-term and term infants conducted during the period 2010–2017. GRN 730 concluded that the most recent clinical studies of ARA administration in pre-term or term infants did not result in adverse effects up to 0.91% and 0.72% total fatty acids in pre-term infants and term infants, respectively. Combined with studies reviewed in GRNs prior to 2010 (FDA, 2001a,b, 2006), there is sufficient evidence of the safety of *M. alpina*-sourced ARA supplementation of infant formula in pre-term and term infants.

The following summaries (covering systematic reviews, fetal and/or childhood growth, and neurodevelopment) provide more recent (2015–present) evidence in support of the safety of ARA supplementation of infant formula.

#### Systematic Reviews

Numerous systematic reviews of ARA use in clinical trials conducted in infants have been conducted and published in the peer-reviewed literature (Koletzko et al., 2014; Brenna, 2016; Hadley et al., 2016; Moon et al., 2016; Newberry et al., 2016; Jasani and Simmer, 2017). The systematic reviews focused primarily on the potential beneficial effects to infants/children of long-chain polyunsaturated fatty acids (LCPUFA) and/or ARA supplementation of infant formula. However, while the results of the reviews did not always identify clear benefits, there was no evidence of adverse effects or safety concerns associated with ARA supplementation of infant formula.

#### Fetal and/or Childhood Growth

Alshweki et al. (2015) determined the effects of a balanced contribution of ARA in very pre-term newborns fed with formula milk. A randomized trial in newborns (<1500 g and/or <32 weeks gestational age) was conducted in which subjects were assigned to one of two</p> groups, based on the milk formula they would receive during the first year of life. Group A was composed of 24 newborns, who were given formula milk with an ω-6/ω-3 ratio of 2/1, and Group B was composed of 21 newborns, given formula milk with an ω-6/ω-3 ratio of 1/1. The infants were followed up for two years: growth, visual-evoked potentials, brainstem auditory-evoked potentials, and plasma fatty acids were measured periodically, and psychomotor development was assessed using the Brunet Lézine scale at 24 months corrected age. A control group, for comparison of Brunet Lézine score, was made up of 25 newborns who were fed exclusively breast milk. At 12 months, ARA values were significantly higher in group A than in group B (6.95  $\pm$  1.55% vs. 4.55  $\pm$  0.78%), as were polyunsaturated fatty acids (41.02  $\pm$  2.09% vs. 38.08  $\pm$  2.32%), which achieved a higher average. Group A achieved a higher average Brunet Lézine score at 24 months than group B (99.9  $\pm$  9 vs. 90.8  $\pm$  11, p =0.028). The Brunet Lézine results from group A were compared with the control group results, with very similar scores registered between the two groups (99.9  $\pm$  9 vs. 100.5  $\pm$  7). There were no significant differences in growth or

evoked potentials between the two formula groups, and no treatment-related adverse effects were noted. The authors concluded that very pre-term infants who received formula with an  $\omega$ -6/ $\omega$ -3 ratio of 2/1 had higher blood levels of essential fatty acids during the first year of life, and better psychomotor development than those who consumed formula with an  $\omega$ -6/ $\omega$ -3 of 1/1.

Johnston et al. (2015) conducted a pediatric nutrition trial designed to evaluate growth and tolerance in healthy infants who received study formulas with bovine lactoferrin (bLf) at concentrations within the range of mature human milk, as well as a prebiotic blend with ARA (34 mg/100 kcal). The study was a multi-center, double-blind, parallel-designed, gender-stratified prospective study of 480 infants who were randomized to receive a standard cow's-milk-based infant formula (control; n = 155) or one of two investigational formulas with bLf at 0.6 g/L (LF-0.6; n = 165) or 1.0 g/L (LF-1.0; n = 160) from 14 to 365 days of age. The test formulas also had a prebiotic blend of polydextrose (PDX) and galactooligosaccharides (GOS) and adjusted ARA content. The primary outcome was weight growth rate from 14 to 120 days of age, with measurements taken at 14, 30, 60, 90, 120, 180, 275, and 365 days of age. Parental recall of formula intake, tolerance, and stool characteristics was collected at each time point. Medically confirmed adverse events were collected throughout the study period. There were no group differences in growth rate (g/day) from 14 to 120 days of age; 353 infants completed the study through 365 days of age (control: 110; LF-0.6: 127; LF-1.0: 116). Few differences in growth, formula intake, and infant fussiness or gassiness were observed through 365 day of age. Group discontinuation rates and the overall group incidence of medically confirmed adverse events were not significantly different. From 30 through 180 days of age, group differences in stool consistency (P<0.005) were detected, with softer stools for infants in the LF-0.6 and LF-1.0 groups versus control. The authors concluded that the test formula containing ARA was safe and well-tolerated.

Kitamura et al. (2016) evaluated the safety and efficacy of an infant formula (H2025A) fortified with DHA and ARA (DHA/ARA ratio of 2:1, equivalent to ratio in breast milk). In a randomized, double-blind trial, 35 low-birth-weight infants (LBWIs) were randomly assigned to two groups fed with H2025A or an infant formula fortified only with DHA (control formula) after discharge from the hospital. The formulas were consumed for one month, and the growth and fatty acid composition of the erythrocyte membrane were measured. No differences were found in body-weight gain, height gain, and head circumference gain development between groups, and no adverse events occurred in either group. The ARA content of the erythrocyte membrane at one month was significantly higher in the test-article group than in the control group.

Colombo et al. (2017) reported on the DHA Intake and Measurement of Neural Development (DIAMOND) trial, which studied the long-term dose-response effects of LCPUFA-supplemented formula feeding during infancy. The trial contrasted the effects of four formulations: 0.00% docosahexaenoic acid (DHA)/0.00% arachidonic acid (ARA), 0.32% DHA/0.64% ARA, 0.64% DHA/0.64% ARA, and 0.96% DHA/0.64% ARA against a control condition (0.00% DHA/0.00% ARA). The results of this trial show improved cognitive outcomes for infants fed supplemented formulas, but a common finding among many of the outcomes is a reduction of benefit for the highest DHA dose (i.e., 0.96%

DHA/0.64% ARA; that is, a DHA:ARA ratio 1.5:1.0). The authors present, for the first time, data from infants' red blood cell (RBC) assays taken at 4 and 12 months of age. Those assays indicate that blood DHA levels generally rose with increased DHA supplementation, although those levels tended to plateau as the DHA supplement level exceeded 0.64%. Perhaps more importantly, ARA levels showed a strong inverted-U function in response to increased DHA supplementation; indeed, infants assigned to the formula with the highest dose of DHA (and highest DHA/ARA ratio) showed a reduction in blood ARA relative to more intermediate DHA doses. This finding raises the possibility that reduced ARA may be responsible for the reduction in benefit on cognitive outcomes seen at this dose. The findings implicate the DHA/ARA balance as an important variable in the contribution of LCPUFAs to cognitive and behavioral development in infancy.

Hoffman et al. (2019) conducted a study in healthy term infants that received formula through 120 days of age. All study formulas contained 17 mg DHA/100 kcal. Study formulas also had (1) 25 g ARA/100 kcal and no added prebiotic blend (ARA-25) or (2) 34 mg ARA/100 kcal and a prebiotic blend (1:1 ratio; 4 g/L) of polydextrose and galactooligosaccharides (PDX/GOS). The control formula had 34 mg ARA/100 kcal and no added prebiotic blend (Control). Study endpoints included fatty acids in total red blood cells (RBCs) and plasma phospholipids (PPLs) at 120 days and buccal epithelial phospholipids (PLs) at 14 and 120 days of age. At day 120, total RBC and buccal epithelia PL ARA ( $\mu$ g/ml) were not significantly correlated (r = 0.041; p = 0.732); correlation in total RBC and buccal epithelia PL DHA was low, albeit significant (r = 0.324; p = 0.006). Consequently, buccal epithelial may not provide a suitable substitute for RBC when assessing fatty acid status and availability. The present RBC data suggest that availability of DHA for central nervous system development and function is equivalent among infants receiving formulas that had 34 or 25 mg/100 kcal ARA and 17 mg/100 kcal DHA. The authors concluded that the investigational formulas containing ARA were safe and associated with normal growth throughout the study period.

#### Neurodevelopment

Lepping et al. (2018) studied whether supplementation of LCPUFA during the first year of life influenced brain function, structure, and metabolism at 9 years of age. Newborns were randomly assigned to consume formula containing either no LCPUFA (control) or a formula with 0.64% of total fatty acids as ARA and variable amounts of DHA (0.32%, 0.64%, or 0.96% of total fatty acids) from birth to 12 months. At 9 years of age (±0.6 years), 42 children were enrolled in a follow-up multimodal magnetic resonance imaging (MRI) study that included functional (fMRI, Flanker task), resting state (rsMRI), anatomic, and proton magnetic resonance spectroscopy (MRS). fMRI analysis using the Flanker task found that trials requiring greater inhibition elicited greater brain activation in LCPUFA-supplemented children in anterior cingulate cortex (ACC) and parietal regions. Analysis of rsMRI showed that children in the 0.64% group exhibited greater connectivity between prefrontal and parietal regions compared to all other groups. In addition, voxelbased analysis (VBM) revealed that the 0.32% and 0.64% groups had greater white matter volume in ACC and parietal regions compared to controls and the 0.96% group. Finally, MRS data analysis identified that N-acetylaspartate (NAA) and myo-inositol (mI) were higher in LCPUFA groups than in the control group, Lepping et al. concluded that

LCPUFA supplementation during infancy has lasting effects on brain structure, function, and neurochemical concentrations in regions associated with attention (parietal) and inhibition (ACC), as well as neurochemicals associated with neuronal integrity (NAA) and brain cell signaling (mI).

#### Toxicological Studies

#### Animal Studies

Publicly available preclinical toxicology studies have been summarized in the previously cited GRNs of ARA and include ADME, acute and subchronic toxicity, reproductive and developmental toxicity, and mutagenicity/genotoxicity (Lewis et al., 2016; Hempenius et al., 1997; Gao et al., 2014; Falk et al., 2017; Tyburczy et al., 2012; Nisha et al., 2009; Hempenius et al., 2000; Burns et al., 1999; Wibert et al., 1997; Merritt et al., 2003). The studies were conducted in rats and piglets. Reviews of the following studies were included in GRNs 326 and 730; therefore, only brief summaries of selected studies are provided below.

#### Mutagenicity/Genotoxicity

Hempenius et al. (1997) and/or Lewis et al. (2016) reported the results of Ames assays, an *in vitro* chromosomal aberration test using human blood peripheral lymphocytes, and a mammalian erythrocyte micronucleus test. The studies were summarized and reviewed as part of GRNs 326 and 730 (FDA, 2010, 1018). In all cases, ARA-rich oil did not produce evidence of a mutagenic or genotoxic response.

#### Acute Toxicity

Hempenius et al. (1997) reported an LD50 value in male and female Wistar rats of >20 mL/kg bw or 18.2 g/kg bw for an ARA-rich oil, equivalent to approximately 6.2 g/kg/bw for ARA.

Nisha et al. (2009) evaluated the safety of ARA-rich *Mortierella alpina* biomass in Wistar rats. The study resulted in an LD50 value of >5000 mg/kg bw, the highest dose tested.

#### Repeat Dose/Subchronic Toxicity

Hempenius et al. (1997) conducted a 4-week oral toxicity study of ARA- and DHA-rich oils in Wistar rats. The test articles were administered by gavage in corn oil at a dose volume of 5 mL/kg bw/day, at levels of 100, 600, 2000, or 3000 mg ARA-rich oil/kg bw/day; or 50, 300, 1000, or 1500 mg DHA-rich oil/kg bw/day; and at a combination of 2000/1000 and 3000/1500 mg ARA-rich oil/DHA-rich oil/kg bw/day. A vehicle control group consisting of 10 male and 10 female rats received 5 mL corn oil/kg bw/day. The no-observed-adverse-effect leve (NOAEL) for the ARA-rich oil treatment was considered to be 3000 mg ARA-rich oil/kg bw/day. The NOAEL corresponds to an intake of 1000 mg ARA/kg bw/day, which represents approximately 37 times the infant intake of ARA from human milk.

Lewis et al. (2016) conducted 28-day and 90-day dietary studies of ARA-rich oil from *Mortierella alpina* in Wistar rats. The ARA-rich oil test article contained 40.3% ARA, mostly

in the form of triglyceride (91%). Dietary exposure to the ARA-rich oil was approximately 1,000, 2,500, and 5,000 mg/kg bw/day, and the study design included two control diets: water and corn oil (vehicle controls). The NOAEL for the ARA-rich oil from *M. alpina* was determined to be 5,000 mg/kg bw/day, the highest dose tested. The ARA-rich oil contained 40.3% ARA, mostly in a form of TG (91%).

Nisha et al. (2009) evaluated the safety of ARA-rich *Mortierella alpina* biomass in Wistar rats. Wistar rats were fed diets containing 0, 2500, 5000, 10,000, 20,000, and 30,000 mg/kg of *M. alpina* biomass for approximately 90 days. Study results indicated no overt toxic effects based on survival, food consumption, or body-weight gain throughout the treatment period. Statistically significant changes in relative organ weights, serum biochemical and hematological indices in *M. alpina*-fed groups (i.e., increased relative weights of spleen, liver, brain, and ovary in females; reduced hemoglobin concentration in males; elevated WBC counts at highest dose; reduction in serum triglycerides; and increased alkaline phosphatase activity) were not concomitant with pertinent histopathological changes and were considered by the authors to be of no toxicological significance. No microscopic or macroscopic lesions attributable to treatment were observed.

Hempenius et al. (2000) conducted a subchronic (13-week) oral toxicity study in rats, preceded by an in utero exposure phase. An ARA-rich oil was administered in the rodent diet at concentrations of 3000 ppm, 15,000 ppm, and 75,000 ppm. An additional group received 75,000 ppm ARA-rich oil in combination with 55,000 ppm fish oil containing docosahexaenoic acid (DHA), at a ratio of ARA to DHA, comparable to the ratio in mother's milk of 2:1. The total levels of fat in each diet were kept constant by adding the appropriate amounts of corn oil. A control group received 130,000 ppm corn oil in the diet. A second control group was fed un-supplemented rodent diet. Administration of the test substances from 4 weeks before mating, throughout mating, gestation, lactation of parental (F0) animals, and weaning of the F1 pups did not affect fertility or reproductive performance, nor the general condition of pups, viability, sex ratio, or number of pups. In the subsequent subchronic study, no treatment-related effects were observed up to the middose concentration of 15,000 ppm. Statistically significant differences were observed in the ARA high-dose group and/or in the ARA/DHA group compared to the corn oil control group. Differences observed included decreased alkaline phosphatase activity, decreases in cholesterol, triglycerides and phospholipids concentrations, increased creatinine, and urea concentrations. Increased adrenal, spleen, and liver weights were also noted. The incidence of hepatocellular vacuolation was increased in females of the ARA high-dose group and the ARA/DHA group. Oil droplets were observed in the mesenteric lymph nodes and in the intestinal villi in the ARA high-dose group and the ARA/DHA group. In addition, lipogranulomas were observed in the mesenteric lymph nodes. The authors postulated that the changes in the high-dose groups might be the result of the intake of high fat levels, rather than specific effects of the ARA-rich oil. The no-observed-effect level in the study was considered to be 15,000 ppm ARA rich-oil, equivalent to approximately 970 mg ARA-rich oil/kg bw/day.

Tyburczy et al. (2012) evaluated the safety of ARA-rich oil derived from *M. alpina* on growth, clinical chemistry, hematology, and immune function in newborn piglets. Three-day-old piglets were administered one of seven diets for 25 days: six diets with varying

ratios of ARA:DHA (g/100 g FA/FA): 0.1/1.0; 0.53/1.0; 0.69/1.0; 1.1/1.0; 0.67/0.62; and 0.66/0.33. A seventh group was maternal-reared and remained with the dam during the study. No treatment-related abnormalities were observed in any study design parameters. The authors concluded that a dietary ARA concentration up to 1% total FA (or 49 mg/100 kcal of the formula) was safe and had no adverse effect on any of the safety outcomes measured in newborn piglets.

Merritt et al. (2003) evaluated the safety of ARA for use in infant formulas in a neonatal piglet model. Newborn piglets were allowed to suckle for 3 days and then divided into four groups of six males and six females. Piglets were bottle-fed at frequent feeding intervals until 19 days of age. The composition of the piglet formulas was modeled after standard milk-based formulas for human infants while meeting nutritional requirements for piglets. Formulas were a control formula (no added DHA or ARA), a DHA (tuna oil; 25% DHA) formula providing 55 mg DHA/100 Cal, an ARA formula providing 96 mg/100 Cal ARA, and a DHA+ARA formula providing 34 mg DHA and 62 mg ARA/100 Cal. All formulas were equal in fat content and provided approximately 1000 Cal/L. The ARA-rich oil was from a fermentation product of *M. alpina* (40 wt.% fatty acids as ARA). No test-article-related adverse effects of DHA and/or ARA treatment were observed in clinical signs, body weights, food consumption, clinical chemistry, hematology, organ weights, or gross histopathology.

#### Developmental/Reproductive Toxicity

Gao et al. (2014) conducted a 90-day study of ARA-rich oil (48.3% ARA) derived from *M. alpina* in F1 Sprague Dawley (SD) rats with *in utero* exposure. The study design included a 4-week pretreatment period of parental (F0) rats and exposure of F0 dams throughout mating, gestation, and lactation. ARA-rich oil, at concentrations of 0.5%, 1.5%, and 5.0% of diet, did not affect reproductive performance of the parental rats, nor did it result in any significant adverse effects in pups. In a subsequent subchronic study with the F1 rats, no treatment-related adverse effects were observed. A NOAEL of 5% ARA-rich oil, the highest level tested, was identified. The 5% dietary concentration is equivalent to approximately 2,850 mg/kg in F0 males, 3,750 mg/kg in F0 females, 4,480 mg/kg in F1 males, and 4,850 mg/kg in F1 females.

Falk et al. (2017) investigated the reproductive/developmental toxicity of ARA-rich oil (40.3% ARA) derived from *M. alpina* in Wistar rats. In the developmental toxicity study, treatment groups of pregnant Wistar rats included an untreated (control) and corn oil (vehicle control), as well as 1,000, 2,500, and 5,000 mg/kg bw/day ARA-rich oil treatment groups. The control and test articles were administered via gavage from gestation days 6 through 20. In the reproductive toxicity study, male and female Wistar rats were administered vehicle control (corn oil), or 1,000, 2,500, or 5,000 mg/kg bw/day of ARA-rich oil via gavage throughout the mating period, pregnancy, and nursing/lactation periods. The NOAEL for maternal toxicity and embryo/fetal development, as well as for paternal or maternal reproductive toxicity of the ARA-rich oil, was 5,000 mg/kg bw/day.

#### Safety Data Summary

ARA and ARA-rich oils from *M. alpina* are currently marketed for use in infant formula. The proposed ARA-rich oil from *M. alpina* has a proximate composition and lipid (fatty acid and sterol) profile similar to those of currently approved/marketed ARA-rich oils from *M. alpina*. Regulatory authorities have reviewed the extensive safety study database of ARA and ARA-rich oils and found them to be safe for use in infant formula. Numerous studies have been conducted and published in support of the safety evaluation of ARA and ARA-rich oils, including *in vitro* studies, *in vivo* animal studies, and clinical studies in humans, including infants. The most relevant studies on ARA acute and subchronic toxicity, reproductive and developmental toxicity, and mutagenicity and genotoxicity, along with clinical and epidemiological studies, have been reviewed and summarized above.

In summary, the available published scientific data on the safety of ARA sourced from *M. alpina* are extensive. The compositional profile of the ARA-rich oil ingredient presents no obvious safety concerns. The totality of published study data, as presented in previous GRNs reviewed by FDA (2001a,b, 2006, 2010, 2018) and summarized herein, support the safe use of BASF's ARA-rich oil from *M. alpina* in infant formulas up to 0.75% of total fatty acids. Additionally, FDA has already reviewed numerous GRAS notifications for similar products and their use in infant formula and issued "no questions" letters in those previous cases. Finally, ARA products have been reviewed and approved around the world for addition to infant formula.

#### Basis for the GRAS Determination

#### Introduction

The regulatory framework for determining whether a substance can be considered generally recognized as safe (GRAS) in accordance with section 201(s) (21 U.S.C. § 321(s)) of the Federal Food, Drug, and Cosmetic (FD&C) Act (21 U.S.C. § 301 et. Seq.) ("the Act"), is set forth at 21 CFR 170.30, which states:

General recognition of safety may be based only on the view of experts qualified by scientific training and experience to evaluate the safety of substances directly or indirectly added to food. The basis of such views may be either (1) scientific procedures or (2) in the case of a substance used in food prior to January 1, 1958, through experience based on common use in food. General recognition of safety requires common knowledge about the substance throughout the scientific community knowledgeable about the safety of substances directly or indirectly added to food.

General recognition of safety based upon scientific procedures shall require the same quantity and quality of scientific evidence as is required to obtain approval of a food additive regulation for the ingredient. General recognition of safety through scientific procedures shall ordinarily be based upon published studies, which may be corroborated by unpublished studies and other data and information.

These criteria are applied in the analysis below to determine whether the use of the ARArich oil in infant formula (pre-term and term infants) is GRAS based on scientific procedures. All data used in this GRAS determination are publicly available and generally known, and therefore meet the "general recognition" standard under the FD&C Act.

#### Safety Determination

ARA and ARA-rich oils from *M. alpina* are currently marketed for use in infant formula. The proposed ARA-rich oil from *M. alpina* has a composition and lipid (fatty acid and sterol) profile similar to those of currently approved/marketed AR-rich oils from *M. alpina*. Regulatory authorities have reviewed the extensive safety study database of ARA and found no issues of concern with respect to their use in infant formula. Numerous studies have been conducted and published in support of the evaluation of the safety of ARA, including *in vitro* studies and *in vivo* animal studies (i.e., acute and subchronic toxicity, reproductive and developmental toxicity, mutagenicity, and genotoxicity), as well as clinical studies in infants.

ARA-rich oils from numerous sources, including microalgae and fungi, are considered GRAS for use in food for human consumption, including infant formula (FDA 2001a,b, 2006, 2010, 2018). The approvals authorized the addition of ARA at levels up to 0.75% of the total fatty acids in both exempt (pre-term and term) and non-exempt formulas.

Global infant formula standards in the Food Chemicals Codex, as well as those in the EU, China, and Australia, allow the addition of ARA to infant formula (EU Commission, 2006; PRC, 2010; FSANZ, 2014). The source of the ARA-rich oils is *Mortierella alpina*.

The safety of orally administered ARA from different sources, including BASF's proposed source (*M. alpina*), has been characterized extensively in the publicly available preclinical and clinical study literature. The compositional profile of the proposed ARA-rich oil presents no obvious safety concerns. Finally, similar ARA products have been reviewed and approved around the world for addition to food and infant formula.

#### General Recognition of the Safety of ARA-Rich Oil

The intended use of an ARA-rich oil has been determined to be safe through scientific procedures, as set forth in 21 CFR § 170.3(b), thus satisfying the so-called "technical" element of the GRAS determination, and this conclusion is based on the following:

The ARA product that is the subject of this GRAS determination is an extracted and refined oil from Mortierella alpina. It is a mixture of triglycerides containing mostly polyunsaturated fatty acids (PUFA), in which the predominant fatty acid (approximately 40%) is ARA. The ARA manufacturing process starts with fermentation, followed by refining of the crude ARA-rich oil isolated from the fermentation process. The ARA-rich oil product is manufactured consistent with cGMP for food (21 CFR Part 110 and Part 117).

- Subpart B). The raw materials and processing aids used in the manufacturing process are food grade and/or commonly used in fermentation and food manufacturing processes.
- As reported in previous GRNs for ARA produced from M. alpina, there is no evidence of specific toxins production by members of the genus Mortierella. Mycotoxins cannot be formed during fermentation, because the conditions and process controls do not allow for the growth of mycotoxin-forming molds. However, mycotoxins could potentially be contained in fermentation nutrients such as the sunflower oil used for standardization. Product lot testing results demonstrate the absence of mycotoxins in accordance with infant food regulations.
- There is common knowledge of a long history of human consumption of ARA
  from food and infant formula. It will be added to infant formula for pre-term
  and term infants to supplement the dietary intake of ARA.
- Literature searches did not identify safety/toxicity concerns related to any individual fatty acid or their ratios in the proposed ARA-rich oil. The proposed ARA-rich oil is similar in fatty acid profile to other commercially available ARA-rich oils incorporated into infant formulas.
- BASF does not manufacture infant formula, but only manufactures the ARArich oil ingredient (ARA Oil Gold) for use in infant formula. As such, it provides an alternative source of ARA for incorporation in infant formula.
- ARA Oil Gold is intended for use as a direct ingredient in exempt (pre-term or term) and non-exempt (term) infant formula, in accordance with current good manufacturing practices (cGMP), and in combination with a source of docosahexaenoic acid (DHA). The ratio of DHA to ARA would range from 1:1 to 1:2. The intended use level is similar to all other approved uses for incorporation of ARA in infant formula. The proposed uses of the ARA-rich oil in infant formula are identical to the approved uses for other GRAS ARA products incorporated in exempt (pre-term or term) and non-exempt (term) infant formula.
- ARA-rich oils from numerous sources, including microalgae and fungi, are considered GRAS for use in food for human consumption, including infant formula (FDA 2001a,b, 2006, 2010, 2018). Global infant formula standards in the Food Chemicals Codex, as well as those in the EU, China, and Australia, allow the addition of ARA to infant formula (EU Commission, 2006; PRC, 2010; FSANZ, 2014). The source of the ARA-rich oils is Mortierella alpina.
- Numerous studies have been conducted and published in support of the safety evaluation of ARA and ARA-rich oils, including in vitro studies, in vivo animal studies, and clinical studies in humans, including infants. The studies of ARA safety include acute and subchronic toxicity, reproductive and developmental toxicity, and mutagenicity and genotoxicity, along with clinical and epidemiological studies.

• The publicly available scientific literature on the consumption and safety of ARA and ARA-rich oil ingredients, in clinical studies in infants as well as animals, is extensive and sufficient to support the safety and GRAS status of the proposed ARA-rich oil product produced from fermentation of *M. alpina*.

This safety evaluation was based on generally available and widely accepted data and information; therefore, it also satisfies the so-called "common knowledge" element of a GRAS determination.

Determination of the safety and GRAS status of the ARA-rich oil from *Mortierella alpina* that is the subject of this self-determination has been made by BASF. BASF has commissioned ToxStrategies to critically review and evaluate the publicly available information summarized in this document and has concluded that the proposed ARA-rich oil product, produced in a manner consistent with cGMP and meeting the specifications described herein, is safe under their intended conditions of use. BASF also concludes that these uses of the ARA-rich oil product are GRAS based on scientific procedures, and that other experts qualified to assess the safety of foods and food additives would concur with these conclusions.

BASF has concluded that the ARA-rich oil product is GRAS under the intended conditions of use, on the basis of scientific procedures; therefore, it is excluded from the definition of a food additive and may be marketed and sold for its intended purpose in the U.S. without the promulgation of a food additive regulation under Title 21 of the CFR.

BASF is not aware of any information that would be inconsistent with a finding that the proposed use of the ARA-rich oil product in infant formula meeting appropriate specifications, and used according to GMP, is GRAS. Recent reviews of the scientific literature revealed no concerns for potential adverse health effects.

## § 170.255 Part 7, Supporting Data and Information

The following references are all generally available, unless otherwise noted. Appendices A and B (analytical COAs for ARA-rich oil, and stability testing data) are not generally available but are attached for reference.

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## APPENDIX A

# **Certificates of Analysis**

## **Table of Contents**

Elemental test results	p. 41
Monitored environmental pollutants	p. 42
Mycotoxins	p. 43
Additional microbiological testing results	p. 44
Lot No. 0020265261	pp. 45-76
Lot No. 0020265618	pp. 77-109
Lot No. 0020265740	рр. 110-142
Lot No. L26013	рр. 143-173
Lot No. L26028	рр. 174-196
Lot No. L26057	рр. 197-205

## Elemental Test Results (Eurofins)

		Elemen	tal analysis			
Lot number	0020265261	0020265618	0020265740	L26013	L26028	L26057
Aluminum (ppm)	< 0.5	<0.5	< 0.5	<0.5	<0.5	< 0.5
Arsenic (ppm)	<0.1	< 0.1	<0.1	< 0.1	< 0.05	< 0.1
Cadmium (ppm)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01
Copper (ppm)	<0.1	<0.1	< 0.1	<0.1	<0.1	< 0.1
Chromium (ppm)	< 0.05	0.09	0.06	< 0.05	< 0.05	< 0.05
Iron (ppm)	<0.5	<0.5	<0.5	< 0.5	<0.5	< 0.5
Lead (ppm)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.05
Mercury (ppm)	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005
Manganese (ppm)	<0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
Nickel (ppm)	<0.1	<0,1	< 0.1	<0.1	<0.1	<0.1
Phosphorus (ppm)	<3	<3	<3	8.0	<3	6.0
Silicon< (ppm)	13	13	5	3	<2	2.0
Sulfur (ppm)	<2	<2	<2	<5	<2	<2
Tin (ppm)	<0.2	< 0.2	<0.2	<0.2	<0.5	<0.2

## Monitored environmental pollutants (Eurofins)

	E	Invironmental	Impurities			
Lot number	0020265261	0020265618	0020265740	L26013	L26028	L26057
Dioxins and Furans PCDD/F TEQ (pg/g)*	0,338	0.318	0.338	0.328	0.339	0.326
PCBs ICES 6 (ng/g)	1.97	1.85	1.97	1.91	1.97	1.90
Dioxin-like PCBs WHO 12 TEQ (pg/g) *	0.203	0.191	0.203	0.197	0.204	0.196
Sum dioxins and dioxin-like PBCs TEQ (pg/g)	0.541	0.510	0.541	0.526	0.543	0.522
Benzo(a)pyrene (μg/kg)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)antrathene (μg/kg)	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5
Benzo(b)fluoranthene (µg/kg)	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5
Chrysene (µg/kg)	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5
Pesticides (mg/kg)	Below detection	on limit for EU	infant food requi	rements for f	inished produc	ets

<sup>\*</sup> Upper-bound limits (calculated by toxicology equivalents TE of individual isomers)

## Mycotoxins (Eurofins)

		Mycot	toxins			
Lot number	0020265261	0020265618	0020265740	L26013	L26028	L26057
Aflatoxin B1 (μg/kg)	<0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aflatoxin B2 (μg/kg)	< 0.01	< 0.01	< 0.01	<0.01	< 0.01	< 0.01
Aflatoxin G1 (μg/kg)	< 0.01	< 0.01	<0.01	< 0.01	< 0.01	< 0.01
Aflatoxin G2 (μg/kg)	<0.01	<0.01	<0.01	< 0.01	< 0.01	< 0.01
Sum aflatoxins (µg/kg)	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Ochratoxin A (µg/kg)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Deoxynivalenol (μg/kg)	<20	<20	<20	<20	<20	<20
Zearalenone (μg/kg)	<5	<5	<5	<5	<5	<10
T-2 Toxin (μg/kg)	<1	<1	<1	<1	<1	<1
HT-2 Toxin (μg/kg)	<3	<3	<3	<3	<3	<3
Sum T-2 HT-2 Toxin (μg/kg)	<4	<4	<4	<4	<4	<4
Fumonisin B1 (μg/kg)	<20	<20	<20	<20	<20	<20
Fumonisin B2 (μg/kg)	<20	<20	<20	<20	<20	<20
Fumonisin B3 (μg/kg)	<20	<20	<20	<20	<20	<20
Fumonisin sum B1+B2 (μg/kg)	<40	<40	<40	<40	<40	<40
Fumonisin sum B1+B2+B3 (μg/kg)	<60	<60	<60	<60	<60	<60
Sterigmatocystin (µg/kg)	<10	<10	<10	<10	<10	<10

## Additional microbiological testing results (Labor LS)

Lot number	0020265261	0020265618	0020265740
Bacillus cereus, presumptive	negative/g	negative/g	negative/g
Total coliforms	<10 cfu/g	<10 cfu/g	<10 cfu/g
Listeria monocytogenes	negative/25 g	negative/25 g	negative/25 g
Escherichia coli	negative/g	negative/g	negative/g
Cronobacter sakazakii	negative/25 g	negative/ 25g	negative/25 g



Please note that the certificatins of analysis are also conveniently available order and around the clock at www.worldaccount.bast.com

2019-02-14 Head of Q juergen.dremel@basf.com +49 7303 13-372 Reg. 20190212134616 Page 1 of 2

#### Inspection Certificate 3.1 according to EN 10204

Material

50627967

Lot

0020265261

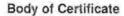
Characteristic	Unit	Value	Limit	Upper Limit
Method				
APPEARANCE		PASS		
AX-001001 ACID VALUE MG KOH/G		0,1	0,0	1, 9
ISO 660		0,1	<i>u</i> , <i>u</i>	L, U
FREE FATTY ACIDS, SUM	5	8, 67		0,45
CP-994962				
PEROXIDE VALUE MEQ 02/KG ISO 3960		< 0, 1	0, 0	4, 8
WATER CONTENT, KARL FISCHER	*	9, 99	9, 99	8,85
DGF C-III 13a				
UNSAPONIFIABLE MATTER PhEur 2.5.7		2, 2	0, 0	3, 5
ANISIDINE VALUE		10	9	20
DIN EN ISO 6885				
FATTY ACID TRANS, SUM IA-001057	%(a)	θ, 4	0, 0	0,5
CONTENT ARACHIDONIC ACID AS TG IA-057055	mg/g	447	400	

#### Released by J. Dremel

Production date (dd.mm.yyyy)	18.01.2019
Release date	12.02.2019
Retest date / Best Before date	17.01.2021

#### BASF Personal Care & Nutrition GmbH

The aforementioned data shall constitute the agreed contractual quality of the product at the time of passing of risk. The data are confisited at regular intervals as part of our quality assurance program. Neither those data not the properties of product specimens shall imply any legally brinding, guarantee of certain properties or of fitness for a specific purpose. No flability of ourside an be derived therefrom.





Please note that the certificates of analysis are also conveniently available online and around the clock at www.worldaccount.bast.com

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Inspection Certificate 3.1 according to EN 10204

Material

50627967

Lot

0020265261

89257 Illertissen, Germany

in allowmentance data shall constitute the agreed contractual quality of the product at the line of passing of line. The data are continued in regular intervals line of our quality assurance program. Neither these data not the properties of product specimens shall imply any legally binding guarantee of certain properties or of finness for a specific purpose. No liability of ours can be derived the ofrom.



## Certificate of Analysis

Ms Edith Von Kries BASF Personal Care and Nutrition GmbH c/c Roland Sauter ILL-ENO/HI

Building: 025

Robert-Hansen-Strasse 1 DE 89257 Illertossen, Germany Report No: P19-05054

Purchase Order: 4951478751 Date Received: 28th May 2019

Date Started: 3rd June 2019

Page I of 12

#### Arachidonic Acid Rich Oil

Sample Co	P19-05054-1	Your Refs:	Sample Referen	ce: 100393	
Description	n: ARA Oil Gold 002020	35261			
Michael	Analysis		Result	Units	
* TM-318	Acid Value		0.2	mg KOH/	
7 TM 325	Free Fatty Acid		0.11	g/100g	
* TM-320	Peroxido Value		1,02	menO2/ kg Fat	
* TM-319	Anisidine Value		1.3		
	Unsaponifiable Matter		1,9	9/1009	
* TM-331	alpha tocopnerol		516	mg/kg	
* TM-331	beta tocopherol		103	n°g/kg	
* 7M-331	gamina tocophero		1302	nig/kg	
* TM-331	delta tocophero		565	mo/kg	
* TM-331	Total Tocopherols		2486	mg/kg	
* TM-252	Cholesterol		0.1	96	
TM-252	Unidentified A		79.8	96	
* TM-252	24-Methylene-cholesterol		2.1	10%	
* TM-252	Campesterol		1.8	96	
* TM-252	Compestano		0.7	90	
1 TM-252	Sugmasterol		0.6	100	
* TM-252	Unidentified B		5.1	reg.	
* TM-252	A-5, 23-Stigmastadienol		0.1	No.	
* TM-252	Chierosterol		0.2	76	
* 1N-252	U-Sitosterol		3.8	194	
* TM-252	Sitostanol		0.2	No:	
* TM-252	A-5-Avenasterol		0,1	Neg	
* TM-252	v-5,24-Stigmastagienoi		0.1	200	



Approved By:

Robert Griffiths
Sur Assonate Principal
Scientist
(Investigative Analysis)
28 fune 2019



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## Certificate of Analysis

Ms Edith Von Kries BASF Personal Care and Nutrition GmbH c/o Roland Sauter ILL-ENO/HI

Building: 025

Robert-Hansen-Strasse 1 DE 89257 Illertossen, Germany Report No: P19-05054

Purchase Order: 4951478751

Date Received: 28th May 2019 Date Started: 3rd June 2019

Page 2 of 12

## Arachidonic Acid Rich Oil

Sample Co	ode: P19-05054-1	Your Refs:	Sample Referen	ica: 100393
Descriptio	n: ARA Oil Gold 0020	1265261		
Method	Audiysis		Result	Units
* TM-252	A-7-Stigmastensi		0.6	95
* TM-252	A-7-Avenastoral		0.5	36
* TM-252	Unidentified C		3.6	9/0
* TM-252	Total Sterols		12194	mg/kg
* TM-252	Total sterols excluding unide components	ntified	1282	mg/kg
*	Arachidenic Acid		456	nig/g
TM-112	C13:0(1)		C.1.	95
710-112	C14:0		0.2	%
1M-112	C15:0		0.1	15/4
TM-112	C16:3		5,9	+Vic
TM-117	C16:1		0.1	1976.
TM-112	C17:0		0.3	%
TM-112	C18:0		9.5	%
TN-112	C19 1(trans)		0.1	26
TM-112	C19:1(ci5)		21.9	%
TM-112	C18:2(trans)		0.2	106
TM-112	C18:2(cis)		5.8	96
TM-112	C18:3(gammu)		2.3	4%
TM-112	C18(3(alpha)		0.3	46
TM-III	C20:0		1.0	114
TM-112	CZ0:1		3.6	945
TM-112	C22:0		1.9	944
TM-112	C24:0		1.15	2%



Approved By:
Robert Griffiths
Son Associate Principal
Scientist
[Investigative Analysis]



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## Certificate of Analysis

Ms Edith Von Knes

BASE Personal Care and Nutrition GmbH

c/o Roland Sauter ILL-ENO/HI

Building: 025

Robert-Hansen-Strasse 1 DE 89257 Illertossen, Germany Report No: P19-05054

Purchase Order: 4951478751

Date Received: 28th May 2019

Date Started: 3rd June 2019

Page 3 of 12

#### Arachidonic Acid Rich Oil

Sample Co	ce:	P19-05054-1	Your Refs:	Sample Referer	ce: 1003	93
Description	n:	ARA Oil Gold 00202	65261			
Method	Analy	Sib		Result	Units	
TM-112	C24:	i i		0.1	46.	
TM-112	C20:3	2		0.4	94.	
TM-112	C10:	(n5) (ARA)		44,9	26.	
TM-112	C20:	5 (EPA)		0.1	46.	
TM-112	Unida	entitled		0.9	70-	
TM-112	C20:	3 (n6)		1.6	70	
Normhsed (	atty acid	profile (%).				



Approved By: Robert Griffiths Snr Associase Principal Scenni (Investigative Analysis) Z8 June 2019



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THE SQUESTION ASSESSMENT OF THE PROPERTY OF TH



## ARA Oil Gold, 0020265261 - éch n°100919

#### Détermination des stérols

Incertitude sur la composition :

Delta7-campestérol / Delta5-avenastérol / Delta7-stigmastérol / Delta7-avenastérol - 20 % de la valeur avec Minimum : 0,7 / Maximum : 3,5

Autre stérois : 10 % de la valeur avec Minimura : 0,5 / Maximum : 3,5

Incertitude sur la teneur ; 20% de la valeur Analyse réalisse la : 01/08/2019

Stérols		Résultat(s)
Cholestérol	0,1	%
5α cholesta-8, 14 dien-3βol	5,0	%
Desmostérol	76,8	%
Zymostérol	0,5	%
Ergostérol	3,2	%
Cholest7, 24die-3βol	1,9	%
Campéstérol	1,7	%
stígmastérol	0,5	%
Iso fucostérol	5,9	%
Fucosterol	<0,1	%
B sitostérol	3,7	%
Δ5,24 Stigmastadiénol	<0,1	%
24methyldesmostérol	0,5	%
Stigma-5-ene-3βol	0,2	%
Teneur en stérols	13429	mg/kg



Labor LS SE & Co. KG Manga steld 4.5, 8 | 97706 But Booket | Germany BASE Personal Care and Nutrition GmbH Ms Margit Kapitzke Robert-Hansen-Straße 1 89257 Illertissen

Fon: +49 (0)97 08/91 00-0 labor@labor-ls.de www.labor-ls.ce

Bad Bocklet 31 May 2019 / KA / Bastil

#### Certificate of Analysis

LS No:	190516-0132-001	LS Code:	1359726 / L
Product name:	ARA OIL Gold		
Lot No:	0020265261		
Article No:	11098258		
Entry temperature:	room temperature		
Your Order No:	4944273100		
Order dated:	15 May 2019	Sample receipt:	16 May 2019
Start of test:	17 May 2019	End of test:	31 May 2019

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Domands	Result
Enterobacteriaceae, qualitative	*L 00.00-133/1, mod.		not detected / g ISO 21528 mod.
Total viable count, anaerobic, mesophic 30 °C	*L 00.00 - 88/2 mod.		< 100 CFU/g
			DIN EN ISO 4833-2, mod.
yeasts, quantilative	L 01.00 - 37, mod		< 100 CFU / g ISO 21527, mod.
Pseudomonas aeruginosa, qualitativ	L+S SOP 9 035		not detected / g ISO 13720, mod.
Salmone la sp., qualitative	*L 00 00 + 20		not detected / 25 g DIN EN ISO 6579-1
molds, quantitative	*L 01,00 - 37, mod.		< 100 CFU / g ISO 21527 mod
Coagulase-positive Staphylococci, qualitative	L+S SOP 9.014		not detected / g
Access to			DIN EN ISO 6888-1, mod.
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations. This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 31 May 2019 at 11:39 by Alexander Klauer, Specialist Manager.

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Labor LS SE & Co. KG Wannelsteld 4, 5, 6 | 97708 Bert Booking | Carmany BASF Personal Care and Nutrition GmbH Ms Margit Kapitzke Robert-Hansen-Straße 1 89257 Illertissen

Fon: +49 (0)97 08/91 00-0 labor@labor-is.de www.labor-ls.de

Bad Bocklet 15 Nov 2019 / MEZ / Basfil

#### Certificate of Analysis

LS No:	191107-0045-001	LS Code:	1467104 / L	
Product name:	ARA OIL Gold			
Lot No:	0020265261			
Article No:	50627968			
Entry temperature:	room (empurature			
Your Order No:	4944273100			
Order dated:	06 Nov 2019	Sample receipt:	07 Nov 2019	
Start of test:	08 Nov 2019	End of test:	15 Nov 2019	

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Demands	Result
Bacillus cereus, prasumtiv. qualitativ	L+S SOP 09.005		not detected / g
coliform bacteria, quantitutive	'L 01.00 - 3, mod.		< 10 CFU/g
Cronobacter sakazakii, qualitative	SOP 9.040		not detected / 25 g
Escherichia coli, qualitativo	LS SOP 9.008		not detected / g
Listeria monocytogenes, qualitative	*L 00.00 - 32 mod.		not detected / 25 g
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations.

This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 15 Nov 2019 at 12:25 by Alexander Klauer, Specialist Manager.

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Eurofins WEJ Contaminants GmbH Neuländer Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

Eurofins WEJ Contaminants Neulander Kamp 1 - D-21079 Hamburg

BASF Personal Care and Nutrition GmbH -Standort Illertissenattn. Frau Edith von Kries

Postfach 10 63 89251 Illertissen

wo -contaminants@eurofins.de http://www.eurofins.de/wej-contaminants.aspx

Person in charge Ms D, Zarthe Ms D. Zarthe Client support

- 2907 - 2907

Report date 04.02.2019 Page 1/4

Analytical report: AR-19-JC-022545-01



### Sample Code 706-2019-00017874

Reference

Arachidonsaure-Öl vom 22.01.2019 Mat 11098258 ROLL

Client Sample Code Client contract reference

Rahmenbestell-Nr. 4942613538

Lot-no.

0020265261

Number

660 g

Amount Reception temperature

room temperature Frau Edith von Kries Frau Edith von Kries

Submitted by Sender Reception date time

DHL 28.01.2019

Packaging

Ordered by

plastic container with plastic screw closure

Start/end of analyses

29.01.2019 / 01.02.2019

#### **TEST RESULTS**

#### Physical-chemical Analysis

J1001 Sample preparation (#)

Method: §64 LFGB L 00.00-19/1, CON-PV 00001 (2018-12), Digestion (microwave)

Lead (Pb) (#) J8306

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Lead (Pb)

\* mg/kg

J8308 Cadmium (Cd) (#)

Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products) Cadmium (Cd)

JCHG2

Method:

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Mercury (Hg)

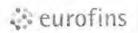
< 0.005

\* mg/kg

Hac-Mas ( DAKKS

DIN 6N ISO/INC 17025 2006

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Analytical report: AR-19-JC-022545-01 Sample Code 706-2019-00017874

## WEJ Cuntaminants

viethod: Modification	DIN EN 15763:2010 (2010-04), mod., CON-PV 012 on: incl. ICP-MS/MS, extension of the analysis parameter.		ication scope
	abacco/-products)		VERNEIN E 20 E 2
Arsenic		<0.1	* mg/kg
CSRA	Solvent residues (big scope) (#)		
fethod:	Internal, CON-PV 01330 (2018-07), HS-GC-MS	2.04	- 11
	orm (Trichloromethane)	<0.01	* mg/kg
Trichloro		<0.01	* mg/kg
N. e. S. G. E. G.	oroethene	< 0.01	* mg/kg
	hlorinated solvents	Inapplicable	mg/kg
The second second	chloroethene	<0.05	* mg/kg
1000	loroethane	< 0.05	* mg/kg
	loroethene	< 0.05	* mg/kg
1,2-Dich	nioroethane	< 0.05	* mg/kg
Dichloro	methane	< 0.05	* mg/kg
24 124	ichloroethane	< 0.01	* mg/kg
Tetrachi	oromethane	< 0.01	* mg/kg
1,1,2-Tr	ichloroethane	< 0.03	* mg/kg
	Tetrachloroethane	< 0.01	* mg/kg
	ochloromethane	< 0.05	* mg/kg
Bromod	icnloromethane	< 0.05	* mg/kg
Tribrom	omethane	< 0.05	* mg/kg
Benzen	e	< 0.2	* mg/kg
Toluene		< 0.01	* mg/kg
Ethylbe	nzene	< 0.01	* mg/kg
m-/-p-X	ylene	< 0.01	* mg/kg
Xylene	(ortho-)	< 0.01	* mg/kg
Styrene		< 0.01	* mg/kg
2-Butan	on (Methylethylketon)	<1	* mg/kg
Ethyl Ac	cetate	<1	* mg/kg
n-Penta	ine	<1	* mg/kg
n-Hepta	ine	<1	* mg/kg
n-Hexa	ne	< 0.3	**mg/kg
2-Methy	Ipentane	<1	- mg/kg
3-Methy	ylpentane	<1	* mg/kg
Methylo	cyclopentane	<1	* mg/kg
Technic	al Hexane (calculated)	Inapplicable	
Methyl:	acetate	<1	* nig/kg
GFL13	Dioxins and Furans (17 PCDD/F)		
Method:	Internal, GLS DF 110, GC-MS/MS		
	ed to a Eurofins laboratory accredited for this test.	55.2559	C 5-1
	TetraCDD	< 0.0623	P9/9
	8-PentaCDD	< 0.0820	pg/g
	7,8-HexaCDD	< 0.125	pg/g
	7,8-HexaCDD	< 0.170	pg/g
	8,9-HexaCDD	< 0.161	pg/g
	6,7,8-HeptaCDD	< 0.262	pg/g
OctaCE		< 1.90	pg/g
	TetraCDF	< 0.170	pg/g
10 % 10 2 2 2 1 1	.8-PentaCDF	< 0.118	pg/g
2.3.4.7	.8-PentaCDF	< 0.184	pg/g

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Analytical report: AR-19-JC-022545-01 Sample Code 706-2019-00017874

## WEJ Contiminante

1,2,3,4,7	.8-HexaCDF	< 0.193	pg/g
1,2,3,6,7	.8-HexaCDF	< 0.177	pg/g
1,2,3,7,8	.9-HexaCDF	< 0.131	pg/g
2,3,4,6,7	8-HexaCDF	< 0.161	pg/g
1,2,3,4,6	.7.8-HeptaCDF	< 0.184	pg/g
1,2,3,4,7	.8,9-HeptaCDF	< 0.128	pg/g
OctaCDF		< 0.393	pg/g
WHO(20	05)-PCDD/FTEQ (lower-bound)	ND	pg/g
WHO(20	05)-PCDD/F TEQ (medium-bound)	0.169	pg/g
	05)-PCDD/F TEQ (upper-bound)	0.338	pg/g
GFL14 Method:	polychlorinated biphenyls (12 WHO PCB + 6 ICES PCE Internal, GLS DF 110, GC-MS/MS d to a Eurofins laboratory accredited for this test.	1)	
PCB 77	To a Editinis laboratory and Edited for this test.	< 5.90	nala
PCB 81		< 0.885	pg/g
PCB 105		< 12.8	pg/g
PCB 114		< 1.74	pg/g
PCB 118		< 45.9	pg/g
PCB 123		< 1.31	pg/g
PCB 126		< 0.820	pg/g
PCB 156		< 7.21	pg/g
PCB 157		< 1.34	g/gc
PCB 167		< 3.61	pg/g
PCB 169		< 3.93	pg/g
PCB 189		< 1.31	pg/g
A. 1-4-A. 1107.2	05)-PCB TEQ (lower-bound)	ND	pg/g
	05)-PCB TEQ (medium-bound)	0.102	pg/g pg/g
	05)-PCB TEQ (upper-bound)	0.203	pg/g
PCB 28	or in the lapper poorter)	< 0.328	ng/g
PCB 52		< 0.328	ng/g
PCB 101	(i =	< 0.328	ng/g
PCB 138		< 0.328	ng/g
PCB 153		< 0.328	ng/g
PCB 180		< 0.328	ng/g
1, 5, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	dl-PCB (lower-bound)	ND	ng/g
	dl-PCB (medium-bound)	0.984	ng/g
	dl-PCB (upper-bound)	1.97	ng/g
GFTE1 Method:	TEQ-Totals WHO-PCDD/F and PCB Internal, GLS DF 110, 120, 130, 140, Calculation d to a Eurofins laboratory accredited for this test.		33
WHO(20	005)-PCDD/F+PCB TEQ (lower-bound)	ND	pg/g
WHO(20	005)-PCDD/F+PCB TEQ (medium-bound)	0.271	pg/g
WHO(20	005)-PCDD/F+PCB TEQ (upper-bound)	0.541	pg/g
Method: JC00U	Preparation PAH (Caffeine complexation) (#) Internal, CON-PV 01176 (2018-08), Extraction PAH 4 (#)		
Method:	Internal, CON-PV 01176 (2018-08), GC-MS	-0.5	W 1 = H.
	anthracene	<0.5	* µg/kg
Benzo(a		<0.5	* µg/kg
	)fluoranthene	<0.5	* µg/kg
Chrysen		<0.5	* µg/kg
Sum PA	H 4	Inapplicable	

Interests, in our melocuration of the contract c Software Decision Media 1 (Media No. 1987) | The Service of Commission of The Service 2015 | The Service 201

DIN EN ISCHEC 17025,2005



## WEJ Contaminanis

Analytical report: AR-19-JC-022545-01 Sample Code 706-2019-00017874

<4

· ug/kg

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#) DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD Method: (Modification; sample weight, extraction solvent, enrichment on IAC, no solvent exchange, additional determination of Aflatoxin B2, G1 and G2) Aflatoxin B1 < 0.01 " µg/kg Aflatoxin B2 < 0.01 \* µg/kg Aflatoxin G1 < 0.01 \* µg/kg Aflatoxin G2 < 0.01 · µg/kg Sum of all positive Aflatoxins < 0.04 · µg/kg Ochratoxin A (babyfood) (#) DIN EN 15835 (2010-05), mod., CON-PV 00852 (2018-11), IAC-LC-FLD (Modification: extraction solvent, IAC-volumina, no solvent exchange) Ochratoxin A (OTA) < 0.1 · µg/kg Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#) Food Addit. Contam. 2005 Aug; 22(80);752-60, CON-PV 00854 (2018-08), LC-MS/MS Deoxynivalenol (Vomitoxin) <20 µg/kg \* µg/kg Zearalenone (ZON) <5 \* ug/kg T-2 Toxin <1 HT-2 Toxin <3 µg/kg

Result +/- expanded measurement uncertainty (95%; k=2), sampling not included

#### JUDGEMENT

#### JCSRA (Solvent residues):

Due to matrix related inteferences the LOQ of some analyts has to be raised.

Signature	
aignature	Analytical Service Manager (Dons Zarthe)

A GLED TO THE WAY A THE STREET MET NOT THE PROPERTY OF THE PARTY OF TH

DIN IN ISOMEC 17925-2005

sum T-2 HT-2 toxin \* - Below indicated quantification level

<sup>\*\* =</sup> Below indicated detection leval

<sup>(#) =</sup> Eurofins WEJ Contaminants GmbH (Hamburg) is accredited for this test



Eurofins WEJ Contaminants GmbH Neuländer Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

EuroLins WEJ Contaminants | Neulander Kamp 1 | D-21079 Hamburg

BASF Personal Care and Nutrition GmbH -Standort Illertissenattn. Frau Edith von Kries Postfach 10 63 89251 Illertissen

wej-contaminants@uurolins.de http://www.eurofins.de/wej-contaminants.aspx

Person in charge Ms D. Zarthe - 2907 Ms D. Zarthe Client support

> Report date 12.06.2019 Page 1/3

Analytical report: AR-19-JC-103691-01

### Sample Code 706-2019-00102718

ARA Oil Gold, 0020265261 Reference

Triglyceride Client Sample Code 100393 Purchase Order Code 4942613538

Client contract reference Rahmenbestell-Nr. 4942613538 Number

Amount 1168 g

Reception temperature room temperature Ordered by Frau Edith von Kries Submitted by Frau Edith von Kries

Reception date time 28.05.2019

Packaging aluminium container with plastic closure

Start/end of analyses 28.05.2019 / 12.06.2019

#### TEST RESULTS

#### Physical-chemical Analysis

J1001 Sample preparation (#)

§64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave) Method:

J1042 Copper (Cu) (#)

Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES

(Modification: extension of the scope of application to food and feed after pressure digestion)

Copper (Cu) < 0.1

J1043

Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES

(Modification: extension of the scope of application to food and feed after pressure digestion)

Iron (Fe) < 0.5 mg/kg

JJ0CG Chromium (Cr) (#)

DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Chromium (Cr)

J1049

DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification: extension of the scope of application to food and feed after pressure digestion)

< 0.1 mg/kg

DAKKS

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< 0.05

DIN EN ISCHE 17025 2001

\* mg/kg

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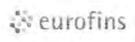
Analytical report: AR-19-JC-103691-01 Sample Code 706-2019-00102718

## WEJ Continuation

	Tin (Sn) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (201 ion; incl. ICP-MS/MS, extension of the analysis parameters, extension continuous parameters, extension of the analysis parameters.		plication scope to
Tin (Sn		< 0.2	* mg/kg
J1032	Aluminium (AI) (#)		
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-O	ES	
	ion: extension of the scope of application to food and feed after p		
Alumin		<0.5	* mg/kg
J1047	Manganese (Mn) (#)	50	
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-C tion; extension of the scope of application to food and feed after		innl
	nese (Mn)	<0.1	* mg/kg
JJOCW	Phosphorus (P) (#)	-0.1	mgrkg
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (201	7-12\ ICP-MS	
No. of the Principle of	tion: incl. ICP-MS/MS, extension of the application scope to feed		roducts)
Phospi		<3	* mg/kg
J1054	Sulphur (S) (#)		0.0
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-C	ES	
	tion: extension of the scope of application to food and feed after		ion)
Sulphu	r total (S)	<2	* mg/kg
J1056	Silicon (Si) (#)		
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-C		
	tion: extension of the scope of application to food and feed after		A Committee of the Comm
Silicon	(31)	13	mg/kg
10000	7.0141-1	± 3.	mg/kg
JCPC3 Method:	7 Plasticizers (low LOQ) (#) Internal Method, CON-PV 01337 (2018-10), LC-MS/MS		
	hexylphthalate (DEHP)	0.32	mg/kg
Dicary	noxy, principle (DETT)	± 0.11	mg/kg
Benzy	butyl phthalate (BBP)	<0.1	* mg/kg
	hexyl adipate (DEHA)	< 0.1	* mg/kg
	ecylphthalate (DIDP)	<0.5	· mg/kg
	onylphthalate (DINP)	< 0.5	* mg/kg
	phthalate (DBP)	< 0.07	* mg/kg
	ributylcitrat (ATBC)	< 0.1	* mg/kg
Hootyn			11191119
1.1088	Fumonisine R1 R2 R3 (maize and products derived from		
JJ088 Method	Fumonisine B1, B2, B3 (maize and products derived from Internal Method, CON-PV 01085 (2018-08), LC-MS/MS	maize) (+)	
Method:	Fumonisine B1, B2, B3 (maize and products derived from Internal Method, CON-PV 01085 (2018-08), LC-MS/MS isin B1 (FB1)	<20	* µg/kg
Method: Fumor	Internal Method, CON-PV 01085 (2018-08), LC-MS/MS		
Method: Fumor Fumor	Internal Method, CON-PV 01085 (2018-08), LC-MS/MS isin B1 (FB1)	<20	* µg/kg
Method: Fumor Fumor Fumor	Internal Method, CON-PV 01085 (2018-08), LC-MS/MS isin B1 (FB1) isin B2 (FB2)	<20 <20	

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WEJ Contaminants

Analytical report: AR-19-JC-103691-01 Sample Code 706-2019-00102718

JJW2Z Sterigmatocystin (#)

Internal, CON-PV 01126 (2018-08), LC-MS/MS Method: Sterigmatocystin

<10

· µg/kg

\* = Below indicated quantification level

(#) = Eurofins WEJ Contaminants GmbH (Hamburg) is accredited for this test. Result +/- expanded measurement uncertainty (95%; k=2), sampling not included

Signature

Analytical Service Manager (Yasmina Knop)

DIN EN INO/IEC 17025-2005



Eurofins WEJ Contaminants GmbH Neuländer Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

Eurofins WEJ Contaminants - Neumnum Kamp 1 D-21079 Hamburg BASF Personal Care and Nutrition GmbH -Standort Illertissen-

attn. Frau Edith von Kries Postfach 10 63 89251 Illertissen

wn-contan mants@ourol.ns.de http://www.eurolins.de/wwj-contaminants.aspx

Person in charge Ms D. Zarthe Mr P. Kösters Client support

- 2907

Report date 27.09.2019 Page 1/3

Analytical report: AR-19-JC-022545-03

This report replaces report number: AR-19-JC-022545-02



### Sample Code 706-2019-00017874

Reference Client Sample Code

Client contract reference Lot-no.

Number

Amount Reception temperature

Ordered by Submitted by Reception date time

Packaging Start/end of analyses Arachidonsaure-Ol Mat 11098258 ROLL

Rahmenbestell-Nr. 4942613538

0020265261

660 g

room temperature Frau Edith von Kries Frau Edith von Kries

28.01.2019

plastic container with plastic screw closure

29.01.2019 / 01.02.2019

#### TEST RESULTS

#### Physical-chemical Analysis

J1001

Sample preparation (#)

Method:

§64 LFGB L 00.00-19/1, CON-PV 00001 (2018-12), Digestion (microwave)

J8306

DIN EN 15763;2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Lead (Pb)

<0.05

\* mg/kg

J8308 Method:

DIN EN 15763;2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Cadmium (Cd)

\* mg/kg

JCHG2 Mercury (Hg) (#) Method:

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Mercury (Hg)

< 0.005

\* mg/kg



Analytical report: AR-19-JC-022545-03 Sample Code 706-2019-00017874

## WEJ Contaminaries

This report replaces report number: AR-19-JC-022545-02

J8312	Arsenic (As) (#)		(-19-JU-022545-i
Method:	DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12		liantina anna ta
	on: incl. ICP-MS/MS, extension of the analysis parameters, extensi bacco/-products)	ion of the app	ication scope to
Arsenic	AND COMMON TO THE COMMON AND AND AND AND AND AND AND AND AND AN	< 0.1	* mg/kg
GFL13	Dioxins and Furans (17 PCDD/F)		11131113
Method:	Internal, GLS DF 110, GC-MS/MS		
	d to a Eurofins laboratory accredited for this test.		
	etraCDD	< 0.0623	pg/g
1,2,3,7,8	-PentaCDD	< 0.0820	pg/g
	,8-HexaCDD	< 0.125	pg/g
	,8-HexaCDD	< 0.170	pg/g
	,9-HexaCDD	< 0.161	pg/g
1,2,3,4,8	7,8-HeptaCDD	< 0.262	pg/g
OctaCD	)	< 1.90	pg/g
2,3,7,8-	TetraCDF	< 0.170	pg/g
1,2,3,7,8	-PentaCDF	< 0.118	pg/g
2,3,4,7,8	3-PentaCDF	< 0.184	pg/g
1,2,3,4,7	',8-HexaCDF	< 0.193	pg/g
1,2,3,6,7	,8-HexaCDF	< 0.177	pg/g
1,2,3,7,8	3,9-HexaCDF	< 0.131	pg/g
1,000,000,000,000	',8-HexaCDF	< 0.161	pg/g
1,2,3,4,6	3,7,8-HeptaCDF	< 0.184	pg/g
1,2,3,4,	',8,9-HeptaCDF	< 0.128	pg/g
OctaCD	F	< 0.393	pg/g
WHO(20	005)-PCDD/F TEQ (lower-bound)	ND	pg/g
	005)-PCDD/F TEQ (medium-bound)	0.169	pg/g
WHO(20	005)-PCDD/F TEQ (upper-bound)	0.338	pg/g
GFL14 Method: Subcontracte	Polychlorinated biphenyls (12 WHO PCB + 6 ICES PCB) Internal, GLS DF 110, GC-MS/MS d to a Eurofins laboratory accredited for this test.		
PCB 77		< 5.90	pg/g
PCB 81		< 0.885	pg/g
PCB 10	5	< 12.8	pg/g
PCB 11		< 1.74	
		- 1.14	
PCB 11	3	< 45.9	pg/g
PCB 11 PCB 12		< 45.9	pg/g pg/g
	3		pg/g pg/g pg/g
PCB 12	3 5	< 45.9 < 1.31	pg/g pg/g pg/g pg/g
PCB 12 PCB 12	3 6 5	< 45.9 < 1.31 < 0.820	pg/g pg/g pg/g pg/g
PCB 12 PCB 12 PCB 15	3 6 6 7	< 45.9 < 1.31 < 0.820 < 7.21	pg/g pg/g pg/g pg/g pg/g
PCB 12 PCB 12 PCB 15 PCB 15	3 6 6 7 7	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34	pg/g pg/g pg/g pg/g pg/g pg/g
PCB 12 PCB 12 PCB 15 PCB 15 PCB 16	3 6 6 7 7	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61	pg/g pg/g pg/g pg/g pg/g pg/g pg/g
PCB 12 PCB 12 PCB 15 PCB 16 PCB 16 PCB 18	3 6 6 7 7 9 9	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61 < 3.93	pg/g pg/g pg/g pg/g pg/g pg/g pg/g pg/g
PCB 12 PCB 15 PCB 15 PCB 16 PCB 16 PCB 18 WHO(2	3 6 6 7 7	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61 < 3.93 < 1.31	pg/g pg/g pg/g pg/g pg/g pg/g pg/g
PCB 12 PCB 15 PCB 15 PCB 16 PCB 16 PCB 18 WHO(2 WHO(2	3 6 6 7 7 9 9 9 9005)-PCB TEQ (lower-bound)	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61 < 3.93 < 1.31 ND	p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9
PCB 12 PCB 15 PCB 15 PCB 16 PCB 16 PCB 18 WHO(2 WHO(2	3 6 6 7 7 9 9 9 005)-PCB TEQ (lower-bound) 005)-PCB TEQ (medium-bound) 005)-PCB TEQ (upper-bound)	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61 < 3.93 < 1.31 ND 0.102	p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9
PCB 12 PCB 15 PCB 15 PCB 16 PCB 16 PCB 18 WHO(2 WHO(2 WHO(2	3 6 6 7 7 7 9 9 005)-PCB TEQ (lower-bound) 005)-PCB TEQ (medium-bound) 005)-PCB TEQ (upper-bound)	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61 < 3.93 < 1.31 ND 0.102 0.203	p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9
PCB 12 PCB 15 PCB 15 PCB 16 PCB 16 PCB 18 WHO(2 WHO(2 WHO(2 PCB 28	3 6 6 7 7 9 9 9 005)-PCB TEQ (lower-bound) 005)-PCB TEQ (medium-bound) 005)-PCB TEQ (upper-bound)	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61 < 3.93 < 1.31 ND 0.102 0.203 < 0.328	pg/g pg/g pg/g pg/g pg/g pg/g pg/g pg/g
PCB 12 PCB 15 PCB 15 PCB 16 PCB 16 PCB 18 WHO(2 WHO(2 WHO(2 PCB 28 PCB 52	3 6 6 7 7 7 9 9 9 005)-PCB TEQ (lower-bound) 005)-PCB TEQ (medium-bound) 005)-PCB TEQ (upper-bound)	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61 < 3.93 < 1.31 ND 0.102 0.203 < 0.328 < 0.328	p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9
PCB 12 PCB 15 PCB 15 PCB 16 PCB 16 PCB 18 WHO(2 WHO(2 WHO(2 PCB 28 PCB 52 PCB 10	3 6 6 7 7 7 9 9 005)-PCB TEQ (lower-bound) 005)-PCB TEQ (medium-bound) 005)-PCB TEQ (upper-bound)	< 45.9 < 1.31 < 0.820 < 7.21 < 1.34 < 3.61 < 3.93 < 1.31 ND 0.102 0.203 < 0.328 < 0.328 < 0.328	p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9 p9/9

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Page 3/3

Analytical report: AR-19-JC-022545-03

Sample Code 706-2019-00017874

## WEI Continuents

Total 6 n	dl-PCB (lower-bound)	ND	ng/g
	dI-PCB (medium-boung)	0.984	ng/g
	dl-PCB (upper-bound)	1.97	ng/g
GFTE1	TEQ-Totals WHO-PCDD/F and PCB	1,00	
Method:	Internal, GLS DF 110, 120, 130, 140, Calculation d to a Eurofias laboratory according to this test.		
WHO(20	005)-PCDD/F+PCB TEQ (lower-bound)	ND	pg/g
WHO(20	005)-PCDD/F+PCB TEQ (medium-bound)	0.271	pg/g
WHO(20	005)-PCDD/F+PCB TEQ (upper-bound)	0.541	pg/g
JCP01	Preparation PAH (Caffeine complexation) (#)		
Method: JC00U	Internal, CON-PV 01176 (2018-08), Extraction PAH 4 (#)		
Method:	Internal, CON-PV 01176 (2018-08), GC-MS	.35	2.73
	anthracene	<0.5	* µg/kg
Benzo(a	A14	< 0.5	* µg/kg
	fluoranthene	< 0.5	· µg/kg
Chrysen		<0.5	* µg/kg
Sum PA	H 4	Inapplicable	
Aflatoxir Aflatoxir		<0.01 <0.01	· µg/kg
			- µg/kg
Aflatoxir		<0.01	" µg/kg
Aflatoxir		<0.01	μg/kg
JJV04	all positive Aflatoxins	< 0.04	" µg/kg
ALTON OF THE PARTY	Ochratoxin A (babyfood) (#) DIN EN 15835 (2010-05), mod., CON-PV 00852 (2018-1 on: extraction solvent, IAC-volumina, no solvent exchange)	A CONTRACTOR OF THE PARTY OF TH	
	xin A (OTA)	< 0.1	* µg/kg
(Modificati Ochrato		2 VIII	
(Modificati Ochrato JC0FG	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2		I O TIGOLG
(Modificati Ochrato JC0FG Method:	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug: 22(80);752-60, CON-PV	00854 (2018-08),	
(Modificati Ochrato JC0FG Method: Deoxyn	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug. 22(80):752-60, CON-PV ivalenol (Vomitoxin)	00854 (2018-08), <20	* µg/kg
(Modificati Ochrato JC0FG Method: Deoxyn Zearale	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug. 22(80);752-60, CON-PV ivalenol (Vornitoxin) none (ZON)	00854 (2018-08), <20 <5	* µg/kg * µg/kg
(Modificati Ochrato JC0FG Method: Deoxyn Zearale T-2 Toxi	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug: 22(80);752-60, CON-PV ivalenol (Vomitoxin) none (ZON)	00854 (2018-08), <20 <5 <1	* µg/kg * µg/kg * µg/kg
(Modificati Ochrato JCOFG Method: Deoxyn Zearale T-2 Toxi HT-2 To	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug: 22(80);752-60, CON-PV ivalenol (Vomitoxin) none (ZON) n	00854 (2018-08), <20 <5 <1 <3	<ul><li>µg/kg</li><li>µg/kg</li><li>µg/kg</li></ul>
(Modificati Ochrato JC0FG Method: Deoxyn Zearale T-2 Toxi HT-2 To Sum T-2	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug: 22(80);752-60, CON-PV ivalenol (Vomitoxin) none (ZON) n xin 2 HT-2 toxin	00854 (2018-08), <20 <5 <1	* µg/kg * µg/kg * µg/kg
(Modificati Ochrato JC0FG Method: Deoxyn Zearale T-2 Toxi HT-2 To Sum T-2 JJ0BG Method:	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug. 22(80):752-60, CON-PV ivalenol (Vomitoxin) none (ZON) n xin 2 HT-2 toxin Fumonisins (#) Internal, CON-PV 01085 (2018-08), LC-MS/MS	00854 (2018-08), <20 <5 <1 <3 <4	<ul><li>hâ/kâ</li><li>hâ/kâ</li><li>hâ/kâ</li><li>hâ/kâ</li></ul>
(Modificati Ochrato JC0FG Method: Deoxyn Zearale: T-2 Toxi HT-2 To Sum T-2 JJ0BG Method: Fumoni:	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug. 22(80):752-60, CON-PV ivalenol (Vomitoxin) none (ZON) n xin 2 HT-2 toxin Fumonisins (#) Internal, CON-PV 01085 (2018-08), LC-MS/MS sin B1 (FB1)	00854 (2018-08), <20 <5 <1 <3 <4	<ul> <li>µg/kg</li> <li>µg/kg</li> <li>µg/kg</li> <li>µg/kg</li> <li>µg/kg</li> </ul>
(Modificati Ochrato JC0FG Method: Deoxyn Zearale: T-2 Toxi HT-2 To Sum T-2 JJ0BG Method: Fumoni: Fumoni:	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug. 22(80):752-60, CON-PV ivalenol (Vomitoxin) none (ZON) n xin 2 HT-2 toxin Fumonisins (#) Internal, CON-PV 01085 (2018-08), LC-MS/MS sin B1 (FB1) sin B2 (FB2)	00854 (2018-08), <20 <5 <1 <3 <4 <20 <20 <20	<ul> <li>ha/ka</li> <li>ha/ka</li> <li>ha/ka</li> <li>ha/ka</li> <li>ha/ka</li> </ul>
(Modificati Ochrato JC0FG Method: Deoxyn Zearale: T-2 Toxi HT-2 To Sum T-2 JJ0BG Method: Fumoni: Fumoni:	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug. 22(80):752-60, CON-PV ivalenol (Vomitoxin) none (ZON) n xin 2 HT-2 toxin Fumonisins (#) Internal, CON-PV 01085 (2018-08), LC-MS/MS sin B1 (FB1)	00854 (2018-08), <20 <5 <1 <3 <4	<ul> <li>µg/kg</li> <li>µg/kg</li> <li>µg/kg</li> <li>µg/kg</li> <li>µg/kg</li> </ul>
(Modificati Ochrato JC0FG Method: Deoxyn Zearale: T-2 Toxi HT-2 To Sum T-2 JJ0BG Method: Fumoni: Fumoni:	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2 Food Addit. Contam. 2005 Aug. 22(80):752-60, CON-PV ivalenol (Vomitoxin) none (ZON) n xin 2 HT-2 toxin Fumonisins (#) Internal, CON-PV 01085 (2018-08), LC-MS/MS sin B1 (FB1) sin B2 (FB2)	00854 (2018-08), <20 <5 <1 <3 <4 <20 <20 <20	<ul> <li>ha/ka</li> <li>ha/ka</li> <li>ha/ka</li> <li>ha/ka</li> <li>ha/ka</li> </ul>

Analytical Service Manager (Patrick Kösters)

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Page 1 di 14

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MODENA, li 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

Description provided by Customer: ARACHIDONIC ACID OIL - 11098258 ROLL - 0020265261 - 22/01/2019 - THE SAMPLE HAS BEEN TAKEN BY THE CUSTOMER. THE TRANSPORT HAS BEEN MADE BY COURIER. Sample Condition on Receipt: Room temperature

ANALYSIS DESCRIPTION	RESULT	- 0	100,0	NO PERSON	-	-	457-40	15 (44 (44 f)
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO								
Flonicamid (LCMS)	< LQ	1	1	Mg/Mg	4=3		11(91)(1)(1)(48 mgs +7 + Liu 180(16)	TIEST/IN
Flonicamid metabolite: TFNA	< LQ		1	ngly-	37,06Y		91/2121 2015/24-10-00 935/85	mexent
Flonicamid metabolite: TFNG	< LQ			HEAD-	0.000		71/3 (21) . (13 8a. 15 - (C) 4/5/4 (	31010099
Abamectin	< LQ	1	1	ing/kg	0.012		01.5121) 2018 No. 10 - UD- MS-MS	HISKEY/F
Acetamiprid	< LQ			white	Ente		41(\$121) 2018 Rev 10-10 MG/115	52100mm
Acetochior	< LQ	1	1	75×0-	0,510		01-S121-1001H Rev.10 - LC- M5/VS	01-02/2019
Acibenzolar-S-methyl	<10			HENG	.010		(USBN DYNAM PO PO	80010036
Acioniten	< LQ	1		70.00	(0.015		MSANI DIVERSED DOCUMENTS - GC	310126W
Acrinathrin	< LQ	1		110 Mg	0.610		NSNIS 01(51)41 2/18 Rev 10 - GC- M5 9/5	0004 2010
Alachior	< LQ		1	1910	1010		01/5(44) 22/5 (b) 18 (GC)	-21-01-003
Aldrin	< LQ	1		70/10	0.010		01(5144) 20 BRm. 3-GC-	Angrigan
Dieldrin	<10			200/00	0.250		M3-MS 01(8344) 30 H Rev 10 - QC	91,01039
Aldrin and dieldrin, sum expressed in dieldrin [414]	< LQ		1	mg sp	2100		MS/MS 01(5144) (016 No. 10-00- MS/MS	11-01-023
Ametryn	< LQ			76.0	0/255		01/251/211/2018 Hz + 10 + LC- MS/MS	300200
Atrazine	< L.Q	1		1797kg.	2010		21(5121) 2015 (km 10 - 66-	54000
Atrazine-desethyl	< LQ			700 40	2.090		STORES TO BEEN SOLLO	5012 (0)
Atrazine-desisopropyl	< LQ		1	-0x3	0,610		pressing series.	(20)(25)(1)
Azadirachtin-A	< LQ			mil set	0.010		61,5121) 2013 Rev 13 - LC MS MS	64/12/20 6
Azinphos-ethyl	< LQ			mp4/L	0.555		01(\$131) 8018 Rec 13 (\$2) 1/5/4/6	04-02/201
Azinphos-methyl	< LQ	1		20.00	0,015		MOVIUS SATERNA SE FO	2010/201
Azoxystrobin	< LQ			154	9.000		MISSING DOTABLE TO LG.	9453050
Benalaxyl, sum of isomers including Benalaxyl-M	< LQ			-v-u	dine		01/5/2012018 Ray 10/12/CHMS WS	Section
Benfluralin	< LQ		1	10.63	110		01/8147/2278 Sep 10 - CC-	a)close
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ		+	udyk	0.010		0::5121) 2013 Rev. 10: 1,C M3: MS	delugation
Carbendazim	< LQ	1		moly	8.000		01(5121)2500 No. 10 - C M8 925	Singasi





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Page 2 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019
Registration date 28/01/2019 Analysis beginning: 28/01/2019

### TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT	1965.0	Life Life belowing	19	100	16 (677)	AND THE P
Benthiavalicarb-isopropyl	< LQ		12.10	0,015		01(5121) 2018 Rev. 10 ( LC- MG/MS	3453(SE)
Bifenazate	< LQ		6046	5,010		• Um Q 2017 Rev.1 - LC-	3602304
Bifenox	< LQ		ngkg	0.0%		VHST45 3015 Rev. 10 - OG	31/11/203
Bifentarin	< LO		70%	2,010		MLMS. \$109 1441 2515 How 10 - 6C- NOVAS	010/001
Bitertanol (sum of isomers)	< LQ		79.56	Nano		MIGHT THE REPORT OF THE MIGHT	04/03/004
Boscalid	< LQ		mg+a	3,540		G1.512112016 Act 46 x 164 MSMS	5-020-
Bromophos-ethyl	< LQ		1939/3	0.010		01/6/48/2018 Fee: 10 - QC-	01/23/200
Bromophos-methyl	< LQ	1	PG 49	0.040		99514417918 Rev.19 - GC	3101201
Bromopropylate	< LQ	1	7979	9515		MS MS CDA14412018 Rev 15 (FG) MS AUG	3101001
Bromuconazole, sum of cis- and trans-	< LQ		7989	5210		01(6121) 2016 Nov 10 LC	04(03/001
Bupirmate	< LQ		Maria	2010		MSMD	5/63001
Buprofezin	< LQ		mong	9,813		01(6121) 2518 Ry-15 - L(5- MS-MS	5854,000
Butylate	< LQ		110.40	0.010		0.08101) 2°15 Ric. 10 - LG MDMS	04/50/201
Cadusafos	< LQ		1600	0.000		0/15121) 2016 Rev 10 - LC: MSMS	6/19/2/0
Carbaryi	< LQ		mg kg	DAME		01(5121) 2048 Revision LC- MSMS	1600/001
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or turathiocarb)	< LQ		mging	hoor		01(5121) 2019 Nev 10 - LC- MS MS	K-Palage
Carbofuran-3-hydroxy	< LQ		res	9361		Strate () Zone Residence MSWE	3408(83)
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ		1979	2 301		0(3)121(30)38m (3)1.C. MSME	distant
Chlordane cis	< LQ	1	riging.	1000		(1)(8141)2018 Hpc/L-DC- MS MS	2101701
Chiordane oxi	< LQ	1	119 × 21	0,010	1	01(3144) 2010 Rey 10 - GC+ MS/MS	9191001
Chlordane trans	< LQ		70.00	010		03:53441,2918 (key 10 - GC-	3101011
Chlordane sum of cis and trans-isomers	< LQ	1	249.0	0.010		MEMS (44) 2018 Res. 19 / GC-	21/4,001
Chlorfenvinphos, sum of E and Z isomers	< LQ		10043	0.2%		01/612 \cdot 2018 Rev. 10 - LC M5-M8	140200
Chlormephos	< LQ		raying	3,000		01(6144) 2615 Have 10 - GC-	5101001
Chlorotoluron	< 1.Q		mg 4g	2200		0115121) 2318 Rev 10 - LC- MOA(5	G475390T
Chlorpropham	< LQ		mp.49.	0,510		01(514%) 21(4) Re-15 - 642 MSM5	4001001
Chlorpyriphos ethyl	< LQ	1	75/65	2000		01/51/4 2018 Res 10 - 00	3101203
Chlorpyriphos methyl	< LQ	1	~gkg	300		01/S1(4) 2015 Nex 10 - GC	3191005
Chlorsuifuron	< LQ		100,442	0.000		01/5 (21/2010 = 69 to 12 C) M5/M5	0403001
Chlorthal dimethyl	< LQ	1	morks	2010		MS MS	3101000





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Page 3 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

## TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT	75.1	one in Personal	+0.	P	Meth455	Jacob Seri
Clofentezine	< LQ		Noise	0.513		01;812112018 Nev.13 - LC MS/MS	0=02/0016
Chlorantraniliprole (DPX E-2Y45)	< LQ		75.95	2010		01/5121(10% Rec 16 - 10 MSM5	0407(01)
Coumaphos	< LQ		MG/40	1/510		55/6121) 218 Mg 10 - LC M53/6	06-02-211 F
Cyanazine	<lq< td=""><td></td><td>1999</td><td>0.010</td><td></td><td>21/51/21/2018 Rev. 10 - EG. MS-MS</td><td>84 02/03/6</td></lq<>		1999	0.010		21/51/21/2018 Rev. 10 - EG. MS-MS	84 02/03/6
Cyazofamide	< LQ		79.00	5,037		01(8121) 2014 Sev. 10 - LC-	\$40 <b>2</b> 001
Cycloate	<lq< td=""><td></td><td>-0.0</td><td>2010</td><td></td><td>01:5121(V015 Wov 10-10) M5:145</td><td>940203049</td></lq<>		-0.0	2010		01:5121(V015 Wov 10-10) M5:145	940203049
Cycloxydim	< LQ		770 (15)	0.015		61(3123) (618 Ray 50 (2.0) 055/04	0000000
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ		17942	5010		01/534459518 /ep. 10 / CC- MSM1	\$100001
Cyhalothrin lambda	< LQ		COLAR	E.010		71(\$144) 716 Hay 10 GC	31/01/2011
Cymoxanil	< LQ		76/49	0.010		25/61271 2018 Rev 10 12: 169/50	04 02:254
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	< LQ		rreke-	0.010		51/51/40/2/05 Rev 10 / DC / MS/MS	2103991
Cyproconazole	< LQ		790 53	0.10		09(5107) 2018 Pay 10 - LC MR-MS	00013 G(1)
Cyprodinil	< LQ		7975	3,013		61,9121)2011 Apr. 10 - 1 C MS/MS	-54-99/3/11
o.p'-DDD	< LQ		raging	0.040		01/S14/173/8 Rd. 10: (10:	H101/2010
p.p'-DDD	< LQ		79275	5010		205161/2018 RW, 10 - GC MS MS	Statome
o.p'-DDE	< LQ	10	7550	8055		21(81A4) 2516 (Sev. 15 - CIC)	11-01/2019
p.p'-DDE	< LQ		315/40	0.010		01(\$144) Pris Rev 10 - GC	3101300
o.p'-DDT	< LQ		70-19	0010		Chistry 2015 Fav to GC	3101001
p.p'-DDT	< LQ		40.40	0.010		MS-MS T1(5144) 2518 Rev 10 - DE- MS-MS	5 FCt 2011
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ		mg/eg	0,210		61:5144) 2018 Rev.10 - CC- 95-V3	01/81/2010
Deltamethrin (cis-deltamethrin)	< LQ		7019	0.530		SASTED FINE RATIO - GG	3757500
Diazinon	< LQ		0640	0.010		11/51/31/2018 Rev =0 - LC- 1/5 1/8	as gapan
Dichlobenil	< LQ		Holey	5010		UNISTED TO THE REAL TO - DC-	William of the
Dichlofluanid	< LQ		mp kg	=010		01(5121) 2016 Res 10 1.C MS MS	9470 004
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ		MUNU	0,010		onisting and Revineurs see this	20105-5040
Dimethyl-sulfanilide (DMSA)	< LQ		PG 80.	0.010		ST STUTTON HIM TO LC: MINUS	4400001
Dichloran	< LQ		hylig	=010		START TOTAL TO GC	Heigel
Dichlorvos	< LQ		nexe	200		MSMI DISTRICTORN TO LC: MSMS	QACID0010
Dietofencarb	< LQ		~97.9	gom		05-550 (\$20-5 Rev 15- 60-	5004000
Difenoconazole	< LQ		reve	0.5%		01 5121) 2018 Rev 15-12	3400000





Page 4 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019
Registration date 28/01/2019 Analysis beginning: 28/01/2019

## TEST REPORT nr. 19A16473-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19A16473

ANALYSIS DESCRIPTION	RESULT	100	47.5	(accidentation)	AG	-61	M7H50	19000 Dale
Diflubenzuron	< LQ			760 KD	0.010		0/193211 JUIN Rev 10 - LC- MS MS	DES 201
Diflufenican	< LQ			mg/s	440		C1 S1217 (018 Re) 10 - 45- WS115	DM00001
Dimethenamid, sum of isomers including	< LQ			7675	0.010		U1:S121, 2018 See 19 - U5 MS-MS	04092
Dimethoate	< LQ			69-9	2.010		DISTRICTER CT LC-	1912000
Omethoate	< LQ			hyris.	0,010		01/512* (201a (br. *) -10-	3=0200f
Dimethomorph, sum of isomers	< LQ	1		19949	0,000		01(\$121) 30 A Rev 10 - UC- MS MS	0400001
Ditalimfos	< LQ			Agress.	0.010		01(2321) 2016 Rev 10 - LC MS MS	04,02901
Diuron	< LQ			right	0.015		6.175.121) 2016 Rec 10 1 C. MS.MS.	38 500 2015
Dodina	< LQ			make	rato		01(5121); 018 Rev 10 - LC MSMS	0402201
Emamectin benzoate B1a, value expressed as emamectin	< LQ			mp-co-	u2-0		01(5121)2018 Res 1214 Co. VS MS	5410/(5)
Endosulfan alpha	< LQ	1		rig ko	-0.010		01/3 Harry 2018 Rev. 10 - 6/0	3101003
Endosulfan beta	< LQ			199.40	-0.016		1015144) 770 Rev 11 - 65	etunoss
Endosulfan sulphate	< LQ		1	10.10	8,800		51,813412016 Rev-15 - 0.5	interest
Endosulphan, sum of alpha and beta somers and of endosulfan sulphate expressed as endosulfan [414]	< LQ			TINE	5.016		01/1144) 20 (6 Rev 5 - C.) MB MS	379175
Endrin	< LQ			Petroj	0.010		UtiSteer and Revidence	2000000
Epoxyconazol	< LQ			m3/-12-	0.012		CUSTATUROTARE TO C	0452501
EPTC	< LQ			7970	0,010		\$1/512152916 Sev 10 - x.D. \$18,949	040230
Esfenvalerate and Fenvalerate, sum of somers	< LQ			reg eq.	Q010:		01(5144) /018 Rev 57 - C.C. MSWS	3551004
Ethion	< LQ			70.40	0.050		91014972018 Nev 17 - 6Q- MSMS	3101201
Ethofumesate	< LQ	1		1999	< 010		MSNS	2101/201
Ethoprophos	< LQ			melag	0.010		01(5121(a 1316) 10 LC	0400/001
Etolenprox	< LQ			970	unitro l		01(9120) 2018 Per 10+1,0- MS MS	9438355
Etoxazole	< LQ			-g sc	0.640		ONE 121) 2219 Ray III. L.C., MS-MS	04/03/00
Famoxadone	< LQ			9654	0.010		01(\$14(v2014)Rev (0) GC	Westpur
Fenamidone	< LQ			19993	0/215		MSAIS (ngs 10) 2018 Rev 10 1 LG MSAIS	54,62-201
Fenamiphos	< LQ			7987	9.010		01/31/21/2010 Rev 1/4 (LC+ \$75:276	98 02 735
Fenamiphos-sulfoxide	< LQ			herd	5.010		01(S121) 2011 Rev 10 LC MS1MS	34/3/7001
Fenamiphos-sulfone	< LQ			noty	0,610		CHS121) (015 Rev ti) (LC- MSAIS	01/22/09





Page 5 di 14

MODENA, II 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

## TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT	1.0	(8)	5-79056	12	(April	1077910	88040-0F0
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos (414)	< LQ			ngag	0.015		5121) 2018 Rev.15-1C- MS-VS	24522019
Fenarimol	< LQ			10/10	2,040		01(0121) 2015 No. 10 (.C. MS MS	64600019
Fenazaquin	< LQ			1949	930		STERRIZORARESTA LO MEANS	skeggota
Fenbuconazole	<lq< td=""><td></td><td></td><td>144</td><td>DEN</td><td></td><td>MARKET, THE RESIDENCE OF LAST</td><td>39102/01/0</td></lq<>			144	DEN		MARKET, THE RESIDENCE OF LAST	39102/01/0
Fenchlorphos	<lq< td=""><td>1</td><td></td><td>70.90</td><td>1,010</td><td></td><td>MSMS</td><td>3(1)(195)</td></lq<>	1		70.90	1,010		MSMS	3(1)(195)
Fenchlorphos-oxon	< LQ			7979	0000		0.98144) 2316 Report 2 + (0.0) MS-VIS	3101-7919
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos [414]	< LQ			Coleg	brand		01(8/14) 20(0 Rt - 1) - 10- 126345	21/15019
Fenhexamid	<lq< td=""><td></td><td>İ</td><td>719/10</td><td>3.010</td><td></td><td>01(8121) 2016 8to 3211.Q-</td><td>Skirahi</td></lq<>		İ	719/10	3.010		01(8121) 2016 8to 3211.Q-	Skirahi
Fenitrathion	< LQ			707+3	D.010		01/5144 (2016 Rev 19), QC	2151016
Fenoxaprop-p-ethyl	< LQ			1010	0.015		01 912 13 2018 Rev 10 100- MS-MS	54(\$20.0
Fenoxycarb	< LQ			76.49	2010		015121120/8 se= 10 - LC- 85 MS	040000018
Fenpropathrin	< LQ			96249	9000		CONTRACTOR OF SC	2101000
Fenpropidin	< LQ			PEAL	0.030		Of G1213 2017 Her. 10 - Co-	1400/2019
Fenpropimorph	< LQ			P680	eam		31(312)177 A Ray 10 - LC- 443 MG	140,000
Fenpyroximate	< LQ			MEAN	0.000		01(277)+307/LRes 12(-12) MB/MS	nahadore
Fenthion	< LQ			MQ43	0.030		57 5121) 2018 40c 10 - 1.C MSMS	04.02(3):12
Fenthion-oxon	< LQ			396	0.046		611512172 of Rev. 12 (C) MINA/S	34522918
Fenthion-oxon-sulfone	< LQ			0982	0.016		91(8121) 2010 Rev 10 - EC- MOMS	34 (\$10)4
Fenthion-oxon-sulfoxice	< LQ			1940	0.510		5 ((9.621) 70 -8 Her. 15 - LC- MOMS	EA/12/20010
Fenthion-sulfone	< LQ		ł	1935	0219		01/25/25 A051 Resctor 10: MSAG	14R2/2018
Fenthion-sulfoxide	< LQ			rig ky	0.040		0 (/ 912117016 Persid - LC- M9 MS	g6/32/2018
Fenthion, fenthion-oxon, fenthion-oxon- sulfone, fenthion-oxon-sulfoxide, fenthion- sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	< LQ			7(2+)	a sta		203121(2018 Hp-10-LC- M6548	SHOUSES
Flazasulfuron	< LQ			1995	0.046		OTHERZINEOTERS TO LC. MSMS	64-02-2019
Flucythrinate, sum of isomers	< LQ			1919	2020		01(5144) 2013 Hay 10 - GC-	31012019
Fludioxonil	< LQ			149.00	9110		51/55kt/2018 Rev 12-12- MS/MS	SHEAVY
Flufenacet	< LQ			ngig	south		01,3121)2316 Sev.10C	04.02/0010
Flufenoxuran	<lq< td=""><td></td><td></td><td>790.75</td><td>3.610</td><td></td><td>Statistical Review</td><td>Secretaria</td></lq<>			790.75	3.610		Statistical Review	Secretaria





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Page 6 di 14

MODENA, II 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

## TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT	-	490.0	100 of \$500.00	116	4.0	495-00	-984/921 -9900-003
Fluopicolide	<lq< td=""><td></td><td></td><td>right</td><td>9211</td><td></td><td>OLISTO THIS RES TO LC.</td><td>24/02/2010</td></lq<>			right	9211		OLISTO THIS RES TO LC.	24/02/2010
Fluquinconazole	< LQ			C49-VG	0.010		51/51/441.0/18 Fee. 10 CC	31/01001
Flusilazole	< LQ		1	19999	0,010		05/5144-2018 (bis 45)- (56-	31-223
Flutriafol	<lq< td=""><td></td><td></td><td>164</td><td>9.315</td><td></td><td>USAS 015126 2014 Record (LC- MOMS</td><td>0000000</td></lq<>			164	9.315		USAS 015126 2014 Record (LC- MOMS	0000000
Fluvalinate, sum of isomers	< LQ		1	7070	≘010		01(61%) 2015 San 10 (Gr.	31000000
Fonofos	< LQ			992.kg	0:010		01(8444) 2019 Key thi GC-	3405,508
Formothion	< LQ			75, 44	DU.		00(\$121)JEDERES DE LO MS(1\$	24/02/03/
Fosthiazate	< LQ		İ	md-kis	3.010		01,8121) 2518 ((+<.10-12) M5 M3	3402001
HCH aipha	< LQ			799742	9,010		01/5184) 2015 Rev. 10 - GG.	3101301
HCH beta	< LQ			79.45	0.010		01/81/H/2018/RH/10-BG	33/11/201
HCH delta	< LQ		1	mirg.	500		MS MS	2) 817271
HCH epsilon	< LQ		1	merka	3,010		01 S1443 CD18 Part 10-130	31.01002
Heptachior	< LQ			nying	0.040		01(6164) 7511 No. 10 - 067-	31,01001
Heptachlor Epoxide cis	< LQ	1	1	mileij	0,000		01:0140 2018 Rev 10 - GC	55/01/201
Heptachlor Epoxide trans	< LQ			Policy	0.010		01 5164 2016 Re- 51 - SD-	3104/23
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ			hip ag	2.010		01/51441/2018 Rvs. 10 - GG MO M2	31.08000
Heptenophos	< LQ		1	MOVE	10,072		01.8121) (2018 Rev. 10 + 10 -	5402/251
Hexachloropenzene	< LQ		1	no/kg	0.010		(0163144) 2018 Res 10 - DC	3101251
Hexaconazole	< LQ			miliett	0,010		MS-MS D1/S1211 (018 Rev 10 - LC- MS-MS	0402201
Hexythiazox	< LQ		1	-sia-	8370		d1 6171/2018 Ren 13 - CCI M5 03	1809/00/
Imazalil	< LQ	1		7615	2010		03 (\$121; 2018 Fire 10 - 1 C- MS WS	betrate
Imidacloprid	< LQ			10%	0.010		21.5121) 2 14 Revise LC- MS MS	54107201
Indoxacarb, sum of R and S isomers	< LQ		1	1049	3,016		01/512172018 Rev (0-LC- M 04/3	SUSCE
lodofenphos	< LO		1	nesy	0.010		01/9144/2015 Rep. No. Co.	3100000
prodione	<lq< td=""><td></td><td></td><td>0940</td><td>0000</td><td></td><td>MSMS (1) \$14() 70(4 Rep. 10   GC-</td><td>2101201</td></lq<>			0940	0000		MSMS (1) \$14() 70(4 Rep. 10   GC-	2101201
Iprovalicarb	< LQ			mg kg	0.010		ME/VS 01/51/211/2019 Rev. 10 - 12- MC MS	34/0/23
Isofenphos	< LQ			1919	0.650		GT/KTCG/TTM Nav 13 - GG- MO MS	31 2 201
Isofenphos-methyl	< LQ			regreg	0,013		01/81641/018 Reprise Elic	54119259
Isoprothiolane	< LQ	1	1	roto	0.450		01(\$121) 2016 Base - LC- MS MS	04/02/201
Isoproturon	< LQ			Polic	5,00		01(5121) 2010 Rev 10 - LC- ME NS	50/9025
Kresoxim-methyl	< LQ			marky	2010		DISTRICTOR BOY TO GO.	11/0/7207
Lindane	< LQ			mt-nt	panu		01(3144) 2018 Per 10-102	3873,001

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Page 7 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

## TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT		40.0	(#) (8 ASTORY	50	42	W/990	AGA FEES MICANIDATE
Lindane, sum of HCH isomers included Lindane [414]	<lq< td=""><td></td><td></td><td>-04</td><td>0.210</td><td></td><td>01(8144) 3018 Rev. 63+0\$- MSMS</td><td>3107(20)</td></lq<>			-04	0.210		01(8144) 3018 Rev. 63+0\$- MSMS	3107(20)
Linuron	<lq< td=""><td></td><td></td><td>79.50</td><td>9.610</td><td></td><td>01 8 25 2016 No. 10 - 10 MSMS</td><td>E455(\$05)</td></lq<>			79.50	9.610		01 8 25 2016 No. 10 - 10 MSMS	E455(\$05)
Lufenuron	< LQ			76390	11,030		03/9121) 2018 Wes 10-10-	04-16-00-18
Malaoxon	<lq< td=""><td></td><td></td><td>765</td><td>F201</td><td></td><td>(1/\$1/1/91/89) 12 (7- MUMS</td><td>(452)277</td></lq<>			765	F201		(1/\$1/1/91/89) 12 (7- MUMS	(452)277
Malathion	< LQ			mary	DING.		01/8121/2015 Res 10 - LC-	94090911
Malathion and Malaoxon sum expressed as Malathion [414]	<lq< td=""><td></td><td></td><td>ona-los</td><td>0:016</td><td></td><td>AMSIZHTZ LA Fey 10LQ- MS116</td><td>SHE2 201</td></lq<>			ona-los	0:016		AMSIZHTZ LA Fey 10LQ- MS116	SHE2 201
Mandipropamid	< LQ			~910	5331		01.812 (1.2016 May 10 - CC- MS MS	Seggen
Mecarbam	< LQ			1075	pote		01/5120/2518 Rev 1/1/1/C	84000211
Mepanipyrim	< LQ			ms-y	0.510		01 \$12112(18 KG+13 - CC- MS-568	5405,565
Metalaxyl, sum of isomers including Metalaxyl-M	<lq< td=""><td></td><td></td><td>hole</td><td>0.012</td><td></td><td>OT(STAT 2015 No. 10 LC MSAC</td><td> A0garn</td></lq<>			hole	0.012		OT(STAT 2015 No. 10 LC MSAC	A0garn
Metazachlor	< LQ		1	116.40	0.510		01(\$164) 2715 Rev 10: 00: MG/MS	3100001
Methidathion	< LQ			44.64	10Z18		MS/VS	1900/251
Methiocarb	< LO	ř		nake	2010		01(S121) 1 1/0 Adv (0-1/2- MS NS	04/02/2014
Methiocarb-sulfone	< LQ			uest	7310		01/S121/2016 Rec 10+LC MKWS	\$4 crecept
Methiocarb-sulfoxide	< LQ		î	PEN2	3.265		01(5121) 2018 Ku: 10+22-	3450A2310
Methiocarb, methiocarb sulfone and nethiocarb sulfoxide, sum expressed as Methiocarb [414]	< LQ			(K) 4(I	0.019		0.0532132213 Hov. 10 LC- MSAMS	(40000)
Methomyl	< LQ			Duits.	3011		01/5121)2015 Rov 16-16-	31/02/2011
Thiodicarb	< LQ			nese	0.040		0113121) 2513 Rev (iii - LT - MinSt)	0+00501
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ			765.80	nath		01(5121) 2016 Re 11 LC- MS/15	3402.00.0
Vethoxychlor	< LQ		1 1	moley	1940		MINES	113120
Methoxyfenozide	< LQ			70.5	2010		ATSINGS AND PROPERTY OF THE	3452200
Metolachlor, sum of isomers including S- netolachlor	< LQ			reging	2060		0116640,2018 Rev 10 - 05x MS 216	3:01000
Metrafenone	< LQ			1939	250		07(5121)7718 Rev 10 - LC- MS345	9/10/1
Metribuzin	< LQ			126/45	ý(*)		drie un labre fler for -Ed- words	Sections
Metsulfuron-methyl	< LQ			cally	Date		U NS121) 2018 Res. (C ) 2/2- MO 4/5	Allegan
Mevinphos, sum of cis- and trans-isomers	< LQ			29.56	50t0		Missign With Res (0 : CC)	04.02/2011





Page 8 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019
Registration date 28/01/2019 Analysis beginning: 28/01/2019

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## TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT	 Sec.	ON THE REAL PROPERTY.		60	4550)	back to A
Molinate	< LQ		when	P.516		54(\$124)2018 for 10 ccc	CHITOTOWN
Monuron	< LQ		7947	0.010		01/512117/05 REV 03 - LG- WS WS	64/72/2014
Myclobutanil	< LQ		- mpaq	9 km		(1)5121/2018 Rev 17: LC	Section
Napropamide	< LQ		-199	sam l		DISTURDING SOURCES	140020
Oxadiazon	< LQ		0.2%	Upto		ORNADO PER INCIONO	5101001
Oxadixyl	< LQ	9	70/19	#51E		035 MS 035 MS 95 MS	26/02/2019
Oxyfluorfen	< LQ	1	79/9	5,610		01/81/2/2011 km 11: GC. M14/8	510100
Paclobutrazol	< LQ		10,0760	0.010		01/514412318 Re- 10 / GC	3)(0)(0))
Paraoxon	< LQ		7052	0.015		MSRS FISTONIUM Revita - LO- MSMS	094(3)501
Paraoxon-methyl	< LQ		19989	2,010		01/6121/201n Sey 18 - LC- M5M5	5400001
Parathion	< LQ		7940	1000		MUSICAL PROPERTY CONTRACTOR	distributi
Parathion-methyl	< LQ		-099	0 P.,		01(\$121)2018 Rev.10 (10- 05 Mb	14/02/20
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ	1	15740	2015		81(5124) 7016 Sec. 19 - GG- MT MS	\$100000
Penconazole	< LQ		ngey	0.5(1)		61(\$101) acre Re- 17-LC- MANAS	0403/201
Pencycuron	< LQ		-995	2016		01-512112018 Rev 10-55- MSANS	54(\$10)
Pendimethalin	< LQ		70/02	10.010		30(\$121)20(\$16=16-1.C- 845 845	\$+050e
Permethrin, sum of isomers	< LQ		10.000	0.50		51 5144 2018 Rev. (T. 5/G) MSMS	Section
Perthane	< LQ		7536	1000		01/21/4120 to Aury 18 - GC+	250100
Phenmedipham	< LQ		90'00	0.010		MSMS (HISTORY 2000 Rev 10 VLL) Models	04/09/05
Phenthoate	< LQ		795/64	8.255		CI(\$141) 21(8 Sex 11) D.C.	3: 3/63/
Phorate	< LQ	1	76/9	1200		MISSER AND RW TO LEC-	Q4112 (2111)
Phorate-oxon	< LQ	1	70,740	0,010		51(8121) 2018 (for 17) LC- M5-145	State
Phorate-oxon-solfone	< LQ	1	19895	5.00		531 8427 2018 Fly 17 120-	960201
Phorate-sulfone	< LQ		ngay	) rists		MEMS	6 Cyco
Phorate-sulfoxide	< LQ		-mgrs <sub>4</sub> (	3310		NULMS TO HER FOR LO-	Ses270
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ		rdej	2610		antighyourse 11-12-	3-02/251
Phosalone	< LQ		164	0.010		ALCONDO DATA HAVA THE LC.	94(3)(9))
Phosmet	< LQ	1	most	8,515		Chithiaty and Alen 15 - 10.	04/2/20





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Page 9 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019
Registration date 28/01/2019 Analysis beginning: 28/01/2019

## TEST REPORT nr. 19A16473-In-0

SAMPLE

**BASF Personal Care and Nutrition GmbH** 

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT	3	14500 15	1919 (94)	100	1/2	No. 75 (A)	MONO (N
Phosmet-oxon	< LQ			102.40	Seta		115 1217 7218 9 15 1 1 - LC- 115 105	8409201
Phosmet and phosmet-oxon expressed as phosmet [414]	< LO			76-41	com		0 (\$124) 2348 Ray (0 LC) MSW5	84/13/204
Phosphamidon	< LQ			Dige*	ans		01(\$171) 2018 Row 10 + 4G+ MS 291	34001291
Picoxystrobin	< LQ			200 a 12	ESVA		01(S169) 2218 Avg (6 x 6G MSMS	31/7/03/
Piperonyl outoxide	< LQ		1	79180	630		MEMS	2101201
Pirimicarb (Pirimor)	< LQ			D = ± €	9,010		CASTAL PAR RATH LC	5482200
Pirimicarb-desmethyl	< LQ			+10.00g	->510		01/S121/2018 Fee 40 - LC- MS-MS	organia
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ		1	(Ag/K)	5310		01(S/01) 20 (0 Rev 1) +1.0 MS/VS	040220
Pirimiphos-ethyl	< LQ		1	mgnig	0.010		OT(9104) WITH AREA TO -GC:	STORES
Pirimiphos-methyl	< LQ			20,40	11010		31(\$142) 2218 Hav Av - CC-	31/1/25
Prochloraz	< LQ			-141 473	G.1(1)		12:5121) 2018 Row to - LC MS-MS	54/02/20
Procymidone	< LQ			11999	0.010		01 5144 7018 Rev. 50 + 00- MS-NS	319495
Profenofos	< LQ			10%	3/250		Of GREEN POR NO. 10 LC.	0459/56
Prometryn	< LQ			7670	5,010		D1(\$121) 2018 Km, 10 - EG M8/M1	GH (72920
Propachlor	< LQ			MVK2	3.0.6		61 S12 ) 2016 Rev. 10 - LC- MS-MS	DATES
Propanil	< LQ			то че	2010		01.51215 = 18.Riv. 10 - 1.C- h(\$35)6	34 10×2h
Propaquizafop	< LQ			are in	0.010		Ordership Starker to LC-	(41/2)/5/2
Propargite	< LQ			79/0	2,510		Missell The GALTI-LC-	54,0026
Propazine	< LQ			76,11	2.000		MS4AS	BAI02/20
Propiconazole (sum of isomers)	< LQ			-9.45	9,017		01(\$121) 2010 Rev.10 - LC- ASMS	3442/20
Propoxur	< LQ			79870	010		MCMS LED 7018 Rev 10 LC.	Dec 5.56
Propyzamide	< LO			thy sy	0.010		01(9121) 30 to Rev 10+10 US/VS	5492426
Proquinazid	< LQ			-100001	oold		m/\$121;2016 Red 16 (EC-	54.02.20
Pyraclostrobin	« LQ			9.4	0.010		0.05121+20.4 Kay 2 / LC MS MS	06/02/20
Pyrazophos	< LQ			-15-4	0.5/0		01:41:41; 20:10 Key (4-1.12- MS-N/II	3020
Pyrethrins: pyrethrin I and II, cinerin I and II, asmolin I and II, sum (low limit)	< LQ	ĺ		rang kits	0.010	The state of the s	0.1(5121) 2.4(E mev. 15 + EC- ATS MS	5/19200
Pyridaben	< LQ			76c+4	moto.		MISTAGE TOTAL MENTO - CIC.	March
Pyrimethanil	< LQ			ne(10)	0.010		01:5 12 1/2018 Report 1:15- 95 M5	01 02/21





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Page 10 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

### TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT	1.0	Allen	- Daylor	90	P(%)	MACHEA TOTALL
Pyriproxyfen	< LQ			7979	TO to	(4)(\$121) 7) th may 40-17. Min/19	9AII3/2019
Quinalphos	< LQ			10%	0.000	81(8121)2018 New 12 Ltg.	(4/85/2014)
Quinoxifen	< LQ	1		mple	9.00	of State 20th Revision C. Misself	469266
Quintozene	< LQ	1		14/11	1000	OTERAL STREET, NO. 10. GC	horse
Pentachloroaniline	< LQ	1		79.95	91.010	35.918/37018/07-10-00-	Liferance
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			VPQ (VE)	4000	11/53-443 201/cites-1.0 - (185- 185-1-5)	Trins spain.
Rotenone	< LQ			catact	5,910	Mishall Cold No. 10 - LC	(AIDQ/003
Simazine	< LQ			79/10	9119	671512142018 RE- 43775	94/02/201
Spinosad, sum of spinosyn A and spinosyn	< LQ			mark.	200	01(3 (21) 2010 Sun 10 + 10 - 10 - 10 - 10 - 10 - 10 - 10 -	Lunggor
Spirodiclofen	< LQ			1995	0.010	102120 - 3880 15-11 MSAS	(HI2-20)
Spirotetramat	< LQ			ne's	6125	01.5121) 7018 Rep 12 - LE- MSMS	74109-011
Spirotetramal enol	< LQ			Total.	0.080	61/9121170 £00=10-10-10-	No.
Spirotetramat enol-glucoside	< LQ			1996	6910	TUS CONTINUES REVISE LC-	Shasking
Spirotetramat ketohydroxy	< LQ			199	(453))	Viristablights essentiate	(Approx)
Spirotetramat monohydroxy	< LQ			1999	9510	DANE LETTER BROKE LETTER	Simple
Spirotetramat and its metabilites (enol, enol- glucoside, ketohydroxy, monohydroxy) sum as spirotetramat [414]	< LQ			ne ag	2010	One (21) who ear (2) LO-	Sergion
Spiroxamine	< LQ	1		P6119	0.001	\$1,51231.0 F4 Rev. 10 - LC	besidest
Sulfallate	< LQ			N/N	9-0-2	01/04/3/2010/Re- 10/4/ID 2/03/20	SERVER
Sulfotep	< LQ	İ		7974	-1040	MANES TO GO	1 Same
Tebuconazole	< LQ			Male	(C)TU-	9: #121) 29:# R + 10 - LC- 160 MD	01-1-100
Tebufenozide	< LQ			-014	100	\$45 844) \$6.40 Her. \$10-10.	SAMESTE
Tebufenpyrad	< LQ			1000	A 640	OT CASATE SOLVE TO CO.	201977
Teflubenzuron	< LQ			110.00	HTMES.	WHOSE SOM HER P.C.	0400001
Tefluthrin	< LQ		1	more	0.010	61 31 ray dots key 1 page.	102000
Terbuthylazine	< LQ			maki	0.612	91-5121) 2915 Sec. 10 - LD- M6-M9	stations
Tetrachlorvinphos	< LQ			-610	1000	httstick-vira nyv en LC- MOVOR	CHINESIA
Tetraconazole	< LQ			70	289	CAST TO STANKEN TO SEC.	Selection
Tetradifon	< LQ			100	SHIP	White Olk sector in	25000015





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Page 11 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

neotron

### TEST REPORT nr. 19A16473-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19A16473

ANALYSIS DESCRIPTION	RESULT		¥40-1-	-0.1 (0.146 An., Res.	10	100	48000	MACTH'S
Tetramethrin	< LQ			7945	010		51.5121/2018 Re= 10 - 10 - M5-MS	(402201)
Thiabendazole	< LQ			1019	dat.		0 (8121) 2018 Res 10 - LC- MSA(S)	34 TX COH
Thiacloprid	<lq< td=""><td></td><td>1</td><td>0.55</td><td>B(1/2)</td><td></td><td>01/51207018 But 10-10 MRAS</td><td>Sangranni</td></lq<>		1	0.55	B(1/2)		01/51207018 But 10-10 MRAS	Sangranni
Thiamethoxam	< LQ			209	266		MINES	140,000
Thiobencarbe	<lq< td=""><td></td><td></td><td>none</td><td>200</td><td></td><td>SIZESIZE A LC</td><td>GARAGER</td></lq<>			none	200		SIZESIZE A LC	GARAGER
Thionazin	< LQ			10089	DZIE		01/312152015 =a+1/+1/C	Sections
Thiophanate-methyl	< LQ	Î		74g + g	0.016		20181211 2018 Rev 10 - LC MSMS	0-83/2016
Tolciofos-methyl	<lq< td=""><td></td><td></td><td>mpag</td><td>0.251</td><td></td><td>60 E-444-75 IB Rev 16 - 25 CH</td><td>SANTON</td></lq<>			mpag	0.251		60 E-444-75 IB Rev 16 - 25 CH	SANTON
Tolylfluanid	< LQ			100,00	0.016		MSM5 005(21) 27/18 Per 10 - LC M1 149	Je consti
Dimethylaminosulphotoluidide (DMST)	<lq< td=""><td>Î</td><td></td><td>mu*a</td><td>100</td><td></td><td>916121-913 Record (C. MSMS</td><td>2451/2010</td></lq<>	Î		mu*a	100		916121-913 Record (C. MSMS	2451/2010
Tolylfluanid and DMST, sum expressed as tolylfluanid [414]	< LQ			inglet	5.01		MEN'S	SATERONA
Triadimefon	< LQ			19395	-019		1/1(5121) 2 (15 Res. 10 - LC- M5 A/S	34.02/2010
Triadimenol	< LQ			1619	dint		ons on The Resource.	Switter
Triallate	< LQ		1	110.9%	250		01(427) 2010 km 1/1 LC- MSWS	(Automotive)
Di-allate (sum of isomers)	< LQ			16783	3,010		01/5120 17/8 Per 13 - LC. MILNS	0002903
Triallate and Diallate sum expressed as Triallate [414]	< LQ			1040	0.500		01(\$P.23) 2018 Rev 12+ LQ- M3:M5	5400000
Triazophos	<lq< td=""><td></td><td></td><td>-0.80</td><td>1840</td><td></td><td>01(6121) 7018 (tex (01))C- MI(MS</td><td>04.00 (200)</td></lq<>			-0.80	1840		01(6121) 7018 (tex (01))C- MI(MS	04.00 (200)
Trichlorfon	< LQ			1040	0.315		C1 910 17/2016 Res 1 = 1.0 MISSART	CHECK CO.
Tricyclazole	< LQ	Į.		79547	2250		((fill) (21) 0.518 (sec. 30 - CC-	Sergraph
Trifloxystrobin	< LQ			1973	opto		MONG PARTY SHOWS	2402011
Triflumuron	<lq< td=""><td></td><td></td><td>110/41</td><td>5,642</td><td></td><td>U1 3/21/2018 Rev 12 - LC</td><td>54,0270-1</td></lq<>			110/41	5,642		U1 3/21/2018 Rev 12 - LC	54,0270-1
Trifluralin	< LQ			1976	2010		or Mild to the Residence	\$1000mg
Triticonazole	< LQ			30%	9515		MSMS SISSETTATION RECORDS MSMS	1953991
Vamidothion	< LQ			500	3802		01(812112914(Rev To+LC- MSWS	200
Vinchlozalin	< LQ			767-62	2010		2019 (44) 20 (5 fly) 10 ( GC	4601965
Zoxamide	< LQ			mg +h	0.010		01/5121) 2016 Re-101 LC-	34,72/201





Page 12 di 14

MODENA, li 05/02/2019 Sample arrived on the 28/01/2019
Registration date 28/01/2019 Analysis beginning: 28/01/2019

## TEST REPORT nr. 19A16473-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19A16473

ANALYSIS DESCRIPTION	RESULT	-	Sec. 8	La Critician	-0	- (3)	HE WILL	- 1,545,7590 Hallout 12,19
PESTICIDE RESIDUES IN BABY FOODS FOR INFANTS AND YOUNG CHILDREN								
Aldrin (low limit)	< LQ			11010	9.021		01/3/95/2018 Rev 2: CO-	2:419nn
Dieldrin (low limit)	< LQ		1	mgag.	5'001		DIVSTROTZINS HAV 2 - CIC-	-mateurs
Endrin (low limit)	< LQ	Ī		riging	TOOL		915 MAI 2018 RC 2 - GG	310 (00)
Fipronii (low limit)	< LQ			19:01	0.001		ANSTASTACIETA	30/21/2019
Fipronil-desulfinyl (low limit)	< LQ		1	70.75	0.000		01/8/15/20(8 Rev 2 - 170) M5/M8	31/00/00/0
HCH alpha (low limit)	< LQ		1	mg Ng	0.001		01(S135) 2018 Hey 2 - QC	31.01/2011
HCH beta (low limit)	< LQ		1	TNM	0.991		MSMS 705 Re- 2-GC-	2101001
HCH delta (low limit)	< LQ			M0 N0	0.001		SHOUND SETS KIND - CC-	2/10/2004
HCH epsilon (low limit)	< LQ		1	100,000	3,000		OTISTION SHEET AND AND AND AND AND AND AND AND AND AND	8 month
Heptachlor (low limit)	< LQ	}		172 ± g	D.001		6/1915/1-2/18 Hun 2 - CC	15/09/0036
Heptachlor Epoxide cis (low limit)	< LQ			130/19	0001		GIGNALIZORRANZ-GL MSMS	are date
Heptachlor Epoxide trans (low limit)	< LQ			7943	9.001		01:5154:2018 Rev 0 - 0:17 MS145	21013011
Hexachlorobenzene (low limit)	< LQ	1	1	TRIAS.	5 901		01/51551251A Ret 2 / DC	MOTOCH
Lindane (low limit)	< LQ			riging	3,007		01(53/6) 27/5 Hz, 2 - 00- MS/MS	1001000
Nitrofene (low limit)	< LQ		1	11090	0.707		01.8 (66) 7218 Roy 2 - CC VIS VIS	3167503
o.p'-DDD (low limit)	< LQ			(m), m);	0.001		GCMS/MS	3001001
o.p'-DDE (low limit)	< LQ		1	Mg ag-	5.004		# DECRMS 2018 KeVS GC MIDWS	21/01/00/1
o.p'-DDT (low limit)	< LQ			70.49	1.001		GC-MS-M2	3400 2000
p.p'-DDD (low limit)	< LQ			w <sub>C</sub> +5	0.00		ST GCMS 2013 Rev1 - CC VarUS	PERSON
p.p'-DDE (low limit)	< LQ			7570	Ditte.		MFGCMS 2 16 RBV3 -     SCMS MS	31,01/259
p.p'-DDT (low limit)	< LQ			7620	1861		# BECCNS 2018 Revol.	31/31/925
Cadusafos (low limit)	< LQ		1	16.95	0.001		MINUS	0:00.001
Demeton-S-methyl (low limit)	< LQ			79742	0.001		01(8°01) 2018 Feet 100. Mr MS	96,627,731
Demeton-S-methyl sulfoxide (oxydemeton- methyl) (low limit)	< LQ			myse	0.001		3 ((5121) 2518 Rev Sir LC- Market	64/0931
Demeton-S-methyl sulphone (low limit)	< LQ		1	monty	0.854		5 (15 (2) (2) (8 A) (6 ) (6) MS MS	06/02/2019
Disulfoton (low limit)	< LQ			79/92	ment.		81/31/10/2016 (fey 2: 00) M3/9/0	\$105001
Disulfoton-sulfone (low limit)	< LQ			11970	0.001		01/5121) (515 No. 10-40 MSMS	04/09/2015
Disulfoton-sulfoxide (low limit)	< LQ			moles	file:		C1(312113018 Navino - EC) MS MS	04/10/2019
Ethoprophos (low limit)	< LQ	ì		79,491	2,001		01012112015 Hec 10 - LC- 419 MIS	6600000
Fensulfothion (low limit)	< LO			745.49	0001		01/31/11/015 Blis 75-EG NS-US	VT-12-071
Fensuifothion-oxon (low limit)	< LQ			109.00	5,003		01/5121/2014 Rev 10+65. NS.MS	4402001
Fensulfothion-oxon-sulfone (low limit)	< LQ	1		19930	5,003		01(S121) 2015 Rev 10 - LC- MS-MS	8459991
Fensulfothion-sulfone (low limit)	< LO			19/40	ć (2)5		01(S (21) ACT ( Nav 15 - LC -	04-12-201

Continued...

Smalakii Apparati. 164 A1126 MYDCERA, TRAY - Facial Code and 167 of 1986 (ACMA) Tex-439 05945 (711 - Fax - 35 05648) (777 www.nestron.k.mestron@existen.k.)

Latinating Great arts CM 2010 Act 4 (Legy) 4000 per la fluores legy agree moves a Report of Dinas Remogra- Existing 278-2005 Actions to the 100M/critical BNN Memberg Final and register on Approved Laboratory (Manitoring Elling AU) Final and Register's Registeria Laboratory





Page 13 di 14

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

### TEST REPORT nr. 19A16473-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19A16473

ANALYSIS DESCRIPTION	RESULT	- 0	-HE 6	- Copt Lin PR edition	-02	20	10000	1000000
Haloxyfop methyl (low limit)	< LQ			=5/k2	(2001)		01/5158/2014 Rev.2 - Q21- MEARS	31/01/00/3
Haloxyfop, included haloxyfop-R (low limit)	< LQ	į		260	1.001		01/5/21/21/3 (50×10 LC	680,000
Haloxyfop-2-ethoxyethyl (low limit)	< LQ			2010)	0001		57(5155)(253) Riv(2+GC)	385-500
Omethoate (low limit)	< LQ			PD40.	0.467		OF MEANS OF REAL PLACES	-500
Phorate (low limit)	< LQ			750%	2620		BOTMS 2-18-Hers     SC-MS-MS	10,040,00
Terbufos (low limit)	< LQ	i		-0.43	(DF)		MOME TO SELECT THE SECURITY OF	AATZON
Terbufos-sulfone (low limit)	< LQ	1		79/42	d/el		MICSTATICATE Revision LC+ AND MC	1002201
Teroufos-sulfoxide (low limit)	< LQ			799	net.		DIGITALISM NO IN IC.	8400020
Fentin acetate and Fentin hydroxide, surn expressed as Fentin (low limit)	< LQ			mond	0.064		95.6.07E JUM BUY NO LC- MSM3	4030001
Dithlocarbamates, thluram-disulfides as CS2 (Analytical technique: GC) (low limit) (329)	<lq< td=""><td></td><td></td><td>-mg/kg/</td><td>0.00</td><td></td><td>01-513192016 Rev 1-150445</td><td>3501425</td></lq<>			-mg/kg/	0.00		01-513192016 Rev 1-150445	3501425
Total ethylentiourea (ETU) (hydrolise pH 9.90°C) (low limit)	< LQ			mp+g	0.505		5756ment 2218 - CO MS MS	de LL =5x
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ			1040	0.008		MENT OF PROPERTY.	SHERTY

END TEST REPORT

The original document is a PDF file with Digital Signature: 19A16473-In-0-Digital Signature pdf

Notes and matrice reference:

- LO: - lower than Quantification Limit. Please note that results expressed as "-LQ may not und cate the absence at the searched parameters in the sample.

- Ut the reported uncertainty is the expanded uncertainty calculated using a coverage factor equal to 2 which gives a minibility of approximately 95%. For microbiological detections it is reported either the lower and the upper bounds of the confidence interval with a probability of 95% K-2" or the confidence interval isset.

- Results coming from microbiological tests are calculated according to the Standard (SO TX 18:2007/Amn 12:01s.) It he results are reported as <4 (CFU/m) or <40 (CFU/g), missions that the microgramisms are present in the sample bid in amounts less than 4 CFU/m) or 40 CFU/g respectively.

- LO: Quantification Limit. It is the lowest analyte concentration which can be calculated at an acceptability precision (repeatability) and accuracy, under will defined conditions.

- Detection Limit. It is the lowest analyte concentration which can be detected but not necessarily quantified, under will defined conditions.

- Conformity evaluation: visuos not complying with laws, cocrees, national and EU regulations or specifications supplied by the dustomer are evaluated case by case, also taxing into consideration the uncertainty of missaure for each single test and the regovations on rounding-off of values, and pointed out when considered as not conform.

- Results commission to the expense of the expression of the property of the supplied to the results of the expression of the supplied to the results of the expression of the expressions of the expression of the expressions of the expressions of the expression of the expressions of the expression of the expression of the expressions of the expression of the expression of the expression of the expression of the expression of the expression of the expression of the expression of the expression of the expression of the expression of the expression of the expression of the Rac 5, Recovery 5, + means that the recovery has been applied to the result. The numeric results between brackets (...) after the expression <I O are purely indicative of traces that cannot be exactly chantified.

Methods marked with an asterisk (\*) are not accredited by ACCREDIA (UNI CEI EN ISO/IEC 17025)

NOTES OF PARAMETERS:

[329]: Main pesticides belonging to this group: Ferham, Mancozeb, Manish, Meliram, Natism, Propineh, Thiram, Ziram [414]: The sum is calculated through the lower bound column.

Continued

NEOTRON SpA - War State Sings Arrangement

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14. +39.058401711, Fax. +38.05941777 Away berovon 4 - Asomung Presions 4

Expension Can Sect DM 25120 (E. 4. Lago 450) per il Central dell' Neglior Emilia Reprégnet AUTORIZACIÓN Azos, cipida bil 1949/CINZ FAN Microsof Prus es Vegendales Accessé Laborancy -Absolution Club A Patricia de Vegendales Accessé Laborancy



DESCRIPTION OF THE PARTY OF THE

Page 14 di 14

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19A16473

MODENA, li 05/02/2019

Sample arrived on the 28/01/2019 Registration date 28/01/2019 Analysis beginning: 28/01/2019

TEST REPORT nr. 19A16473-in-0

TEST REPORT VALID FOR ALL LEGAL PURPOSES (seeing R.D. 1-5-1928 or 84) Elegan 10.—He will 10.7-10/2 or tope 16 and 10. He all Mineson a Decree 25-1981s.

DATA and SAMPLE STORAGE. Test Reports. Ray data chlorimographic panels of information reports are stored for 5 years. One contest acrops is showed for 2 months.

Data expressed in this fest report refer only to the sample leased in the secondary. The description or any characteristic for the contest by the culture of the contest of the sample are demand by the culture of the contest of the sample are demand by the culture of the contest of the sample are demand by the culture of the contest of the sample are demand by the culture of the contest of the sample are demand by the culture of the sample are demand by the culture of the sample are demand by the culture of the sample are demand by the culture of the sample are demand by the culture of the sample are demand by the culture of the sample are demand by the culture of the sample are demand to the sampl

Approved by Analysis Manager - isobiatory LMA-too. Approved by Analysis Manager - isobiatory LC-PAH LABORATORY MANAGER: DR. ALBERTO CATT. Approved by Analysis Milleger - Johnsony GC-BRO



Please note that the certificates of analysis are also conveniently available on on and around the clock at www.worlder.com basil.com

2019-02-14 Head of Q juergen.dremel@basl.com +49 7303 13-372 Reg. 20190212134629 Page 1 of 2

#### Inspection Certificate 3.1 according to EN 10204

Material

50627967

Lot

0020265618

			Lower	Upper
Characteristic Method	Unit	Value	Limit	Limit
APPEARANCE AX-001001		PASS		
ACID VALUE MG KOH/G ISO 660		8, 1	8, 0	1, 0
FREE FATTY ACIDS, SUM CP-804002		0.07		0, 45
PEROXIDE VALUE MEQ 02/KG ISO 3960		< 9, 1	0, 0	4, 0
WATER CONTENT, KARL FISCHER DGF C-III 13a	*	9, 98	0, 90	6, 05
UNSAPONIFIABLE MATTER PhEux 2.5.7		2, 2	θ, θ	3, 5
ANISIDINE VALUE DIN EN ISO 6885		10	0	20
FATTY ACID TRANS, SUM IA-001057	%(a)	9, 4	θ, G	0,5
CONTENT ARACHIDONIC ACID AS TG IA-057055	mg/g	447	400	

### Released by J.Dremel

 Production date (dd.mm.yyyy)
 18.01.2019

 Release date
 12.02.2019

 Retest date / Best Before date
 17.01.2021

### BASF Personal Care & Nutrition GmbH

The atore mentioned data shall constitute the agreed contractual quality of the product at the time of passing of tisk. The data are controlled at legular intervals as part of our quality assurance program. Neither these data not the properties of product specimens shall imply any legally binding guarantee of certain properties or of fitness for a specific purpose. No liability of ours can be derived therefrom.





Please note that the certificates of unalysis are also conveniently available online and around the clock at www.workaccount lest.com

2019-02-14 Head of Q juergen.dremcl@bast.com +49 7303 13-372 Reg. 201902:2134629 Page 2 of 2

Inspection Certificate 3.1 according to EN 10204

Material

50627967

Lot

0020265618

89257 Illertissen, Germany

The atorementioned data shall constitute the expeed contractual quality of the grounds at the lime of passing of risk. The data are controlled at logular intervals as part of our quality assurance program. Neither these data nor the properties of product specimens shall imply any legally binding "guarantee of certain properties of at these for a specific purpose. No liability of oursion be derived therefrom.



# Certificate of Analysis

Ms Edith Von Kries BASE Personal Care and Nutrition GmbH c/o Roland Sauter ILL-ENO/HI Building: 025 Robert-Hansen-Strasse 1 DE 89257 Illertossen, Germany

Report No: P19-05054 Purchase Order: 4951478751 Date Received: 28th May 2019 Date Started: 3rd June 2019

Page 4 of 12

#### Arachidonic Acid Rich Oil

Sample Co	de:	P19-05054-2	Your Refs:	Sample Referen	ce: 100394	
Description	1:	ARA Oli Gold 00202	65618			
Method	Analy	5.5		Result	Units	
* TM-318	Acid	Value		0.2	rng KOH/	
* TM-325	Free	Fatty Acid		0.11	g/100g	
* TM-328	Pero)	ride Value		2.47	meqO2/ ky Fat	
* TM-319	Anisa	dine Value		0.6		
	Unsa	ponifiable Matter		1.9	0/1000	
* TM-331	alpha	tocopherol		459	mg/kg	
* TM-331	beta	tocopherol		3.0	mg/kg	
* TM-331	ganti	na tocopherol		1077	mg/kg	
* T(4-331	delta	tocophero		469	mg/kg	
* TM-331	Total	Tocopherols		2099	rng/kg	
* TM-252	Choic	esterol		1.0	1%	
' TM-252	Unide	entined A		80.4	0,6	
' TM-252	24-M	ethylene-cholestero		2.1	75%	
* TM-252	Camp	pesterol		1.7	5/0	
* TM-252	Carry	pestanol		0:1	0,0	
* TM-252	Stign	nastero		0.5	%	
* TM-252	Unid	entified B		6.2	25	
* TM-252	1-5,	23 Stigmastadional		0.1	56	
* TM-252	Chie	rosterol		0.1	75.	
* TIA-252	p-50	osterol		3.6	196	
* TM-252	Sitos	tanol		0.2	166	
* TM-252	1.5	Avenastero:		0.2	(n) <sub>(0</sub>	
* TM-252	1.5,	24-Sngmastadienoi		0.1	56	



Approved By: Robert Griffiths Snr Associate Principal Scientist (Investigative Analysis) 28 June 2019



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# Certificate of Analysis

Ms Edith Von Kries

BASE Personal Care and Nutrition GmbH

c/o Roland Sauter ILL-ENO/HI

Building: 025

Robert-Hansen-Strasse 1

DE 89257 Hiertossen, Germany

Report No: P19-05054

Purchase Order: 49514/6751

Date Received: 25th May 2019

Date Started: 3rd June 2019

Page 5 of 12

### Arachidonic Acid Rich Oil

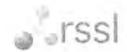
Sample Cod	P19-05054-2	Your Refs:	Sample Referen	ce: 1003
Description:	ARA Oil Gold 002025	5518		
Method	Analysis		Result	Units
* 1M-252	n-7-Stigmasteriol		0,6	94
* TM-252	n-7-Avenasterol		0.2	94
* TM-252	Unidentified C		3.6	756
* TM-252	Total Sterols		12183	mg/kg
* TM-252	Total sterois excluding unidentificomponents	ed	1196	mg/kg
*	Arachidonic Acid		443	mg/g
TM-112	C13:0(I)		0.1	140
TM-112	C14:0		0.3	Trix
TM-112	C15:0		0.1	90
TM-112	C16:0		59	%
TM-112	C16:1		O. 1	$e_{\ell_0}$
TM-112	C17:0		0.4	4/6
TM-112	C18:0		9.5	0/0
TM-112	C18:1(trans)		0.1	1/0
TM-112	C18:1(cs)		21.8	96,
TM-112	C18:2(trans)		0.2	96
TN-112	C18:2(cis)		5.8	1950
TM-112	C18:3(gamma)		2.3	404
TM-112	C18:3(alpha)		0.3	96
TM-112	CZ0:0		1.0	964
774-112	C20:1		0,6	1/94
7M-112	C22:0		1.9	96
114-112	C24:0		1.6	nz



Approved By: Robert Griffiths Snr Associate Principal Scientist (Investigative Analysis) 28 June 2019

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Prescring Science, Earthe, Whatening 46 Europea, Papiper Laru, Realering, 956 6UA, Tell +64 (UTLE 916-404), Fax: +64 (UTLE 936507). erant enouros@ss/cor wsb. emassilion



# Certificate of Analysis

Ms Edith Von Kries.

BASE Personal Care and Nutrition GmbH

c/o Roland Sauter ILL-ENO/HI

Building: 025

Robert-Hansen-Strasse 1

DE 89257 Illertossen, Germany

Normbised fatty acid profile (%).

Report No: P19-05054

Purchase Order: 4951478751

Date Received: 28th May 2019

Date Started: 3rd June 2019

Page 6 of 12

### Arachidonic Acid Rich Oil

Sample Co	ode:	P19-05054-2	Your Refs:	Sample Referen	ce: 10039	j
Description	in:	ARA Oil Gold 00202	265618			
Method	Anan	ysis .		Easolt	Units	
TM-112	C24:	1		0.1	10%	
TM-112	C\$0:	2		0.4	957	
7M-112	C20:	4 (n6) (ARA)		45.0	9,6	
TM-112	C20:	5 (EPA)		0.1	Pa	
TM-112	Unid	entified		0.0	30	
TM-112	C20:	3 (56)		3.6	196	



Approved By: Robert Griffiths Snr Associate Principal Scientist (Investigative Analysis). 28 June 2019



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### ARA Oil Gold, 0020265618 - éch n°100920

#### Détermination des stérols

#### Incertitude sur la composition :

Delta7-campesteral / Delta5-avenastéral / Delta7-stigmasteral / Delta7-avenastéral : 20 % de la valeur avec Minimum : 0,7 / Maximum : 3,5 Autre stérols : 10 % de la valeur ovec Minimum : 0,5 / Maximum : 3,5

Incertitude sur la Leneur - 20% de la valeur

Stérols		Résultat(s)
Cholestérol	0,1	%
5α cholesta-8, 14 dien-3βοί	5,0	%
Desmostérol	77,0	%
Zymostérol	0,6	%
Ergostérol	3,3	%
Cholest7, 24die-3βol	1,9	%
Campéstérol	1,7	%
stigmastérol	0,4	%
Iso fucosterol	5,8	%
Fucostérol	<0,1	%
B sitostérol	3,5	%
Δ5,24 Stigmastadienol	<0,1	%
24methyldesmostérol	0,5	%
Stigma-5-ene-3βol	0,2	%
Teneur en stérols	13583	mg/kg



Labor LS SE & Co. KG Mange Word A. S. 6 | 97705 Bad Book At | Germany BASF Personal Care and Nutrition GmbH Ms Margit Kapitzke Robert-Hansen-Straße 1 89257 Illertissen

Fon: +49 (0)97 08/91 00-0 labor@labor-is.de www.labor-is.de

Bad Bocklet 31 May 2019 / KA / Basfill

#### Certificate of Analysis

LS No:	190516-0132-002	LS Code:	1359728 / L	
Product name:	ARA OIL Gold			
Lot No:	0020265618			
Article No:	11098258			
Entry temperature:	oom temperature			
Your Order No:	4944273100			
Order dated:	15 May 2019	Sample receipt:	16 May 2019	
Start of test	17 May 2019	End of test:	31 May 2019	

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Demands	Result
Enterobacter aceae, qualitative	*L 60.00-133/1, mod.		not detected lig ISO 21528, mag.
Total viable count, anaerobic, mesophilic 30 °C	*L 00.00 - 88/2 mod		< 100 CFU / g
			DIN EN ISO 4833-2. mod.
yeasts, quantilative	*L 01.00 - 37, mod.		< 100 CFU / g ISO 21527, mod
Pseudomonus aeruginosa, qualitativ	L+S SOP 9.035		not detected / g ISO 13720, mod
Salmonea sp., qualitative	*L 00.00 - 20		not detected / 25 g DIN EN ISO 6579-1
molds, quantitative	*L 01.00 - 37, mod.		< 100 CFU / g ISO 21527 mod.
Coagulase-positive Staphylococci, qualifative	L+S SOP 9,014		not detected / g.
			DIN EN ISO 6888-1, mod,
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations. This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 31 May 2019 at 11:40 by Alexander Klauer, Specialist Manager.

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Labor LS SE & Co. KG Mangels/cld 4, 5, 6 | 3770a Bad Booket | Germany BASF Personal Care and Nutrition GmbH Ms Margit Kapitzke Robert-Hansen-Straße 1 89257 Illertissen

Fon: +49 (0)97 08/91 00-0 labor@labor-is.de www.labor-is.de

Bad Bocklet 15 Nov 2019 / MEZ / Basill

#### Certificate of Analysis

191107-0045-002	LS Code:	146/105/L	
ARA OIL Gold			
0020265618			
50627968			
room temperature			
4944273100			
06 Nov 2019	Sample receipt:	07 Nov 2019	
08 Nov 2019	End of test:	15 Nov 2019	
	ARA OIL Gold 0020265618 50627968 room temperature 4944273100 06 Nov 2019	ARA OIL Gold 0020265618 50627968 room temperature 4944273100 06 Nov 2019 Sample receipt:	ARA OIL Gold 0020265618 50627968 room temperature 4944273100 06 Nov 2019 Sample receipt: 07 Nov 2019

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Demands	Result
Bacillus cereus, prāsumtīv, qualitatīv	L+S SOP 09 005		not detected / g
coliform bacteria, quantitative	*L 01.00 - 3, mod.		< 10 CFU / g
Cronobacter sakazakli, qualitative	SOP 9.040		not detected / 25 g
Escherichia coli, qualitativo	LS SOP 9.008		not detected / g
Listeria monocytogenes, qualitative	*L 00.00 - 32, mod.		not defected / 25 g
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations. This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 15 Nov 2019 at 12:26 by Alexander Klauer, Specialist Manager.



Eurofins WEJ Contaminants GmbH Neuländer Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

Eurotins WEJ Contaminants - Neulander Kamp 1 D-210/9 Hamburg

BASF Personal Care and Nutrition GmbH -Standort Illertissenattn. Frau Edith von Kries Postfach 10 63 89251 Illertissen

wej-contaminants@eurolins.co http://www.eurofins.de/wel-contaminents.aspx

Person in charge Ms D. Zarthe Client support Ms D. Zarthe

-2907 - 2907

Report date 15.06.2019 Page 1/6

Analytical report: AR-19-JC-105086-01

### Sample Code 706-2019-00102719

Reference ARA Oil Gold, 0020265618

Triglyceride Client Sample Code 100394 Purchase Order Code 4942613538

Client contract reference Rahmenbestell-Nr. 4942613538 Number

Amount

1168 g Reception temperature room lemperature Ordered by Frau Edith von Kries Frau Edith von Kries Submitted by

28.05.2019 Reception date time

aluminium container with plastic closure Packaging

28.05.2019 / 15.06.2019 Start/end of analyses

#### TEST RESULTS

#### Physical-chemical Analysis

J1001 Sample preparation (#)

Method: §64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave)

J8306

Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabaccol-products)

Lead (Pb) \* mg/kg

J8308 Cadmium (Cd) (#)

Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Cadmium (Cd)

< 0.01 \* mg/kg

JCHG2 Mercury (Hg) (#)

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method:

(Modification, Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Mercury (Hg) < 0.005 mg/kg

DAKKS

ON EN GOVER TRUS 2005



Analytical report: AR-19-JC-105086-01 Sample Code 706-2019-00102719

### WEJ Contaminants

J8312 Arsenic (As) (#) DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification, Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Arsenic (As) < 0.1 \* mg/kg J1042 Copper (Cu) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification: extension of the scope of application to food and feed after pressure digestion) Copper (Cu) < 0.1 mg/kg J1043 Iron (Fe) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification: extension of the scope of application to food and feed after pressure digestion) Iron (Fe) mg/kg JJ0CG Chromium (Cr) (#) Method: DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Chromium (Cr) 0.09 mg/kg ± 0.04 mg/kg J1049 Nickel (Ni) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification: extension of the scope of application to food and feed after pressure digestion) Nickel (Ni) mg/kg JJOCV Tin (Sn) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) \* mg/kg Tin (Sn) < 0.2 J1032 Aluminium (Al) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification: extension of the scope of application to food and feed after pressure digestion) Aluminium < 0.5 mg/kg J1047 Manganese (Mn) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification: extension of the scope of application to food and feed after pressure digestion) Manganese (Mn) JJOCW Phosphorus (P) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: Incl. ICP-MS/MS, extension of the application scope to feed and tabacco/-products) Phosphorus \* mg/kg J1054 Sulphur (S) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification: extension of the scope of application to food and feed after pressure digestion) <2 mg/kg J1056 Silicon (Si) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification, extension of the scope of application to food and feed after pressure digestion) Silicon (Si) 13 mg/kg ±3.0 mg/kg

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Analytical report: AR-19-JC-105086-01 Sample Code 706-2019-00102719

### WEJ Contaminants

JCSRA Method:	Solvent residues (big scope) (#) Internal, CON-PV 01330 (2019-03), HS-GC-MS		
Chlorofo	rm (Trichloromethane)	< 0.01	* mg/kg
Trichloro	etnene	< 0.01	* mg/kg
Tetrachic	proethene	< 0.01	* mg/kg
Sum 3 c	hlorinated solvents	Inapplicable	mg/kg
trans-Dic	chloroethene	< 0.05	* mg/kg
1,1-Dich	loroethane	< 0.05	* mg/kg
cis-Dichi	oroethene	< 0.05	* mg/kg
1,2-Dich	loroethane	< 0.05	* mg/kg
Dichloro	methane	< 0.05	* mg/kg
1,1,1-Tri	chloroethane	< 0.01	* mg/kg
Tetrachic	promethane	< 0.01	* mg/kg
1,1,2-Tri	chloroethane	< 0.01	* mg/kg
1.1.1.2-1	Tetrachloroethane	< 0.01	* mg/kg
Dibromo	chloromethane	< 0.05	mg/kg
Bromodi	chloromethane	<0.05	* mg/kg
Tribromo	omethane	<0.05	* mg/kg
Benzene		0.091	
a) ellerin		± 0.045	mg/kg mg/kg
Toluene		<0.01	* mg/kg
Ethylber	zene	< 0.01	* mg/kg
m-/-p-Xy		<0.01	* mg/kg
Xylene (		<0.01	* mg/kg
Styrene	7	<0.01	* mg/kg
	on (Methylethylketon)	<1	* mg/kg
Ethyl Ac	ALCOHOLOGICAL DESCRIPTION OF THE PROPERTY OF T	<1	* mg/kg
n-Pentar		<1	* mg/kg
n-Heptar		<1	* mg/kg
n-Hexan		<	
2-Methy		<1	* mg/kg
3-Methy	Part of the state	<1	* mg/kg * mg/kg
	clopentane	<1	
	al Hexane (calculated)	Inapplicable	* mg/kg
Methyl a		mappinable <1	mg/kg * mg/kg
GFL13 Method:	Dioxins and Furans (17 PCDD/F) Internal, GLS DF 110:2019-01-25, GC-MS/MS of to a Eurofins laboratory accredited for this test.	59	ingrkg
	TetraCDD	< 0.0586	nele
	3-PentaCDD		pg/g
	7,8-HexaCDD	< 0.0772	pg/g
	/.8-HexaCDD	< 0.117	pg/g
	3.9-HexaCDD	< 0.160	pg/g
	5,7,8-HeptaCDD	< 0.151	pg/g
OctaCDI		< 0.247	pg/g
Octaob		< 1.79	pg/g

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Analytical report: AR-19-JC-105086-01

Sample Code 706-2019-00102719

# WEJ Contaminant

2,3,7,8-TetraCDF	< 0.160	pg/g
1,2,3,7,8-PentaCDF	< 0.111	pg/g
2,3,4,7,8-PentaCDF	< 0.173	pg/g
1,2,3,4,7,8-HexaCDF	< 0.182	pg/g
1,2,3,6,7,8-HexaCDF	< 0.167	pg/g
1,2,3,7,8,9-HexaCDF	< 0.123	pg/g
2,3,4.6,7,8-HexaCDF	< 0.151	pg/g
1,2,3,4,6,7,8-HeptaCDF	< 0.173	pg/g
1,2,3,4,7,8,9-HeptaCDF	< 0.120	pg/g
OctaCDF	< 0.370	pg/g
WHO(2005)-PCDD/F TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCDD/F TEQ (medium-bound)	0.159	pg/g
WHO(2005)-PCDD/F TEQ (upper-bound)	0.318	pg/g
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS Subcontracted to a Eurofins laboratory accredited for this test.	(B)	
PCB 77	< 5.56	pg/g
PCB 81	< 0.833	pg/g
PCB 105	< 12.0	pg/g
PCB 114	< 1.64	pg/g
PCB 118	< 43.2	pg/g
PCB 123	< 1.23	pg/g
PCB 126	< 0.772	pg/g
PCB 156	< 6.79	pg/g
PCB 157	< 1.27	pg/g
PCB 167	< 3.40	pg/g
PCB 169	< 3.70	pg/g
PCB 189	< 1.23	pg/g
WHO(2005)-PCB TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCB TEQ (medium-bound)	0.0956	pg/g
WHO(2005)-PCB TEQ (upper-bound)	0.191	pg/g
PCB 28	< 0.309	ng/g
PCB 52	< 0.309	ng/g
PCB 101	< 0.309	ng/g
PCB 138	< 0.309	ng/g
PCB 153	< 0.309	ng/g
PCB 180	< 0.309	ng/g
Total 6 ndl-PCB (lower-bound)	ND	ng/g
Total 6 ndl-PCB (medium-bound)	0.926	ng/g
Total 6 ndl-PCB (upper-bound)	1.85	ng/g
Method: Internal, GLS DF 110, 120, 130, 140, Calculation Subcontracted to a Eurofins laboratory accredited for this test		
WHO(2005)-PCDD/F+PCB TEO (lower-bound)	ND	pg/g
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.255	pg/g
WHO(2005)-PCDD/F+PCB TEQ (upper-bound)	0.510	pg/g
Trio(2000) Tobbit Trob (La (uppairounia)	0.010	Para

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Analytical report: AR-19-JC-105086-01 Sample Code 706-2019-00102719

### WEI Centaminants

JCPC3 Method:	7 Plasticizers (low LOQ) (#) Internal Method, CON-PV 01337 (2018-10), LC-MS/MS		
	exylphthalate (DEHP)	0.31	mg/kg
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	± 0.11	mg/kg
Benzyl b	utyl pathalate (BBP)	<0.1	* mg/kg
	exyl adipate (DEHA)	< 0.1	* mg/kg
	viphthalate (DIDP)	<0.5	* mg/kg
	ylphthalate (DINP)	<0.5	* mg/kg
	hthalate (DBP)	< 0.07	* mg/kg
	butylcitrat (ATBC)	<0.1	* mg/kg
JC00U	PAH 4 (#)	50.1	mg/kg
Method:	Internal, CON-PV 01176 (2019-03), GC-MS		
	anthracene	<0.5	* µg/kg
Benzo(a		<0.5	* µg/kg
	fluoranthene	<0.5	* µg/kg
Chrysen	\$ 10 mm section of the contract of the contrac	<0.5	μg/kg μg/kg
Sum PA		Inapplicable	
A0428	Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (	and the second second	µg/kg
	DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018 on; sample weight, extraction solvent, enrichment on IAC, tion of Aflatoxin B2, G1 and G2)		additional
Aflatoxir		< 0.01	* µg/kg
Aflatoxir		<0.01	* µg/kg
Aflatoxir		< 0.01	* µg/kg
7 30 97 5 95 01	all positive Aflatoxins	< 0.04	* µg/kg
JJV04	Ochratoxin A (babyfood) (#)	0,4 7	P9,13
Method:	DIN EN 15835 (2010-05), mod., CON-PV 00852 (2018 on: extraction solvent, IAC-volumina, no solvent exchange		
Ochrato	xin A (OTA)	< 0.1	* µg/kg
JC0FG	Fusarium toxins, small, babyfood (DON, ZON, T2, H		
Method:	Food Addit. Contam. 2005 Aug; 22(80);752-60, CON-P		
	valenol (Vomitoxin)	<20	* µg/kg
	none (ZON)	<5	* µg/kg
T-2 Toxi		<1	* µg/kg
HT-2 To	****	<3	* µg/kg
sum T-2	HT-2 toxin	<4	* µg/kg
JJ088 Method:	Fumonisine B1, B2, B3 (maize and products derived Internal Method, CON-PV 01085 (2018-08), LC-MS/M3		
Fumoni	sin B1 (FB1)	<20	* µg/kg
Fumoni	sin B2 (FB2)	<20	* µg/kg
Fumoni	sin B3 (FB3)	<20	" µg/kg
Fumoni	sin sum (B1+B2)	<40	* μg/kg
Fumoni	sin sum (B1+B2+B3)	<60	* µg/kg

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WEI Contaminants

Analytical report: AR-19-JC-105086-01 Sample Code 706-2019-00102719

JJW2Z Sterigmatocystin (#)

Method: Internal, CON-PV 01126 (2018-08), LC-MS/MS Sterigmatocystin

<10 • μg/kg

\* = Bolow indicated quantification level

(#) = Eurofins WEJ Contaminants GmbH (Hamburg) is accredited for this test. Result +/- expanded measurement uncontainty (95%; k=2), sampling not included

Signature Analytical Service Manager (Yasmina Knop)



Eurofins WEJ Contaminants GmbH Neuländer Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

Eurolins WEJ Contaminants - Neutander Kamp 1 - D-21079 Hamburg BASF Personal Care and Nutrition GmbH -Standort Illertissenattn. Frau Edith von Kries Postfach 10 63 89251 Illertissen

we\_contaminants@euroins de http://www.eurofins.de/wej-contaminants.aspx

Person in charge Ms D. Zarthe Client support Mr P. Kösters - 2907

Report date 27.09.2019 Page 1/5

Analytical report: AR-19-JC-105086-02

This report replaces report number: AR-19-JC-105086-01



### Sample Code 706-2019-00102719

ARA Oil Gold, 0020265618 Reference

Triglyceride 100394 Client Sample Code Purchase Order Code 4942613538

Client contract reference Rahmenbestell-Nr. 4942613538

Number

Amount 1168 g

Reception temperature room temperature Frau Edith von Kries Ordered by Submitted by Frau Edith von Kries

28.05.2019 Reception date time

Packaging aluminium container with plastic closure

28.05.2019 / 15.06.2019 Start/end of analyses

#### **TEST RESULTS**

#### Physical-chemical Analysis

J1001 Sample preparation (#)

§64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave) Method:

J8306

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method:

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Lead (Pb)

\* mg/kg J8308 Cadmium (Cd) (#)

Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Cadmium (Cd)

JCHG2 Mercury (Hg) (#)

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Mercury (Hg)

< 0.005

< 0.01

mg/kg

\* mg/kg

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WEJ Contaminants

Analytical report: AR-19-JC-105086-02 Sample Code 706-2019-00102719

This report replaces report number: AR-19-JC-105086-01

J8312 Arsenic (As) (#) DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification; incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Arsenic (As) < 0.1 \* mg/kg J1042 Copper (Cu) (#) J1043 Iron (Fe) (#) Method: DIN EN ISO 11885, mod., CON-PV 00000 (2017-00), ...

(Modification: extension of the scope of application to food and feed after pressure digestion)

<0.5 \* mg/kg **JJOCG** Chromium (Cr) (#) Method: DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Chromium (Cr) 0.09 mg/kg ± 0.04 mg/kg J1049 Nickel (Ni) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification: extension of the scope of application to food and feed after pressure digestion) Nickel (Ni) mg/kg **JJOCV** DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Tin (Sn) \* mg/kg J1032 Aluminium (AI) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification: extension of the scope of application to food and feed after pressure digestion) < 0.5 Aluminium mg/kg J1047 Manganese (Mn) (#) Method: DIN EN ISO 11885, mod., COIN-PV 00000 (2017-00), ...

(Modification: extension of the scope of application to food and feed after pressure digestion)

<0.1 \* mg/kg DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES **JJ0CW** Phosphorus (P) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: incl. ICP-MS/MS, extension of the application scope to feed and tabacco/-products) Phosphorus \* mg/kg J1054 Sulphur (S) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification: extension of the scope of application to food and feed after pressure digestion) Sulphur total (S) mg/kg J1056 Silicon (Si) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification: extension of the scope of application to food and feed after pressure digestion)

The results of mine measurement completed in the other had completed.

Disposable of mine measurement by the individual to the individual property of the mine to the property of the mine the same of the first of the individual property of the mine the same of the first of the individual property of the same of the first of the same of the first of the same of the first of the same of the first of the same of th

5-75-6 with 5-2 (0524) (6051) Why rectain \$500 - 0. 2 (87.2 ) (-17 marks 57.1 (a. -1) (6.4 (8.5 - 5.5 m) VESE (10.4 (1.14 A) - 1.2 (1.2 (1.14 A) - 1.15 a) (1.14 A) DAKKS

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Lides: United the state of the state of the General Section (Section 1997) and the state of the

mg/kg

mg/kg



WEI Contaminants

Analytical report: AR-19-JC-105086-02 Sample Code 706-2019-00102719

This report replaces report number: AR-19-JC-105086-01

	This repo	ort replaces report number: AR-	19-JC-10
CATALOG CONTROL CONTRO	ins and Furans (17 PCDD/F)		
	rnal, GLS DF 110:2019-01-25, GC-MS/MS rofins laboratory accred ted for this test.		
2.3.7.8-TetraCD		< 0.0586	nava
1,2,3,7,8-Penta		< 0.0772	pg/g
1,2,3,4,7,8-Hex		< 0.117	pg/g
1,2,3,6,7,8-Hex		< 0.160	pg/g
1.2,3.7,8,9-Hex		< 0.151	pg/g
1,2,3,4,6,7,8-He		< 0.247	pg/g
OctaCDD		< 1.79	pg/g pg/g
2.3.7.8-TetraCD	F	< 0.160	pg/g
1,2,3,7,8-Penta	CDF	< 0.111	pg/g
2.3.4.7.8-Penta		< 0.173	pg/g
1,2,3,4,7,8-Hex		< 0.182	pg/g
1,2,3,6,7,8-Hex	aCDF	< 0.167	pg/g
1,2,3,7,8,9-Hex		< 0.123	pg/g
2,3,4,6,7,8-Hex		< 0.151	pg/g
1,2,3,4,6,7,8-He		< 0.173	pg/g
1,2,3,4,7,8,9-He	*5~51~0	< 0.120	pg/g
OctaCDF	V-1-1-1-1	< 0.370	pg/g
WHO(2005)-PC	DD/F TEQ (lower-bound)	ND	pg/g
WHO(2005)-PC	DD/F TEQ (medium-bound)	0.159	pg/g
	DD/F TEQ (upper-bound)	0.318	pg/g
GFL14 Poly	chlorinated biphenyls (12 WHO PCB + 6	ICES PCB)	100
Method: Inte	rnal, GLS DF 110:2019-01-25, GC-MS/MS		
	rofins laboratory accredited for this test.		
PCB 77		< 5.56	pg/g
PCB 81 PCB 105		< 0.833	pg/g
PCB 114		< 12.0	pg/g
PCB 118		< 1.64	pg/g
PCB 123		< 43.2	pg/g
PCB 126		< 1.23 < 0.772	pg/g
PCB 156		< 6.79	pg/g
PCB 157		< 1.27	pg/g
PCB 167		< 3.40	pg/g
PCB 169		< 3.70	pg/g
PCB 189		< 1.23	pg/g
2 - 20 20 20 20 20 20	B TEQ (lower-bound)	ND	pg/g
	B TEQ (medium-bound)	0.0956	pg/g pg/g
	B TEQ (upper-bound)	0.191	pg/g
PCB 28	and Calabat Manual	< 0.309	ng/g
PCB 52		< 0.309	ng/g
PCB 101		< 0.309	ng/g
PCB 138		< 0.309	ng/g
PCB 153		< 0.309	ng/g
PCB 180		< 0.309	ng/g
Total 6 ndl-PCB	(lower-bound)	ND	ng/g
	(medium-bound)	0.926	ng/g
Total 6 ndl-PCB		1.85	ng/g
			-

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Analytical report: AR-19-JC-105086-02 Sample Code 706-2019-00102719

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This report replaces report number: AR-19-JC-105086-01

	illia report re	spiaces report itember. A	13-00-10
GFTE1	TEQ-Totals WHO-PCDD/F and PCB		
Method:	Internal, GLS DF 110, 120, 130, 140, Calculation		
	to a Eurofins laboratory accredited for this test.	ND	
	05)-PCDD/F+PCB TEQ (lower-bound)		pg/g
	05)-PCDD/F+PCB TEQ (medium-bound)	0,255	pg/g
	05)-PCDD/F+PCB TEQ (upper-bound)	0.510	pg/g
CPC3	7 Plasticizers (low LOQ) (#)	2410	
	Internal Method, CON-PV 01337 (2018-10), LC-MS exylphthalate (DEHP)		in a floor
Dietriyine	exylphinalate (DETIF)	0.31	mg/kg
Ponnul by	stul abthalata (BBB)	± 0.11	mg/kg
	utyl phthalate (BBP)		mg/kg
The second second	exyl adipate (DEHA)	<0.1	* mg/kg
	ylphthalate (DIDP)	<0.5	* mg/kg
	ylphthalate (DINP)	< 0.5	* mg/kg
	nthalate (DBP)	< 0.07	* rng/kg
	outylcitrat (ATBC)	< 0.1	* mg/kg
	PAH 4 (#)		
lethod.	Internal, CON-PV 01176 (2019-03), GC-MS	12/2	At
	inthracene	<0.5	+ µg/kg
Benzo(a)		< 0.5	* µg/kg
	fluoranthene	<0.5	* µg/kg
Chrysen		< 0.5	* μg/kg
Sum PA	14	Inapplicable	µg/kg
Aflatoxin		< 0.01	* µg/kg
Aflatoxin	B2	< 0.01	* µg/kg
Aflatoxin	G1	< 0.01	" µg/kg
Aflatoxin	G2	< 0.01	* µg/kg
Sum of a	all positive Aflatoxins	< 0.04	· µg/kg
JJV04	Ochratoxin A (babyfood) (#)		
Method:	DIN EN 15835 (2010-05), mod., CON-PV 00852 (2010-05)		
	on: extraction solvent, IAC-volumina, no solvent excha		3/92/
	cin A (OTA)	<0.1	* μg/kg
COFG	Fusarium toxins, small, babyfood (DON, ZON, T		CO MONIO
Method:	Food Addit. Contam. 2005 Aug; 22(80):752-60, CC valenoi (Vomitoxin)	JN-PV 00854 (2018-08), <20	
			· µg/kg
	none (ZON)	<5	* µg/kg
T-2 Toxir		<1	* µg/kg
HT-2 Tox		<3	μg/kg
	HT-2 toxin	<4	* µg/kg
JJ088	Fumonisine B1, B2, B3 (maize and products der		
Aethod:	Internal Method, CON-PV 01085 (2018-08), LC-M		
	in B1 (FB1)	<20	* µg/kg
	in B2 (FB2)	<20	* µg/kg
	in B3 (FB3)	<20	* µg/kg
	in sum (B1+B2)	<40	* µg/kg
	sin sum (B1+B2+B3)	<60	* µg/kg
JJW2Z	Sterigmatocystin (#)		
Vlethod:	Internal, CON-PV 01126 (2018-08), LC-MS/MS	346	W . C. W.
Sterigma	atocystin	<10	* µg/kg

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Page 5/5

Analytical report: AR-19-JC-105086-02 Sample Code 706-2019-00102719

WEI Contaminants

This report replaces report number: AR-19-JC-105086-01

= Below Indicated quantification level	
#) = Eurofins WEJ Contaminants GmbH (Hamburg) is accredited for this test.	
Result +/- expanded measurement uncertainty (95%; k=2), sampling not included	
Signature	

Analytical Service Manager (Patrick Kösters)





ACCREDIA 🔨

AR Nº30 III Spiritgards de per la Rica designata liguardes

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BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

TEST REPORT nr. 19E20036-In-0

SAMPLE

19E20036

Page 1 di 14

Description provided by Customer: ARA OIL GOLD - 0020265618 - SAMPLE NO: 100394 - THE SAMPLE HAS BEEN TAKEN BY THE CUSTOMER. THE TRANSPORT HAS BEEN MADE BY COURIER.

Sample Condition on Receipt: Room temperature

ANALYSIS DESCRIPTION	RESULT		163.5	26 / 25 No. 512 MI	-14		Med	100 MIN
PESTICIDE RESIDUES IN BABY FOODS			- A CANADA ALIANA			******************		-
FOR INFANTS AND YOUNG CHILDREN								
Aldrin (low limit)	< LQ	1		eryks .	0,001		01/5165/2019 Roy 3 / 6/6- MS/MS	28/15/2019
Dieldrin (low limit)	< LQ			mg/kg.	-0.00t		01(6151) 2010 Pen 3 (GC- MS/MS	1496/2519
Endrin (low limit)	< LQ			make	0,091		21(5165)20(0 Se- 3 - GC-	3458-7000 9458-2019
Fipronil (low limit)	< LQ			79.89	0.051		01(S159) 2019 Res. 1 - GC- MOME	2868/2010 04082013
Fipronil-desulfinyl (low limit)	< LQ			70.40	357		91(5195) 27 ( Rec 3 - 00- MS-8/S	Jaiongore December
HCH alpha (low limit)	< LQ		1	179-20	0.004		75 (465) 2 19 Rev 3 = CC- M5.MS	23/05/2019 Fe/06/2019
HCH beta (low limit)	< LQ	1		15.49	1001		DUSTRO POTENTA DO MOMS	28057079
HCH delta (low limit)	< LQ			E.C.(45.	0.001		01(5155):2019 Revid + 00-	2865/2014 58560314
HCH epsilon (low limit)	< LQ			m(K)	0.001		01(0155) 2019 Rev 3 - GC- MS-MS	2/m6/2019
Heptachlor (low limit)	< LQ			PH (\$7.66)	0.003		01,015 C 2019 Rev 1 - GC-	2870-01-0 340-00-0
Heptachlor Epoxide cis (low limit)	<lq< td=""><td>ĵ.</td><td></td><td>нуму</td><td>0.591</td><td></td><td>01(5115) 2015 Rp. 5 - GC- M5 155</td><td>2005/2019</td></lq<>	ĵ.		нуму	0.591		01(5115) 2015 Rp. 5 - GC- M5 155	2005/2019
Heptachlor Epoxide trans (low limit)	< LQ	1		10.15	0,001		01/5/50 2019 Rev 3 v CC-	2015/3/14
Hexachlorobenzene (low limit)	<lq< td=""><td></td><td></td><td>enag.</td><td>0001</td><td></td><td>20515512015 Rev.3 v GC- M9/M9</td><td>79882013 0458501</td></lq<>			enag.	0001		20515512015 Rev.3 v GC- M9/M9	79882013 0458501
Lindane (low limit)	< LQ		-	*1219	0.001		01/8156(25-1-Rep. 1 - 2/2- MS MS	2915/2010 04/06/2010
Nitrofene (low limit)	< LQ			Acres	9,00		Striftten zotu Reg 1 - GC-	28/75/2016 254/26/2016
o.p'-DDD (low limit)	< LQ			mg (g)	0.001		M5/M3 * DPGC9/5/2/18 Resu -	\$8 C\$ (\$1 15 \$4 (\$5 C\$)
o.p'-DDE (low limit)	< LQ			make	0.001		* ==GCVS 2018 Riv3 -	2843/2016
o.p'-DDT (low limit)	<lq< td=""><td>1</td><td>1</td><td>775</td><td>0.001</td><td></td><td>DECIMENTS     DECIMENTS</td><td>(94/96/2015 28/25/2016</td></lq<>	1	1	775	0.001		DECIMENTS     DECIMENTS	(94/96/2015 28/25/2016
p.p'-DDD (low limit)	<lq< td=""><td></td><td></td><td>P031</td><td>9.00</td><td></td><td>■ US-6/2M5-2913 Rov5 -</td><td>2653/201</td></lq<>			P031	9.00		■ US-6/2M5-2913 Rov5 -	2653/201
p.p'-DDE (low limit)	<lq< td=""><td></td><td></td><td>regist</td><td>9,001</td><td></td><td>BEGCMS 2016 HWG-</td><td>04/05/2010 26/05/811</td></lq<>			regist	9,001		BEGCMS 2016 HWG-	04/05/2010 26/05/811
p.p'-DDT (low limit)	<lq< td=""><td>1</td><td>or in the second</td><td>70.80</td><td>0,001</td><td>-</td><td># 04-0/2M5 7/16 Revs -</td><td>9459201</td></lq<>	1	or in the second	70.80	0,001	-	# 04-0/2M5 7/16 Revs -	9459201
Cadusafos (low limit)	< LQ			97,000	0.021		CC-M9.MS 0.00-1213-2019 Rev. 12 - LC-	3456201 7456700
Gaddsalos (low mint)							MADAS	SEE(201
Demeton-S-methyl (low limit)	< LQ			-1040	3.511		15年度年2日5 Rec リルビー 銀貨制度	26/26/2013 04/26/2011
Demeton-S-methyl sulfoxide (oxydemeton- methyl) (low limit)	< LQ			100 a T	5101		01/07/12/04/80/12-00- Ma MS	5865005 5456.315
Demeton-S-methyl sulphone (low limit)	< LQ		Name of the last o	10(2)(4))	11 301		61 65211 2010 Here 12+66- MS MS	28/08/2010 SAME 2011
Disulfoton (low limit)	< LQ			70%	0.500		31:3155:2010:0x-3+064 MEAS	Jacobs ( t
Disulfaton-sulfane (law limit)	< LQ			1996	p.oot		01/5/21: 2016 Rb - 12 - LC M8 WS	26/38/2017 (94/36/2017
Disulfoton-sulfoxide (low limit)	< LQ		The state of the s	my 40	0.503		01/3/21/20/0 Biv 12 - LC- MS-MS	2515001 046601
Ethoprophos (low limit)	< LQ			29.40	3,524		01(\$121) 2016 Rev 12 -1 C- 65 7/5	78.95 (G) 74.95 (2)
Fensulfothion (low limit)	< LQ			rraing.	0.001		31(\$121) 201 Ro. 12-1 C: MS:MS	2868201 686601





Page 2 di 14



MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

SAMPLE

**BASF Personal Care and Nutrition GmbH** 

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20036

ANALYSIS DESCRIPTION	RESULT	10	M - H	N THE REAL PROPERTY.		la	1.7	Most risks Michigans or 8 - Michigan or 84-
Fensulfothion-oxon (low limit)	< LQ			19/9	7,001		01(\$121) 2118 Rm. (2+LG- MS4MS	25/16/2019 -04/14/2019
Fensulfothion-oxon-sulfone (low limit)	< LQ			Pole	0.001		01 5191 2019 Rol 12 + 60 MS 10	26/05/2014 02/06/2014
Fensulfothion-sulfone (low limit)	< LQ			PGSE	1501		((1/5)(2)(2019 No. 12 c)(2 (1/5)(2)	2453-0019 54-06-0-11
Haloxyfop methyl (low limit)	< LO			79.46	0.000		97(\$15) 7019 No. 5 - SC	2816/07
Haloxyfop, included haloxyfop-R (low limit)	< LQ			70%	0.00		MS-M5 01/5421/2013 Rev 17 + LC M6-M3	3405-2510 0406-2510
Haloxyfop-2-ethoxyethyl (low limit)	<lq< td=""><td></td><td></td><td>HeAt</td><td>6.606</td><td></td><td>55 S 156 20 15 Read - (CC-</td><td>28100001</td></lq<>			HeAt	6.606		55 S 156 20 15 Read - (CC-	28100001
Omethoate (low limit)	< LQ			тджд	25501		2012 (21) 2019 Res 12 - [2] 515 515	SACRETOR SACRETOR
Phorate (low limit)	< LQ			11010	0,001		DOMS IN A Reck     DOMS INS	294652019
Terbufos (low limit)	< LQ			mg/kg	0.391		01(5121) 2018 Rt - 12 - LC 4/3-10	00000201 2000/201
Terbufos-sulfone (low limit)	<lq< td=""><td></td><td></td><td>Have</td><td>0.363</td><td></td><td>01(6121)3019 Rev 12 - LC: MS:MS</td><td>VENEGUYO BADAYO</td></lq<>			Have	0.363		01(6121)3019 Rev 12 - LC: MS:MS	VENEGUYO BADAYO
Terbufos-sulfoxide (low limit)	< LQ			7949	1000		51(512)) 23(9) Rev 12 - U.C. M&M5	29.580219 5406203
Fentin (fentin including its salts, expressed as triphenyltin cation) (low limit)	< LQ			PENG	0.921		(61/5121) 2019 Rely, 12 - 426 MS-MS	29000V29 34:000V29
Dithiocarbamates, thiuram-disulfides as CS2 (Analytical technique: GC) (low limit) (329)	< LQ			10205	2.368		51(\$151) 2019 Rev. 8 - QC-453	28450301 54/9201
Total ethylentiourea (ETU) (hydrolise pH 9.90°C) (low limit)	< LO	Todo		Holes	30 ques		03(St. rov 15 20 % - LC- MS 535	2011/2011 03/96/867
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ			Profession and the second	0,100		D1(S8) /ev 15 2018 = LSI MS/MS	2045/011 03/06/2015
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO								
Flonicamid (LCMS)	< LQ			7040	0,001		615 (2.6) 2015 Rev 12 - 6.6- MS MS	25556610 26556610
Flonicamid metabolite: TFNA	< LQ			75%	5,015		01/012122010 Res 12 -67/0 MS MS	25/15/2015 34/96/201
Flonicamid metabolite: TFNG	< LQ			(1945)	0.50k		N(0.121) 2019 No. 12-LG- MS-055	2555.001; 049-915
Abamectin	< LQ	T. C. C. C. C. C. C. C. C. C. C. C. C. C.		mg + a	deta		19 (5-121) 2019 (see 12 - 4.0) MS-MS	2005/01/10 6416/221
Acetamiprid	< LQ			=q/sg	2.714		21(81) 11 25 5 5 6 V 12 + LC- US 025	24/3/2019 34/3/2019
Acetochlor	< LQ		ų.	mgvg	egic		511542112011 Rm 12 - LG-	264 6 0 1 H
Acibenzolar-S-methyl	<lq< td=""><td></td><td></td><td>70 AF</td><td>-Datis</td><td></td><td>01(\$144)2019 April 11-075 483345</td><td>JAMAGUS 3416-201</td></lq<>			70 AF	-Datis		01(\$144)2019 April 11-075 483345	JAMAGUS 3416-201
Aclonifen	< LQ			115.45	0.030		11(5141) 20(0) (Apr. 14 - (AG.	ZANAZEN SEGNON
Acrinathrin	< LQ		1	herc	0.010		01.5144 2019 Rev 11 - 172-	2000 701 15419/201
Alachior	< LQ			mg kg	0.010		0 ((\$144) 7 H9 RW 11 - GC-	7805/201 0408-201
Aldrin	< LQ			-649	0.000		01 Steel 2019 Rev 11 - GC- MS MS	7818(20) 9449(00)
Dieldrin	< LQ			110,86	0,005		91/5144/ 2018 Rev 11 - 0C- MS MS	28.05.00 c





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SPECIAL REPORT

Page 3 til 14

MODENA, If 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20036

ANALYSIS DESCRIPTION	RESULT		41	(s.) Hytrian	-2	F/A	RC160	# 100m
Aldrin and dielorin, sum expressed in dieldrin [414]	< LQ			rejeç	0.505		01(S)44/3(19 fter 11 - GG- MS/MS	28080004
Ametryn	<lq< td=""><td>Ī</td><td></td><td>make</td><td>8,515</td><td></td><td>51(\$121) 20 (0 #e) 12 - 13. 1053/9</td><td>2010 2012 14 0</td></lq<>	Ī		make	8,515		51(\$121) 20 (0 #e) 12 - 13. 1053/9	2010 2012 14 0
Atrazine	< LQ			- Page	0.052		51/5/21/3019/Hev 12+EG- MG/MS	Selectors Separate
Atrazine-desethyl	< LQ			-100	5000		00.502 t (2016) Rev. 12 + 15 Ma.M3	71 CORPS
Atrazine-desisopropy	< LQ			0504	2316		01(5(21) 2019 KeV 12 - LC- MS 445	280529N 34862519
Azadirachtin-A	< LQ	1		5993.	0.010		01/5121) 2019 Key 12 - LC- M6 M0	28.09(0) 13 54.06(201)
Azinphos-ethyl	<lq< td=""><td></td><td></td><td>-0.1</td><td>6010</td><td></td><td>D1 512912-015 Rev. /2 - LG- M2 M5-</td><td>SERVICE THE SHOPLESTS</td></lq<>			-0.1	6010		D1 512912-015 Rev. /2 - LG- M2 M5-	SERVICE THE SHOPLESTS
Azinphos-methyl	<lq< td=""><td>Î</td><td></td><td>10.49</td><td>D.D\$2</td><td></td><td>71:5121(2) (916: 12+10- M\$ MB</td><td>25/05/2015 Dec/08/2015</td></lq<>	Î		10.49	D.D\$2		71:5121(2) (916: 12+10- M\$ MB	25/05/2015 Dec/08/2015
Azoxystrobin	< LQ			right	2010		AHS171) galleting 42 - LC- MS MS	28659/9 36662918
Benalaxyl, sum of isomers including Benalaxyl-M	<lq< td=""><td></td><td></td><td>rala</td><td>2.010</td><td></td><td>01191217:2019 Res 11-1C- MS-MS</td><td>25/00/01/2 36/00/01/2</td></lq<>			rala	2.010		01191217:2019 Res 11-1C- MS-MS	25/00/01/2 36/00/01/2
Benfluralin	< LQ	1		7994	8055		01(S1%) 2015 Res 21 - 645	23640610 0496201
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ			Merke	0.015		D16S121/2019 Page 19 - 1.C-	JENSONS Dans you
Carbendazim	< LQ			-psy	2010		01(8121) 2019 Re-12 - LC- MS746	28/16/2015 24/36/2015
Benthiavalicarb-isopropyl	<1.Q			PER.	3010		CHEROLOGICAN ROW TO - COMMS MS	26,000 kg
Bifenazate	< LQ	1		1000	5:010		Junio Q 1917 Ray 1 - 20- 345-949	2816-22H 3450-20
Bifenox	< LQ	1	1	70.00	0.000		(1.5144) 2010 for 11 - CC-	decimin
Bifenthrin	< LQ	İ		-0.45	2215		MS-WG Q1-5/44/2/10/8 mr 11 - GC	2576-2019
Bitertanol (sum of isomers)	< LQ	Ī	1	7683	0.71		01(S121) -015 Rev 42 - LC- MA 615	\$4.060010 13050010 54.060010
Boscalid	< LQ			1048	3702		01/51211101+ Rm 12 - LC- MSMS	Section 1
Bromophos-ethyl	< LQ			7000	3.000		(12 (24) 1170 Ros 11 - GC-	PARSURY
Bromophos-methyl	< LQ			7070	E010.		MS.MS 01/5/44/2019 Rev 11 - GC	74/04/2010 24/04/2010
Bromopropylate	< LO	1		ingles.	0.010		05 NG 91(\$1%) 2019 Apr 11 - GC	N866-75-0
Bromuconazole, sum of cis- and trans-	< LQ			rista	2013		MS-038 0105121) 2018 Ray 12 - LC- 745 W7	Selection Selection
Bupirimate	< LQ			7010	5,010		20151211 219 Rev 12 - LC M-CMS	Tempora Decempor
Buprofezin	<lq< td=""><td></td><td></td><td>1999</td><td>2010</td><td></td><td>MS MS</td><td>denivatini Severatini</td></lq<>			1999	2010		MS MS	denivatini Severatini
Butylate	< LQ			1000	0010		0118121) 3219 Res 12+1 C- MS/MS	VARSORIS SACK-2010
Cadusafos	< LQ			C281	∈alo.		01(0/U1)2019 New 12 - 15) MS-MS	3+012014 34.0020
Carbaryl	< LQ	Į.		*15°C	0,330		61/3 (21/2019 Plus 12 x C) MS.MS	146 kmg/s 36 66 70 1





ACCREDIA 🌂

Page 4 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

SAMPLE

**BASF Personal Care and Nutrition GmbH** 

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20036

ANALYSIS DESCRIPTION	RESULT	iv.	001.0	1-2 ( 1 E/( +) E/0)	10	-0	W <2	654(290) 70-264-60 680-700-6
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furathiocarb)	< LQ			may	0.001		Grus (21) 2019 Rev. 12 - 1 C- MS/AC	74-35-2045 34-01-2045
Carbofuran-3-hydroxy	< LQ	1		"910	0.001		01(5121) 2019 Rev 12 - LC- MSA/S	1805071 0106201
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ			*9790	9.011		30512112317 mai 12: LC- M9 #9	gAtingnis 84 mg/m
Chlordane cis	< LQ		1	19970	9508		ATOMAS ZING BALLET KID-	7816 SITS
Chlordane oxi	< LQ		1	7019	9309		01(\$161) 2010 Block 11.00.	7873081 9408901
Chlordane trans	< LQ			3540	23366		(11(9144) #10 fee 11-62-	2000 SUN
Chlordane sum of cis and trans-isomers [414]	< LQ			199	Distr.		01/8146)2619 Rev. 11 - GC V6A85	2805351 =1,06701
Chlorfenvinphos, sum of E and Z isomers	< LQ			7575	0.010		01/31/25/2010 Apr. 12 - LC Mil NG	2 MARY 2017
Chlormephos	< LQ			myleg	0.010		01(\$1/4) 2319 Ker (1 - 00) MISNS	70ms x 15
Chlorotoluron	< LQ			7979	0.010		01/51211 2210 Att 12 - CC	5466311 28/16/3016 94/36/201
Chlorpropham	< LQ		1	79/9	0.010		91/81/4910 Routh GO	2459701
Chlorpyriphos ethyl	<lq< td=""><td>1</td><td>1</td><td>119/10</td><td>D.01G</td><td></td><td>MS/MS 21/5144) 2019 Res 11 - 0.04</td><td>24/06/2015 26/06/2015 06/06/2015</td></lq<>	1	1	119/10	D.01G		MS/MS 21/5144) 2019 Res 11 - 0.04	24/06/2015 26/06/2015 06/06/2015
Chlorpyriphos methyl	< LQ		1	115.06	3,010		485486 (1) (2) (4) (2010 Riv. (1 + 625)	2569227
Chlorsulfuron	< LQ			1040	0.000		MS (15) 2013 Rec 12 - LC- MS (15)	04/04/2/5/ (44/04/5/5/ (44/04/5/5/
Chlorthal dimethyl	< LQ			49.45	0.030		01/S144 (2010 Res 41 : (65)	M66001
Clofentezine	< LQ			7990	0.010		UNSTRUCTURE THE	MONOTON MARKET
Chlorantraniliprole (DPX E-2Y45)	< LQ			perm	0311)		01(S121) 2,016 PM 12 - LC- M1149	36-05/201 94-98/201
Coumaphos	< LQ			1994	31/0		01/S121/21/5 Ray T. 1.C.	2500000 0500231
Cyanazine	< LQ		1	MPQL	2000		01/91/21) (01/9 Re- 12 - LC- US-215	787 6 78 1 24 (4 (2)
Cyazofamide	< LQ			70%	0.010		L1/5121+2070 Rev.12 + LT. MS-MS	28456/00 260678c
Cycloate	< LQ			1992	0.010		01/8/12** 20/10 Hep (2 = 1/0- M5/MS	240925F Sq-06001
Cycloxydim	< LQ	1		P(04)	9010		01/51/21/2019 Rev. 12: LC- MS-ASS	MEDIT
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ	1		TIGHT	000		01(\$145) 2012 845 11 - 635	2805000
Lambda-cynalothrin (includes gamma- cyhalothrin) (sum of R,S and S,R isomers)	<lq< td=""><td></td><td></td><td>70%</td><td>dans</td><td></td><td>M59/5 71/51/6 70/6 Rev 11-6/0 M39/5</td><td>04/06/2017 (80/6/2017 (94/06/2017</td></lq<>			70%	dans		M59/5 71/51/6 70/6 Rev 11-6/0 M39/5	04/06/2017 (80/6/2017 (94/06/2017
Cymoxanil	< LQ		1	10019	overc		51(\$12112019 Re): 12+1,C+ M6-M5	3M00W F
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	<lq< td=""><td></td><td></td><td>1990</td><td>юли</td><td></td><td>01/3/38/3019 Rev. M = (00) MS 833</td><td>34.04.00 34.04.00</td></lq<>			1990	юли		01/3/38/3019 Rev. M = (00) MS 833	34.04.00 34.04.00
Cyproconazole	< LQ			1947	9,000		(1.352172019 Sec. 52 - GC- MS MS	yeronyer Skokon
Cyprodinil	< LQ			1910	0.010		01 5127 3219 Avy (4 - LC- MS US	73×15 (01) 14/36/201
o.p'-DDD	< LQ		1	7392	0.90		of Sies Alle Read to the	24/35/811 54/36/90





Page 5 di 14

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

neotron

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT		40.0	on Constitute	10	9	16.44	2020
p.p'-DDD	<1.0			Pgrg	100		01/5 [4/2] 2010 Rev 11 - 6C	76/05/7010 a4/26/2016
o.p'-DDE	< LQ			*19 *0	9.005		M8149 10 H81441 221 ji Him 11 + E.C. M8 A4S	2100051V
p.p'-DDE	< LQ		1	1919	2000		03/8144/4319 Res 51 - 60-	29/15/2019 29/15/2019
o.p'-DDT	< LQ		1	7970	5 0ha		01/3140 0019 RM 11 - CC-	2.600 (2014 2.600 (2014)
p.p'-DDT	< LQ			19.50	1 (10)		0119* 44/2710 Nov. At - QC-	7405,7113 2489211
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			41990	7.00		00/516-12/01 Has 11 (46 MS-MS	28/08/25/19 04/08/25/1
Deltamethrin (cis-deltamethrin)	< LQ	1	1	75/49	4100		MSMS	28-09 20 FE
Diazinon	< LQ	1		adath	0.010		01/81/211/210 Hav 12 - L/5- MS 685	VR18/975
Dichlobenil	< LO		1	170.40	3,010		USSEN JUDINE 11: BC-	28-01-2013 04/04/2013
Dichlofluanid	< LQ			mbys.	0.010		01/0121/2010 mm 12 LC	\$2,050 m 19 941,655 m
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			-040	95/5		01.312112213 Rom (2 + LC- MS 4/5	MOSTOR A
Dimethyl-sulfanilide (DMSA)	< LQ			1919	0.010		01/5121) 2010 No. 17 - 17- 45 Als	10/0/25/4 34 (0/27)
Dichloran	< LQ	1		75%	2.040		51(3134) 9619 Rev. 11 (GC-	2486201 3486201
Dichlorvos	< LQ	Ì		76 40	0.505		Ot(STATED IN NO. 12 - LC	Mantagony Odminate
Dietofencarb	< LQ			49/44	0.010		01/612 (12/07/04) Ples 13 + 17/- MS-MS	26/55/2019 34/39/291
Difenoçonazole	< LQ			Yellial	0.000		01/312/12010 Apr. 12 - (10- 24) 3/5	Jage 2015 Series (C.)
Diflubenzuron	< L.Q			7040	10,010		01/6121137111 Re- 12 - LG- MISTER	H/60010
Diflufenican	< LQ			743.80	120		5 (d) 23) 2319 Att 12 - 1/5 Ma 1/5	78102016 2600216
Dimethenamid, sum of isomers including dimethenamid-P	< LQ			75/9	2019		11/3 121 (31 to Res 13 v) (2- 45 NO	\$4,000001
Dimethoate	< LQ			1992	6,010		01/522112410-96-12-6/C- 659855	V414/501
Omethoate	< LQ	-		-0.0	00%		01/6121/271/R=12-(C) M5 M5	76500010 0436201
Dimethomorph, sum of isomers	< LQ			1040	D.010		4 (0) (21) (2.1) (we 12 - 1.0- MS/MS	390,000 mg/m
Ditalimfos	< LQ			4849	0.016		01/312 1-2019 Res (2 - LO- MENS	78432314 3416901
Diuron	< LQ			7999	128		61/51/21/2018 Re-12-EC Min/Mi	28000211 0400221
Dodine	< LQ			1990.	2000		11/5 (21) (21) (80) (7-15- M1 M3	(8/600 N (4/600 N
Emamectin penzoate B1a, value expressed as emamectin	< LQ			30.6	97810		06/5(21) 2015 Rev 12 - LC- MS MS	28/8/2016 58/08/201
Endosulfan alpha	< LQ			0.593	0.00		\$119144 2019 Rev. 11 - GIC:	78090813 3409091
Endosulfan beta	< LQ			175.70	0.005		61(51(4) 2019 Rev 11 - GG MS-MS	26(8/25) ( 24/56/201
Endosulfan sulphate	< LQ			-22.943	6.296		01(51a1) 2010 Res 11 - GC- MS 926	7849200 046420





Page 6 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

neotron

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT	ų	-	27000	-10	Na/tac	60-0-7-0-0 68-54-0-0-7 1-7-7-1-0-0 30-7
Endosulphan, sum of alpha and beta somers and of endosulfan sulphate, expressed as endosulfan [414]	<lq< td=""><td></td><td></td><td>09/43</td><td>3.0(6</td><td>21/3344) @19 Rev 11 + 20- MS MB</td><td>340000 340000</td></lq<>			09/43	3.0(6	21/3344) @19 Rev 11 + 20- MS MB	340000 340000
Endrin	< LQ	Ī	1	risky	0,005	01 91 645 2010 few 11 - GC-	\$6000000
Epoxyconazol	<lq< td=""><td></td><td></td><td>75940</td><td>3.550</td><td>25 MS 01(515); 2010 Rev 12 - LC- 125 MS</td><td>04/6007 04/65/2010</td></lq<>			75940	3.550	25 MS 01(515); 2010 Rev 12 - LC- 125 MS	04/6007 04/65/2010
EPTC	< LQ			*0.ie	0000	00\$121)2004 RM 12-1C-	2563300 N/00201
Esfenvalerate and Fenvalerate, sum of isomers	< LQ			No-eg.	01010	21,514412519 Por 11 - CID MS-MS	3956377 045600N
Ethion	< LQ		1	PSN	2940	01 37-44/2010 Rev. 11 - GC-	5100600m
Ethofumesate	<lq< td=""><td></td><td></td><td>risky</td><td>0.016</td><td>81/51/4/2018 Fan 11 - GG-</td><td>28/25/2011</td></lq<>			risky	0.016	81/51/4/2018 Fan 11 - GG-	28/25/2011
Ethoprophos	<lq< td=""><td></td><td></td><td>rong</td><td>2000</td><td>01(\$121) 251 / Key 12 - LC- MS MS</td><td>23:05:26:0 04:08:26:0</td></lq<>			rong	2000	01(\$121) 251 / Key 12 - LC- MS MS	23:05:26:0 04:08:26:0
Etofenprox	< LQ		ľ	10/49	3,0,0	01(6)21)25(0 Rev 12+LG- M5 N5	28/08/00 A
Etoxazole	< LQ			#5%	0.010	01:S116:0019 Rin 12+LC- MCMS	78082016 0406201
Famoxadone	<lq< td=""><td></td><td>1</td><td>50.5</td><td>5000</td><td>01 51m1 2018 Fer T1 - GC-</td><td>ZMENT</td></lq<>		1	50.5	5000	01 51m1 2018 Fer T1 - GC-	ZMENT
Fenamidone	< LQ			region	0,003	M5 V5 01/5121) 2019 Hay 12 - LC- 146 M9	28/05/2016 56/06/2016
Fenamiphos	< LQ			They	0010	DIVSTRIY OF FRANCISCO	(MSS 264) THRESP
Fenamiphos-sulfoxide	< LQ			704	0.010	61 S 1213 2019 Rev 12 - 112- MS-MS	2845/305 34 98/705
Fenamiphos-sulfone	<lq< td=""><td></td><td>1</td><td>ing/s/1</td><td>5,515</td><td>61/51/1/2010/Rev 12 + 05 1/5/49</td><td>2500 d (2010) (34 l (6/20)</td></lq<>		1	ing/s/1	5,515	61/51/1/2010/Rev 12 + 05 1/5/49	2500 d (2010) (34 l (6/20)
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	<lq< td=""><td></td><td></td><td>mag</td><td>9.9%</td><td>01(S121) 7079 8 pt 12 - LG- MS MS</td><td>(4/0076)</td></lq<>			mag	9.9%	01(S121) 7079 8 pt 12 - LG- MS MS	(4/0076)
Fenarimol	< LQ			NGING	0.016	51(5121) 2018 Rev. 12 - LC- MDRMS	289500 H
Fenazaquin	< LQ		1	maya	0.010	01;5121) 2019 Rin: 12 - CC- M5:M5	2868(20)1 3486(20)1
Fenbuconazole	<lq< td=""><td></td><td></td><td>79/96</td><td>note.</td><td>01:5121) 2019 Rev 12 - LCa NS VS</td><td>2816 (p) 1 5496 (c) 1</td></lq<>			79/96	note.	01:5121) 2019 Rev 12 - LCa NS VS	2816 (p) 1 5496 (c) 1
Fenchlorphos	< LQ		į.	20,40	030	01(S144) 2019 Say 11 - C/C-	7808201t
Fenchlorphos-oxon	< LQ		1	MW-40	001c	(5)(\$144) 70 - Rep. 11 - GC	25000071
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos (414)	< LQ			rain	2,010	MS NS 21,91(4) 2019 Nov 11 - GS- MS NS	24/34/30/3 24/34/30/3
Fenhexamid	< LQ			many.	0.000	01 \$1211 2010 Nov 12 - LC- VS-WS	2000/201 0408201
Fenitrothion	< LQ			ingling	0.313	01(8144) 2018 Roy 11 - GC- MS Atg	(4865)11 (4865)11
Fenoxaprop-p-ethyl	< LQ			eiging	920	01(S121) 22(8) For 12 -1 C	24-66-904 54-66-904
Fenoxycarb	< LQ			7 (14)	0.610	01.5121(20) 4 Mar (5-4C-	38105/2015 041011703
Fenpropathrin	< LQ			75.45	1000	S154) 223 Rev 11 - GC-	2 METHOD VI 104 GROSS OF
Fenpropidin	< LQ	1		make	dura	01.51211.2019 Rev 12 - LC-	06/04/2011 04/06/2011





NAME OF BRIDE

Page 7 di 14



MODENA, Ii 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT	ş1 =	191.154(A)466	4	0	0.60	F-100
Fenpropimorph	< LQ		4040	0.013		01(6121) 27(9 Rev 12 - LC-	9995/9019 94-96/2019
Fenpyroximate	<lq< td=""><td></td><td>nes.</td><td>8.915</td><td></td><td>01/31/21/20/07/49/12-1-C-</td><td>2605201 3606231</td></lq<>		nes.	8.915		01/31/21/20/07/49/12-1-C-	2605201 3606231
Fenthion	<lq< td=""><td></td><td>1649</td><td>0.510</td><td></td><td>0.05171)20/0.866.12 -1 C- Ma.6-9</td><td>23/98/993 backgro</td></lq<>		1649	0.510		0.05171)20/0.866.12 -1 C- Ma.6-9	23/98/993 backgro
Fenthion-oxon	<lq< td=""><td></td><td>Home</td><td>9165</td><td></td><td>51(5121) 2218 Roy 12-15 MS MS</td><td>one or</td></lq<>		Home	9165		51(5121) 2218 Roy 12-15 MS MS	one or
Fenthion-oxon-sulfone	<lq< td=""><td></td><td>make</td><td>0.000</td><td></td><td>51(5121) 2115 Rev 12 - 125 MS MS</td><td>Živiskovi (M.cogo)</td></lq<>		make	0.000		51(5121) 2115 Rev 12 - 125 MS MS	Živiskovi (M.cogo)
Fenthion-oxon-sulfoxide	<lq< td=""><td></td><td>1976</td><td>3,010</td><td></td><td>05/5101) 20 (0 Rev 12 - 10- MS MS</td><td>26/00/201 04/08/001</td></lq<>		1976	3,010		05/5101) 20 (0 Rev 12 - 10- MS MS	26/00/201 04/08/001
Fenthion-sulfone	< LQ		1570	2.012		01.912512019 Rep 12.4C- MSAIS	2015/01 14/9/21
Fenthion-sulfoxide	< LQ		1910	0.010		01(5121); utp for 12 (LC- MS US	2000000 3485005
Fenthion, fenthion-oxon, fenthion-oxon- sulfone, fenthion-oxon-sulfoxide, fenthion- sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	<lq< td=""><td></td><td>79.43</td><td>0.00</td><td></td><td>M19121122 2 Feb 12-1 C- M1 M5</td><td>24/90/4 08/09/2014</td></lq<>		79.43	0.00		M19121122 2 Feb 12-1 C- M1 M5	24/90/4 08/09/2014
Flazasulfuron	< LQ		T = A12	3.010		1 (6.123) 21111 Rin 12 - 15- MS-MS	24650019
Flucythrinate, sum of isomers	< LQ		reas	= 010		01-31+4-2019 Res 11 - GC- MSA49	2606001
Fludioxonil	< LQ		-u+g	0.050		01(2101) 2019 Rep 12 - LC- MR MS	2884/2015 -0898/2015
Flufenacet	< LQ		mg/ag-	0,010		01(6121) 2002 Fig. 12 - EC-	2014/2015 04/00/2015
Flufenoxuron	< LQ		Tigina	2100		01-6121/257 Res -2 - LC- MS-MS	2184900 V
Fluopicolide	< LQ		Pare.	3.01%		MSNS	3485001 5485001
Fluquinconazole	< LQ	1	450	2.010		01(\$144) 2(15 Rec 11 (100- MS.MS	2608201
Flusilazole	< LQ	1	5970	olde.		CLS HITCHYROLD H-OC	387 500H
Flutriafol	< LQ		7616	0.070		11/3-21) 2010 Rev 12-16-	9866900 9666900
Fluvalinate, sum of isomers	< LQ	1	1956	650		31:\$14+; 22:19 Rev 11 - GE-	7856201
Fonofos	< LQ	4 1	19196	9359		01(3144) 70 (9 8 Hz 11 - GC-	26/5(20)
Formothion	< LQ		~ava	DOS		0165 (21) 20 to Rev 12 - LC- Mb (VI)	Streeger Mitsport Materials
Fosthiazate	< LQ		76.40	0,415		101(9121) 2011 Sin 12 - LC- MS-MS-	Separation of the last of the
HCH alpha	< LQ	1	0.046	nne		011514512015 RE-11-1-C-	(#05/2010 04/00/2010
HCH beta	< LQ		7079	0.004		(US) 144) 2016 Few 11 - GC-	28/6/2016
HCH delta	< LO		7846	5205		01(5141) 20/1 Rm 11 - GC- MS M5.	4905/201
HCH epsilon	<lq< td=""><td></td><td>7010</td><td>2000</td><td></td><td>MS 145. DT (2 + 34) (2) 16 Rec 11 - C/2- MS MS</td><td>78/05/70/0</td></lq<>		7010	2000		MS 145. DT (2 + 34) (2) 16 Rec 11 - C/2- MS MS	78/05/70/0
Heptachlor	< LQ		make-	3.00e.		MS/MS 01(2)-45/2019 Rev. 11 - Q.C. MS/MS	58:36.961 28:05:261
Heptachlor Epoxide cis	< LQ		move.	8 605		01(5140) 2019 Rev. 11 - GC-	76/06/2013
Heptachior Epoxide trans	< LQ		11949	2,016		MR-MS 01(8144) 29 (9 Rby 11 - GC- 415-MS	34(800) 380530N W 930





Page 8 di 14

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MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

## TEST REPORT nr. 19E20036-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20036

ANALYSIS DESCRIPTION	RESULT	Ser	DATE BARRIES	-0.6	· CC	MING	16,6,706.3 188(165.60) 1657 - 18774 1673
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ		freky	0.305		01/5146/2016 Rev 11 - QC MS/MS	\$205(01) \$136(20)
Heptenopnos	< LQ		59	0,07%		91(5121) 2019 Sev 12-14 MSW/5	26/05/01/19
Hexachlorobenzene	<lq< td=""><td>1</td><td>79,6</td><td>2 (2</td><td></td><td>01/51/1/01/4 Am (1/6)C-</td><td>VMbscs.rr Verkijst</td></lq<>	1	79,6	2 (2		01/51/1/01/4 Am (1/6)C-	VMbscs.rr Verkijst
Hexaconazole	< LQ		10.62	0,210		01/5121/2015 Rev 12 - LG MS 1/0	24/9/01 HB 08/05/01 HB
Hexythiazox	<lq< td=""><td></td><td>1964</td><td>Arto</td><td></td><td>7//5121, 27/4 He/ 13 - 1.5:</td><td>2006/019</td></lq<>		1964	Arto		7//5121, 27/4 He/ 13 - 1.5:	2006/019
mazaiil	<1.0		1997	5610		01(\$121)2019 Hav (x=±"- MSM6	20253019
midacloprid	< LQ		100	5,010		11(\$151) × 10 Rev (2 • 10)	3400 gg (1 04,00 gg (1
ndoxacarb, sum of R and S isomers	< LQ	1	0.513	01014		01(8121)2019 Rev 12: 13: 455/49	1800/2014 5400/2014
lodofenphos	<lq< td=""><td></td><td>1550</td><td>0.310</td><td></td><td>MISTER TOWNS H. GC.</td><td>24/35/11</td></lq<>		1550	0.310		MISTER TOWNS H. GC.	24/35/11
prodione	<lq< td=""><td></td><td>1994</td><td>0.040</td><td></td><td>1.1 S124 (2019 No. 11 - GG-</td><td>SANGON)</td></lq<>		1994	0.040		1.1 S124 (2019 No. 11 - GG-	SANGON)
provalicarb	<lq< td=""><td></td><td>Egis</td><td>0.210</td><td></td><td>DESTRICTION FOR STADO MS VS</td><td>2879/2015 04/08/001</td></lq<>		Egis	0.210		DESTRICTION FOR STADO MS VS	2879/2015 04/08/001
sofenphos	<lq< td=""><td></td><td>7990</td><td>0.016</td><td></td><td>31/5144/211 RH T1 - G/C-</td><td>2850200</td></lq<>		7990	0.016		31/5144/211 RH T1 - G/C-	2850200
sofenphos-methyl	< LQ		12115	100		M9485 3 (5) (2) (7) (6 Rev. 1) - 5 (2) M5 M5	\$406000 \$450000
soprothiolane	< LQ		0.00	0,645		MS MS 21/312 (12019 Rev 12 - 12- MS MS	540600 H darchipo fa 540600 H
soproturon	<lq< td=""><td></td><td>mpac.</td><td>500</td><td></td><td>(3)5 12.11 2018 Rev. 12 - 15- MS-MS</td><td>2401(201) 26.00(01)</td></lq<>		mpac.	500		(3)5 12.11 2018 Rev. 12 - 15- MS-MS	2401(201) 26.00(01)
Kresoxim-methyl	<lq< td=""><td></td><td>794</td><td>2010</td><td></td><td>31/81/4 (20) (10) 11 - GC</td><td>demonstra</td></lq<>		794	2010		31/81/4 (20) (10) 11 - GC	demonstra
Lindane	< LQ		1995	9356		Michigan Zana Samulti- GC-	24/6-3(h) 26/5((5)+)
Lindane, sum of HCH isomers included Lindane [414]	< LQ		ryxy	0.0%		0)(\$144)(7)(\$ 8(0)) - 0G. 1/\$ 4/5	29/9/2014 29/9/2014 24/9/2014
Linuron	< LQ	1	hipso	0.21		010/12/12019 Sept 12-10/4	Jacksofty (MANAGER)
Lufenuron	< LQ		1970	0,030		E1(5121) 2219 Rev 12 - 4C- MS-MS	29080019 04080019
Malaoxon	< LQ		myrg:	0.010		31/51/11/27/10 Rev 12+6C-	9400ayy 0496200
Malathion	< LQ		redixe.	nam		01,51211 2019 Fey 12 - LC MC MS	Netherina 04/06/2011
Maiathion and Malaoxon sum expressed as Malathion [414]	< LQ		1995	0,010		2101121) 2010 Sex 12-1 Cv 855 MS	7805/2019 54.067011
Mandipropamid	<lq< td=""><td></td><td>1997</td><td>0.000</td><td></td><td>99/5/9112010 Am. C - 1/5 M5 M6</td><td>200 model</td></lq<>		1997	0.000		99/5/9112010 Am. C - 1/5 M5 M6	200 model
Mecarbam	< LQ		-gxg	8000		Director) Southway (2-40) MS-645	ARKSON FOR
Mepanipynm	<lq< td=""><td>1</td><td>7096</td><td>aini</td><td></td><td>010121:201-88712-15 MS-MS</td><td>Strongers (MONTH)</td></lq<>	1	7096	aini		010121:201-88712-15 MS-MS	Strongers (MONTH)
Metalaxyl, sum of isomers including Metalaxyl-M	< LQ		29.07	5,515		mintri janu da jarto. Mawa	2000 00 13 94/16 9111
Metazachlor	< LQ		~99	3,500		Rhotelangue 1-60- MSWS	Allestyp II





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Page 9 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

## TEST REPORT nr. 19E20036-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT	All III	NUMBER OF	663	-000	PORTS.	25.6.7477 84.5.56494
Methidathion	<lq< td=""><td></td><td>79/90</td><td>2,5%</td><td></td><td>01/5/01/2019 Hery (2 - 00) M9 M5</td><td>2905/00/00 04:06/001</td></lq<>		79/90	2,5%		01/5/01/2019 Hery (2 - 00) M9 M5	2905/00/00 04:06/001
Methiocarb	< LQ		1000	2000		SIDITE STITE OF TO - LC-	26559816 7400163
Methiocarb-sulfone	< LQ		39	226		05 (\$1021) 25 (\$400) (2.4 (\$500)	28/8/2014 54/20084
Methiocarb-sulfoxide	< LQ		-0.442	0.910		01/9121/2019 Res 13/4002 MS:A19	2948/2013
Methiocaro, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb [414]	< LQ		11945	01010		01(0121) 2000 Res 12+40- 65 Ms	2800(21+) (40%(21)
Methomyl	<lq< td=""><td></td><td>rogreg</td><td>9515</td><td></td><td>03(\$121) 203 k (6) v - 2 v ( f) M5 N0</td><td>040000 W</td></lq<>		rogreg	9515		03(\$121) 203 k (6) v - 2 v ( f) M5 N0	040000 W
Thiodicarb	< LQ		nexa	9,010		01(G12))27(5 fbur 12 - LE- Ma MS	75/55/2019 04:06/2019
Methornyl and Thiordicarb sum expressed as Methomyl [414]	< LQ		make	0.016		01(\$121) 2019 Rev 12+10 MS145	24005/2019 04:06/201
Methoxychlor	< LQ		1970	2,005		01-6144; 20-9 Sec 11-002-	04/05/2*/** 04/05/2*/**
Methoxyfenozide	< LQ	1	40.62	8000		01(812112319 Rev 12 - LC-	Sheet or in
Metolachlor, sum of isomers including S- metolachlor	<lq< td=""><td></td><td>-114</td><td>0.0%</td><td></td><td>0103144)201376+11-5C- 05165</td><td>2516/3019 34/36/311</td></lq<>		-114	0.0%		0103144)201376+11-5C- 05165	2516/3019 34/36/311
Metrafenone	<lq< td=""><td></td><td>Time</td><td>oata</td><td></td><td>MS DO TO THE REAL OF LC</td><td>Sideboors Notice</td></lq<>		Time	oata		MS DO TO THE REAL OF LC	Sideboors Notice
Metribuzin	< LQ		resc	0.016		61/5121) T018 (by 12+17) MSAS	dánágova skretoka
Metsulfuron-methyl	< LQ		1489	0.010		01/5121) 2010 /66/12 - LC: VS-MS	2505-2015 54-96-201
Mevinphos, sum of cis- and trans-isomers	< LQ		regag	6110		01(\$15)) 701(\$5), 12 - 00- 05/Mg	29/83261 04/86276
Molinate	<lq< td=""><td></td><td>-val.</td><td>3.510</td><td></td><td>DISTRICT REPTI-LES</td><td>2900000 N</td></lq<>		-val.	3.510		DISTRICT REPTI-LES	2900000 N
Monuron	< LQ	İ	712.90	2.010		01(8)71) 9019 Per 12-173- MS #15	28/15/2019 54/08/2019
Myclobutanil	< LQ		50.00	⊐aja.		11/3/10/19/2019 Rev 32 - LC+ MS-M3	28/850(1) 34/86/07
Napropamide	< LQ		0.580	3 010		01 5121) 2016 Rev 12 -1.0- MS/MS	28/8/2011 \$406.901
Oxadiazon	< LQ	1	Her	3.516		01(614) 2019 Ray (1) GG-	390000 N
Oxadixyl	< LQ		06.62	927		7/5/01/200 PM: 01-LC- M5/63	24959017 NO0201
Oxyfluorfen	<lq< td=""><td></td><td>nes</td><td>0.010</td><td></td><td>Statistical Restricts</td><td>54/26/20 F</td></lq<>		nes	0.010		Statistical Restricts	54/26/20 F
Paclobutrazol	< LQ		9×g	2,010		31(9144) 2218 May 11 - (90) MB MS	26/36/201
Paraoxon	< LQ		7549	50m		1.157 (21) 211 (Rev.1) - 12- MG MG	25-65 Vota 54-40/201
Paraoxon-methyl	< LQ		mese	Ecto		odjáto vojátektév rziluda MS/KIR	76/03/00/10 Skrokráci
Parathion	< LQ		(Note of the	2010		01.5 (J.1) 2019 Rev. (2 - LC) 515-515	Jánsonn
Parathion-methyl	< LQ		mg/62	1.593		01 612152015 Rev. 12 - EC-	3505200 560600





Page 10 d 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

## TEST REPORT nr. 19E20036-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT		mg II	N. S. MITTER		675	(E)eQ	ing in the fact of
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			100	2,410		01/31/4/12/19 Rev 11-50- MS MS	3876/3876 14/2/1911
Penconazole	< LQ			nukg	2010		07(\$121) 2019 Rev 12 - LC- MSAIS	284369873 24063311
Pencycuron	<lq< td=""><td></td><td></td><td>7947</td><td>0.010</td><td></td><td>01(9171)2019 Res. 47 - LC. MC 240</td><td>2605/2015</td></lq<>			7947	0.010		01(9171)2019 Res. 47 - LC. MC 240	2605/2015
Pendimethalin	< LQ			trains.	0.010		01 5121/2016 Rps 12 - 31 MS 018	v840/2011 240/20
Permethrin, sum of isomers	< LQ	1		inche	Small		01/5142170P1 Nev 11 - 655-	Jakks-cure paracyce
Perthane	< LQ		1	1986	0.010		01-31-412919 (b) - 11 - 6-C	3615-251
Phenmedipham	< LQ	Ì		Tegrey	0.210		01/8121) 2016 Fair 12-1.C	78959CF) 04,080001
Phenthoate	< LQ	Î		79240	3,610		01/5144(05)9 Fe/ 11 - OC-	25/H0010
Phorate	< LQ			mpag	0.500		01312113215 Rm 12-1C- MS NS	289690 to 0406901
Phorate-oxon	< LQ			79.90	0.010		0.05 (21) 2019 Nov. 12 - 15-	7676/2015 54 (9)(201
Phorate-oxon-solfone	< 1.Q	1		75.00	0.016		6 (Shart) put a Raw 17 or (5) MS MS	28000001 8600201
Phorate-sulfone	< LQ			n und	0.015		01/517/1/2019 Rov 12 - (£)-	2000/20 1400/20
Phorate-sulfoxide	< LQ			Trynd	11.1/10		01/S121) 7019 Rev. 12-1C-	2809251 2409.214
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ			79870	0.048		01(S121) 7379 Res (7-10- MS-N2	(8/15/g) 1 (84/08/2011
Phosalone	<lq< td=""><td></td><td></td><td>75/8</td><td>OWNE</td><td></td><td>(4.05 124) 2.7 a Ray 1.7 + 2.0 (4.05 M)</td><td>22050111 04106211</td></lq<>			75/8	OWNE		(4.05 124) 2.7 a Ray 1.7 + 2.0 (4.05 M)	22050111 04106211
Phosmet	< LQ		1	Fare	7/03/0		2 /3 (21) 2019 Ploy 12-1.C. MOTAGE	69119.2919 SHORES
Phosmet-oxon	< LQ			77 G 40	0.010		01.51.21) 2018 Rev.12 - LG- MS.MA	2858:2011 36 (b) 201
Phosmet and phosmet-oxon expressed as phosmet [414]	< LQ			(region)	0.510		813512317019 Ser. 12-1.C- MS-MS	ANGON: 14-800
Phosphamidon	< LQ			rates	0,00		DISTRIBUTE NAME OF THE	7878/2011 04 06/201
Picoxystrobin	< LQ			79/54	0.0%		91(3174) 2013 Rev 11 - CC-	Z6050013 SA1823
Piperonyl butoxide	< LQ		i	79.40	200		Of Stad 2 - Star 11 - CC	2615, 2116 NJ.00(21)
Pirimicarb (Pirimor)	< LQ			20,40	0.010		01(5.121) 1018 (tox 125 t)G. MinAS	34.78.201 34.78.201
Pirimicarb-desmethyl	< LQ			1946	3646		SURGEST ROLLS - LD	Jársága (4.5620)
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ			58	1000		113 (71) 7019 Res. 12 - 175 MS MS	(8/03/09/n
Pirimiphos-ethyl	< LQ			70.00	mate		MCMS	(M/OOD)
Pirimiphos-methyl	< LQ			POR	0.010		G1 G1441 2319 Nov. 11 - GC-	2869201
Prochloraz	< LQ			705	6790		31 917 1130 19 REV 12 - LC MS MS	SACROSS
Procymidone	< LQ			11543	0,010		0.05144 2019 Roy 11 - GD	7889301 3486201

Continued...

Leavations Dualities (IM, 26-287 At. 4). Leava 4582 per la Richter Applicate a conscione feor degical Responsion for the Richter Application of the Advanced State (IMA 2005). SMG Vanishing Final and Very adults Advanced Leavating Distriction (Leavating August and Mark Very Advanced State (IMA 2005).





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Page 11 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT		ME T	(A) (I) MINOR		D Wing	SACTOR BELLEVILLE CHILD
Profenofos	<lq< td=""><td></td><td></td><td>200.40</td><td>000174</td><td>01:5121) 2019 Rex 12 - LC-</td><td>2813/08/VI 04/38/9/VI</td></lq<>			200.40	000174	01:5121) 2019 Rex 12 - LC-	2813/08/VI 04/38/9/VI
Prometryn	< LQ			-615,	=010	(2)(2)(3)(4)(Re)(12-1)(3) MSA(1)	24/05/00 PM
Propachlor	< LQ			-94	3.0\$5	011610117010166-18-1.C-	they re-
Propanil	< LQ	1		-042	losa	04/5121/2007/569 12 - 1.C. MS-MS	27/45/27/1 37/46/27/1
Propaquizafop	< LQ			-14 kg	0.010	01(6121) 23111 Rec 12 - LC MG-MS	2459030 V 345020 V
Propargite	< LQ	İ		7970	.000	57(\$(21) 200 Rev (2×1.6) M5/M5	29/05/JUNE 04/06/JUNE
Propazine	< LQ			-0.54	2002	(0)5421) 0014 Rep.72-115 MS 165	240400 A 54 0450 A
Propiconazole (sum of isomers)	< LQ		1	holig	1000	C1(S121) 2+10 fbs/12+1/5 MS-1/6	281500* 240000
Propoxur	< LQ			PEN.	013	01(S121) (014 key 12-1,C	2446-257 9236-357
Propyzamide	< LQ		1	7950	orini	04(81) 1) 2010 Sec 12 - LC- MS-MS	2406201 040620
Proquinazid	< LQ			TIUNG	10.515	39(\$121) 230) Rep 12 (10-	Whole
Pyraclostrobin	< LQ			-549	500	34(5321) 237 = [ta=12 + 15] M3(24)	7875.817 3870-197
Pyrazophos	< LQ			Melvic	0.012	01(\$121) 2019 Rev.12   I/Ci M01465	2406301 3876091
Pyrethrins: pyrethrin I and II, cinerin I and II, iasmolin I and II, sum (low limit)	< LQ			250	0.010	01/6121/20/09 Rev 17: UC	2505-217 34 00-201
Pyridaben	< LQ			114.92	9,0,15	01/0144- 2010 Nev 11 - GC- MO MS	2905000 040600
Pyrimethanil	< LQ			CONG	8.035	01(5121(2015 Rise 12 - LC) MS-MX	2500000 345620
Pyriproxyfen	< l.Q			70.40	0.00	2015(21) 2219 Rev 12 - LC: M6/859	2504001 3478-001
Quinalphos	< LQ		1	-516	1040	SUBSTRUCTS Rev. 12 - y G Marks	3858894 36.39997
Quinoxifen	< LQ	}		400	2000	01:5121/3 (19 Res 12 - ) G- MS/MS	2605301 (406255
Quintozene	< FO	1		m2 kg	0.5%	01(\$100) 2019 Rev.11 - GC-	2005215 940621
Pentachloroaniline	< _Q		1	1,048	17 205	01/51/4/100/4 Rep (1-06/	2501201 94190201
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			198-01	0.00%	DUSIAL) A REAL SC.	2876207
Rotenone	< LQ			100	2.640	1. 5.21) 231) they 32 - C.	341839 341839
Simazine	< LQ			7010	2010	01912112919 Ren 12 4 G WS-MS	25K5/27T
Spinosad, sum of spinosyn A and spinosyn	< LQ			PSAS	3,040	CNS 2 y XXVI Per 12 - 172- ANS MIS	SACKSON SACKSON
Spirodiclofen	< LQ			F-1612	6,010	0 (15 (24) 2010 Hope (2) - LC-	95/50/201 01/08/20
Spirotetramat	< LQ		1	1940	0.040	01(S121)2019 Res. (2 - LC) MS NS	201027





Page 12 d 14

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MODENA, ii 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT	υ	ALC:	ON CONTRACTOR	-8	-0	tele	Mohand Mohand Chinadha
Spirotetramat enol	< LQ			1993	0,000		01/013/1/2019 Res 12+1C- Ma-MS	29/05/2019 04/04/2019
Spirotetramat enol-glucoside	< LQ			-949	0.010		ST STATE OF REV 12+1C.	76/16/07/15 04/16/70/1
Spirotetramat ketohydroxy	< LQ			FIGURE .	3.50		01 (\$121) \$019 Res 17 - 00- Moles	28/05/07/0
Spirotetramat monohydroxy	< LQ			-sekel	9.007		91(5)(21) 2019 No. 12 -LC+ ME126	24052019 2406201
Spirotetramat and its metabilites (enol, enol- glucoside, ketohydroxy, monohydroxy) sum as spirotetramat (414)	< LQ			1911	40.0		91/31271 3010 Rev. 17 - LC MG-M5	211050 VB 041400 VB
Spiroxamine	< LQ			mp/eu	0.00		51(\$121) 20 4 Rev 12 -1 C-	2265000 0400000
Sulfallate	< LQ			-rg/kg	0.ptc		01/5121(2010 Res 12 + co. Mg MS	2500/05/9 0406/25/9
Sulfotep	< LQ			Port	1016		17 S 1441 2C 19 Rev. 11 - C.S. MS/MS	2805/2016 (2002/2016
Tebuconazoie	< LQ			11059	5010		01(\$121) 2019 Rot 12 + CC MS-MS	2960×2071
Tebufenozide	< LQ			-950	0,000.		91(5121)2914 Rev. 12 - UC- MS/MS	26/92/11
Tebufenpyrad	<lq< td=""><td></td><td></td><td>79'9</td><td>0.610</td><td></td><td>01/S144/2019 Ris. 11 / GC</td><td>amisorti sonecin</td></lq<>			79'9	0.610		01/S144/2019 Ris. 11 / GC	amisorti sonecin
Teflubenzuron	< LQ				005		01/51212235 Res (2-1,C-	28/15/2019 94/06/25/0
Tefluthrin	< LQ			7580	3/0tg		01(5104) 2019 Res 11 4 C.C.	28/18/2019 64/06/2019
Terbuthylazine	< LQ			115.15	0.019		#1(5121) 2019 Rev 12+1C- MS/NS	79/6/37/0 04:36/2013
Tetrachlorvinphos	< LQ			11997	0.013		01/5121) 2010 Res 12 +1.C= MS-M3	2416-2019 0106-2019
Tetraconazole	< LQ			1998	0.20		01:5121+7019 Kes 12 -LC- M5:M5	VANEAULT OF THE PROPERTY OF TH
Tetradifon	< LQ		Ĭ	rigita	0.515		01)5154)2019 He 11 - CC- MS MS	25-05-2010
Tetramethrin	< LQ			-974	0.010		01(5121) 2019 Five 12 - LC- MSMS	(819001) (8162***
Thiabendazole	< LQ			1940	Note		31(S121) (2:18 (G) + 12 +1,G- 1(3:19)	24 CS (24 CS))))))))))))))))))))))))))))))))))))
Thiacloprid	< LQ			9.500	deta		(US12172) 19 H02-17 = US MS MS	28-05-073 04:06-02-0
Thiamethoxam	< LQ			Pales	0010		011912112018 Rev 12-10- MS/MS	2645-01/5 04/04/2070
Thiobencarbe	< LQ			15083	5010.		41/6121) 7/19 Rev 12+LC- A/5 A/5	JANSONS Messons
Thionazin	< LQ			nekg	8546		01/5121) 2018 HeV 12-1/5- MS VS	2896-2019 6496-2019
Thiophanate-methyl	< LQ			ng/kg	0055		01/9/21/20/9/05 U-LC- MEWS	767503LF6 047503275
Tolclofos-methyl	< LQ		and the state of t	ngko	Q010.		01(51(4) 20)\$ Res. 11 - 60	80000000 6000000
Tolylfluanid	< LQ		and the same	10,60	birts		01/512117002 Ruy 17 - LC- 165075	28105CD16 04(90/201
Dimethylaminosulphotoluigide (DMST)	< LQ		1	75.40	6015		01(51/21) 2010 Stat/2 - LC- MSA/S	7w160010





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Page 13 d 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20036-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT	1,0	(400)	An introduce	140	ju.	ACM.	
Tolylfluanid and DMST, sum expressed as tolylfluanid [414]	< LQ			MY KT.	5015		61(\$121)2019 Rev. 12 - LC- MSAIS	259500 W 565005 W
Triadimefon	< LQ			T6.46	3015		MSND TO SER CLC	AMESSIC 18 14 94 (21/9)
Triadimenol	< LQ			THE NO.	0000		01(9121) 2 - 1 (12.12 - 1.0 NS AG	260000 Ft
Triallate	< LQ			1919.	più		DESCRIBING NO. 12 - LC- MS MS	3454385 3454385
Di-allate (sum of isomers)	< LQ			115/45	suto.		UUS121/2610 Rev 12 / 1C- MS146	16/00/2019 14/00/2019
Triallate and Diallate sum expressed as Triallate (414)	< LQ			učkž	9.010		01/21217/019 Het 12 - CO- MS 140	2405,9016 3406,2016
Triazophos	< LQ			1999	0.010		01/3121/2019 Ret. (2+10 MS NS	520000019 940000019
Trichlorfon	< LQ			11,010	- Grove		31/51/21(201896) 12-LC- M5-M3	28/03/07/9 (N/08/02/9
Tricyclazole	<lq< td=""><td></td><td></td><td>50%</td><td>-0,010</td><td></td><td>51(5)(21) (310 He) 12 - (15- AtS/AtS</td><td>28052018 64683018</td></lq<>			50%	-0,010		51(5)(21) (310 He) 12 - (15- AtS/AtS	28052018 64683018
Trifloxystrobin	< LQ			13.0	a orto		C/151/17/2-19/Rev 12 - C- MSAN	28/05/2014 9=68-2018
Triflumuron	< LQ			199	-Citts		GT(S) TTO TO THE PART TO LET CO.	1616/2016 06/16/2016
Trifluralin	< LQ			11070	0.510		01/514/12/16 No. 51 - 60-	Settionery
Triticonazole	< LQ			70.90	0.010		01(5121) 2013 Her 12 - LC- M2 M5	2856 W 0
Varnidothion	< LQ			-North	2013		01(\$121(2) () No. 12-12- MS-MS	28530019 56040010
Vinchlozolin	< LQ			75.0	2010		6 5144) 7511 Run 11 + 0/2	-H0200





Page 14 dl. 14

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

#### TEST REPORT nr. 19E20036-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20036

ANALYSIS DESCRIPTION	RESULT	~	al Heres	19	Mrs.C	MAPES STORY
Zoxamide	< LO		"MAG	J ○ ) ≡ ·	SUSTEMPTOR Res G-LC- MSWS	SECRETAL SECRETARY

END TEST REPORT

Notes and method refere de-

Notes and method reference.

Limit Please note that if each contribution of the search methods are applied, in the case of quantitative microbiological tests, these have been set up on a single plate in accomunitie with ISO 7218/2007/Amd 1 2013 par. 10 2.2 unless otherwise explicitly required by current regulations.

LO: Quantification Limit. It is the lowest analyte concentration which can be detected at an acceptable precision (repertability) and accuracy, under well defined conditions.

LO: Quantification Limit. It is the lowest analyte concentration which can be detected but not necessarily quantified, under well defined conditions.

Conforming evaluations values not complying with taxes, decrees, national and EU regulations or specifications supplied by the customer are evaluated come by case, disc triving not consideration the uncertainty of measure for each single test and the regulations on rounding-off of values, and pointed out when considered as non-conform.

Rec %. Recovery % "\* means that the recovery has been applied to the result. The numeric results between brackets (\_) after the espression sLQ are purely indicative of traces that cannot be exactly quantified.

Methods marked with an asterisk (\*) are not accredited by ACCREDIA (UNI CEI EN ISO/IEC 17025)

NOTES OF PARAMETERS

[329] Main posticides belonging to this group: Firebarn, Mancozeb, Manco, Multram, Nobart, Propried, Thram, Ziram [414] The sum is calculated through the inter bound piterion.

TEST REPORT VALID FOR ALL LEGAL PURPOSES (upon R.D. LS-4928 n. 842 unline 16). — having Low 19-7-1967 in 1979 articles to mind to itself in Ministerial Decree 20-5-1984().

DATA and SAMPLE STORAGE: Their Reports. Rew data, chromosoproping pains and instrumental reports are stored for 5 years. One control instruments in stored for 2 ments.

Data expressed in this fact report refer control to the sample tested in the laboratory. The description or any other reference conducting the sample are declared by the business. This True Report carried to according to the sample are declared by the business. This True Report carried to according to the sample are declared by the business.

Approved by Analysis Manager - laboratory LMA-pid. Approved by Analysis Manager - laboratory LC-r AR.

LABORATORY MANAGER - DR. ALBERTO GATTI-Augusted by Analysis Managet - Invertality GC-BRO



Please note that the certificates of analysis are also conveniently available online and around the circle at www.worldaccount.past.com

2019-02-14 Head of Q juergen.dremel@bast.com +49 7303 13-372 Reg. 20190212134639 Page 1 of 2

#### Inspection Certificate 3.1 according to EN 10204

Material

50627967

Lot

0020265740

			Lower	Upper
Characteristic Method	Unit	Value	Limit	Limit
THE CHIEF				
APPEARANCE		PASS		
AX-891981				
ACID VALUE MG KOH/G		9, 1	0, 0	1, 0
ISO 660	10.0	0.07		0.45
FREE FATTY ACIDS, SUM	5	8, 87		0,45
CP-804002				
PEROXIDE VALUE MEQ 02/KG		< 0, 1	0.0	4, 0
ISO 3960		0.00	0.00	ō ne
WATER CONTENT, KARL FISCHER DGF C-III 13a	5	0, 00	9, 99	8, 95
		2.2	7. 0	3,5
UNSAPONIFIABLE MATTER PhEur 2.5.7	3	2, 2	0, 0	3, 3
ANISIDINE VALUE		10	Δ.	20
DIN EN ISO 6885		10	0	20
	8121	0.4	0.0	0.5
FATTY ACID TRANS, SUM IA-801057	*(a)	0, 4	0, 0	0.5
CONTENT ARACHIDONIC ACID AS TG	mg/u	447	400	
IA-057055				

#### Released by J. Dremel

 Production date (do.mm.yyyy)
 18.81.2619

 Release date
 12.82.2019

 Retest date / Best Before date
 17.01.2021

BASF Personal Care & Nutrition GmbH

The aforementance data small constitute the agreed subtractual quality of the product at the einer of passing of risk. The data are controlled at regular intervals as part of our quality assurance program. Notitier these data not the properties of product specimens shall imply any legally binding, guarantee of certain properties or of fitness for a specific purpose. No liability of oursidence of certain properties or of fitness for a specific purpose. No liability of oursidence of certain properties or of fitness for a specific purpose.





Flease note that the sertificates of analysis are also conveniently available colline and around the clock at www.worldaccount.casf.com

2019 02-14 Head of Q juergen.dremel@bast.com +49 7303 13-372 Reg. 20190212134639 Page 2 of 2

Inspection Certificate 3.1 according to EN 10204

Material

50627967

Lot

0020265740

89257 Illertissen, Germany

The aforementioned data avail constitute the agreed controlled quality of the product at the time of passing of rise. The data are controlled at regular intervals at part of our coastly assurance program. Neither these data not the properties of product speciments shall imply any legally binding, guarantee of centain properties or of fitness for a specific purpose. No likelity of oursidance convex therefrom.



# Certificate of Analysis

Ms Edith Von Kries

BASE Personal Care and Nutrition GmbH

c/o Roland Sauter ILL-ENO/HI

Building: 025

Robert-Hansen-Strasse 1

DE 89257 Illertossen, Germany

Report No: P19 05054

Purchase Order: 4951478751

Date Received: 28th May 2019

Date Started: 3rd June 2019

Page 7 of 12

#### Arachidonic Acid Rich Oil

Sample Co	ode:	P19-05054-3	Your Reis:	Sample Referen	ice: 100395
Description	on:	ARA Oil Gold 00202	65740		
Method	Anal	vsis		Result	Units
* TM-318	Acid	Value		0.2	mg KOH/
* TM-325	Free	Fatty Acid		0.10	g/100g
* TM-328	Pero	xide Value		3.02	ineqO2/ kg Fat
* TM-319	Ams	dine Value		<0.1	
•	Unsa	ponifiable Matter		2.0	9/1009
, LW-331	alpha	a tocopherol		458	mg/kg
* TM-331	beta	tocopherol		93	mg/kg
* TM-331	gam	ina tocopherol		1078	mg/kg
* TM-331	dulta	tocopherol		4/0	mg/kg
* TM-331	Tota	Tocopherois		2098	mg/kg
* TM-252	Chol	estero)		0.1	%.
* TM-252	Unid	entified A		80.5	0%
* TN-252	24-14	tethylene-cholesterol		2.1	96
* TM-252	Cam	pesterol		1.7	46
* TM-252	Cam	pestanni		0.1	P(2)
* TM-252	Stigr	masterol		0.5	96
* TM-252	Unid	entitled B		5.2	90
* TM-252	4.5,	23-Stigmastagienol		5.1	1966
* 1M-252	Chite	rosterol		0.1	U/W
* TM-252	II-Sit	asterol		3.7	96
* TM-252	Sitos	stanol		0.2	9/0
* TM-252	A-5-	Avenusterol		0.1	90
1 TM-252	1-5,	24-Stigmastadienol		0.1	96



Approved By: Robert Griffiths Snr Associate Principe Scientist (Investigative Analysis) 28 June 2019

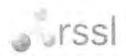


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# Certificate of Analysis

Ms Edith Von Kries

BASE Personal Care and Nutrition GmpH

c/o Roland Sauter ILL-ENO/HI

Building: 025

Robert-Hansen-Strasse 1

DE 89257 Illertossen, Germany

Report No: P19-05054

Purchase Order: 4951478751

Date Received: 28th May 2019

Date Started: 3rd June 2019

Fage 8 of 12

#### Arachidonic Acid Rich Oil

	Sample Co.	de:	P19-05054-3	Your Reis:	Sample Referen	ce: 100305	
	Description		ARA Oil Gold 00202		Sumple reverse	- X10010	
	Moshod	Analy	/S15		Result	Units	
	* TM 252	1-7-5	tigmastenol		0.6	96	
	* TM-252		ivenasterol		0.2	%	
	1M-252	Unide	entified C		3.6	96	
	* TM-252	Total	Sterois		12131	mg/kg	
	* TM-252		sterols excluding unident	shed	1174	mg/kg	
	8	Arach	nidonic Acid		453	ma/g	
	TH-112	C13:	(1)0		0.1	50.	
	TM-112	C14:	9		0.2	Ow	
	TH-112	C15:	O		0.4	%	
	T#9-112	C15:	0		5.9	1/4	
	TR-112	C15:	1		0.1	%	
	TM-112	C17:	0		0.4	-62	
	TM-112	C18;	0		9.5	Post	
	TM-112	C18:	1(trans)		0.1	96	
	TM-112	C18:	1(GS)		21.9	%	
	TM-113	C18:	2(trans)		0.2	1942	
	TM-112	C18:	2(cis)		5.8	%	
	TN-112	C18:	3(gamma)		2,3	%	
	TM-112	C18:	3(alpha)		0.3	%	
	TM-112	CZ0:	0		1.0	96	
į	TM-:12	C20:	1		0.6	Ofp	
	TM-112	C22:	0		1.8	16	
	TM-112	C24:	0		1.6	%	



Approved By:
Robert Gritfiths
Sur Associate Principal
Scientist
Linvestigative Analysis)
28 June 2019

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# Certificate of Analysis

Ms Edith Von Kriek

BASE Personal Care and Nutrition GmbH

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Building: 025

Robert-Hansen-Strasse 1

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Report No: P19-05054

Purchase Order: 4951478751

Date Received: 28th May 2019

Date Started: 3rd June 2019

Page 9 of 12

#### Arachidonic Acid Rich Oil

Sample Co	ide:	P19-05054-3	Your Refs:	Sample Referen	ce: 100395
Description	ri:	ARA Oil Gold 00202	65740		
Method	Analy	sis		Result	Units
TM-112	C24:1	1		0.1	t)/a
7M-112	C20:2	y.		0.4	96
TM-112	C20:4	(nG) (ARA)		45.0	70
TM-112	C20:5	S (EPA)		0.1	5/6
TM-112	Unide	entined		0.9	90
TM-112	C20::	3 (n6)		1.6	Sec.
Normlised f	atty acid	profile (%)			



Approved By: Robert Griffiths Snr Associate Principal Scientist (investigative Analysis). 28 June 2019



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mean engineeristicam and mawasticam



## ARA Oil Gold, 0020265740 - éch n°100921

#### Détermination des stérols

incertitude sur la composition

Delta7-campestéral / Delta5-avenastéral / Delta7-stigmastéral / Delta7-avenastéral : 20 % de la valeur avec Minimum : 0,7 / Maximum : 3,5 Autre stérals : 10 % de la valeur avec Minimum : 0,5 / Maximum : 3,5

incertiturie sur la toneur ; 20% de la vateur

Analyse réalisée le : 01/08/2019

Stérols		Résultat(s)
Cholestérol	0,1	%
5α cholesta-8, 14 dien-3βol	4,9	%
Desmostérol	77,2	%
Zymostérol	0,5	%
Ergostérol	3,3	%
Cholest7, 24die-3βol	1,9	%
Campéstérol	1,5	%
stigmastérol	0,4	%
Iso fucostérol	5,8	%
Fucostérol	<0,1	%
B sítostérol	3,6	%
Δ5,24 Stigmastadiénol	<0,1	%
24methyldesmostérol	0,5	%
Stigma-5-ene-3βol	0,2	%
Teneur en stérols	13542	mg/kg



Labor 1.5.5E.6 Co. KG Murginelino 1.5.6 (1.97/co.bia.e. Booked () Grammy BASF Personal Care and Nutrition GmbH Ms Margit Kapitzke Robert-Hanson-Straße 1.89257 (Illertissen

Fon: +49 (0)97 08/91 00-0 labor@kibor-ls.de www.labor-ls.de

Bart Bocklet 31 May 2019 / KA / Bastill

#### Certificate of Analysis

LS No:	190516-0132-003	LS Code:	1359729 / L	
Product name:	ARA OIL Gold			
Lot No:	0020285740			
Article No:	11098258			
Entry temperature:	room temperature			
Your Order No:	4944273100			
Order dated:	15 May 2019	Sample receipt:	16 May 2019	
Start of test:	17 May 2019	End of test:	31 May 2019	

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Demands	Result
Enterobacteriaceas, qualitative	*L 00.00-133/1, mod.		not detected / g ISO 21528, mos.
Total viable count, anaerobic, mesophiic 30 °C	*L 00,00 - 88/2 mod.		< 100 CFU/g
			DIN EN ISO 4833-2 mod
yeasts, quantitative	1. 01.00 - 37, mod		< 100 CFU / g ISO 21527, mod.
Pseudomonas acruginosa, qualitativ	L+S SOP 9.035		not detected / g ISO 13720, mod
Salmonelia sp., qualitative	°L 00.00 - 20		not detected / 25 g DIN EN ISO 6579-1
molds, quantitative	*L 01.00 - 37, mod.		< 100 CFU / g ISO 21527, mod.
Coagulase-positive Staphylococci, qualitative	L+S SOP 9.014		not detected / g
			DIN EN ISO 6888-1, mod.
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations. This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 31 May 2019 at 11:40 by Alexander Klauer, Specialist Manager.

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Ms Margit Kapitzke
Robert-Hansen-Straße 1
89257 Illertissen

Fon: +49 (0)97 08/91 00-0 labor@labor-ls.de www.labor-ls.de

Bad Bocklet 15 Nov 2019 / MEZ / Busfil

#### Certificate of Analysis

LS No:	191107-0045-003	LS Code:	1467106 / L	
Product name:	ARA OIL Gold			
Lot No:	0020265740			
Article No:	50627968			
Entry temperature:	room temperature			
Your Ordor No:	4944273100			
Order dated:	06 Nov 2019	Sample receipt:	07 Nov 2019	
Start of test:	08 Nov 2019	End of test:	15 Nov 2019	

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Demands	Result
Bacillus cereus, prasumtiv, qualitativ	L+S SOP 09.005		not detected / g
coliform bacteria, quantitative	*L 01.00 - 3, mod.		< 10 CFU/g
Croncoacter sakazakii, qualitat va	SOP 9.040		not detected / 25 g
Escherichia coli, qualitative	LS SOP 9,008		not detected / g
Lister a monocytogenes, qualitative	"L 00.00 32, mod.		not detected / 25 g
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations. This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 15 Nov 2019 at 12:26 by Alexander Klauer, Specialist Manager.

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Figure 1 of 4

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89251 Illertissen

### WE Consamment

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Eurofins WEJ Contaminants Neulander Kamp 1 D-21079 Hamburg

BASF Personal Care and Nutrition GmbH -Standort Illertissenattn, Frau Edith von Kries Postfach 10 63 wity-contaminants@autofins.de http://www.eurofins.do/wej-contaminants.espx

Person in charge Ms D. Zarthe Client support Ms D. Zarthe

- 2907 2907

Report date 17.06.2019 Page 1/6

Analytical report: AR-19-JC-105332-01

#### Sample Code 706-2019-00102720

Reference ARA Oil Gold, 0020265740

Client contract reference Rahmenbastell-Nr. 4942613538 Number 1

Amount 1167 g

Reception temperature room temperature
Ordered by Frau Edith von Kries
Submitted by Frau Edith von Kries

Reception date time 28.05.2019

Packaging aluminium container with plastic closure

Start/end of analyses 28.05.2019 / 17 06.2019

#### TEST RESULTS

#### Physical-chemical Analysis

J1001 Sample preparation (#)

§64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave)

Method: §64 LFGB L 00.00-19 J8306 Lead (Pb) (#)

Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Lead (Pp) <0.05 \* mg/kg

J8308 Cadmium (Cd) (#)

Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Cadmium (Cd) <0.01 \* mg/kg

JCHG2 Mercury (Hg) (#)

Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: Inci. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Mercury (Hg) 0.01 mg/kg ± 0.004 mg/kg

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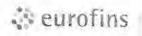
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Analytical report: AR-19-JC-105332-01 Sample Code 706-2019-00102720

### WEI Contaminants

	Arsenic (As) (#) DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2010); incl. ICP-MS/MS, extension of the analysis parameters,		olication scope to
	bacco/-products)	-0.4	\$ 100.000
Arsenic		<0.1	* mg/kg
J1042	Copper (Cu) (#)	D 050	
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), IC		6.3
Copper	on: extension of the scope of application to food and feed a	tter pressure digesti <0.1	
J1043		NO.1	* mg/kg
Method:	Iron (Fe) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), IC	POES	
40.5 20.45	on: extension of the scope of application to food and feed a		an\
Iron (Fe		< 0.5	mg/kg
JJ0CG	Chromium (Cr) (#)	30,0	mgmg
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274	/2017 12\ ICD ME	
The State of the S	on: incl. ICP-MS/MS, extension of the analysis parameters,		nlication scope to
	bacco/-products)	ONCOLDION OF THE REP	prication acope to
Chromiu		0.06	mg/kg
		± 0.04	mg/kg
J1049	Nickel (Ni) (#)	_ 0.01	manag
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), IC	P-OFS	
ALC: Service Control of the Control	on: extension of the scope of application to food and feed a		on)
Nickel (1		<0.1	mg/kg
JJOCV	Tin (Sn) (#)		
	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 on; incl. ICP-MS/MS, extension of the analysis parameters, abacco/-products)		plication scope t
Tin (Sn)		< 0.2	· mg/kg
J1032	Aluminium (AI) (#)		
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), IC	CP-OES	
(Modificati Aluminit	on: extension of the scope of application to food and feed a		ion) * mg/kg
J1047	Manganese (Mn) (#)		
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), IC	CP-OES	
(Modificati	on: extension of the scope of application to food and feed a	fter pressure digest	ion)
Mangan	ese (Mn)	< 0.1	* mg/kg
<b>JJ0CW</b>	Phosphorus (P) (#)		
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274		
(Modificati Phosph	on: incl. ICP-MS/MS, extension of the application scope to orus	feed and tabacco/-p <3	roducts) * mg/kg
J1054	Sulphur (S) (#)		
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), IC	CP-OES	
	on: extension of the scope of application to food and feed a	ifter pressure digest	
	total (S)	<2	* mg/kg
J1056	Silicon (Si) (#)	. Charles	
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), I		
MODELLE STATE OF THE STATE OF T	on; extension of the scope of application to food and feed a	The state of the s	and the second second
Silicon	Si)	5.0	mg/kg
		± 2	mg/kg

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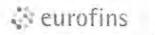
Analytical report: AR-19-JC-105332-01 Sample Code 706-2019-00102720

## WEJ Contaminants

JCSRA Method:	Solvent residues (big scope) (#) Internal, CON-PV 01330 (2019-03), HS-GC-MS		
Chlorofo	rm (Trichloromethane)	< 0.01	* mg/kg
Trichloro	ethene	< 0.01	* mg/kg
	proethene	<0.01	* mg/kg
Sum 3 cl	nlorinated solvents	Inapplicable	mg/kg
trans-Did	chioroethene	< 0.05	* mg/kg
1,1-Dicn	oroethane	< 0.05	* mg/kg
cis-Dichl	oroethene	< 0.05	* mg/kg
1,2-Dichl	oroethane	< 0.05	* mg/kg
Dichloro	methane	< 0.05	* mg/kg
1,1,1-Trie	chloroethane	< 0.01	* mg/kg
Tetrachic	promethane	< 0.01	* mg/kg
1,1,2-Tric	chloroethane	< 0.01	* mg/kg
1,1,1,2-T	etrachloroethane	< 0.01	* mg/kg
Dibromo	chloromethane	< 0.05	* mg/kg
Bromodic	chloromethane	<0.05	* mg/kg
Tribromo	methane	< 0.05	* mg/kg
Benzene		0.093	mg/kg
		± 0.047	mg/kg
Toluene		< 0.01	* mg/kg
Ethylben		< 0.01	* mg/kg
m-/-p-Xy		< 0.01	* mg/kg
Xylene (d	ortho-)	< 0.01	* mg/kg
Styrene		< 0.01	* mg/kg
	n (Methylethylketon)	<1	* mg/kg
Ethyl Ace	etate	<†	* mg/kg
n-Pentan		<1	* mg/kg
n-Heptan	e	<1	* mg/kg
n-Hexane		<1	* mg/kg
2-Methylj		<1	* mg/kg
3-Methyl		<1	* mg/kg
	clopentane	<1	* mg/kg
	Hexane (calculated)	Inapplicable	mg/kg
Methyl ac		<1	* mg/kg
	Dioxins and Furans (17 PCDD/F) Internal, GLS DF 110:2019-01-25, GC-MS/MS to a Eurofins laboratory accredited for this test.		33-3
2.3,7,8-Te	,	< 0.0623	pg/g
	PentaCDD	< 0.0820	pg/g
	8-HexaCDD	< 0.125	pg/g
	8-HexaCDD	< 0.170	pg/g
20.00.00.00.00.00.00	9-HexaCDD	< 0.161	pg/g
	7,8-HeptaCDD	< 0.262	pg/g
OctaCDD		< 1.90	pg/g

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Analytical report: AR-19-JC-105332-01 Sample Code 706-2019-00102720

# WEI Contaminants

2,3,7,8-TetraCDF	< 0.170	pg/g	
1,2,3,7,8-PentaCDF	< 0.118	pg/g	
2,3,4,7,8-PentaCDF	< 0.184	pg/g	
1,2,3,4,7,8-HexaCDF	< 0.193	pg/g	
1,2,3,6,7,8-HexaCDF	< 0.177	pg/g	
1,2,3,7,8,9-HexaCDF	< 0.131	pg/g	
2,3,4.6,7,8-HexaCDF	< 0.161	pg/g	
1,2,3,4,6.7,8-HeptaCDF	< 0.184	pg/g	
1,2,3,4,7,8,9-HeptaCDF	< 0.128	pg/g	
OctaCDF	< 0.393	pg/g	
WHO(2005)-PCDD/F TEQ (lower-pound)	ND	pg/g	
WHO(2005)-PCDD/F TEQ (medium-bound)	0.169	pg/g	
WHO(2005)-PCDD/F TEQ (upper-bound)	0.338	pg/g	
GFL14 polychlorinated biphenyls (12 WHO PCB + 6 ICES PCB) Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS	14,000	23.3	
Subcontracted to a Eurofins laboratory accredited for this test			
PCB 77	< 5.90	pg/g	
PCB 81	< 0.885	pg/g	
PCB 105	< 12.8	pg/g	
PCB 114	< 1.74	pg/g	
PCB 118	< 45.9	pg/g	
PCB 123	< 1.31	pg/g	
PCB 126	< 0.820	pg/g	
PCB 156	< 7.21	pg/g	
PCB 157	< 1.34	pg/g	
PCB 167	< 3.61	pg/g	
PCB 169	< 3.93	pg/g	
PCB 189	< 1.31	pg/g	
WHO(2005)-PCB TEQ (lower-bound)	ND	pg/g	
WHO(2005)-PCB TEQ (medium-bound)	0.102	pg/g	
WHO(2005)-PCB TEQ (upper-bound)	0.203	pg/g	
PCB 28	< 0.328	ng/g	
PCB 52	< 0.328	ng/g	
PC8 101	< 0.328	ng/g	
PCB 138	< 0.328	ng/g	
PCB 153	< 0.328	ng/g	
PCB 180	< 0.328	ng/g	
Total 6 ndl-PCB (lower-bound)	ND	ng/g	
Total 6 ndl-PCB (medium-bound)	0.984	ng/g	
Total 6 ndl-PCB (upper-bound)	1.97	ng/g	
Method: Internal, GLS DF 110, 120, 130, 140, Calculation Subcontracted to a Eurofins laboratory accrecited for this test.			
WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND	nata	
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.271	pg/g pg/g	
WHO(2005)-PCDD/F+PCB TEQ (upper-bound)	0.541		
the second second second second	0.041	pg/g	

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Analytical report: AR-19-JC-105332-01 Sample Code 706-2019-00102720

### WEI Contaminants

JCPC3	7 Plasticizers (low LOQ) (#)		
Method:	Internal Method, CON-PV 01337 (2018-10), LC-MS/MS exylphthalate (DEHP)	0.30	mg/kg
Dietriyini	exylpholaide (DEFIF)	± 0.10	mg/kg
Banzulh	utyl phthalate (BBP)	<0.1	mg/kg
	exyl adipate (DEHA)	<0.1	
		<0.5	* mg/kg
	ylphthalate (DIDP)		* mg/kg
	ylphthalate (DINP)	<0.5	mg/kg
	hthalate (DBP)	<0.07	* mg/kg
	butyleitrat (ATBC)	<0.1	* mg/kg
JC00U	PAH 4 (#)		
Method:	Internal, CON-PV 01176 (2019-03), GC-MS	< 0.5	T unifice
	anthracene		* µg/kg
Benzo(a		<0.5	μg/kg
	)fluoranthene	<0.5	+ µg/kg
Chrysen		<0.5	" µg/kg
Sum PA A0428	H 4 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#	Inapplicable	µg/kg
determinat	DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018- on: sample weight, extraction solvent, enrichment on IAC, n ion of Aflatoxin B2, G1 and G2)	o solvent exchange	
Aflatoxir		< 0.01	* µg/kg
Aflatoxir		<0.01	° µg/kg
Aflatoxir		< 0.01	* µg/kg
Aflatoxir		< 0.01	* µg/kg
	all positive Aflatoxins	<0.04	* µg/kg
JJV04 Method: (Modificati	Ochratoxin A (babyfood) (#) DIN EN 15835 (2010-05), mod., CON-PV 00852 (2018- on: extraction solvent, IAC-volumina, no solvent exchange)		
Ochrato	xin A (OTA)	<0.1	* µg/kg
JCOFG	Fusarium toxins, small, babyfood (DON, ZON, T2, HT		
Method:	Food Addit. Contam. 2005 Aug; 22(80);752-60, CON-P\		
	valenol (Vomitoxin)	<20	* µg/kg
	none (ZON)	<5	· ha/ka
T-2 Tox		<1	* µg/kg
HT-2 To		<3	* µg/kg
	HT-2 toxin	<4	* µg/kg
Method:	Fumonisine B1, B2, B3 (maize and products derived Internal Method, CON-PV 01085 (2018-08), LC-MS/MS		
Fumoni	sin B1 (FB1)	<20	* µg/kg
	sin B2 (FB2)	<20	* µg/kg
Fumoni	sin B3 (FB3)	<20	<ul><li>ug/kg</li></ul>
Fumoni	sin sum (B1+B2)	<40	~ µg/kg
Fumoni	sin sum (B1+B2+B3)	<60	* jig/kg

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### WEJ Contaminants

Analytical report: AR-19-JC-105332-01 Sample Code 706-2019-00102720

JJW2Z Sterigmatocystin (#)

Method: Internal, CON-PV 01126 (2018-08), LC-MS/MS Sterigmatocystin

<10

\* µg/kg

= Below indicated quantification level

(#) = Eurofins WEJ Contaminants GmbH (Hamburg) is accredited for this test.

Result +/- expanded measurement uncortainty (95%; k=2), sampling not included

Signature

Analytical Service Manager (Yasmina Knop)

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Eurofins WEJ Contaminants GmbH Neuländer Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

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BASF Personal Care and Nutrition GmbH -Standort Illertissenattn. Frau Edith von Kries Postfach 10 63 89251 Illertissen

wej-contam nants@eumhns.de http://www.eurofins.de/wej-contaminants.aspx

Person in charge Ms D. Zarthe Client support Mr P. Kösters -2907

Report date 27.09.2019 Page 1/5

Analytical report: AR-19-JC-105332-02

This report replaces report number: AR-19-JC-105332-01



#### Sample Code 706-2019-00102720

Reference

ARA Oil Gold, 0020265740

Triglyceride Client Sample Code 100395 Purchase Order Code 4942613538

Client contract reference

Rahmenbestell-Nr. 4942613538

Number

Amount

1167 g

Reception temperature Ordered by

room temperature Frau Edith von Kries Frau Edith von Kries

Submitted by Reception date time

28.05.2019

Packaging

aluminium container with plastic closure

Start/end of analyses

28.05.2019 / 17.06.2019

#### **TEST RESULTS**

#### Physical-chemical Analysis

J1001 Method:

Sample preparation (#)

§64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave)

.18306 Method: Lead (Pb) (#)

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Lead (Pb)

\* mg/kg

J8308 Method: Cadmium (Cd) (#)

DIN EN 15763:2010 (2010-04), mod , CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Cadmium (Cd)

\* mg/kg

JCHG2

Mercury (Hg) (#)

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

Method: (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

0.01

mg/kg

Mercury (Hg)

± 0.004

mg/kg



WELLondonments

Analytical report: AR-19-JC-105332-02 Sample Code 706-2019-00102720

This report replaces report number: AR-19-JC-105332-01

J8312 Arsenic (As) (#) Method:

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification; Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products) Arsenic (As)

< 0.1 + mg/kg

J1042 Copper (Cu) (#)

Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES

(Modification: extension of the scope of application to food and feed after pressure digestion)

Copper (Cu) mg/kg

J1043 Iron (Fe) (件)

DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method:

(Modification, extension of the scope of application to food and feed after pressure digestion)

mg/kg Iron (Fe)

JJ0CG Chromium (Cr) (#)

Method: DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Chromium (Cr) 0.06 ± 0.04 mg/kg

J1049 Nickel (Ni) (#)

DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method:

(Modification: extension of the scope of application to food and feed after pressure digestion)

mg/kg Nickel (Ni) < 0.1

JJOCV Tin (Sn) (#)

Method: DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products) Tin (Sn)

< 0.2 \* mg/kg

J1032 Aluminium (AI) (#)

DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method

(Modification: extension of the scope of application to food and feed after pressure digestion)

Aluminium < 0.5 mg/kg

J1047 Manganese (Mn) (#)

DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method:

(Modification: extension of the scope of application to food and feed after pressure digestion)

Manganese (Mn)

JJ0CW Phosphorus (P) (#)

Method: DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: Incl. ICP-MS/MS, extension of the application scope to feed and tabacco/-products) \* mg/kg

Phosphorus

J1054 Sulphur (S) (#)

DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-DES Method:

(Modification) extension of the scope of application to food and feed after pressure digestion)

Sulphur total (S) mg/kg

.11056 Silicon (Si) (#)

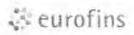
DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method

(Modification: extension of the scope of application to food and feed after pressure digestion)

Silicon (Si) 5.0

mg/kg ±2

mg/kg



Analytical report: AR-19-JC-105332-02 Sample Code 706-2019-00102720

Will Contamounts

This report replaces report number: AR-19-JC-105332-01

	This report replaces re	port number: AR	-19-10-10:
GFL13	Dioxins and Furans (17 PCDD/F)		
Method:	Internal, GLS DF 110:2019-01-25, GC-MS/MS of to a Eurofins laboratory accredited for this test.		
	TetraCDD	< 0.0623	nala
	P-PentaCDD	< 0.0820	pg/g
	,8-HexaCDD	< 0.125	pg/g
0.000	,8-HexaCDD	< 0.170	pg/g
94.74.74.90	S,9-HexaCDD	< 0.161	pg/g
	3,7,8-HeptaCDD		pg/g
OctaCD	7 - 4 7 - 5 - 7 - 5 - 7 - 7 - 7 - 7 - 7 - 7 -	< 0.262	pg/g
	FetraCDF	< 1.90	pg/g
	8-PentaCDF	< 0.170	pg/g
	B-PentaCDF	< 0.118	pg/g
	',8-HexaCDF	< 0.184	pg/g
		< 0.193	pg/g
100000000000000000000000000000000000000	(8-HexaCDF 8.9-HexaCDF	< 0.177	pg/g
		< 0.131	pg/g
	7,8-HexaCDF	< 0.161	pg/g
	5.7.8-HeptaCDF	< 0.184	pg/g
	7,8,9-HeptaCDF	< 0.128	pg/g
OctaCD		< 0.393	pg/g
	005)-PCDD/F TEQ (lower-bound)	ND	pg/g
	005)-PCDD/F TEQ (medium-bound)	0.169	pg/g
	005)-PCDD/F TEQ (upper-bound)	0.338	pg/g
GFL14 Method: Subcontracte	Polychlorinated biphenyls (12 WHO PCB + 6 ICES PCB) Internal, GLS DF 110:2019-01-25, GC-MS/MS d to a Eurofins laboratory accordined for this test.		
PCB 77	a to a morning functionally step harman for this man	< 5.90	pg/g
PCB 81		< 0.885	pg/g
PCB 105		< 12.8	pg/g
PCB 114		< 1.74	pg/g
PCB 118		< 45.9	pg/g
PCB 123	3	< 1.31	pg/g
PCB 126	3	< 0.820	pg/g
PCB 156	i i	< 7.21	pg/g
PCB 157	7	< 1.34	pg/g
PCB 167	7	< 3.61	pg/g
PCB 169		< 3.93	pg/g
PC8 189	9	< 1.31	pg/g
WHO(20	005)-PCB TEQ (lower-bound)	ND	pg/g
	005)-PCB TEQ (medium-bound)	0.102	pg/g
	005)-PCB TEQ (upper-bound)	0.203	pg/g
PCB 28		< 0.328	ng/g
PCB 52		< 0.328	ng/g
PCB 10		< 0.328	ng/g
PCB 138		< 0.328	ng/g
PCB 153		< 0.328	ng/g
PCB 18		< 0.328	ng/g
	dl-PCB (lower-bound)	ND	
	di-PCB (medium-bound)	0.984	ng/g ng/g
	dl-PCB (upper-bound)	1.97	ng/g
	c. , an Jakkai manial	1.04	1.3/9

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Page 4/5

Analytical report: AR-19-JC-105332-02 Sample Code 706-2019-00102720

This report replaces report number: AR-19-JC-105332-01

	This report rej	places report number. Al	K-19-JU-10533
GFTE1 Method	TEQ-Totals WHO-PCDD/F and PCB Internal, GLS DF 110, 120, 130, 140, Calculation		
	o to a Eurofins laboratory accredited for this test.	NO	2012
	005)-PCDD/F+PCB TEQ (lower-bound)	ND 0.074	pg/g
	005)-PCDD/F+PCB TEQ (medium-bound)	0.271	pg/g
The Control of the Control	005)-PCDD/F+PCB TEQ (upper-bound)	0.541	pg/g
JCPC3	7 Plasticizers (low LOQ) (#)	11.10	
Method:	Internal Method, CON-PV 01337 (2018-10), LC-MS, exylphthalate (DEHP)	0.30	malka
Dietriyiri	exylphinalate (DETIF)	± 0.10	mg/kg mg/kg
Booryl b	outyl phthalate (BBP)	<0.1	* mg/kg
	exyl adipate (DEHA)	<0.1	
		<0.5	* mg/kg
	cylphthalate (DIDP)		mg/kg
	nylphthalate (DINP)	<0.5	· mg/kg
	hthalate (DBP)	<0.07	* mg/kg
and a line of the same	butylcitrat (ATBC)	< 0.1	* mg/kg
	PAH 4 (#)		
Method:	Internal, CON-PV 01176 (2019-03), GC-MS anthracene	< 0.5	+ makes
		<0.5	μg/kg
Section Control of the	a)pyrene	75.5	° ⊿g/kg
The second second	o)fluoranthene	<0.5	* µg/kg
Chryser		<0.5	* µg/kg
Sum PA A0428	Aflatoxins B1, B2, G1, G2 (Baby food, dietary foo	Inapplicable	µg/kg
Aflatoxii Aflatoxii Aflatoxii	n B2	<0.01 <0.01 <0.01	<ul><li>μg/kg</li><li>μg/kg</li><li>μg/kg</li></ul>
Aflatoxi	n G2	< 0.01	- μg/kg
Sum of	all positive Aliatoxins	< 0.04	* µg/kg
	Ochratoxin A (babyfood) (#) DIN EN 15835 (2010-05), mod., CON-PV 00852 (2) ion: extraction solvent, IAC-volumina, no solvent exchai	nge)	
	oxin A (OTA)	<0.1	* µg/kg
JC0FG Method:	Fusarium toxins, small, babyfood (DON, ZON, T2 Food Addit. Contam. 2005 Aug; 22(80);752-60, CO		LC-MS/MS
Deoxyn	ivalenol (Vomitoxin)	<20	* µg/kg
Zearale	none (ZON)	<5	* µg/kg
T-2 Tox	in	<1	* pg/kg
HT-2 To	nxin	<3	+ µg/kg
Sum T-	2 HT-2 toxin	<4	* µg/kg
JJ088	Fumonisine B1, B2, B3 (maize and products deri	ived from maize) (#)	
Method: Fumoni	Internal Method, CON-PV 01085 (2018-08), LC-MS sin B1 (FB1)	5/MS <20	* µg/kg
	sin B2 (FB2)	<20	+ µg/kg
	sin B3 (FB3)	<20	* µg/kg
	isin sum (B1+B2)	<40	* µg/kg
	isin sum (B1+B2+B3)	<60	* µg/kg
JJW2Z	Sterigmatocystin (#)	-00	havea
Method:	Internal, CON-PV 01126 (2018-08), LC-MS/MS natocystin	<10	• µg/kg
Steright	alveyour	~ 10	haina

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Page 5/5

Analytical report: AR-19-JC-105332-02 Sample Code 706-2019-00102720

WEJ Contaminants

This report replaces report number: AR-19-JC-105332-01

= Below indicated qu	ANUNCATION TOVET	
(#) = Eurolas WEJ Co	ntaminants GmbH (Hamburg) is accredited for this test.	
Result +/- expanded m	easurement uncertainty (95%; k=2), sampling not included	
n		
Signature _	Analytical Service Manager (Patrick Kösters)	
	The state of the s	





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Page 1 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

CATTORN

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20037

Description provided by Customer: ARA OIL GOLD - 0020265740 - SAMPLE NO: 100395 - THE SAMPLE HAS BEEN TAKEN BY THE CUSTOMER. THE TRANSPORT HAS BEEN MADE BY COURIER.

Sample Condition on Receipt: Room temperature

ANALYSIS DESCRIPTION	RESULT	-	-	Total III stillmost			, repeti	1
PESTICIDE RESIDUES IN BABY FOODS								
FOR INFANTS AND YOUNG CHILDREN								
Aldrin (low limit)	< LQ			-540	5,000		91.5755; 9919 SW; 0 GC- WS/MS	287607014 887607015
Dieldrin (low limit)	< LQ		1	150/80	0.521		MONS FOR RESERVE	28050117 141052015
Endrin (low limit)	< LQ		1	7646	3,201		578 (\$10,001 1 ) An 1 - AC	28682016
Fipronil (low limit)	<lq< td=""><td></td><td></td><td>710,400</td><td>9305</td><td></td><td>21(5 (66) 2019 Row 3 + (20)</td><td>2/406/get-s 3/406/get-s</td></lq<>			710,400	9305		21(5 (66) 2019 Row 3 + (20)	2/406/get-s 3/406/get-s
Fipronil-desulfinyl (low limit)	< LQ			755.44	=001		11(5106-2016 Ray 3 + GIT. 1/5.M5	26/06/2019
HCH alpha (low limit)	< LQ			mysg	5001		US-8155, 2019 box 3 - GC-	2005/0719
HCH beta (low limit)	< LQ			10.49	3001		01/5196; 70/19 Revist - GC-	UNIDADORES CHOROCOL
HCH delta (low limit)	<lq< td=""><td></td><td>1</td><td>10000</td><td>District</td><td></td><td>71/31/59/7010 Rev 3 - 6/6-</td><td>200500001a</td></lq<>		1	10000	District		71/31/59/7010 Rev 3 - 6/6-	200500001a
HCH epsilon (low limit)	<lq< td=""><td>1</td><td>1</td><td>(59%)</td><td>1,000</td><td></td><td>01: 3165: 2019 Roy J - GG NISAM</td><td>04050019</td></lq<>	1	1	(59%)	1,000		01: 3165: 2019 Roy J - GG NISAM	04050019
Heptachlor (low limit)	<lq< td=""><td>1</td><td>1</td><td>1982</td><td>0.007</td><td></td><td>01-9715-1009 Res 4-60- bel MS</td><td>2805/01/0 0405/2010</td></lq<>	1	1	1982	0.007		01-9715-1009 Res 4-60- bel MS	2805/01/0 0405/2010
Heptachlor Epoxide cis (low limit)	<lq< td=""><td></td><td>1</td><td>795.67</td><td>0.500</td><td></td><td>04m160, 2010 Rail 3 - CC- MS 803</td><td>23/16/2019</td></lq<>		1	795.67	0.500		04m160, 2010 Rail 3 - CC- MS 803	23/16/2019
Heptachlor Epoxide trans (low limit)	<lq< td=""><td></td><td>1</td><td>79</td><td>5,950</td><td></td><td>AS ASS. AND BEN SHARE</td><td>76.08.2070</td></lq<>		1	79	5,950		AS ASS. AND BEN SHARE	76.08.2070
Hexachlorobenzene (low limit)	<lq< td=""><td></td><td></td><td>200</td><td>2001</td><td></td><td>003.08-2019 Roll 3-00 WELLES</td><td>28092012</td></lq<>			200	2001		003.08-2019 Roll 3-00 WELLES	28092012
Lindane (low limit)	<10			make	5103		At 5150 Sel Sel 3 - GC-	24 CT (2511)
Nitrofene (low limit)	<lq< td=""><td></td><td></td><td>cases</td><td>9201</td><td></td><td>DUSANT JUST BELLING</td><td>28050019</td></lq<>			cases	9201		DUSANT JUST BELLING	28050019
o.p'-DDD (low limit)	<lq< td=""><td>İ</td><td></td><td>mg viz</td><td>540</td><td></td><td>* HOCKS TOWNER.</td><td>28/00/00/19 28/00/00/19 26/08/20/19</td></lq<>	İ		mg viz	540		* HOCKS TOWNER.	28/00/00/19 28/00/00/19 26/08/20/19
o.p'-DDE (low limit)	<lq< td=""><td></td><td></td><td>700</td><td>2004</td><td></td><td>* BECCUS DISERNO</td><td>\$5557911</td></lq<>			700	2004		* BECCUS DISERNO	\$5557911
o.p'-DDT (low limit)	< LQ			1687	10331		■ MODAN SOMERNO	(34)8071 (35/8)201
p.p'-DDD (low limit)	<lq< td=""><td></td><td>1</td><td>-p/sg</td><td>0.001</td><td></td><td>OCAMINS     OF COME SO SERVER</td><td>28/18/2014</td></lq<>		1	-p/sg	0.001		OCAMINS     OF COME SO SERVER	28/18/2014
p.p'-DDE (low limit)	<lq< td=""><td></td><td></td><td>0.000</td><td>0'01</td><td></td><td>INGLAS COLERAN</td><td>25000000</td></lq<>			0.000	0'01		INGLAS COLERAN	25000000
p.p'-DDT (low limit)	<lq< td=""><td></td><td></td><td>manag</td><td>1.631</td><td></td><td>W WEEKS STURBUS-</td><td>24 06 00 Y</td></lq<>			manag	1.631		W WEEKS STURBUS-	24 06 00 Y
Cadusafos (low limit)	< LQ	1	1	Factors:	0.601		01/31/11/2019 See 12 - LC-	1949-797
Cadusaids (low illnit)	- 10	1	1				0-0 N 5	Original and
Demeton-S-methyl (low limit)	< LQ				200		0 ((\$121) 277 k Roy 12 - 1 C- NS (MS	7600001 3400401
Demeton-S-methyl sulfoxide (oxydemeton-	< LQ			1779	200		01(513) 2010 Rev 12=1 (5- 8/9/80)	4806-2011 040920
methyl) (low limit) Demeton-S-methyl sulphone (low limit)	<1.0		1	-144	15 (55)		0105121) (010 R(o 12+1.0- MEATS	23,000 (m) 5600 (m)
Disulfoton (low limit)	<lq< td=""><td>1</td><td></td><td>1979</td><td>1002</td><td></td><td>3:3055-3014 Bit 3 - 00: 5:345</td><td>28453201 Sei Sei Sei</td></lq<>	1		1979	1002		3:3055-3014 Bit 3 - 00: 5:345	28453201 Sei Sei Sei
Disulfoton-sulfone (low limit)	< LQ			15/46	5.891		01) 872512019 Per 12+12+ 1/5-1/5	284900H SANSON
Disulfoton-sulfoxide (low limit)	< LQ	1		-943	0.50		51/8 (21) 25/17/62 12-10- M69/5	78/05/95 01/05/05
Ethoprophos (low limit)	< LQ			100.49	Rules		Decarity 2019 Base 19 - UCA	58:00:201 04:0000
Fensulfothion (low limit)	< LQ		1	representation	100	Ť	01/412 () 2019 (m; 12 + LC) 01-86	Jethyse Samosi



Page 2 di 14

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MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

#### TEST REPORT nr. 19E20037-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20037

ANALYSIS DESCRIPTION	RESULT	MILE	-00 To 1 (00 x 0) (00 T	9 -	Series .	200 TES
Fensulfothion-oxon (low limit)	< LQ		0,940	1.001	C((S(2)))C198ev/42-LC-	DAME VOLUME
Fensulfothion-oxon-sulfone (low limit)	< LQ		79.91	A-281	101/51/2/1/2019/ SLV 12 - LC.	2866219 6268637
Fensulfothion-sulfone (low limit)	< LQ		70/50	5.001	01/6121/3019160-12+LD	780/2014 54/50/2014
Haloxyfop methyl (low limit)	< LQ		75%	0,001	01(\$155) 2010 Roll 3 = 00.	18699000
Haloxyfop, included haloxyfop-R (low limit)	< LQ		70.43	0.001	01/S12 (13010/Rev 12 + 17) MS MS	2603-2219 2603-2219
Haloxyfop-2-ethoxyethyl (low limit)	< LQ		.10g0ed	D-001	01/815512010 Hay 3 (ACS	280Ag879 04786261
Omethoate (low limit)	< LQ		46.2(0)	0.001	01(8121) 201 Ray 17 - 10. MS MS	74.557016 54.06.761
Phorate (low limit)	< L.Q.		1900	Spin F	* 141034215443-	3400/00/6 S40800/5
Terbufos (low limit)	< LQ		Pridikg	0.001	01(5121) 2010 Hot 12 -1 C- NS-NS	\$6.05(20+0 \$4.78(\$1.5)
Terbufos-sulfone (low limit)	< LQ		(regist)	0.501	01/81/21/2019 Next 17 - EC+ M5/1/9	26052010 04089011
Terbufos-sulfoxide (low limit)	< LQ		solven.	oiler I	MS MS	(900 ta) 15 (406 ta) (1
Fentin (fentin including its salts, expressed as triphenyltin cation) (low limit)	< LQ		78.88	0.003	05 (950)5 2019 Rev 12 + 05 M8:005	28/00/2017 14/05/2017
Dithiocarbamates, thiuram-disuffides as CS2 (Analytical technique: GC) (low limit) [329]	< LQ		rogaq	0.859	ot(Star) 2019 Nev 6 - OCHIS	A19975 10 0400 015
Total ethylenticurea (ETU) (hydrolise pH 9.90°C) (low limit)	< LQ		1999	pics	31.86(pe) 1920m - LC MANS	Dysource Descri
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ		11945	0.000	21(8s) rev 15 2016 - 110- MS-MS	548600 (07400)
QuEChERS Basic - Nuts, oleaginous						
seeds and oil BIO Flonicamid (LCMS)	< LQ		179791	0.003	(\$1212118 Rot 1) +1,C	2543 Umin 02:0009911
Flonicamid metabolite: TFNA	< LQ		7907	0,003	01/5(71)2019 Rev. 12 - 1,C-	28/500 (1) 5/19/11/11
Flonicamid metabolita: TFNG	< LQ		79/10	1500	5115 12 1) 2013 Per 32 - 1.6- M5 RID	1405-2510 1416-251
Abamectin	< LQ		TO COME	1015	0.578 1/21 / 2010 Marc 15 14 Co. MS 140	NEWSON NORSKI
Acetamiprid	< LQ		Egys	0.043	01(S123) 2016 Ray (2-16- MD-95	28/00/2019 14/00/01
Acetochlor	< LQ		115.40	2010	2012/12/12/2019 Rev. 12 - 1/Cv MR 4/9	24992019 10090200
Acibenzolar-S-methyl	< LQ		Morning	2910	01(5144)2510 Ro-11 - 20	20000000 04560001
Aclonifen	< LQ	1	6089	COM	01-S134) (019 Sev 11 - 615-	2663001
Acrinathrin	< LQ		15056	0.015	565140 2085es 11-66	2919/2010 04/08/211
Alachior	< LQ		7996	0.012	21(\$144)10)11 Rm.11 - C.C.	2009/2011 04/06/2011
Aldrin	< LQ		- Mr. will	2006	01(81ca) 2511 Ku 11 - 002 MN-M3	79:09:00+1 0+08-201
Dielann	< LQ		1981	1.70%	01:5134 1019 Rev 11 - 50-	PARADOR.

Continued...

Shadelo Aggazzini 101 4 (728 M/DENA - TALV - Fisica Code and SRT n\* 0380734836.) Tal +39 05043771 v ran +30 050451777 www.nextores.reckon@nsozon.c

Laborate of Dual filts: D.M. 2013 TAn. 4 Lingui Robing in Robing Applicable incomment to program. Regions Erro in Bornagna - All TOR 22A DOM, Autocomplex N° 006MC/008
SNY Mornisong Filts and Vegitation Approved Liberatury
of Mornisong Euler A AG Fine and Vegitation Regional Liberatury





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Option to relate

Page 3 di 14

MODENA, I: 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20037

ANALYSIS DESCRIPTION	RESULT		ALE 9	pul rivano.	-3	0	William	MA(1913 65706-00 0171 11074
Aldrin and dieldrin, sum expressed in dieldrin [414]	< LQ			26.00	0,035		01(\$104)25"9 Re. (1 - OC- MS 2/5	29592019 04962019
Ametryn	< LQ			1989	560.0		OUS COUNTS MAY 12 - LC	\$45555 G
Atrazine	< LQ		1	mpag	0.010		01/S1211/2019 Rev 12 - LC- A/S VS	2803-2019 14/06/2019
Atrazine-desethyl	<lq< td=""><td>ì</td><td>1</td><td>lingual, i</td><td>0.010</td><td></td><td>01(5121) 23/0 Rev. 12+LC- MS MS</td><td>7919110010 194060019</td></lq<>	ì	1	lingual, i	0.010		01(5121) 23/0 Rev. 12+LC- MS MS	7919110010 194060019
Atrazine-desisopropyl	< LQ			70/42	0.040		31(8)21;3019 Re- 12+1 C- MS/MS	2665200 9496200
Azadirachtin-A	< LQ	1		mass.	2,910:		HIS US TO THE FIRST AZ - LC-	28/95/2012
Azinphos-ethyl	< LQ			2000	(Album)		01/812112313 Rp 12-LC-	ANIMODIS THOUGHT
Azınphos-methyl	<lq< td=""><td></td><td>1</td><td>MANA.</td><td>0.016</td><td></td><td>01(8)(21)2019 Rep 12:4(5- MS/MS</td><td>SECRECATION OF THE PARTY OF THE</td></lq<>		1	MANA.	0.016		01(8)(21)2019 Rep 12:4(5- MS/MS	SECRECATION OF THE PARTY OF THE
Azoxystrobin	< LQ	1		W295	0.515		FIGURE RES 12-LC-	18850013 04862013
Benalaxyl, surn of isomers including Benalaxyl-M	<lq< td=""><td></td><td></td><td>MAG</td><td>0.000</td><td></td><td>51(5121) 2019 Rev 12 - LC- MS MC</td><td>Zietegnis Dabegos</td></lq<>			MAG	0.000		51(5121) 2019 Rev 12 - LC- MS MC	Zietegnis Dabegos
Benfluralin	< LQ		1	743.40	RME		01993-017070 Re- 11-125-	Serio and
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ			m1/kd	£010		01 (\$121) 2019 Rev (2 - ) C- MS MS	7915 X 15
Carbendazim	< LQ			neg/kg-	0.003		01(512()22() Res (2 - LC- MS MS	2686004) 040620
Benthiavalicarb-isopropyl	<lq< td=""><td></td><td></td><td>11974</td><td>9.215</td><td></td><td>917213511 SOLK BEA , 2-12-</td><td>JAKA JUNA SANGOM</td></lq<>			11974	9.215		917213511 SOLK BEA , 2-12-	JAKA JUNA SANGOM
Bifenazate	< LQ			mplage	0.000		STEG 2017 Rev.1 - LC- MS-MS	2840-2015 0650/201
Bifenox	< LQ		1	76.65	0.359		31(\$144; 2010 Nov.11 - CC-	2805000
Bifenthrin	< LQ		1	20(1.50)	5.010		01(5144) 7 115 Rev. 11 = G42	25/05/2015
Bitertanol (sum of isomers)	<lq< td=""><td></td><td>1</td><td>799</td><td>0.000 E</td><td></td><td>MS MS 01/512H2019 Re- 12 - (15- MS MS</td><td>28/15/10/15 194/16/2011</td></lq<>		1	799	0.000 E		MS MS 01/512H2019 Re- 12 - (15- MS MS	28/15/10/15 194/16/2011
Boscalid	< LQ			765	0.10		61(5 (23) 2019 Still 12 - LC MS US	28/05/2013 19/10/2013
Bromophos-ethyl	<lq< td=""><td></td><td>1</td><td>moleq</td><td>520.0</td><td></td><td>01(\$144) 2010 Blocks - C.C. M9/MS</td><td>2069-0010</td></lq<>		1	moleq	520.0		01(\$144) 2010 Blocks - C.C. M9/MS	2069-0010
Bromophos-methyl	<lq< td=""><td></td><td>1</td><td>2000</td><td>2010</td><td></td><td>01(3164)2215 Ray (1-12C-</td><td>25/05/2013</td></lq<>		1	2000	2010		01(3164)2215 Ray (1-12C-	25/05/2013
Bromopropylate	< LQ	1		7070	2010		MS MS 01(\$ (44) 2019 Rev. 11 x GC-	\$4060000 \$5050000
Bromuconazole, sum of cis- and trans-	< LQ			marke	6.049		MS/MS 01(3)(21)(2014 RE0.12 - LC. A/S/MS	0416001 2615001 340401
Bupirimate	< LQ			1999	6.250		0 (S121) 2519 New 12 - 125 MEMP	26/06/2019 04/05/2019
Buprofezin	< LQ			16/10	1/010		01(6121) 2019 Hgs 12 - LC MS:NS	2479-0119 0408-011
Butylate	< LQ			100.00	1019		V1(817 112019 Rev.12 - LC- MS 415	7443-3013 T406-011
Cadusafos	< LQ			-ring/acq	0.010		01(\$121) 2010 Sex.12 - LC- MS/MS	2590,F10 9496901
Carbaryl	<lq< td=""><td></td><td></td><td>mg/kg</td><td>0.000</td><td></td><td>5)(5)(2)(3)(5)(6)(7)(16) (6)(7)(5)</td><td>25/05/00/9 04/06/20/9</td></lq<>			mg/kg	0.000		5)(5)(2)(3)(5)(6)(7)(16) (6)(7)(5)	25/05/00/9 04/06/20/9





Page 4 di 14



MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20037

ANALYSIS DESCRIPTION	RESULT	į.	AL.	05719407588	LØ.	9	MAKE	490, 123 20160,60 (61) 1360 (61)
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furathiocarb)	< LQ			mgarg	0.007	7	50:5121)2010 Rev 12-12- M51:5	3=0590H 3=0590
Carbofuran-3-hydroxy	< LQ			0,090	2001		61(5121)2019 Fun 12-1,G-	2600/0275 0606/251
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	<lq< td=""><td></td><td></td><td>1949</td><td>3,507</td><td></td><td>0303121) 2019 Have 50 + LCs MS MS</td><td>2805(p1) 9890(3)</td></lq<>			1949	3,507		0303121) 2019 Have 50 + LCs MS MS	2805(p1) 9890(3)
Chlordane dis	< LQ			urb of	100		51:5101 2:10 (6v 11 - C)C- 315 45	26/58/00/5 DW06/00/
Chlordane oxi	< LQ	1		4,413	2.669		01/814412019 Rev 11 - GO-	Seddoor Newcorn
Chlordane trans	< LQ			mg ka	0.00%		01(01)44)2019 Big 11 - GC-	74/16/2011 04/06/2011
Chlordane sum of cis and trans-isomers [414]	< LQ			2000	11.704		MSM3	\$40,000 to
Chlorfenvinphos, sum of E and Z isomers	< LQ		1	7942	0,010		9 (N D 1) 2012 Ray 12 - UC- M3 M5	28 55 90 H
Chlormephos	< LQ			make	=030		01/5160/2010 Rev 11 - CO-	2405207
Chiorotoluron	< LQ			make	5.530		03(612112019 Rev.12 - LC)	249650 
Chlorpropham	<lq< td=""><td></td><td></td><td>175/50</td><td>0,010</td><td></td><td>01/514(10)5 Rev 1) - 604</td><td>2806009</td></lq<>			175/50	0,010		01/514(10)5 Rev 1) - 604	2806009
Chlorpyriphos ethyl	< LQ			1996	2017		MSAIS MSAIS	04500000 26/20/2076
Chlorpyriphos methyl	< LQ			7995	10to		01/81-04/2016 Rev 11 - GC	3465987
Chlorsulfuron	< LQ			TUNK	0.010		71(5111) 2018 loss 42 - LC	26/36/201 26/36/201 54/36/3/0
Chlorihal dimethyl	< LQ		1	119746	0.10		01/S144(2019/96).11- EQ-	,5005501 HONGO
Clofentezine	< LQ			7040	Black		95/5121(20/01km) (2-1/5) Mis.MS	26/18/207
Chlorantraniliprole (DPX E-2Y45)	< LQ		1	10.00	5,017		31/512117014 Reg 12-12- MS NO	5455000 546600
Coumaphos	< LQ		1	toward,	0.0/0		\$1(5121) 20(0 Key 12 ) (c). \$6 815	Swinson Dissipti
Cyanazine	< LQ			200	2.116		91.5121) PULL Report LC.	(40140001) (M.00001)
Cyazofamide	< LQ		1	7979	2.010		21(8121)-3019 Rev 12-104 M9 RES	3M3/2013 3418/31
Cycloate	< LQ			mysec.	10240		Statistical State of a po-	2000000 SATISFORM
Cycloxydim	< LQ			- (t-4t)	825		MS NS	-800/7074 54:062()
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ			-pag.	2010		15 (44) 2019 Hov 11 - GC-	SECTION SECTION
Lambda-cyhalothrin (includes gamma- cyhalothrin) (sum of R,S and S,R isomers)	< LQ			meser	in birth		01 (des) 2516 Rev 11 - DC - MS ME	78-03-241 34/08-20
Cymoxanii	< LQ			Mgreg	3.515		310012132330 Hav. 15 - 1 G- M3.W5	2004007 9400 22
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	< LQ			hgig	5,610		01/9146/0018/86-11-120- M6 M5	SACASON GASASON
Cyproconazole	< LQ			-286	3.0 <b>j</b> m		UTOTSTERMINE NOT TENDO.	2800 AND 14100 AND
Cyprodinil	< LQ			-9-17	600		01/0121) 22/19 (key 12+LC) M1 7/5	Televiore Seguiti
o.p'-DDD	< LQ		1	165-45	2.00%		MANAGE TO SERVICE AND AND AND AND AND AND AND AND AND AND	-setsper 0405000



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Page 5 di 14



MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20037

ANALYSIS DESCRIPTION	RESULT	b.	1000	MY SIMPLEY	+2	19		800,782.0 671-00-00 10-71-00-00
p.p'-DDD	< LQ			FGRG	0.080		01,5144, 2010 Rev 11 - GC-	280solidy 6-66a61
o.p'-DDE	<lq< td=""><td></td><td></td><td>1999</td><td>9.00%</td><td></td><td>010165725 9 Nov. 11-665</td><td>Janes Co. 15</td></lq<>			1999	9.00%		010165725 9 Nov. 11-665	Janes Co. 15
p.p'-DDE	<lq< td=""><td></td><td></td><td>170/49</td><td>9,983</td><td></td><td>MSMS MSMS 225 Rev (1 + dC)</td><td>Jathy Ind</td></lq<>			170/49	9,983		MSMS MSMS 225 Rev (1 + dC)	Jathy Ind
o.p'-DDT	<lq< td=""><td></td><td>1</td><td>1000</td><td>0.005</td><td></td><td>2015/1421/2019 (km 11 - C.C.) MS 245</td><td>28950010 08060010</td></lq<>		1	1000	0.005		2015/1421/2019 (km 11 - C.C.) MS 245	28950010 08060010
p.p'-DDT	< LQ			miles.	2000		\$1,51,45(2) (9 fby 11 - 55- M5A(5	78010010 5406/7012
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			rote	0,005		01.5144.2019.Res 11. GC- Ma. VS	SM1000000
Deltamethrin (cis-deltamethrin)	< LQ			make	0.130		10(01144) 2017 Rev. 11 - 45C-	2/858/2019 94/06/2010
Diazinon	< LQ			19.80	3,010		01(8121) 2011 RW/ 17 - LIS MS-MS	25/05/2019 Dw/6/2019
Dichlobenil	<lq< td=""><td></td><td>İ</td><td>750</td><td>2010</td><td></td><td>27,5144) 2019 Rev 11 - GC-</td><td>26654013</td></lq<>		İ	750	2010		27,5144) 2019 Rev 11 - GC-	26654013
Dichlofluanid	< LQ			1046	0.015		01/3121) 2018 Rey 12 - LG-	24-95 UTF 9
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			make	0.016		011512112015 Rev 12-LC- Militis	Carriery Schools
Dimethyl-sulfanilide (DMSA)	< LQ			595	0.6890		11 5121x2019 Him T2 -x G; ME/MK	2449200 0439800
Dichloran	<lq.< td=""><td></td><td>1</td><td>9.97.65</td><td>9.079</td><td></td><td>0.05140.2019 Rev.11 - 0C-</td><td>38050010</td></lq.<>		1	9.97.65	9.079		0.05140.2019 Rev.11 - 0C-	38050010
Dichlorvos	< LQ	ĺ		~g <;	0.000		01/31/21/20/11 Rev. 17 - 115- 145/145	2K180018
Dietofencarb	< LQ		i	100	0,000		MIRON SIBRED - 12- MIMS	(#1890%) (#1890%)
Difenoconazole	< LQ			rest	= ntv		61,3121)3010 Rec 12 - UC- ME 395	2866000 L
Diflubenzuron	< LQ		1	>thi	0,310		31(5121) 2013 Re-12 - LC	0.0020
Diflufenican	< LQ		1	**************************************	5.0to		\$15.800 \$15.800	390500 N W/W-Q17
Dimethenamid, sum of isomers including dimethenamid-P	< LQ			75.00	2010		295-21) 2019 Rev 17-12- MS MS	(\$10000 \$3000
Dimethoate	< LQ			76	0.045		91-5121) 2019 Sec 12 - LC- MS-MS	9456-2016 (9456-2016
Omethoate	< LQ	1		1079	0.000		SUBTRIFULE FOR ST-LC- MEAN	2400000 2400000
Dimethomorph, sum of isomers	< LQ		i	42.4	30m		11/5121/2010 Rev 12 - 17- MS Ms	100 5 (01 ) Garage
Ditalimfos	< LQ			Hores	0.010		01(5121)2010 Rev. 12 - LC MSA/S	Janacon sessoci
Diuron	< LQ			-1050	325		DIGHTO DOS Bey 12 x EC: MEMS	7918-2019 On 567(01)
Dodine	< LQ			19/4	2016		31(5121) 2004 (by 12+10- M5 M5	3955/014 3456261
Emamectin benzoate B1a, value expressed as emamectin	< LQ			100	D. 000		51 901) 2010 Rey U-10. MS-MS	State of the last
Endosulfan alpha	< LQ	1		79.44	11005		MORNING TO BE STATE OF	.hittps://original
Endosulfan beta	< LQ			70.00	2005		31/514412311 Her 11 - GC	25(900)Da 04/00/201
Endosulfan sulphate	< LQ			10.0	3.60		01,314412019 Rey 11+9C-	165559719 3=75997





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Page 6 dl 14

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

#### TEST REPORT nr. 19E20037-In-0

SAMPLE

19E20037

ANALYSIS DESCRIPTION	RESULT		-	Section Sections	0	100	A-040	800 (42) 93 (60) 100 (70)
Endosulphan, sum of alpha and beta isomers and of endosulfan sulphate, expressed as endosulfan [414]	<lq< td=""><td></td><td></td><td>17E/AE</td><td>0.006</td><td></td><td>(1(5141) 2913 Roy 11 - (2) MS/MS</td><td>04.00/20*</td></lq<>			17E/AE	0.006		(1(5141) 2913 Roy 11 - (2) MS/MS	04.00/20*
Endrin	< LQ			Name.	2300		71/2743432719469-17-512-	25505701
Epoxyconazol	< LQ			1000	2010		01/91/21/2019/8=-12-10- MS/MS	6466000 6466000 5406000
EPTC	< LQ			FRAL	20010		13 (V) 211 (MOX Rev. 12 + EC) MOMS	28/04/2710 NAME 2011
Esfenvalerate and Fenvalerate, sum of somers	< LQ			-sice	000		ansies so see things makes	Janson Services
Ethion	< LQ			199	0.010		11/51/44 21/11 Rev. 11 - 025- MS 9/5	164500m
Ethofumesate	< LQ			799	0010		0115154 (2019 Res. 11 - GC)	3676000
Ethoprophos	<10			1,970	0.010		01/512317019 Ret 12 1G-	5446001 1476001 0460001
Etofenprox	< L.Q			-0	0.850		01(\$121) 2010 Hev. 17 - LC- MSAIS	2345001 0650000
Etoxazole	< LQ			1919	0.030		7.1/5121,0019 Red 12-12 MS-MS	James Contract
Famoxadone	<10		1	mg/kg-	2010		01-5142 2019 Rev. 11 - GC	Persons
Fenamidone	<lq< td=""><td>į.</td><td></td><td>20-01</td><td>ayna</td><td></td><td>MS 275 20(\$121) 20 = Rm 12-1.5 MS MS</td><td>25/10/2011 25/10/2015 04/01/2015</td></lq<>	į.		20-01	ayna		MS 275 20(\$121) 20 = Rm 12-1.5 MS MS	25/10/2011 25/10/2015 04/01/2015
Fenamiphos	< LQ			766	9010		01(6121)20(0466-11-15- 25-45	Sanston:
Fenamiphos-sulfoxide	<lq< td=""><td></td><td></td><td>-949</td><td>0.010</td><td></td><td>01/5121/2019 Br , 12 - LC- MS NS</td><td>2806000 0605000</td></lq<>			-949	0.010		01/5121/2019 Br , 12 - LC- MS NS	2806000 0605000
Fenamiphos-sulfone	< LQ	1		19(4)	sterio i		01/51/10/(01/84) 12+1 (5- 115:105	VEGSON1
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	<lq< td=""><td></td><td></td><td>0°5 40 -</td><td>2010</td><td></td><td>01/5123) Pulls Her 12 - LC- M5305</td><td>2665200 SUSSESS</td></lq<>			0°5 40 -	2010		01/5123) Pulls Her 12 - LC- M5305	2665200 SUSSESS
Fenarimol	< LQ	1		10.10	0.015		01(5)21) 2 (0 mg (2 + LG) MS (7)	pertending departure
Fenazaquin	< LQ			PSM	9,015		01(8121) 2019 Rev 12-10- MS-MS	79/5/00/1 04/56/50
Fenbuconazole	< LQ			1709	9.960		01:5171:2019 Res 12 - CC MS-MS	400000 040000
Fenchlorphos	< LQ	1		=sq eq	ward.		01/80447751886411 - 00- M5/M5	2010/01/
Fenchlorphos-oxon	< LQ		1	hyles	0.0%		01/5144) Z0/FR (6.11 - 1/15- MSR)	98.06(07) 2013.201 54.06(01)
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos [414]	< LQ			(70-9)	0.040		D151141 (010 Rev 41 - 005- MS-MS	75 FA 00 (1 (84.06/20)
Fenhexamid	< LQ			1990	6,610		01 5171) 7017 Res 12 - UC-	7945-001 04-06/901
Fenitrothion	< LQ			Losg	30.0		0165144) 2010 Hay 11-11C	Q803000 040000
Fenoxaprop-p-ethyl	< LQ		1	119/03	Quita		01, S121) 2311 Hwr 12-15- M8-MG	Special v
Fenoxycarb	< LQ			79-9	5.030		CHEST WINGE THE CHEST	180 120 H
Fenpropathrin	< LQ			1999	2012		01(5)34()2000 Rev 11+002	2000 pm 040620
Fenpropidin	< LQ		1	11970	DOTA.		01/5121) 2211 Avr. 12 - LE-	78 00 25 1 04 00 25 1





ACCREDIA 3

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Page 7 di 14

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20037

ANALYSIS DESCRIPTION	RESULT	9	ALC:	the department	- 100	10.	NEO	200
Fenpropimorph	< LQ			mulig	z ntu		01(5121) 2419 Rev 12 - LC- MS MS	19405001G 04060011
Fenpyroximate	< LQ			1919	25.510		91(\$17), 10 th Roy 12 - LC- MS MS	20050013 3410-201
Fenthion	< LQ			70.03	9,514		0 ((3121) 2315 ass 17 - 17 MS MS	Photography Section 201
Fenthion-oxon	<lq< td=""><td></td><td></td><td>прид</td><td>0.010</td><td></td><td>01(31)21) 2710 Re- 12-10). M5-MS</td><td>38/30000 36/30000</td></lq<>			прид	0.010		01(31)21) 2710 Re- 12-10). M5-MS	38/30000 36/30000
Fenthion-oxon-sulfone	< LQ		1	7696	0.015		01(6121) 2010 Nov. 12 - ( C- 415/MD	zireszeri S40820
Fenthion-oxon-sulfoxide	< LQ			) in Fig.	9310		01(6121) 2018 Rev. 12 - LC- MSAFE	26/05/2015 54/05/2016
Fenthion-sulfone	< LQ			39.60	.0.51_		0.08.129 (3010 Block) - (45- MERIS	2505/2011 36,06291
Fenthion-sulfoxide	< LQ			-043	515		01(5191) 2/10/Rev 1Z - LC- VS NS	James John Sakan John
Fenthion, fenthion-oxon, fenthion-oxon- sulfone, fenthion-oxon-sulfoxide, fenthion- sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	<lq< td=""><td></td><td></td><td>ma%u</td><td>0.019</td><td></td><td>01(5121)2015 Hav 12 - LG- MS-MS</td><td>26/80019 19.08(2014</td></lq<>			ma%u	0.019		01(5121)2015 Hav 12 - LG- MS-MS	26/80019 19.08(2014
Flazasulfuron	< LQ			7915	2010		Amin's chirtis Res 32 of Co- Moles	26 NSC 201
Flucythrinate, sum of isomers	< LQ			7949	-0000		SNS144(IDTZ Rev. IT - CC	2606/2014
Fludioxonil	<lq< td=""><td></td><td></td><td>-044</td><td>0015</td><td></td><td>03(3174) 2018 Ru 12-1C MSMS</td><td>(87A)019 74 (84)1</td></lq<>			-044	0015		03(3174) 2018 Ru 12-1C MSMS	(87A)019 74 (84)1
Flufenacet	< LQ		1	a540	2010		0.16424) 2017 Rev. 12 - 15 - MS MS	SARAGONI SAIRGON
Flufenoxuron	< LQ			reve	0010		01(8121) 2010 Sec 12 - LC. MS-MS	38+4004 0406207
Fluopicolide	< LQ		1	7970	920		(1/2121), online 12-17. MSWS	2/55/07 04/9/02
Fluquinconazole	<lq< td=""><td></td><td>1</td><td>= 0.401</td><td>2017</td><td></td><td>01(\$144) 2011 Page 11 + G.C.</td><td>2655 rom</td></lq<>		1	= 0.401	2017		01(\$144) 2011 Page 11 + G.C.	2655 rom
Flusilazole	<lq< td=""><td></td><td>1</td><td>7979</td><td>3112</td><td></td><td>11,8144,2239 Ne 11-25</td><td>3873/0073</td></lq<>		1	7979	3112		11,8144,2239 Ne 11-25	3873/0073
Flutriafol	< LQ		1	,1919	0.030		01/5/71/2019 Rep. 12 - LC- MIAD	34()6301 360(3)()1 34()6001
Fluvalinate, sum of isomers	< 1.0			7685°	2515		01614672019 8tm 31 - 0.0-	Janes Co. II
Fonofos	< LQ			70.92	3.013		01,S164)70 to Rev. 11 - L.C. M9 MS	SANKETT SINKERS
Formathion	< LQ			nexy	5211		01 (421) 2 10 How 77 - 10 -	2005/00/00 2005/00/00 2005/00/00
Fosthiazate	<lq< td=""><td></td><td>1</td><td>7750</td><td>0.047</td><td></td><td>01(5)(37-2)(3) Rev. 12 - 10- MS-MS</td><td>3 Aut 2011 54 (w/201</td></lq<>		1	7750	0.047		01(5)(37-2)(3) Rev. 12 - 10- MS-MS	3 Aut 2011 54 (w/201
HCH alpha	< LQ		1	11939	320h		01(0144) 2319 Harrist - GC	29103011
HCH beta	< LQ			cultu	0.005		01(3144)351) 4(c) 11×(C) M5 6(S	94/9920 P
HCH delta	< LQ			2010	9.005		01(5146) 1, 19 (Mr. 17 - 2C- 115:QS	28/08/2011
HCH epsilon	<lq< td=""><td></td><td></td><td>79.97</td><td>20005</td><td></td><td>MS NS</td><td>2805/2017</td></lq<>			79.97	20005		MS NS	2805/2017
Heptachlor	<lq< td=""><td></td><td>1</td><td>1979</td><td>5.005</td><td></td><td>0100141) 2010 Rev 11 - GC- MS-M5</td><td>78/30/01</td></lq<>		1	1979	5.005		0100141) 2010 Rev 11 - GC- MS-M5	78/30/01
Heptachlor Epoxide cis	< LQ			1995	0,005		01(51A4) 2018 Rev. 11 - 0/5	54/09/2011 24/03/2011
Heptachlor Epoxide trans	< LQ		1	riese	1106		00.3544 2010 No. 11 - GC- MS/VS	54196001 78496001 04.06001





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Page 8 di 14

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE 19E20037

ANALYSIS DESCRIPTION	RESULT		4.1	IN 1 ST NI GOLDE	10	-0	Miles	# 100 mg
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ			ENG. R.C.	Totales.		01:9144 2019 for 11 - GC+ 119-MS	Dalta Soria Dalta Soria
Heptenophos	< LQ			Na/ke	5703		01/51211 2015 RE/02 - LC- MS MS	705500 16 041000 00
Hexachlorobenzene	<lq< td=""><td></td><td></td><td>7949</td><td>0,00%</td><td></td><td>31/8144) 7/19 Rev 11 - DG- MS-MS</td><td>7000,075 3200,0010</td></lq<>			7949	0,00%		31/8144) 7/19 Rev 11 - DG- MS-MS	7000,075 3200,0010
Hexaconazole	< LQ			0.533	0.010		01(\$17(10)19 F64 12-60- MS MS	28004218 16042018
Hexythiazox	< LQ			W648	0.013		9.0 \$12.13 (2010 Perc 12 > 0.0) 105 4/5	JA-6500 19 SH080019
Imazalil	<lq< td=""><td></td><td>1</td><td>makij</td><td>0,510</td><td></td><td>MS MS</td><td>28/05/20/19 06/06/2016</td></lq<>		1	makij	0,510		MS MS	28/05/20/19 06/06/2016
Imidacloprid	< LQ			755/49	0.011		01(5)7(12)11(Ru)(48-) 5- MS MS	245050019 04080019
Indoxacarb, sum of R and S isomers	< LO			PRESS.	5010		01(9191) 2019 (6x 10 - 10- MS/MS	76-16-70-13 54-96-72-73
lodofenphos	< LO			15085	0,555		61/5144/2019 Nay 11 - 5C-	VH-00-0219
Iprodione	<lq< td=""><td></td><td></td><td>11944</td><td>signing.</td><td></td><td>MINES 31(5144) 2519 Rev 11 - GC-</td><td>78.08/3/219</td></lq<>			11944	signing.		MINES 31(5144) 2519 Rev 11 - GC-	78.08/3/219
Iprovalicarb	< LQ			2929	0.030		MS M3 J (5 (21) 2019 Hw 12 - 1 C MS/MS	04/08/3018 78/04/2019 04/06/2019
Isofenphos	< LQ		1	right	0.515		(1)(\$141) 2010 Rev 11 - GC-	25-08-20 G 06-06-31-11
Isofenphos-methyl	< LQ		1	+19.4%	0.710	k i	05/3/5 31(S1e4) 2519 res 14 - GC MS/US	28062519
Isoprotholane	< LQ			-chel	0.010		01(6)71(0)(9)Riv. (2-10) MSMS	04062013 75163018 86692019
Isoproturon	<lq< td=""><td></td><td></td><td>1949</td><td>9.010</td><td></td><td>3/45/21/23/9 Rev 12~, C-</td><td>29/03/30/A- 08/50/20/A</td></lq<>			1949	9.010		3/45/21/23/9 Rev 12~, C-	29/03/30/A- 08/50/20/A
Kresoxim-methyl	< LQ			rply	1010		\$1,5144) 20 to Rev 11 - 525- MS/MS	Zindagoru Sadegaliz
Lindane	< LQ		1	W183	0.00%		01(8144)2019 flux 11 - QQ	781751074 56169616
Lindane, sum of HCH isomers included Lindane [414]	< LQ			- nwag	0.005		01:5144) 2019 Roy 31 - GC- MS-MS	2618/2019 GHI GOTTS
Linuron	< LQ			-19.49	0.000		M3:M5	25052019 04060319
Lufenuron	< LQ			03/40	0.050		01(8121) 0019 Rev 02+10-	28683010 94063013
Malaoxon	< LQ			*946	=010		01(512)) 2019 Rev 12 - LC- MS N/S	28,0900375 04980471
Malathion	<lq< td=""><td></td><td></td><td>77039</td><td>0,010</td><td></td><td>01(\$121) 2019 Rev (2 - EC- MS/MS</td><td>284550519 04.063010</td></lq<>			77039	0,010		01(\$121) 2019 Rev (2 - EC- MS/MS	284550519 04.063010
Malathion and Malaoxon sum expressed as	< LQ				6/712		01(\$121) 2019 Nov 12 - LC- USIMS	24014 2019 0406 2019
Malathion (414) Mandipropamid	< LQ			4.645	2910.		MS MS	2805000 167992118
Mecarbam	< LQ			1061	500		01: 647117019 hes. 12 - LC- MSIXE	2010/2019 64 00 2019
Mepanipyrim	< LQ	i		7.949	0.015		01(\$121) 3519 Rev 12 - LC- M84/5	3/5-2/19
Metalaxyl, sum of isomers including Metalaxyl-M	< LQ			orp/eg	9 010		01:5121) 73 F) Rev. 7 - LC- MS-MS	(8/00/2019 54/00/2019
Metazachlor	< LQ			69	2010		01(8144) 2514 Nev 11 - QC - MS AS	28/08/2011 (A/08/2011



Robert Hansen Strasse 1 89257 Illertissen GERMANIA







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Page 9 dl 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

#### TEST REPORT nr. 19E20037-In-0

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SAMPLE

BASF Personal Care and Nutrition GmbH

19E20037

ANALYSIS DESCRIPTION	RESULT		140.2	THE IN SERVICE.		148	r/ell	Part Services
Methidathion	< LQ			res/Ac	0.035		01(\$121)(7010 Rev. 12 - LG- DS-US	2000/2019 6478/2019
Methiocarb	< LQ			-dix2	0.00		55/5121120/5 Rev 12 - LC- MS 865	2016 E 19 54 (8 (2) 1
Methiocarb-sulfone	< LQ			1946	90%		51(3)(21)(30)((Rev 12 + LG+ MS/MS	(Aldren-I
Methiocarb-suifoxide	< LQ	1		1919	0.010		11 51213 2019 Heil 12 41 Ch Att-MS	389400-1 0409/2014
Methiocarb, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb [414]	< LQ			-0.0	asito		01/51/21/2019 Rev (2 - DS- M69/5	2876-3013 ENDECO:
Methomyl	< LQ	1		1040	4.410		MS MS	1305001
Thiodicarb	< LQ			1/3/20	5,319		01 5131) 2019 Not 12 - CC- MOVS	\$6000000 \$6000000
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ			1994	W010		(1) \$121(2016 Res 12 - LG- MW WS	26/35/30/19 04/36/30/1
Methoxychlor	< LQ			7912	4,600		MS MS	25459879 94-09-0015
Methoxyfenozide	< LQ			+5xg	0.010		(21) 5121) 5119 Rev. 12 - LC- ME MS	2805/2070
Metolachlor, sum of isomers including S- metolachlor	< LQ			Pylet	0.270		01(8144)2000 Acr 11 c 0G- M5 M5	26/5/2019 (#05/5/10
Metrafenone	< LQ			-934	3006		01/0512112010(Rp-15+1/0- MSMs	2878-0015 0408-0015
Metribuzin	< LQ			10-0	Adia		1.1 5121) 27(19 Riv. 12 + 2.7 - M - M	2500/2150 2500/2010
Metsulfuron-methyl	< LQ	1		70%	2111		01(\$121)20(030) (2-16- 00(08)	HUNGEN
Mevinphos, sum of cis- and trans-isomers	<lq< td=""><td></td><td></td><td>1999</td><td>ster</td><td></td><td>01(2:021) 7((19 Hav (P=1))- (45 MS</td><td>266 A SWIS SWISSON</td></lq<>			1999	ster		01(2:021) 7((19 Hav (P=1))- (45 MS	266 A SWIS SWISSON
Molinate	<lq< td=""><td></td><td></td><td>1949</td><td>sidns.</td><td></td><td>01(302)210 Apr 12 (0. 09-05</td><td>284 EUR FS 784 (842 FF)</td></lq<>			1949	sidns.		01(302)210 Apr 12 (0. 09-05	284 EUR FS 784 (842 FF)
Monuron	< LQ	Ì		Polg	4,010		01:523))2019 Apr. 12 - US- NS MS	22.58.70 (3 (8.68/2) (1
Myclobutanil	< LQ			70.0	DAM.		mistrificantineticals MEMS	24-189030 08-089030
Napropamide	< LQ			7549	3936		HIGHERY ZING RED IZ - EC-	28/16/2019 34/20/2019
Oxadiazon	< LQ			19990	3.988		01/31/49/2019 Res 41 - GC-	16/32/19
Oxadixyl	< LQ			-660	0.010		01/512/12/00/00 12 11 C	280mgm/1 040mg/1
Oxyfluorfen	< LQ			79/6	900		01(S164) 2619 Apr. (1 - GC- MS.MS	2005/20 H
Paclobutrazol	< LO			79.70	0.010		01:51/412039 Box 11-20 MS:M5	25/05/0016 04/00/001
Paraoxon	< LQ			itg/a	3.012		MS MS	28/08/00 to 08/08/2010
Paraoxon-methyl	< LQ			75.40	2016		01141211.2322.Rev 12:125- MS-145	5845-0710 54-0520
Parathion	< LQ			1.214	0,010		01(8121)2019 Rev (2 +EG+) ME ME	(8) PS(01) 14 (8) Q5
Parathion-methyl	< LQ			link kd	10/10		51/51/21/250 / Rev. 12 - LC- M54//5	29/16/96/P



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Page 10 di 14

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

SAMPLE

19E20037

ANALYSIS DESCRIPTION	RESULT	8	MY. S.	502 ff (41)	-02	1(2)	MCN	240 - 11 1 20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			morals	0.010		51/51 (4) 2019 Ros 11 + GC - MS A/5	1995-2010 5076/2010
Penconazole	< LQ			79.69	0.002		01/912112500 Fine 13 =1 Co 01/9491	2005/2019 (#15/2019
Pencycuron	<lq< td=""><td></td><td></td><td>mg/kg</td><td>0,610</td><td></td><td>01:5121(2019 Rev 12 - 1.C-</td><td>28/80/01/2 68/80/21/1</td></lq<>			mg/kg	0,610		01:5121(2019 Rev 12 - 1.C-	28/80/01/2 68/80/21/1
Pendimethalin	< LQ			-1964	0.010		Q1(S121) 7019 Rin 12+5C+ MS MS	2805-2919
Permethrin, sum of isomers	<lq< td=""><td></td><td></td><td>mg/sg</td><td>0.012</td><td></td><td>94.5(41.20.7) Boy.11.0C</td><td>280000019 04000019</td></lq<>			mg/sg	0.012		94.5(41.20.7) Boy.11.0C	280000019 04000019
Perthane	< LQ		İ	20,40	9940		MS M5	(5.00/2019 O#56/2019
Phenmedipham	< LQ			toll ell	0.040		01 5121-2019 Rev 12 FLC+ MS/bbs	28435079 56563011
Phenthoate	< LQ			Mining	0.010		01/51/4] 3/10 Rt 11 - GC	26-06-2019 04-06-2019
Phorate	< LQ			~g+0	0.015		01(8121) 2010 row 12 +1 C	2895 2119 (406211
Phorate-oxon	< LQ			P950	0.010		01(5171) 2(19 Res -1 -10- M5 M5	2505 00 to
Phorate-oxon-solfone	< LQ			essea	0.019		01(517)) (019 Rp. 12+CC- MS M5	2600/2018
Phorate-sulfone	<lq< td=""><td>1</td><td></td><td>110.49</td><td>orașa (</td><td></td><td>01/5121) 2519 Res 12-LD- MS-MS</td><td>2a-05-0315 04-05-031</td></lq<>	1		110.49	orașa (		01/5121) 2519 Res 12-LD- MS-MS	2a-05-0315 04-05-031
Phorate-sulfoxide	< LQ			054g	cava		05(\$171) 2019 Rm 12 - C-	\$8000000 0166201
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ			nnd kg	diata		010512132019 See 12 - LC- US M3	2/404 (K. 1) (0.000 (K. 1)
Phosalone	< LQ			711J14Q	0.010		07(2121):019 Rev 12-10- MS/MS	2405-01N
Phosmet	< LQ			right	0,315		01/51/17/019 BAY 12 - CC- N 5 N/6	201062013 C41062011
Phosmet-oxon	< LQ			7970	onto		01(\$12)(25) Rev 12 - LC- MS-MS	14/26/2014 18/12/2014
Phosmet and phosmet-oxon expressed as phosmet [414]	< LQ			PEN	0.010		11(S)(2)(12010 Rev.12 -: C- MS MS	29 CS-UD-13 19-06/2013
Phosphamidon	< LQ	1		meseg	6.010		01:517110019 Ker 12:4.65 M5:9/5	2809301) 04000011
Picoxystrobin	< LQ		1	-0.0 KG	0.034		31 S144 2019 Per 11 - 02	25/08/2019
Piperonyl butoxide	< LQ		1	mgrag	5,010		MS MS 2100 Res 11 - 002	28/56/2019 28/56/2019 24/56/2019
Pirimicarb (Pirimor)	< LQ			rryag	0.010		01-517172010 Pers 12-LC- 1/5 VS	2816-VIII 9416-211
Pirimicarb-desmethyl	< LQ			714949	0.010		51(\$121) 701 (Rev. 17 - 1 Ca MS MS	2405/2019 0405/2019
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ			-1769	0.010		01:5124-2019 Ren 12-1,0- M5-M5	28-09/2014 (20:49)(0
Pirimiphos-ethyl	< LQ			loging	5,910		6th 3test, 2019 Reset LeGit. 679 WS	2806-2011 00000011
Pirimiphos-methyl	< LQ			rigida	0.015		61(SM4) 2019 Rev. 11 - GC- 612-65	28/8/9510
Prochloraz	< LQ			m(I) (I)	2015		MS MS	25050319 04061201
Procymidone	< LQ			1600	0.010		515 44(1019 Rev.11 - GO) M3/M5	\$859266 265200





ACCREDIA 🔨

Page 11 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20037

ANALYSIS DESCRIPTION	RESULT		201	-04.014.000Mg	-G-	rane:	Alexandria All those
Profenofos	< LQ			1040	0.010	01(\$1)21)-2011 Rev 42 + 404 MS2MS	Jikers Gorty Guide/Jane
Prometryn	< LQ			198	0.070	00.5150 3043 Stu 42+1,0-	elinsaum olinsami
Propachlor	< LQ			messy	gan	91(5121) 20/9 Roving + LC-	95460c10 84589234
Propanil	< LQ				(Vé)č	01:5121) 2019 Rev 12 • LC- M5:M9	79/76/2019 04/08/2019
Propaquizafon	< LQ			7076	1010	01/5-21/2019 See 12+4C- MS-MS	26/05/20/5 06/08/2019
Propargite	< LQ			indire	0.910	01/3121[2010 Rev 12-1 Cr 6/0/M3	26092013
Propazine	< LQ			2012/4/2	0.045	018591901 Rev 17-10- MS-MS	9605 2019 5406 2019
Propiconazole (sum of isomers)	<lq< td=""><td></td><td></td><td>739/40</td><td>5.610</td><td>01,857 - 2518 Rev.12+1 S- MSAIS</td><td>28/08/5/219 Se/08/30/19</td></lq<>			739/40	5.610	01,857 - 2518 Rev.12+1 S- MSAIS	28/08/5/219 Se/08/30/19
Propoxur	< LQ			-5%	-DOWN	01(5)24) 2(18)(e) 11 - EC; #8:95	28/06-2010 08/06/2019
Propyzamide	< LQ			-914	900	91(5121) 2019 Rev.12 - EC- M3-4/S	Jacobachi Makatan
Proquinazid	< LQ			79.49	0010	0.115 (21) 2019 Rev. 12 - LC= N/S MS	2A456/2016 64/06/2018
Pyraclostrobin	< LQ			11645	6,0 (5.	2) 9321) 2019 Re- 12 - 10: 8/8 MD	28450019 16360114
Pyrazophos	<lq< td=""><td>Ì</td><td></td><td>mg 49</td><td>anits</td><td>(1(a)21) 234 (8), 12 - 60- MSAT</td><td>29/05/June Oktober 19</td></lq<>	Ì		mg 49	anits	(1(a)21) 234 (8), 12 - 60- MSAT	29/05/June Oktober 19
Pyrethrins: pyrethrin I and II, cinerin I and II, asmolin I and II, sum (low limit)	<lq< td=""><td></td><td></td><td>19/49</td><td>gátá</td><td>01(S(2)) 21(0) Rev 12 - 12- M9 M5</td><td>7875/2019 01-062/13</td></lq<>			19/49	gátá	01(S(2)) 21(0) Rev 12 - 12- M9 M5	7875/2019 01-062/13
Pyridaben	< LQ			771.50	5.000	01(\$184) 31(Lists 11 - GC	28/05/2015 24/06/2015
Pyrimethanil	< LQ			7/9/45	aamu	01/51215 (2000 560 - 12 - 1 C- 125 (200	2806201A 92662013
Pyriproxyfen	< LQ			7046	A.870.	91.91215721 s Ros (2 (1)C) MS Ms	(%)(6)(0)(6) (%)(6)(0)(6)
Quinalphos	< LQ			112.10	0.010	11 (5) (21) (019 Re) (12 - 15) MS-MS	GENESCHE GENESCHE
Quinoxifen	< LQ	1		400,40	010.	01:3121)2010Hi= 12+LC+ 05 Mg	2810/3010 (310/201)
Quintozene	< LQ	1		79.49	0.008	00/5144/2 (19/9a): 11 v GG: M2 M5	25/05/30/9 04/05/25/9
Pentachloroaniline	< LQ	1	1	19/49	0,066	DUSTAL ZOUBERST-GO	29-65 20 UZ 58-08(20.79
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			-1000	0.55	51(\$144) 201 (Rev.11 + QQ- MSM)	2 (000/0) 10 34 (00/2) 10
Rotenone	< LQ			1590	2,900	11:3121) 2010 405 12:11 C. MS-MG	7845-2019 0496/2018
Simazine	< LQ			*0.42	0.010	01.8721.300 Nr. (2×10) MSRs	25 68 20 H 06 08 20 H
Spinosad, sum of spinosyn A and spinosyn	< LQ			7989	0.010	MSRMS	Judden Ku Judgen ur
Spirodiclofen	< LQ			90%	9.005	SHEAR STREET STREET	FR05/2019 94:062618
Spirotetramat	< LQ			1990/40	5010	4 13 121) 27 18 Per 12 - LC- MS/08	2853/2013 G456/2011





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Page 12 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20037-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20037

ANALYSIS DESCRIPTION	RESULT	14	-	(510)40130		15	9(1+3)	MACONING MACONING CAR SEC-
Spirotetramat enoi	< LQ			712.63	5.000		01(8)(2)(2014)(-) 12-LC- MENC	2615 1045 0408701
Spirotetramat enoi-glucoside	< LQ			76.4g	9745		101/01/2019 (01/02-10) 100/20	205500 m
Spirotetramat ketohydroxy	< LQ			116/85	200		USAR TO STAND	Supplements Supplements
Spirotetramat monohydroxy	<lq< td=""><td></td><td></td><td>-1081</td><td>600</td><td></td><td>51(S121)2019 Rev 12-1 C:</td><td>Janacon</td></lq<>			-1081	600		51(S121)2019 Rev 12-1 C:	Janacon
Spirotetramat and its metabilites (enol. enol- glucoside, ketohydroxy, monohydroxy) sum as spirotetramat [414]	<lq< td=""><td></td><td></td><td>7986</td><td>0.05</td><td></td><td>51/51/130/5 No. 12 - LC- M5/8/5</td><td>28-95-2014 THE BLOCK</td></lq<>			7986	0.05		51/51/130/5 No. 12 - LC- M5/8/5	28-95-2014 THE BLOCK
Spiroxamine	< LQ			Origina)	E 036		15552172 49 88 17 - LC- VS 445	-0.00 to 100 mg
Sulfallate	< LQ			>690	10,000		01 81311 9010 46 12 - LC- M5 482	Allegati Name (Con
Sulfotep	< LQ		1	15396	200		71/514/100/5 Rev 11-06	2886201
Tebuconazole	< LQ			*0'S	àme.		MS MS CISION TR-LO	SHANDAN Dringson
Tebufenozide	< LQ			1949	179		01-61212018 But 12-15- MS-M0	AMONONY DEGRACO
Tebufenpyrad	<10			29.60	0.016		OHSTALL FOLK RECTAING.	2209983
Teflubenzuron	< LQ			71/99	2mm		MS AS 1131211711596012-1C- MS MS	94 95 70 N 95 95 70 N 94 95 96 N
Tefluthrin	< LQ				noin		0 (S*-4) 20 W Rey 11 = 0.C-	ONTRODE
Terbuthylazine	<lq< td=""><td></td><td></td><td>mgay</td><td>0.010</td><td></td><td>01/342/33/10/20/12/12/12/ 03/64</td><td>Minages Minages Skiller</td></lq<>			mgay	0.010		01/342/33/10/20/12/12/12/ 03/64	Minages Minages Skiller
Tetrachlorvinphos	< LQ			7(40)	0.000		01/5121/991#Rev 17: LC- M5 M5	29/3/2011 12/3/301
Tetraconazole	< LQ			(*1947)	0.010		01/5/11/10/19 Mex 12-10- 5/5/4/5	29/25/20/0 04/38/29/0
Tetradifon	< LQ			70914	0.000		01(\$144)2010/00/11 (05) MS MS	28/05/2010
Tetramethrin	< LQ			112140	9.010		1)(312)(2)(4) 4w (2-1.C-	Note 2011
Thiabendazole	< LQ			unifolis.	2.012		STATESTOCK NO. 12-10:	286690% persecur
Thiacloprid	< LQ			77.5	0.510		G1(3121) 2010 No. 12 - 12; MS NS	7.685/015 54/36907
Thiamethoxam	< LQ			-10.400	5 1/2		01(\$121) 2019 869 17 - LG MS MS	3866,001 5456,001
Thiobencarbe	< LQ			3/0	5,010		01(0)21)2016 PB (12-62) MO NS	29-05-06 FE TAMBER 1
fhionazin	< LQ			146(25)	mem.		\$1(5(21)2019 Res (12: 1/0- MS/MS	24/96/2010 34/96/201
Thiophanate-methyl	< LQ				0.040		01/510 (10019 %) 12 - LC- 1/6-VS	201403525175 06/00/2021
Tolclofos-methyl	< LQ		1	-10 ×9	9255		DUS (44) 2010 Rem 11 - GC-	2005000
Tolylfluania	< LQ			- Kurxii	Zato		MS MS	76/35/30 N De100/35/30 N
Dimethylaminosulphotoluidide (DMST)	< LQ	A CONTRACTOR OF THE CONTRACTOR		robut	0,040		of final years (words - No-	28/05/00** Detro 201





ACCREDIA 3

Page 13 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

#### TEST REPORT nr. 19E20037-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20037

ANALYSIS DESCRIPTION	RESULT	.0	-0.5	de las typeson	10	-	84 (40)	Amirota Trongeto Party								
Tolyifluanid and DMST, sum expressed as tolyifluanid [414]	< LQ			11 (14)	7/030		01(B121) 20(PRAW ST-LS- MSAG	7985-3070 1429/2018								
Triadimefon	< LQ		1	*848	0.010		01(8121) 2015 Re. 12-LC-	28090253 340633.5								
Triadimenol	< LQ			779	0.010		#16512172007R/s U-1C-	Sensormon re-pointre								
Triallate	< LO		1	100	=330		0.1 (5.12.1) (0.11) (0.0.12 - 1.0.) Artisans	2+15/0/10 0404/2478								
Di-ailate (sum of isomers)	<lq< td=""><td></td><td></td><td>-0.40</td><td>0,000</td><td></td><td>(F312) 2010 Res 12 -175- USANS</td><td>zaváchny, osbacená</td></lq<>			-0.40	0,000		(F312) 2010 Res 12 -175- USANS	zaváchny, osbacená								
Triallate and Diallate sum expressed as Triallate [414]	<lq< td=""><td></td><td>1</td><td>THE</td><td>500</td><td></td><td>01(\$121) 2019 Rev 12+1 C- MS 4/3</td><td>26050010 0x060000</td></lq<>		1	THE	500		01(\$121) 2019 Rev 12+1 C- MS 4/3	26050010 0x060000								
Triazophos	< LQ			Ports.	(000)		01(S(21) 2-1) Re(1)2-1(C- N(SM)	(845)0010 04(002010								
Trichlorfon	<lq< td=""><td></td><td></td><td>7975</td><td>9270</td><td></td><td>01/312 \   2019 Rev 12 - LE- t/6 XID</td><td>Seriocore haconomia</td></lq<>			7975	9270		01/312 \   2019 Rev 12 - LE- t/6 XID	Seriocore haconomia								
Tricyclazole	< LQ			79(11)	3.015		01(S121) (015 Rin 12 - LC- 115 MS	Zubsquip Descrip								
Trifloxystrobin	<lq< td=""><td></td><td></td><td>riginal</td><td>6,0 m</td><td></td><td>01/3171/2019 Hey 17 - 10- MS MS</td><td>J4092019 Sh062016</td></lq<>			riginal	6,0 m		01/3171/2019 Hey 17 - 10- MS MS	J4092019 Sh062016								
Triflumuron	< LQ	1		Soly	9015		01(5121) 2x19 Res 12 - 1.C-	26/95/2019								
Trifluralin	< LQ			199	010		01(2140) (219 Rev. 11 - 50)	54553010 545003019								
Triticonazole	< LQ			77,49	5.546		01.51.71) 2010 Pb/, 17 - LC- MS MS	Substitution (Substitution thion	< LQ			7964	0.010		Mene offertal Souther 15-Fig-	ZWESTON OF
Vinchlozolin	< LO			raka	East		G1(S) 447 ALLY Res 11 - COS MS MAY	29 (80201V 04 08 201V								





Page 14 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

TEST REPORT nr. 19E20037-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20037

ANALYSIS DESCRIPTION	RESULT	-SIC-		.00	1400		- THE CO.
Zoxamide	<lq< td=""><td></td><td>70%</td><td>5 5)3</td><td></td><td>01/\$121/2019 Rev 12 - LG- MS-NC</td><td>340625767 34062375</td></lq<>		70%	5 5)3		01/\$121/2019 Rev 12 - LG- MS-NC	340625767 34062375

END TEST REPORT

Notes and method reference:

< LQ: = lower train Quantification until Please note that results expressed as '<\_Q' may not indicate the absence of the searched parameters in the sample. Ut the reported uncertainty is the expanded uncertainty is due expanded uncertainty is due expanded uncertainty established using a coverage bode must be 2 whim gives a reliability of approximately 95%. For microbiological delections it is rejected either the lower and the upper bounce of the confidence interval way a probability of 95% Ke2 or the confidence interval itself.</p>
Results current from microbiological lists are datouated absorbing to the Standard SO 7218/2007/Amd 1/2013. If the results are repurred as <4 (CFU/m) or <40 (CFU/m), this.</p> means that the microorganisms are present in the sample but in amounts less than 4 CFU/mt or 40 CFU/g respectively, unless differently reported in the single methods in case of analytical steps foreseen in non-activity days of the laboratory, provisions from the standard (SO 72.9, 2007/Am) 13013 (trains 11.2 and 10.2.5) or from specific test methods are applied. In the case of quantitative microslological tests, these have been so; up on a single plate in occordance with ISO 7218 2007/Amd 1 2013 par. 10.2.2 unless otherwise explicitly required by current regulations.

Co-Chariffication Limit, it is the lowest analyte concentration which can be detected at an acceptable precision (repeatability) and accuracy, under well defined conditions.

LD: Detection Limit, it is the lowest analyte concentration which can be detected but not necessarily quantified, under well defined conditions.

Conformity evaluation, varies not complying with lowe, decrees, national and EU regulations or specifications supplied by the customer are evaluated case by case, also taking into consideration the uncertainty of measure for each single lest and the regulations on rounding-off of values, and pointed out when considered as non-conform.

Rec. 11: Recovery 10: 12: results that the recovery has been applied to the result. The numeric results between brackets (1.1) after the expression >LQ are purely indicative of traces that cannot be exactly quartified.

Methods marked with an asterisk (\*) are not accredited by ACCREDIA (UNI CEI EN ISO/IEC 17025)

[329]: Main pestudes belonging to this group: Ferbian, Managach, Maneb, Meliram, Nabari, Propineb, Thiram, Zram [414]: The sum is extended through the lower bound orderion

TEST REPORT VALID FOR ALL LEGAL PURPOSES (risks of D. 1.5. 1225 or 642 (which 15) — Salan Law 10-7-1897 or 975 validated to 10 and 16. Tax ran Manatonal Decree 25-3-1986). DATA and SAMPLE STORAGE: Their Reports, fixed data of the state of

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LABORATORY MANAGER: DR. ALBERTO GATIL-Adjroved by Analysis Manager - Jahoratory GC-BRO

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# **Analysis Report**

Product

ARA Oil Gold

Lot number

L 26013

Production date

2019-03-14

Parameter	Unit	Value	Lower Limit	Limit
Appearance	8	pass	clear, yellow	vish to orange
Acid value	mg KOH/g	0.1	-	1.0
Free fatty acids, suni	%	0.06		0.45
Peroxide value	meg O2/kg	< 0.1	1.8	4.0
Water content, Karl Fischer	%	0.01		0.05
Unsaponifiable matter	%	23		3.5
Anisidine value		3.6	*	20
Fatty acid trans, sum	% (a)	0.3	-	0.5
Content Arachidonic acid as TG	mg/g	414	400	2.0

Illertissen, 2020-07-09 BASF Personal Care and Nutrition GmbH

Location Illertissen

Dr. Edith von Kries QC Laboratory Manager



## Certificate of Analysis

Ms Edith Von Knes

BASE Personal Care and Nutrition GmbH

c/o Roland Sauter ILL-ENO/HI

Building: 025

Robert-Hansen-Strasse 1 DE 89257 Illertossen, Germany Report No: P19-05054

Purchase Order: 4951478751

Date Received: 28th May 2019

Date Started: 3rd June 2019

Page 10 of 12

### Arachidonic Acid Rich Oil

Sample Coda:

P19-05054-4

Your Reis:

Sample Reference: 100396

Description:

ARA Oil Gold 126013

MUCH.	MINA	UII	GOIG	F50012

Method	Analysis	Result	Units
* TM-318	Acid Value	0.2	mg KOH/
* TM-325	Free Fatty Acid	0.08	9/1009
* TM-328	Peroxide Value	0.58	meqO2/ kg Fat
* 7M-319	Ansidine Value	< 0,1	
*	Unsaponificule Matter	1.8	g/100g
TM-331	alpha tocopherol	150	mg/kg
* TH-331	peta tecepheral	55	mg/kg
* TM-331	gamma tocopherol	340	mg/kg
" TM-331	delta tocopherol	160	mg/kg
* TM-331	Total Tocopherols	706	mg/kg
* TM-252	Cholesterol	0.1	56
* TM-252	Unidentified A	86.1	96
* TM-252	24-Methylene-cholesterol	1.7	284
* TM 252	Campostanol	0.3	9%
* TM-252	Stigmasterol	0.1	11/6
* TM-252	Unidentified B	5.4	6/6
* TN-252	Chlerostero	0.2	96
* TM-252	:Sitosterol	0.6	6/6
* TM-252	Sitostanoi	0.0	9/19
* TM-252	4-5-Avenasterol	0.1	190
* TM-252	∆ 5,24-Stigmastadienol	0.1	1/4
* TM-252	A-7-Stigmasteriot	0.2	96
* TM-252	A-7-Avenustero	0.1	96



Approved By: Robert Griffiths Snr Associate Principal Scientist (Investigative Analysis) 28 June 2019

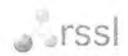


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Report No: P19-05054

Purchase Order: 4951478751

Date Received: 28th May 2019

Date Started: 3rd June 2019

Page 11 of 12

### Arachidonic Acid Rich Oil

	Sample Code	P19-05054-4	Your Refs:	Sample Referen	ce: 100396
	Description:	ARA Oil Gold L260:	13		
	Method	Analysis		Result	Units
,	TM-252	Undentified C		5.1	%
4	TM-252	Total Sterois		17318	mg/kg
,	TM 252	Total sterols excluding under components	tified	575	mg/kg
		Arachidonic Acid		434	ing/g
	TM-112	C13:0(I)		0.1	5%
	TM-112	C14:0		0.4	90
	TM-112	C15:0		0.2	%
	IM-112	C16:0		10.3	G <sub>(1)</sub>
	TM-112	C16:1		0.2	%
	TM-112	C17:0		0.4	944
	TM-112	C18:0(f)		0.1	9/0
	TM-112	C18:0		8.8	96
	TM-112	C18:1(trans)		0.2	9/6
	TM-112	C18:1(c)5)		15.8	%
	TM-112	C18:7(trans)		0.5	9/4
	TM-112	C18:2(cis)		5.5	%
	TM-112	C18:3(gamma)		2.4	0/4
	TM-112	C20:0		0.9	96
	TM-112	C20:1		1.2	06
	TM-112	C22:0		1.7	96
	TM-112	C22:1		0.1	96
	TM-112	C24:0		1.5	96
	TM-112	C24:1		0.4	%



Approved By:
Robert Graffiths
Sur Associate Principal
Scientist
(Invastigative Analysis)
28 June 2019

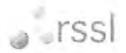


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Report No: P19-05054

Purchase Order: 4951478751

Date Received: 28th May 2019

Date Started: 3rd June 2019

Page 12 of 12

#### Arachidonic Acid Rich Oil

Sample Code:

P19-05054-4

Your Reis:

Sample Reference: 100396

Description:

ARA Oil Gold L25013

Metood	Analysis	Result	Units
TM-112	C20;2	0.8	46
TM-112	C20:4 (n6) (ARA)	43.0	46.
774-112	C20:5 (EPA)	0.2	74
TM-112	C22:6 (DHA)	0.3	98
TM-112	Unidentified	0.8	46
TM-112	C20:3 (n6)	3.9	9,0

Normised fatty acid profite (%).

Free fatty acid was conducted according to ISO 650 and expressed as oleic acid. Acid value was conducted according to ISO 660.

ARA tatty acid data ref: L19-00111/74

ARA was determined using a method based on European Pharmacopeia method  $\pm$  4.29 calculated as mg / g and reported as triglycenides.

Peroxide value was conducted according to ISO 3960.

Tocopherol content was conducted according to ISO 9936.

Sterol content and profile was conducted using a method based on the ISO 12228-2.

Unsaponifiable matter was conducted according to ISO 3596.

Anisidine value was conducted according to ISO 6885.

Fatty acid profile was conducted using a method based on AOAC 965.33 & 963.22.

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Approved By:

Robert Griffiths Snr Associate Principal Scientist (Investigative Analysis) 28 June 2019



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emust enganes@(socon) web www.rsa/con



### RESULTATS

## ARA Oil Gold, L 26013 - éch n°100893

### Détermination des stérols

Incertitude sur la composition :

Delta?-campestérol / Delta5-avenastérol / Delta7-stigmastérol / Delta7-avenasterol : 20 % de la valeur avec Minimum : 0,7 / Maximum : 3,5 Autre sterols : 10 % de la valeur avec Minimum : 0,5 / Maximum : 3,5

Incertitude sur la teneur : 20% de la valeur

Stérols		Résultat(s)
Cholestérol	0,1	%
5α cholesta-8, 14 dien-3βol	3,3	%
Desmostérol	83,5	%
Zymostérol	1,2	%
Ergostérol	4,9	%
Cholest7, 24die-3j3ol	1,4	%
Campéstérol	<0,1	%
stigmastérol	0,1	95
iso fucostérol	5,0	%
Fucostérol	<0,1	%
B sitostérol	0,5	%
∆5,24 Stigmastadiénol	<0,1	%
24methyldesmostéro!	0,1	%
Stigma-5-ene-3βol	<0,1	%
Teneur en stérols	19416	mg/kg



Labor LS SE & Co. KG Mangelsfeld 1, 5, 6 (97708 Bad Boodet | Generality BASE Personal Care and Nutrition GmbH Ms Margit Kapitzke Robert-Hansen-Straße 1 89257 Illertissen

Fon: +49 (0)97 08/91 00-0 labor@labor-is.de www.labor-is.de

Bad Bocklet 31 May 2019 / KA / Bastill

#### Certificate of Analysis

LS No:	190516-0132-004	LS Code:	1359730 / L	
Product name:	ARA OIL Gold			
Lot No:	L 26013			
Article No:	11098258			
Entry temperature:	room temperature			
Your Order No:	4944273100			
Order dated:	15 May 2019	Sample receipt:	16 May 2019	
Start of test:	17 May 2019	End of test:	31 May 2019	

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Demands	Result
Enterobacteriaceae, qualitative	°L 00.00-133/1, mod.		not detected / g ISO 21528, mod.
Total viable count, anaerobic, mesophilic	*L 00.00 - 88/2 mod.		< 100 CFU/g
			DIN EN ISO 4833-2. mod.
yeasts, quantitative	*L 01.00 - 37, mod.		< 100 CFU / g ISO 21527, mod.
Pseudomonas aeruginosa, qualitativ	L+S SOP 9.035		not detected / g ISO 13720. mod.
Saimonella sp., qualitative	*L 00.00 - 20		not detected / 25 g DIN EN ISO 6579-1
molds, quantitative	*L 01.00 - 37, mod,		< 100 CFU/g ISO 21527, mad.
Coagulase-positive Staphylococci, qualitative	L+S SOP 9.014		not detected / g
de la company de			DIN EN (50 6888-1, mod.
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations. This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 31 May 2019 at 11:40 by Alexander Klauer, Specialist Manager.

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WELCOND HORSE

Eurofins WEJ Contaminants GmbH Neuländer Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

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BASF Personal Care and Nutrition GmbH

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89251 Illertissen

wej-contaminants@eurofins.go http://www.eurofins.de/wej-contaminants.aspx

Person in charge Ms D. Zarthe - 2907 Client support Ms D. Zarthe - 2907

> Report date 14.06.2019 Page 1/6

Analytical report: AR-19-JC-104426-01

### Sample Code 706-2019-00102721

ARA Oil Gold, L 26013 Reference

Triglyceride 100396 Client Sample Code Purchase Order Code 4942613538

Client contract reference Rahmenbestell-Nr. 4942613538

Number 2 1793 g Amount

Reception temperature room temperature Frau Edith von Kries Ordered by Submitted by Frau Edith von Kries

Reception date time 28.05.2019

glass container with plastic closure Packaging

Start/end of analyses 28.05.2019 / 14.06.2019

#### TEST RESULTS

#### Physical-chemical Analysis

J1001 Sample preparation (#)

§64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave) Method:

J8306 DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method:

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Lead (Pb) < 0.05 \* mg/kg

J8308 Cadmium (Cd) (#)

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method:

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

Cadmium (Cd) < 0.01 \* mg/kg

JCHG2 Mercury (Hg) (#)

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and tabacco/-products)

< 0.005 \* mg/kg Mercury (Hg)

effect (Company) | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company | Company

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Analytical report: AR-19-JC-104426-01 Sample Code 706-2019-00102721

#### WEI Contaminants

J8312 Arsenic (As) (#) DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Arsenic (As) < 0.1 \* mg/kg JJW2B Copper (Cu) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Copper (Cu) 0.1 mg/kg ± 0.1 mg/kg JJOCJ Iron (Fe) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Iron (Fe) < 0.5 \* mg/kg JJ0CG Chromium (Cr) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Chromium (Cr) < 0.05 \* mg/kg JJ0CM Nickel (Ni) (#) Method: DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS (Modification; incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Nickel (Ni) · mg/kg **JJOCV** Tin (Sn) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Tin (Sn) < 0.2 \* mg/kg J1032 Aluminium (Al) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification: extension of the scope of application to food and feed after pressure digestion) ma/ka Aluminium JJOCI Manganese (Mn) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Manganese (Mn) < 0.1 \* mg/kg J1050 Phosphorus (P) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification: extension of the scope of application to food and feed after pressure digestion) Phosphorus (P) 8.0 mg/kg ±3 mg/kg J1054 Sulphur (S) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification: extension of the scope of application to food and feed after pressure digestion) mg/kg Sulphur total (S) <5 J1056 Silicon (Si) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification; extension of the scope of application to food and feed after pressure digestion) Silicon (Si) 3 mg/kg ±2 mg/kg

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## WEI Comminmants

JCSRA Method:	Solvent residues (big scope) (#) Internal, CON-PV 01330 (2019-03), HS-GC-MS		
	orm (Trichloromethane)	< 0.01	* mg/kg
0.0000000000000000000000000000000000000	pethene	< 0.01	* mg/kg
	oroethene	< 0.01	* mg/kg
	chlorinated solvents	Inapplicable	mg/kg
	chloroethene	< 0.05	* mg/kg
	nloroethane	< 0.05	* mg/kg
	loraethene	< 0.05	* mg/kg
1,2-Dicl	nloroethane	< 0.05	* mg/kg
Dichloro	omethane	< 0.05	* mg/kg
1.1,1-Tr	ichloroethane	< 0.01	* mg/kg
Tetrachi	oromethane	< 0.01	* mg/kg
1,1,2-Tr	ichloroethane	< 0.01	* mg/kg
1,1,1,2-	Tetrachloroethane	<0.01	* mg/kg
Dibromo	ochloremethane	< 0.05	* mg/kg
Bromod	ichloromethane	< 0.05	* mg/kg
Tribrom	omethane	< 0.05	* mg/kg
Benzen	e	0.013	mg/kg
		± 0.0065	mg/kg
Toluene		< 0.01	* mg/kg
Ethylbei	nzene	< 0.01	* mg/kg
m-/-p-X	ylene	< 0.01	* mg/kg
Xylene i	(ortho-)	< 0.01	* mg/kg
Styrene		< 0.01	* rng/kg
2-Butan	on (Methylethylketon)	<1	* mg/kg
Ethyl Ac		<1	* mg/kg
n-Penta	ne	<1	* mg/kg
n-Hepta		<1	* mg/kg
n-Hexar	le e	<1	* mg/kg
2-Methy	Ipentane	<1	* mg/kg
3-Methy	lpentane	<1	* mg/kg
	yclopentane	<1	* mg/kg
Technica	al Hexane (calculated)	Inapplicable	mg/kg
Methyl a	rcetate	<1	* mg/kg



## WF/-Conturmounts

GFL13 Dioxins and Furans (17 PCDD/F)		
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS Subcontracted to a Eurotins laboratory accredited for this test.		
2,3,7,8-TetraCDD	< 0.0605	pg/g
1,2,3,7,8-PentaCDD	< 0.0796	pg/g
1,2,3,4,7,8-HexaCDD	< 0.121	pg/g
1,2,3,6,7,8-HexaCDD	< 0.166	pg/g
1,2,3,7,8,9-HexaCDD	< 0.156	pg/g
1,2,3,4,6,7,8-HeptaCDD	< 0.255	pg/g
OctaCDD	< 1.85	pg/g
2,3,7,8-TetraCDF	< 0.166	pg/g
1,2,3,7,8-PentaCDF	< 0.115	pg/g
2.3.4.7.8-PentaCDF	< 0.178	pg/g
1.2.3.4.7.8-HexaCDF	< 0.188	pg/g
1,2,3,6,7,8-HexaCDF	< 0.172	pg/g
	< 0.127	pg/g
1,2,3,7,8,9-HexaCDF	< 0.156	pg/g
2,3,4,6,7,8-HexaCDF	< 0.178	4.136.146
1,2,3,4,6,7,8-HeptaCDF	< 0.176	pg/g
1,2,3,4,7,8,9-HeptaCDF	< 0.382	pg/g
OctaCDF	ND	pg/g
WHO(2005)-PCDD/F TEQ (lower-bound)	0.164	pg/g pg/g
WHO(2005)-PCDD/F TEQ (medium-bound) WHO(2005)-PCDD/F TEQ (upper-bound)	0.328	pg/g
GFL14 polychlorinated biphenyls (12 WHO PCB + 6 ICES PCB) Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS Subcontracted to a Eurofins laboratory accredited for this test.	0,000	P9/9
PCB 77	< 5.73	pg/g
PCB 81	< 0.860	pg/g
PCB 105	< 12.4	pg/g
PCB 114	< 1.69	pg/g
PCB 118	< 44.6	pg/g
PCB 123	< 1.27	pg/g
PCB 126	< 0.796	pg/g
PCB 156	< 7.01	pg/g
PCB 157	< 1.31	pg/g
PCB 167	< 3.50	pg/g
PCB 169	< 3.82	pg/g
PCB 189	< 1.27	pg/g
WHO(2005)-PCB TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCB TEQ (medium-bound)	0.0986	pg/g
WHO(2005)-PCB TEQ (upper-bound)	0.197	pg/g
PCB 28	< 0.318	ng/g
PCB 52	< 0.318	ng/g
PCB 101	< 0.318	ng/g
PCB 138	< 0.318	ng/g
PCB 153	< 0.318	ng/g
PCB 180	< 0.318	ng/g
Total 6 ndl-PCB (lower-bound)	ND	ng/g
Total 6 ndl-PCB (medium-bound)	0.955	ng/g
Total 6 ndi-PCB (upper-bound)	1.91	ng/g

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GFTE1 Method:	TEQ-Totals WHO-PCDD/F and PCB Internal, GLS DF 110, 120, 130, 140, Calculation		
Comment of the land	to a Eurofins laboratory accordited for this test.		
WHO(20	05)-PCDD/F+PCB TEQ (lower-bound)	ND	pg/g
WHO(20	05)-PCDD/F+PCB TEQ (medium-bound)	0.263	pg/g
WHO(20	05)-PCDD/F+PCB TEQ (upper-bound)	0.526	pg/g
JCPC3	7 Plasticizers (low LOQ) (#)		
Method:	Internal Method, CON-PV 01337 (2018-10), LC-MS/MS		
	xylphthalate (DEHP)	<0.1	* mg/kg
Benzyl b	utyl phthalate (BBP)	<0,1	* mg/kg
Diethylh	exyl adipate (DEHA)	<0.1	* mg/kg
Diisodec	ylphthalate (DIDP)	<0.5	* mg/kg
Diisonon	ylphthalate (DINP)	< 0.5	* mg/kg
Dibutylp	nthalate (DBP)	< 0.07	* mg/kg
Acetyltrit	outylcitrat (ATBC)	< 0.1	* mg/kg
JC00U	PAH 4 (#)		
Method:	Internal, CON-PV 01176 (2019-03), GC-MS		
Benz(a)a	inthracene	< 0.5	* µg/kg
Benzo(a	)pyrene	< 0.5	* µg/kg
Benzo(b	fluoranthene	< 0.5	<ul><li>µg/kg</li></ul>
Chrysen	e	< 0.5	* µg/kg
Sum PA	14	napplicable	µg/kg
determinat	DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-1 on: sample weight, extraction solvent, enrichment on IAC, no ion of Aflatoxin B2, G1 and G2)	solvent exchange	
Aflatoxin		<0.01 <0.01	ug/kg
Aflatoxin		< 0.01	µg/kg
Aflatoxin		< 0.01	µg/kg
		<0.04	· µg/kg
	Il positive Aflatoxins	<0.04	· µg/kg
JJV04 Method: (Modification	Ochratoxin A (babyfood) (#) DIN EN 15835 (2010-05), mod., CON-PV 00852 (2018-11) on: extraction solvent, IAC-volumina, no solvent exchange)		
Ochrato	kin A (OTA)	<0.1	* µg/kg
JC0FG	Fusarium toxins, small, babyfood (DON, ZON, T2, HT2)		
Method:	Food Addit. Contam. 2005 Aug; 22(80);752-60. CON-PV		
	valenoi (Vomitoxin)	<20	* µg/kg
	ione (ZON)	<5	· μg/kg
T-2 Toxir		<1	* µg/kg
HT-2 Tox	A. Alaka A.	<3	* µg/kg
sum T-2	HT-2 toxin	<4	* µg/kg
JJ088 Method:	Fumonisine B1, B2, B3 (maize and products derived fr Internal Method, CON-PV 01085 (2018-08), LC-MS/MS		2 775000
	in B1 (FB1)	<20	* µg/kg
W 0.100-100	in 82 (FB2)	<20	* µg/kg
	in B3 (FB3)	<20	" µg/kg
	in sum (B1+B2)	<40	* µg/kg
Fumonis	in sum (B1+B2+B3)	<60	* µg/kg

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### WEJ Contaminants

JJW2Z Method: Sterigm	Sterigmatocystin (#) Internal, CON-PV 01126 (2018-08), LC-MS/MS atocystin	<10	• µg/kg
	a quantification level Contaminants GmbH (Hamburg) is accredited for this test.		
And the second second second	red measurement uncertainty (95%; k=2), sampling not included		
Signature	Analytical Service Manager (Yasmina Knop)		

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### Well Sentammants

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Person in charge Ms D. Zarthe Mr P. Kösters Client support

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Report date 27,09,2019 Page 1/5

Analytical report: AR-19-JC-104426-02

This report replaces report number: AR-19-JC-104426-01



### Sample Code 706-2019-00102721

Reference ARA Oil Gold, L 26013

Triglyceride Client Sample Code 100396 4942613538 Purchase Order Code

Rahmenbestell-Nr. 4942613538 Client contract reference

Number 1793 g Amount

Reception temperature room temperature Ordered by Frau Edith von Kries Submitted by Frau Edith von Kries Reception date time 28,05,2019

glass container with plastic closure Packaging

Start/end of analyses 28.05.2019 / 14.06.2019

### TEST RESULTS

#### Physical-chemical Analysis

J1001 Sample preparation (#)

Method: §64 LFGB L 00:00-19/1, CON-PV 00001 (2019-03), Digestion (microwave)

J8306

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method:

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Lead (Pb) < 0.05 \* mg/kg

J8308 Cadmium (Cd) (#)

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method:

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products)

Cadmium (Cd) < 0.01 \* mg/kg

Mercury (Hg) (#)

DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS

(Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

feed and labacco/-products)

Mercury (Hg) < 0.005 " mg/kg

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Page 2/5

Analytical report: AR-19-JC-104426-02

Sample Code 706-2019-00102721

## WEJ-Contemporarie

This report replaces report number: AR-19-JC-104426-01

J8312	Arsenic (As) (#)		
Method:	DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (20	17-12), ICP-MS	
Modificatio	in: incl. ICP-MS/MS, extension of the analysis parameters, e		plication scope to
feed and ta	bacco/-products)		and the first of the state of the
Arsenic (		< 0.1	* mg/kg
JJW2B	Copper (Cu) (#)		
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2	017-121 ICD MS	
			plication coops to
	on; incl. ICP-MS/MS, extension of the analysis parameters, e	xtension of the ap	plication scope to
	bacco/-products)	e a	And the second
Copper (	Cu)	0.1	mg/kg
		= 0.1	mg/kg
JJOCJ	Iron (Fe) (#)		
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2	017-12), ICP-MS	
Modification	on: incl. ICP-MS/MS, extension of the analysis parameters, c		
	pacco/-products)	The same of	bereatte saaba ta
Iron (Fe)		< 0.5	* mg/kg
		0.0	mgmg
JJ0CG	Chromium (Cr) (#)		
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2		
	on: incl. ICP-MS/MS, extension of the analysis parameters, e	xtension of the ap	oplication scope to
	bacco/-products)	3.5	
Chromiu	m (Cr)	< 0.05	* mg/kg
JJOCM	Nickel (Ni) (#)		
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2	017-12), ICP-MS	
Modification	on: incl. ICP-MS/MS, extension of the analysis parameters, e		
	ipacco/-products)	Car Charles and Al	PRESIDENT SERVE IN
Nickel (N		< 0.1	* ma/kg
JJOCA	Tin (Sn) (#)		1119119
		017 101 IOD NO	
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2		
	on: incl. ICP-MS/MS, extension of the analysis parameters, e	xtension of the ap	oplication scope to
	bacco/-products)	-0.0	· market
Tin (Sn)	And the second s	< 0.2	* mg/kg
J1032	Aluminium (AI) (#)		
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICF	P-OES	
(Modification	on: extension of the scope of application to food and feed after	er pressure diges	tion)
Aluminiu	m	< 0.5	* mg/kg
JJOCI	Manganese (Mn) (#)		
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2	2017-12), ICP-MS	
110-310-31	on: incl. ICP-MS/MS, extension of the analysis parameters, e		
Account to the same of	abacco/-products)	and the same of	chitecont, combo to
	ese (Mn)	< 0.1	* mg/kg
			mgrkg
J1050	Phosphorus (P) (#)	050	
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICF	-OES	it and
	on: extension of the scope of application to food and feed aft		
Phospho	orus (P)	8.0	mg/kg
		± 3	mg/kg
J1054	Sulphur (S) (#)		
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICF	P-OES	
	on: extension of the scope of application to food and feed aft		tion)
The second second	그렇게 하는 것들이 가게 하는 것이 아니라 아니라 아니라 아니라 아니라 하는 것이 아니라 아니라 아니라 아니라 아니라 아니라 아니라 아니라 아니라 아니라	er pressure diges <5	
Sulphur		50	* mg/kg
J1056	Silicon (Si) (#)	0.422	
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICF		
(Modification	on: extension of the scope of application to food and feed aft		tion)
Silicon (		3	mg/kg
	TY and the second secon	±2	mg/kg
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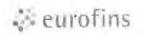


## WEJ Conteminant

This report replaces report number; AR-19-JC-104426-01

GFL13 Method: Subcontracte	Dioxins and Furans (17 PCDD/F) Internal, GLS DF 110:2019-01-25, GC-MS/MS id to a Eurotins laboratory accredited for this test.		
	TetraCDD	< 0.0605	pg/g
	3-PentaCDD	< 0.0796	pg/g
	7,8-HexaCDD	< 0.121	pg/g
	7.8-HexaCDD	< 0.166	pg/g
F9 1 7 10 10 10 10 10 10 10 10 10 10 10 10 10	3,9-HexaCDD	< 0.156	pg/g
	3,7,8-HeptaCDD	< 0.255	pg/g
OctaCD	D	< 1.85	pg/g
2,3,7,8-	TetraCDF	< 0.166	pg/g
1,2,3,7,8	3-PentaCDF	< 0.115	pg/g
2.3,4,7,8	3-PentaCDF	< 0.178	pg/g
- 1	7.8-HexaCDF	< 0.188	pg/g
	7.8-HexaCDF	< 0.172	pg/g
	3,9-HexaCDF	< 0.127	pg/g
	7.8-HexaCDF	< 0.156	pg/g
	5,7,8-HeptaCDF	< 0.178	pg/g
	7.8.9-HeptaCDF	< 0.124	pg/g
OctaCD		< 0.382	pg/g
	005)-PCDD/F TEQ (lower-bound)	ND.	pg/g
	005)-PCDD/F TEQ (medium-bound)	0.164	pg/g
	005)-PCDD/F TEQ (upper-bound)	0.328	pg/g
GFL14 Method:	Polychlorinated biphenyls (12 WHO PCB + 6 ICES PCB) Internal, GLS DF 110:2019-01-25, GC-MS/MS id to a Eurofins laboratory accredited for this tast.		F3/3
PCB 77		< 5.73	pg/g
PCB 81		< 0.860	pg/g
PCB 10		< 12.4	pg/g
PCB 114		< 1.69	pg/g
PCB 118		< 44.6	pg/g
PCB 123	3	< 1.27	pg/g
PCB 120	3	< 0.796	pg/g
PCB 15		< 7.01	pg/g
PCB 15		< 1.31	pg/g
PCB 16	7	< 3.50	pg/g
PCB 169		< 3.82	pg/g
PCB 189		< 1.27	pg/g
	005)-PCB TEQ (lower-bound)	ND	pg/g
WHO(20	005)-PCB TEQ (medium-bound)	0.0986	pg/g
WHO(20	005)-PCB TEQ (upper-bound)	0.197	pg/g
PCB 28		< 0.318	ng/g
PCB 52		< 0.318	ng/g
PCB 10	1	< 0.318	ng/g
PCB 13	3	< 0.318	ng/g
PCB 15	3	< 0.318	ng/g
PCB 186		< 0.318	ng/g
Total 6 n	dI-PCB (lower-bound)	ND	ng/g
Total 6 r	dl-PCB (medium-bound)	0.955	ng/g
Total 6 r	dl-PCB (upper-bound)	1.91	ng/g

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## WEJ Contaminants

This report replaces report number: AR-19-JC-104426-01

GFTE1 TEQ-Totals WHO-PCDD/F and P Internal, GLS DF 110, 120, 130,	40, Calculation
Subcontracted to a Eurofins laboratory accredited for this to WHO(2005)-PCDD/F+PCB TEQ (lower-bound	
WHO(2005)-PCDD/F+PCB TEQ (nower-board WHO(2005)-PCDD/F+PCB TEQ (medium-bo	-,
WHO(2005)-PCDD/F+PCB TEQ (inedian bound of the control of the cont	
	d) 0.020 pg/g
JCPC3 7 Plasticizers (low LOQ) (#) Method: Internal Method, CON-PV 01337	/2018-10\
Diethylnexylphthalate (DEHP)	<0.1 * mg/kg
Benzyl butyl phthalate (BBP)	<0.1 * mg/kg
Diethylhexyl adipate (DEHA)	<0.1 * mg/kg
Dilsodecylphthalate (DIDP)	<0.5 * mg/kg
Diisononylphthalate (DINP)	<0.5 * mg/kg
Dibutylphthalate (DBP)	<0.07 * mg/kg
	<0.1 * mg/kg
Acetyltributylcitrat (ATBC)	vo.t mg/ng
JC00U PAH 4 (#) Method: Internal, CON-PV 01176 (2019-0	SI GC-MS
Benz(a)anthracene	<0.5 * µg/kg
Benzo(a)pyrene	<0.5 * μg/kg
Benzo(b)fluoranthene	<0.5 µg/kg
Chrysene	<0.5 * ug/kg
Sum PAH 4	Inapplicable µg/kg
(Modification: sample weight, extraction solven determination of Aflatoxin B2, G1 and G2)	CON-PV 00855 (2018-11), IAC-LC-FLD t, enrichment on IAC, no solvent exchange, additional
Aflatoxin B1	<0.01 * µg/kg
Aflatoxin B2	<0.01 * µg/kg
Aflatoxin G1	<0.01 * µg/kg
Aflatoxin G2	<0.01 * µg/kg
Sum of all positive Aflatoxins	<0.04 * µg/kg
Method: DIN EN 15835 (2010-05), mod., (Modification: extraction solvent, IAC-volumina	CON-PV 00852 (2018-11), IAC-LC-FLD , no solvent exchange)
Ochratoxin A (OTA)	<0.1 * µg/kg
JC0FG Fusarium toxins, small, babyfo	od (DON, ZON, T2, HT2) (#)
	22(80);752-60, CON-PV 00854 (2018-08), LC-MS/MS
Deoxynivalenol (Vomitoxin)	<20 * μg/kg
Zearalenone (ZON)	<5 * μg/kg
T-2 Toxin	<1 * µg/kg
HT-2 Toxin	<3 µg/kg
Sum T-2 HT-2 toxin	<4 * μg/kg
JJ088 Fumonisine B1, B2, B3 (maize Method: Internal Method. CON-PV 01085	
Fumonisin B1 (FB1)	<20 * μg/kg
Fumonisin B2 (FB2)	<20 * μg/kg
Fumonisin B3 (FB3)	<20 * μg/kg
	a be
Fumonisin sum (B1+B2)	<40 * μg/kg <60 * μg/kg

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DIN EN ISCHEC 17025:2005



Page 5/5

Analytical report: AR-19-JC-104426-02 Sample Code 706-2019-00102721

WEI Contaminants

This report replaces report number: AR-19-JC-104426-01

JJW2Z

Sterigmatocystin (#)
Internal, CON-PV 01126 (2018-08), LC-MS/MS Method:

Sterigmatocystin

<10

\* µg/kg

\* = Below indicated quantification level

(#) = Eurofins WEJ Contaminants GmbH (Framburg) is accredited for this test.

Result +/- expanded measurement uncertainty (95%, k=2), sampling not included

Signature Analytical Service Manager (Patrick Kösters)





Page 1 di 14

MODENA, ii 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

**BASF Personal Care and Nutrition GmbH** 

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20038

Description provided by Customer: ARA OIL GOLD - L 26013 - SAMPLE NO: 100396 - THE SAMPLE HAS BEEN TAKEN BY THE CUSTOMER. THE TRANSPORT HAS BEEN MADE BY COURIER.

Sample Condition on Receipt: Room temperature

ANALYSIS DESCRIPTION	RESULT	=	681	THE PERSON	139	10	850	1000
PESTICIDE RESIDUES IN BABY FOODS					1			
FOR INFANTS AND YOUNG CHILDREN			1					
Aldrin (low limit)	< LQ		1	7010	5,803		11:51551 (011) Hours - 0:Q-	85/05/2019 04/06/2019
Dieldrin (low limit)	< LQ			11 144	1000		11/5/15/5/7019 Hav 3 - 150-	28/45/2079 PATRICON
Endrin (low limit)	< LQ			20.00	0.001		21(\$165) 2013 R42-3 + 6C-	20/09/2015
Fipronil (low limit)	< LQ	1	1.	15710	0.001		ONS 186; PATERINES - GO.	78164070 53469201
Fipronil-desulfinyl (low limit)	< LQ		1	7010	0.011		MS-MS	28953E10
HCH alpha (low limit)	< LQ		1	759.49	0.101		01/S159 2019 Rev.5 - 6C-	28/05/2019
HCH beta (low limit)	< LQ		1	1949	30301		01/S155 2010 Rp. 3 - GC-	26650000
HCH delta (low limit)	<lq< td=""><td></td><td>1</td><td>r=4 eq</td><td>0.791</td><td></td><td>91,5155 2010 Fee: 3 - CC.</td><td>28/0P/2015</td></lq<>		1	r=4 eq	0.791		91,5155 2010 Fee: 3 - CC.	28/0P/2015
HCH epsilon (low limit)	<lq< td=""><td></td><td></td><td>ingle</td><td>0.051</td><td></td><td>MS/MS 11/8155/2019 Rev 3 - GC+</td><td>3416001 2495201</td></lq<>			ingle	0.051		MS/MS 11/8155/2019 Rev 3 - GC+	3416001 2495201
Heptachlor (low limit)	< LQ		1	115746	8.001		MS-MS 01(5155) 2019 (6n. 2 - Go.	06/05/07/1
Heptachlor Epoxide cis (low limit)	<lq< td=""><td></td><td></td><td>-545</td><td>0.001</td><td></td><td>MS MS 01/9156/3019 Rin 3 v/C</td><td>29/06/07/13</td></lq<>			-545	0.001		MS MS 01/9156/3019 Rin 3 v/C	29/06/07/13
Heptachlor Epoxide trans (low limit)	< LQ			mg wy	0.001		MS NA 61 (3 (55) 2019 Kv-3 - W3-	1402000
Hexachlorobenzene (low limit)	< LQ			1752.955	2005		MSIMB 51(815G) 2719 MIL 1 - 703-	25150000 25150005
Lindane (low limit)	< LQ			750 AU	2001		MS/M5 01/515519519 Ray 2 - GC-	29/062/70
Nitrofene (low limit)	<lq< td=""><td></td><td>1</td><td>More</td><td>2001</td><td></td><td>MS 475 OHS 10 A COLUMN 3 - CIC.</td><td>28/28/2019</td></lq<>		1	More	2001		MS 475 OHS 10 A COLUMN 3 - CIC.	28/28/2019
o.p'-DDD (low limit)	< LQ		1	THE ACC	550		MS MS	2859201
o.p'-DDE (low limit)	< LQ		1	PW KG	0.001		GC-MS-MS     MS-CMS-COTS Rend	25/00/2010
o.p'-DDT (low limit)	< LQ				0.027		- GC-MS 2918 Rev3	ZHOSQC11
p.p'-DDD (low limit)	< LQ		1	ringrapi	nior		★ DECEMBERIA	SAMPORE TO THE STATE OF THE STA
p.p'-DDE (low limit)	<lq< td=""><td></td><td></td><td>1777,355</td><td>2301</td><td></td><td>CANTAS CACCUS JUB Rood</td><td>54 W(301)</td></lq<>			1777,355	2301		CANTAS CACCUS JUB Rood	54 W(301)
p.p'-DDT (low limit)	<lq <lq< td=""><td></td><td></td><td>PROMO</td><td>6.204</td><td></td><td># 0HGCMS 2018 RHV3 -</td><td>58/05/00/10</td></lq<></lq 			PROMO	6.204		# 0HGCMS 2018 RHV3 -	58/05/00/10
Cadusafos (low limit)	< LQ			700	17001		GEMSMS VI:5121)2/19 Rm:12-LC-	51.00 201 880 370 19
Cadusaros (row limit)	< LQ	İ					MSAIS	99.000000
Demeton-S-methyl (low limit)	< LQ		1	90%	TUGS		MS 17H 2019 Am 17 - LC- MS 181	99650015 9406001
Demeton-S-methyl sulfoxide (oxydemeton- methyl) (low limit)	< LQ			72/6	1000		01/6121/2015 Rov-12-LC- M5 MS	2a/03/38/30 0= 38/39/0
Demeton-S-methyl sulphone (low limit)	< LQ			7979	0.001		01(S121) 771 9 Ray 17 - 1 G- Mix MS	26118-7619 04-06/05/1
Disulfoton (low limit)	< LQ			24141	1000		01(S155) 2010 Rts 5 - (IC-	25/06/2010
Disulfoton-sulfone (low limit)	< LQ			-11g/4g	0.001		91(5121)2019 Hex 12 - EG- MS/US	CHOS STO
Disuifoton-sulfoxide (low limit)	< LQ			10.50	плот		9 (15 (21) (1919) Provide + LC- M5 (M5	AMINE (1971) 34 (W210)
Ethoprophos (low limit)	< LQ			A gray	9,991		01-212   7010 Rev. 12-1C- MS-MS	\$515 2015 (±0) 201
Fensulfothion (low limit)	< LQ			insky	8,007		01/8121/1019 New 12 x 1 C+	25/03/2010





ACCREDIA 🔨

Page 2 d 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20038

ANALYSIS DESCRIPTION	RESULT	m-		4	41-4	11-14
Fensulfothion-oxon (low limit)	<lq< td=""><td></td><td>HIVA</td><td>0.001</td><td>MONTH CONTROL CALCA</td><td>AFECTA</td></lq<>		HIVA	0.001	MONTH CONTROL CALCA	AFECTA
Fensulfothion-oxon-sulfone (low limit)	< LQ		7991	0.201	91(\$12112019 Fee 12 - LC-	American Sensor
Fensulfothion-sulfone (low limit)	<lq< td=""><td></td><td>-9/20</td><td>0.001</td><td>01(6121) 2018 Box 12 - 1 C MS 185</td><td>Tankgors hydrogen</td></lq<>		-9/20	0.001	01(6121) 2018 Box 12 - 1 C MS 185	Tankgors hydrogen
Haloxyfop methyl (low limit)	<lq< td=""><td>1</td><td>Frg/Fg:</td><td>7,000</td><td>01(\$156) 5019 Rev 3 - 50.</td><td>Janasons</td></lq<>	1	Frg/Fg:	7,000	01(\$156) 5019 Rev 3 - 50.	Janasons
Haloxyfop, included haloxyfop-R (low limit)	< LO		1700	2,001	MS/MS 01(S121) 2019 Res 12 - LC; MS/MS	\$608001 \$6080010 000921
Haloxyfop-2-ethoxyethyl (low limit)	<lq< td=""><td></td><td>2675</td><td>0.001</td><td>\$108166; 2719 Rev 3 x GC+</td><td>25 % 20 N 52 08 2 P</td></lq<>		2675	0.001	\$108166; 2719 Rev 3 x GC+	25 % 20 N 52 08 2 P
Omethoate (low limit)	< LQ		1929	0.001	21(5121) 2519 Rev. 12 - LC- MS WS	de de la constante de de de de de de de de de de de de de
Phorate (low limit)	< LQ	1	- Spage	0.005	CHECKS SHE Rays     CC-MSMS	140agon: 14.0agon:
Terbufos (low limit)	< LQ		~1.49.	0.001	01(\$121) 2019 Ro. 12 C. 6'S.MS	2805/2019 SUMB DOM
Terbufos-sulfone (low limit)	< LQ		mare	7:304	Q1(9.12.1) 2/18 Rev. 12 - (.0- NS. 66	20/05/20/5 04/06/20/5
Terbufos-sulfoxide (low limit)	<lq< td=""><td></td><td>mone</td><td>0.001</td><td>01(0)(7)12019 Res 12-1 G-</td><td>260627FU</td></lq<>		mone	0.001	01(0)(7)12019 Res 12-1 G-	260627FU
Fentin (fentin including its salts, expressed as triphenyltin cation) (low limit)	< LQ		1919	2:07	14(5.121) 2715 Rev. 12 - Lic. MS MS	-5008/2016 04/04/24
Dithiocarbamates, thiuram-disulfides as CS2 (Analytical technique: GC) (low limit) [329]	< LQ			0.001	28513152018 6ye 5 - CCAP5	Aleksen Sanege
Total ethylentiourea (ETU) (hydrolise pH 9.90°C) (low limit)	< LQ		marker	8162	91(36) /un 36 2010 - 1 0- MS Am	28/05/20X
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ		71(6)	3.75	Office we then the Liga-	28/85/90F
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO		1				
Flonicamid (LCMS)	<lq< td=""><td></td><td>1989</td><td>0.000</td><td>01/5/2/1/2/19 Ray 12 - LO- M9/M6</td><td>25455345 540605</td></lq<>		1989	0.000	01/5/2/1/2/19 Ray 12 - LO- M9/M6	25455345 540605
Flonicarnid metabolite: TFNA	< LQ		190.40	0.001	M(5121) 5.11 Rev 12 - UC-	ZHONO) N NAMESON
Flonicamid metabolite; TFNG	< LQ		775740	34500	04/5124) 2019 Run 12 - LC- 8/3-529	2808-7910 (2408-2010
Abamectin	<lq< td=""><td></td><td>F9:40</td><td>0.513</td><td>91(5121) 2019 her 12 : LC- MS MS</td><td>2608291</td></lq<>		F9:40	0.513	91(5121) 2019 her 12 : LC- MS MS	2608291
Acetamiprid	< LQ		(mg/m)	0.012-1	01:5121   2019 Rm.42 - LC- VIS MS	28/05/00 to 08/06/00 to
Acetochlor	< LQ		20.60	6810	01/9121-2019 Re-12-EC- MS MS	-AUN-001-
Acibenzolar-S-methyl	< LQ		79 (6.45)	0,010	SUSTAIN LEBERTH - BCL	2465990 (48869)
Acionifen	< LQ		1979	0.010	01/5164; 7.19 Ray 11 - CC-	7575007
Acrinathrin	< LQ	1	20,49	0,210	01(S144) 2019 RIN 11 - GC-	2405/201 0416/201
Alachior	< LQ	1	20.09	16515	01/51/4/2010 for 11 -0/5-	2605 201
Aldrin	< LQ		-9/4G	0.005	01:3144 2010 Fee: \$1 -GC-	7800/201 3456/201
Dieldrin	< LQ		Higher	0.006	01(3144) 2011 Rev 11 - 535- MS-065	2403702 3403702





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Page 3 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20038

ANALYSIS DESCRIPTION	RESULT	6	-01-3	610046	30		A81+00	Agentical Millerest Miller
Aldrin and dieldrin, sum expressed in dieldrin [414]	<lq< td=""><td></td><td></td><td>1946</td><td>0.0%</td><td></td><td>91(9144) 2018 No. 11 - GG- MSAIS</td><td>2806-9013 04-96200</td></lq<>			1946	0.0%		91(9144) 2018 No. 11 - GG- MSAIS	2806-9013 04-96200
Ametryn	<lq< td=""><td></td><td></td><td>more</td><td>0.110</td><td></td><td>NESTET JOHN NEC 12 - LC- NS NS</td><td>2,665/2314 2,666/2810</td></lq<>			more	0.110		NESTET JOHN NEC 12 - LC- NS NS	2,665/2314 2,666/2810
Atrazine	<lq< td=""><td></td><td></td><td>dest</td><td>DATA</td><td></td><td>01/6121+2010 Rov,12 + LC- MG-889</td><td>28685079 0464260</td></lq<>			dest	DATA		01/6121+2010 Rov,12 + LC- MG-889	28685079 0464260
Atrazine-desethyl	<lq< td=""><td></td><td></td><td>17974</td><td>C.310</td><td></td><td>1/(\$121) 2519 Rev 17 - LC- MS MS</td><td>January 12 billion 2014</td></lq<>			17974	C.310		1/(\$121) 2519 Rev 17 - LC- MS MS	January 12 billion 2014
Atrazine-desisopropyl	< LQ			-800	2.017		SIGNED COLUMN TO LES	24/5,257 94/56/00
Azadirachtin-A	< LQ			1994	0010		01(\$721) 2015 (B) - LD - LC- M5 925	28050000 044900
Azınphos-ethyl	< LQ			mging	2000		01(6121)(2015 Res(12-10) MSMS	25/06/2010 04/25/2010
Azinphos-methyl	< LQ			nig/su	0.011	1	01:G121) 7675 Res 12 - LC- M&MS	29/25/2016
Azoxystrobin	< LQ			1941	0,043		0)(S421) (7019 Rk - 12 - LC- M3-10)	20050012 0406001
Benalaxyl, sum of isomers including Benalaxyl-M	< LQ			Alpha	900		03(5121) 2010 Rev.12 - LC- MS-MS	26/05/2070 76/05/2010
Benfluralin	< LQ		1	799	0.212		Mis 150 20:07604.11 (DC-	1615001
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ			73 kg	0.000		01/S121)(4) 9-941-12-1-0 MS-145	De03099 049000
Carbendazim	< LQ			0-6	n Em		01(\$121)1(619 Nov.12 - LC- NS/MS	78 66 207 16 66 207
Benthiavalicarb-isopropyl	< LQ			1200	0,315		01(6173)2518 Rev 12 - LG- MS/MS	36/06/35/3
Bifenazate	<lq< td=""><td></td><td></td><td>2000</td><td>Q510</td><td></td><td>cas a 2077 sec 1 - LG- MS-M5.</td><td>Tareston Moreon</td></lq<>			2000	Q510		cas a 2077 sec 1 - LG- MS-M5.	Tareston Moreon
Bifenox	< LQ		1	rigika	0.010		01(5 (A) (A) 16 (a) 11 - GCA	aksacus
Bifenthrin	<lq< td=""><td></td><td>1</td><td>peries</td><td>0.015</td><td></td><td>01/51/41/2018 Rev 11 - GC-</td><td>2808-201 2808-201</td></lq<>		1	peries	0.015		01/51/41/2018 Rev 11 - GC-	2808-201 2808-201
Bitertanol (sum of isomers)	< LQ			make,	6.015		01:512:17019 No. 52 - LC- MS 119	3000000 2866300 3466000
Boscalid	< LQ			egse	0,510		61.5121) 2519 Rev. 12 - 60- M5 MG	78957074 3696914
Bromophos-ethyl	< LQ			-7000	8010		21/2144) 2119 Rev. 11 - 655	2101000
Bromophos-methyl	< LQ		1	19676	= 010		MS.MS 01(\$144) 2013 Rev 11 - QC-	\$8.05/2075
Bromopropylate	< LQ		1	1516	2,010		MS MS 01:8164 (2019 Nov/31 - GC-	74/05/2014 23/05/2014
Bromuconazole, sum of cis- and trans-	< LQ			3999	110 %		MS/MS D*(SIJ/1) 7719 His U - LC- MS/MS	2654304 2654304 6466231
isomers Bupirimate	< LQ		1	19.4	0011		01/S121/7010 Was 12 - LG- MS/AS	20000000 366600
Buprofezin	< LQ			7000	0.210		01(8121) 2515 885.12 - LC- MS/MS	24 (06/20) 04/04/201
Butylate	< LQ			1098	0.010		01/912192019 Sec. 12 - 1 C. Mir-MS	2405257 540925
Cadusafos	< LQ			rejeg.	0.000		51/5121) 2010 Rev.12 - LC- M5 M5	2848701 245627
Carbaryl	< LQ			Thicky	potu		#13.121) 2019 Rev 12 - LC. MSAMS	2+65/2075 GA-03/001





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Service division

Page 4 di 14

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20038

ANALYSIS DESCRIPTION	RESULT		arte	ON THE PROPERTY.			24-15
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furalhiocarb)	< LQ			T5 H9	9/501	(NE)21)2014 Rev 13-1C+ MS-MS	7805/3748 1405/03/9
Carbofuran-3-hydroxy	< LQ		ì	700/49	0:01	01/912/1/2019 for 12+EC: MS-MH	78967016 040002019
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ			max.	5301	01(3121) 2010 Rev 12 + ) C- MS MS	28047076 P-00/2019
Chlordane cis	< LQ			wind	210	01(\$141) 2:19 Rov, 11 - GD- MS-MS	3895/2079
Chlordane oxi	< LQ			11645	3.405	01/9/64/2019 Key 13 - QC	2455-0019 Sent(0.219
Chlordane trans	< LQ			7797102	0.003	01(\$164) Alte Rev 11 - 0G-	20055907// 04767277
Chlordane sum of cis and trans-isomers	< LQ			Tryrig	.d.008	01/614/37019 Bay 12 - C.C.	29/15/2019 08/20/2019
Chlorfenvinphos, sum of E and Z isomers	< LQ			79.90	9.5%	31(3121) 2019 Sec 12-10- M5-M5	281050079 5410600149
Chlormephos	< LQ			mgvg.	0.010	01/914/92519 Rev 11-0/01	Jansung
Chlorotoluron	< LQ	1		-px	0.010	MS MS. MS MS	Mide 9519 265 V 2019 54 26 2019
Chlorpropham	< LQ			77.4	3.000	51/5144) 2019 Nov. (1 - CG-	+2000 cm/m
Chlorpyriphos ethyl	< LQ			- 10 MJ	3536	MS-MS Drinted philip Reserve CG- MS-MS	19/00/05/0 20/05/00/09 04/06/01/0
Chlorpyriphos metnyl	< LQ			Impley.	3010	01(0164) 2019 Read1 - GC	3975/3019 0406/231
Chlorsulfuron	< LQ			migrica.	-0.6rc	0.19 (21) 70 PRes 17 + LC	2015/9/07/19 08/04/001/9
Chlorthal dimethyl	< LQ		İ	Holog	0.55%	01(51)(4)(201)	9250000 946620
Clofentezine	< LQ			261.62	0.010	01/5121/2019 Apr 12 ALC- M5 MS	\$100000000 \$1000000000
Chlorantraniliprole (DPX E-2Y45)	< LQ			30105	03(6)	01-8121) 2-10 Fac 12 - LC- MS 465	20050010 20050010
Coumaphos	< LQ			to the file	2.045	01(5151) 2010 Rev 12 - LC: MS AIS	38663519 56060319
Cyanazine	< LQ			on Kg	2019	21(3121) 2019 Rev 12 - 13- MS MS	-(8158/80/19 -(8158/80/19
Cyazofamide	< LQ			ey xp	7,010	(1(\$1,21) A)10 Res 17 (1) MSMS	28000000 5450000
Cycloate	< LQ			many	3000	51/5721/2019 Rev.12 - 1/5- /35-8/5	340000019 19400-2019
Cycloxydim	< LQ			79-9	5.079	11(5121) 2011 Ber 12+LC:	Allestance Modulets
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ			myny	9.00	2/88144) 70/9 Ref 11-00-	28152018
Lambda-cyhalothrin (includes gamma- cyhalothrin) (sum of R,S and S,R isomers)	<lq< td=""><td></td><td></td><td>117-12</td><td>not:</td><td>MG MG 31(3144) 3919 Rev 11 - GC- MS MS</td><td>28050519 28050519 04062319</td></lq<>			117-12	not:	MG MG 31(3144) 3919 Rev 11 - GC- MS MS	28050519 28050519 04062319
Cymoxanil	< LQ	1		-usy	nath.	01/\$101/2010 Sec. 12-1 C- MEAGS	291652017 0416-2017
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	<lq< td=""><td></td><td></td><td>mpsy</td><td>010</td><td>01/514473019 How 11 = 00- M5465</td><td>28 (00 kg) (9) (4.00 kg) (19)</td></lq<>			mpsy	010	01/514473019 How 11 = 00- M5465	28 (00 kg) (9) (4.00 kg) (19)
Cyproconazole	< LQ			muse	3020	01/5121127111 Rev. 12+1.0- MS-MS	3505-2019 9456-2019
Cyprodinil	< LQ			0.000	8,545	01(\$121) 7.15 Hez (2 - LC- MS MS	28-04-2019 ICK-04-2019
o.p'-DDD	<lq< td=""><td></td><td></td><td>59.9</td><td>0.05</td><td>61(514) 2019 Sept 11 - GC-</td><td>28/0-D/19</td></lq<>			59.9	0.05	61(514) 2019 Sept 11 - GC-	28/0-D/19





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Page 5 di 14

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

## TEST REPORT nr. 19E20038-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20038

ANALYSIS DESCRIPTION	RESULT	v	-0	Jacob Wales		*	96.94	Mar 1911 Min Son St. 1811   1800
p.p'-DDD	<lq< td=""><td></td><td></td><td>~9.vg</td><td>11.206</td><td></td><td>01(S114)(2019 Hay, 11 + C/S- B/S MS</td><td>3265301</td></lq<>			~9.vg	11.206		01(S114)(2019 Hay, 11 + C/S- B/S MS	3265301
o.p'-DDE	<lq< td=""><td></td><td></td><td>15080</td><td>0,006</td><td></td><td>01/3144, 2310 RAV 11 - CC-</td><td>25660011 04190201</td></lq<>			15080	0,006		01/3144, 2310 RAV 11 - CC-	25660011 04190201
p.p'-DDE	< LQ	1	1	uitad	5,355		01:S150 20:0 Rev 11 - GC- M5-M5	28 CS 251 -
o.p'-DDT	< LQ			75.95	0,006		01.5 (41.2 (19.60) 11 - 6.7 05.45	2865/001 0H08/201
p.p'-DDT	<lq< td=""><td>1</td><td>1</td><td>4.0047</td><td>0.005</td><td></td><td>01:3144) 2519 (br. 11:122) MSMS</td><td>2A 05/20 0</td></lq<>	1	1	4.0047	0.005		01:3144) 2519 (br. 11:122) MSMS	2A 05/20 0
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			regag	0.005		01(5144)(2)(4)(Hm, 11 + GI) M5/M5	29/05/20/1 04/08/201
Deltamethrin (cis-deltamethrin)	< LQ	1	1	(7), (4)	0010		0.155144) 2019 Fey 11 - GD/ M5/M5	15/05/00th
Diazinon	< LQ		1	Maria	2.910		01/01/21/2016 Rev.12-10- 15015	23.65-001 04.66-025
Dichlobenil	< LQ			20.50	pend		51 S1447 2019 Rev 11 - GC-	1005-001 5406-201
Dichlofluanid	< LQ			17/4/40	0.010		0 (5121) 2219 Rev 12 - LC.	2606/07
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			TM AU	0.040		2)(2)(2)(7)(R)(12-LC) MS/MS	240930* 840600*
Dimethyl-sulfanilide (DMSA)	< LQ			79/9	1040		21/3121/2017 Rev. 12 - UC- MS/MS	2000000 34 00:20
Dichloran	< LQ		1	7.5%	0.010		0)/S(A4) 2019 Rev 11 - 0G-	2H08201
Dichlorvos	< LQ			7276	3010		27/512/11/2018 Rev 17 (4.0) MS-MS	2505203 1405003
Dietofencarb	< LQ			ingling	0.500.		1451.17ty 2015 Bit 12 - 1.5- Min Min	25:03:251 34:30:211
Difenoconazole	< LQ			triple)	(IAVE		11:3170) 2 17 Ryc17 - LC- H5 M5	23-23-241 54/26/27
Diflubenzuron	< LQ			100,40	diesa!		0115.121±201-87-12-10 MS MS	September 1
Diflufenican	< LQ			75-70	90/3		0 ((\$121) (1/19/86), 12 - LC/ M5/M6	2900000 046607
Dimethenamid, sum of isomers including dimethenamid-P	< LQ			0.40	3,215.7		01(\$121(2010 Hz) 12 - EC- MS/MS	2500 201 0400005.1
Dimethoate	< LQ		1	mg.30)(	400		01612102029 Pbs 12 -142- M6 M5	2605:00% 01/06:00
Omethoate	< LQ			14-46	0.510		01(3121) 2013 Sec. 12+LC+ NS MS	9855-001 646829
Dimethomorph, sum of isomers	< LQ			-pha	0.513		01/512() 2019 Sep. 12 - LC- NS MS	29:06-25 / 53:06-25 /
Ditalimfos	< LQ			79/98	0,010		91,5121,2519 Her 12 - LC MS-MS	2400001 Newsco
Diuron	< LQ			hava	0.740		(4) 5121/2 10 Rev 42 - LC- RES MS	23-95-907 59-00020
Dodine	< LQ			410,90	0,013		01 (\$121) 2019 HeV 12 - LC	2405-Q97 (4.000)01
Emamectin benzoate B1a, value expressed as emamectin	<lq< td=""><td></td><td></td><td>10943</td><td>2010</td><td></td><td>01/51/21/2010 (\$1/.12 - 1.C) 1/5/1/6</td><td>78 65 201 56 96 26</td></lq<>			10943	2010		01/51/21/2010 (\$1/.12 - 1.C) 1/5/1/6	78 65 201 56 96 26
Endosulfan alpha	< LQ			7790	0.005		01 6144) 2019 Rev. M - SC-	0450/001 0450/001
Endosulfan beta	< LQ			many	0.090		17,5199/2019 Rev 21 - 50-	2858201 949830
Endosulfan sulphate	< LQ			10,40	0.009		0 (5 (44) 0010 Rev 11 - 000-	4995964 049431





ACCREDIA 🔨

Principal Park Page 6 di 14

Sample arrived on the 28/05/2019 Registration date 28/05/2019

MODENA, li 04/06/2019

## TEST REPORT nr. 19E20038-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20038

ANALYSIS DESCRIPTION	RESULT	-	910	15 to black the		Ole	4.61	100 - 100 m
Endosulphan, sum of alpha and beta isomers and of endosulfan sulphate, expressed as endosulfan [414]	< LQ			sep e <sub>s</sub>	-0.005		M(5)44)2019 Rev 1) - GC- 145 h(5)	#8250514 94902079
Endrin	< LQ			710.49	1900		21/S(42) 22(6 RE) 31 - C/G-	2019010119 0406-0019
Epoxyconazol	<lq< td=""><td></td><td></td><td>2006</td><td>ome</td><td></td><td>318/121   2015 Rev. 12 - LCs MK MS</td><td>26/dic2018 06/dic2018</td></lq<>			2006	ome		318/121   2015 Rev. 12 - LCs MK MS	26/dic2018 06/dic2018
EPTC	< LQ			mg ed	9,212		03(5121) 5010 Rev 12 - CC- MS/MS	\$405/2019 \$400/2019
Estenvalerate and Fenvalerate, sum of isomers	<lq< td=""><td></td><td></td><td>7636</td><td>0.050</td><td></td><td>#1(\$124) 2035 (Rev. 1) - GC MS:MS</td><td>784807-9 8086306</td></lq<>			7636	0.050		#1(\$124) 2035 (Rev. 1) - GC MS:MS	784807-9 8086306
Ethion	< LQ		1	7947	6.315		01/3144) 2019 Jon 11 - GD-	2695-2015
Ethofumesate	<lq< td=""><td></td><td></td><td>7674</td><td>20.000</td><td></td><td>01 \$144 2009 Rev 11- GC</td><td>28455013 5006004</td></lq<>			7674	20.000		01 \$144 2009 Rev 11- GC	28455013 5006004
Ethoprophos	<lq< td=""><td></td><td>1</td><td>17, 14</td><td>0.000</td><td></td><td>01/5121 (20 to Rec. 12 - 1.0- VS MS</td><td>J8052019 4106201</td></lq<>		1	17, 14	0.000		01/5121 (20 to Rec. 12 - 1.0- VS MS	J8052019 4106201
Etofenprox	< LQ			-ing	6,040		01.5121) 2019 Non-12=10- M5 M5	78/65 2019 (NI/18-2019
Etoxazole	<lq< td=""><td></td><td></td><td>17545</td><td>D000</td><td></td><td>01/912112019 Rev.12+1.C+ MG 145</td><td>3,905/2019 \$406/2019</td></lq<>			17545	D000		01/912112019 Rev.12+1.C+ MG 145	3,905/2019 \$406/2019
Famoxadone	<lq< td=""><td></td><td>1</td><td>make</td><td>5010</td><td></td><td>01:S140:2019.Rev 11 - CG- MS MS</td><td>26/2/2019</td></lq<>		1	make	5010		01:S140:2019.Rev 11 - CG- MS MS	26/2/2019
Fenamidone	<lq< td=""><td></td><td></td><td>marg</td><td>0.010</td><td></td><td>01(\$125) 2040 Rev 12 - EC- MSMS</td><td>\$4.00,000 \$4.00,000 \$4.00,000</td></lq<>			marg	0.010		01(\$125) 2040 Rev 12 - EC- MSMS	\$4.00,000 \$4.00,000 \$4.00,000
Fenamiphos	<lq< td=""><td></td><td></td><td>77%</td><td>5010·</td><td></td><td>01(\$151) 2019 Rept (2 - LC- MS-MS</td><td>28/65/20 No 00/00/2015</td></lq<>			77%	5010·		01(\$151) 2019 Rept (2 - LC- MS-MS	28/65/20 No 00/00/2015
Fenamiphos-sulfoxide	< LQ			7040	000		01(9121) 2019 Re12 - LC- M3345	3 8 6 A 3 C/s 3 6 6 5 C/s
Fenamiphos-sulfone	<lq< td=""><td></td><td></td><td>79%</td><td>0.010</td><td></td><td>7.1(\$1,21) 2019 Ray 10 - LC- MS MS</td><td>2865/2016 5w26/2016</td></lq<>			79%	0.010		7.1(\$1,21) 2019 Ray 10 - LC- MS MS	2865/2016 5w26/2016
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	< LQ			mag	5 0 to		11:012112311 Res 12-10- M0135	desironte de se con
Fenarimol	< LQ			107.40	=010		0409121) 2.115 Rev 12 - LG- MS:345	DESCRIPTION
Fenazaquin	< LQ			10/16	0.012		MS MS	26551016 54560016
Fenbuconazole	< LQ			-rrc/sa	3410		27/5771) 2013 Rev. 12 + 172 Mis MS	SANATON MINISTER
Fenchlorphos	< LQ			70.19	core		315 144) 2017 Pey 11 - DG- MS 14S	28552619 54062219
Fenchlorphos-oxon	< LQ			100-4	7.030		34(\$144) 7119 Rev.11 - 6/2-	75087515
Fenchlorphos and fenchlorphos-oxon sum	< LQ			10(10)	2.010		MS-MS 17(S144)7319 Her/11 - GC- MB-MB	28.94/9/19 04/08/2019
expressed as fenchlorphos [414] Fenhexamid	< LQ			mgrés	5,015		31/S121) 35/8 Rev 12 - LC-	2905/00/9 04060011
Fenitrothion	< LQ			myrkg	2616		01(51/4):2615 Rev 11 - CC- M3 M5	28559019
Fenoxaprop-p-ethyl	< LQ			7970	9.65		01/3121/2019 Rev 12 - LC- M3/V5	26559019 G4960015
Fenoxycarb	<lq< td=""><td></td><td></td><td>*10/44</td><td>3,00</td><td></td><td>01(\$121)0010 (\$6/12: £6- MSMS</td><td>Janassira Janassira</td></lq<>			*10/44	3,00		01(\$121)0010 (\$6/12: £6- MSMS	Janassira Janassira
Fenpropathrin	< LQ		1	200	0.010		01,515c 2319 Hz; 11 c2C-	24050019
Fenpropidin	< LQ			riging	0.010		61,5121+2019 Min.12+LC- MS-MS	\$135.2579 \$135.2579





ACCREDIA 3

Page 7 di 14

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20038

ANALYSIS DESCRIPTION	RESULT	1	, Rec. o	(w.C.)) extension	10	1	Wist	41 300
Fenpropimorph	<lq< td=""><td></td><td></td><td>155 Rg</td><td>arge</td><td></td><td>01(\$12)) 2010 Rev 17 - LC- NS-NS</td><td>28/10/20/12 -08/00/2019</td></lq<>			155 Rg	arge		01(\$12)) 2010 Rev 17 - LC- NS-NS	28/10/20/12 -08/00/2019
Fenpyroximate	< LQ			79.10	9970		00/512112019 Res 12 - LC- MS NS	200500-0 9006019
Fenthion	< LQ			Trans	60%		01/5121) 2518 Hey 12 (),C-	also accord
Fenthion-oxon	< LQ			15/36	6,012		00:5121/20:9 Rev 12+1 C+ M5-M5	2/05/2017 04/04/2017
Fenthion-oxon-sulfone	< LQ	1	1	70799	0.010		01(S121) 2019 Her 12 - LC: MS-MS	78007919 (9000701)
Fenthion-oxon-sulfoxide	< LQ	1		=0.49	9010		81(\$121,0019.8ev.12 - LC- MS/509	26.69.2014 58.06.2513
Fenthion-sulfone	< LQ			110/49	1780		01(5121) 2010 Fix= 12 - LS- M-0162	Sections (Accepted
Fenthion-sulfoxide	< LQ	Ī	1	maka	0.010		01(512(12019 Nov.12 - LC MS-MS	26000012 56000012
Fenthion, fenthion-oxon, fenthion-oxon- sulfone, fenthion-oxon-sulfoxide, fenthion- sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	<lq< td=""><td></td><td></td><td>ide</td><td>Calp</td><td></td><td>01:6121:2410 Ret 42-1 C- M6:45</td><td>2800-074 5-10-014</td></lq<>			ide	Calp		01:6121:2410 Ret 42-1 C- M6:45	2800-074 5-10-014
Flazasulfuron	< LQ		1	riginj	2010		MSMS	29/18/2014 39/18/2014
Flucythrinate, sum of isomers	< LQ	1	1	re(2x)	0.010		C 5.144) 2-19 Rev. 11 - GC- MSAS	2808205 66562018
Fludioxonil	< LQ			6916	0.010		01(812)) 2019 Rev 12 - 10- M0 M3	28042518 04567C18
Flufenacet	< LQ			70.40	0,910		4104216214864264 M5165	2410-2014 14-10-214
Flufenoxuron	< LQ			179/49	0.015		5),5 (21) 2715 Res 12+5C- M3 MS	Action to
Fluopicolide	<1.Q			1990	0.010		01(\$121) 5000 Hou 12 - (C) M9 M5	200000000 75100000
Fluquinconazole	< LQ			779	6,615		01(5164) 2015 Rev 11 - GC	Senation Manager
Flusilazole	< LQ			4999	5310		0118144) 3018 Ho. 11 - GC	23/05/2019
Flutriafol	< LQ	1		77030	0.010		M5/M5 0H5121) 2019 Rev. 17 - LC- M5/M2	19406-011
Fluvalinate, sum of isomers	< LQ			-ming	9419		01(3144),7519 Rp 11 - 6C-	2999210
Fongfos	< LQ			170/40	9.013		MS 4/5 01(\$164) 20(0 Rev. 11 - GC-	TANGE VE TV
Formothion	< LQ	1		79.40	0.010		MS M9 01(\$121) 2019 Rev. 12 - LC- 1/8-M5	24/16/2011 04/04/2011
Fosthiazate	< LQ			1090	0.210.		91(6121) 20 HRs. 12-10- MSAS	200700
HCH alpha	< LQ			Fore	0.50%		ONSIAL DAVING HILDS	2895/2019 1045/4921
HCH beta	< LQ	1	1	7985	0.005		01(\$164-2010 mod 11 - GC	281007011 01000211
HCH delta	< LQ			179.78	0.000		01/31/4/2019 Ser. 11 - GC-	20002911
HCH epsilon	< LQ	1	1	(0,00	0.005		01(\$144)2019 Rm. 11 - GC-	1800/011 9400/011
Heptachlor	< LQ	1		manag	0.505		01(\$144) 3019 Rev 11 - DS-	511-0513-013 04:06:301
Heptachlor Epoxide cis	< LQ			7576	0.000		(1)(SARR) 3019 Row 11 - CCL MS MS	VI 03/2015
Heptachlor Epoxide trans	< LO			589	5,025		35(5144) It to Rev 11+604	28685555 Prob35





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Page 8 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20038

ANALYSIS DESCRIPTION	RESULT	+	40.	D. Service	100		*y chys	1444 THE -12 TOWNS
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ			1040	0.006	Ī	0103144) 2000 Kee 11 - QU- MS MS	28/05/2019 (\$408/2010)
Heptenophos	< LQ			miling	0.012		01/5/121/2019 Rev.12 - LC- NS MS	78-00-2019 14-00-2019
Hexachlorobenzene	< LQ		***	-9-q	9.708		01(\$165)25(0 Pb) 11 - GG- MS MS	2A08/2019 9A08/2019
Hexaconazole	< LQ			Proper	2010		01(5) 21) 2019 Rev 12 - LCs MS-MS	Japan 7014 December 1
Hexythiazox	< LQ			- Charle	0.850		01(5171) 2010 Reg 12 + LC+ MS/MS	294897019 548962875
mazalil	<lq< td=""><td></td><td></td><td>-649</td><td>oota</td><td></td><td>01(5(7:)2016 Nec 12 - i.f.s MS/MS</td><td>266sapre Schools</td></lq<>			-649	oota		01(5(7:)2016 Nec 12 - i.f.s MS/MS	266sapre Schools
midacloprid	< LQ			15040	0.010		51(8121) 20 (a Sey 12 - ) C. MS MS.	28.03 7019 3406 2019
ndoxacarb, sum of R and S isomers	< LQ			7993	goto.		01(512) (2019 Hoy 12-15)- MS/MS	7873/26*5 TABLE 2015
lodofenphos	< LQ			ingring	5,010		US\$1047 2011/8 11 - 60-	78657019
lorodione	<lq< td=""><td>1</td><td></td><td>10/10</td><td>:010</td><td></td><td>MS MS 01(6144) 2(70 Rev11 - 10(2-</td><td>04060010 26060010</td></lq<>	1		10/10	:010		MS MS 01(6144) 2(70 Rev11 - 10(2-	04060010 26060010
provalicarb	<lq< td=""><td></td><td></td><td>10142</td><td>0.010</td><td></td><td>MS MS - S12(1) = 19 Ro - T2 - LC- MS MS</td><td>7459979 5459001</td></lq<>			10142	0.010		MS MS - S12(1) = 19 Ro - T2 - LC- MS MS	7459979 5459001
sofenphos	<lo< td=""><td></td><td></td><td>7582</td><td>0.010</td><td></td><td>01(5)(44) 3019 Heat 11 - DG- Ars MS</td><td>anistration of the</td></lo<>			7582	0.010		01(5)(44) 3019 Heat 11 - DG- Ars MS	anistration of the
sofenphos-methyl	< LQ			17989	0.010		G1(\$144) 5319 Bez 11 - CC2	7603/2076
soprothiolane	< LQ			more	0.010		MS MS 0115 (21) 2 19 Her 17 - 1 5 MS MS	5456517 397367010 5456.001
Isoproturon	<lq< td=""><td></td><td></td><td>29.92</td><td>5065</td><td></td><td>(5.5171) 2010 Rev 12 - LC- 5/5 MG</td><td>_ncs2689</td></lq<>			29.92	5065		(5.5171) 2010 Rev 12 - LC- 5/5 MG	_ncs2689
Kresoxim-methyl	< LQ	1		7970	2010		U1 S1(4) 2019 Hev 11 - CG- MS MS	25/35/9/19 54/56/2015
Lindane	<lq< td=""><td>1</td><td></td><td>7966</td><td>0.000</td><td></td><td>015 (VI) (019 Dev.11 - DC+ MSM5</td><td>25(25)2619</td></lq<>	1		7966	0.000		015 (VI) (019 Dev.11 - DC+ MSM5	25(25)2619
Lindane, sum of HCH isomers included	< LQ			7943	11,006		11(E144) 2019 Rev.11 - GC	2 8 9 10 10 19 (2 18 9 11 1
Linuron	< LQ			11930	0.010		51(\$47.1) (719 HL) 17 - LC) MS.MS	28059999 04500001
ufenuron	< LQ			hope	2010		01(5121) 20 (0 Rev.12 - 1/2- M5/M5	D440-0114
Malaoxon	< LQ			прод	2019		01(8121) 271 86. 12 - LC- MS NS	5161751
Malathion	< LQ			riging	0.001		01(812)) 2012 Res 12 - LC- M6 7/5	26/98/90 FW 6/4/06/90 16
Malathion and Malaoxon sum expressed as	< LQ			HDIAD	0.010		01/5121) 2018 Hery 12 - EG- MS/MS	3605 3019 NORGEO
Malathion [414] Mandipropamid	< LQ			1939	0.018		01(\$121) 2014 (Sec 12.41)) MS MS	20000010
Mecarbam	< LQ			mo/ep	9.015		0)(8121)25** (4e+ 12 - 10) 146 N/G	2809/2010 (44/6/2011
Mepanipyrim	<lq< td=""><td></td><td></td><td>15.49</td><td>839</td><td></td><td>91/51/11/25 (\$ 260) (2-1.0) MS/MS</td><td>2,575,7019 (84%/0012</td></lq<>			15.49	839		91/51/11/25 (\$ 260) (2-1.0) MS/MS	2,575,7019 (84%/0012
Metalaxyl, sum of isomers including	< LQ			70.49	Deta-		03/9(21) 2019 Sec 12 - LG- US-MS	38/05/2014 34/06/2019
Metalaxyi-M Metazachlor	<lq< td=""><td></td><td></td><td>-9940</td><td>0.510</td><td></td><td>UESTAN 2018 Reg. 11 - GC.</td><td>28X852079 24X860074</td></lq<>			-9940	0.510		UESTAN 2018 Reg. 11 - GC.	28X852079 24X860074





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Page 9 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

**BASF Personal Care and Nutrition GmbH** Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20038

ANALYSIS DESCRIPTION	RESULT	-0	40.1	(NTITE MARKE	15	400	Grant	Prince Prince
Methidathion	<lq< td=""><td></td><td></td><td>10/0</td><td>6915</td><td></td><td>01(9121) (U) 0 Rey 12+2G 555-385</td><td>78/15/2019 74/26/2019</td></lq<>			10/0	6915		01(9121) (U) 0 Rey 12+2G 555-385	78/15/2019 74/26/2019
Methiocarb	< LQ			imping.	5016		01/51/21/2015 Result - 1.0- MS MS	3866 3812 3815 3813
Methiocarb-sulfone	< LQ			44.4	200		51/6121/7/15 Rev 12+LC- MS/MS	29/15/2018 04/06/2019
Methiocarb-sulfoxide	< LQ			400.00	(0.00)		01(S121) 20°5 Rev 12 -1 C. M5 M5	JR 750 TS 19 94 00 00 1
Methiocarb, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb (414)	< LQ			Alicker.	5045		ONESCHIZMER - 17 CLC- MONS	26250516 (4,0625)
Methomyl	<lq< td=""><td></td><td>1</td><td>7000</td><td>2516</td><td></td><td>01(\$121) 70(9 Rev 12 - CC- MS 925</td><td>28 05/2016 04:06/2010</td></lq<>		1	7000	2516		01(\$121) 70(9 Rev 12 - CC- MS 925	28 05/2016 04:06/2010
Thiodicarb	<lq< td=""><td></td><td></td><td>110,119</td><td>0.010</td><td></td><td>01-5121) 2019 Sec 12 - CC- MS MS</td><td>368507VV 300H2016</td></lq<>			110,119	0.010		01-5121) 2019 Sec 12 - CC- MS MS	368507VV 300H2016
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ			-4/4g	0.210		01(3124)20(9 Res 12 + LG MS-MS	3865/2012 3456/2013
Methoxychlor	< LQ			100/40	0.505		51:51-4) 2019 for 11 - GC- MS-MS	28/05/2019 04/04/2019
Methoxyfenozide	< LQ		i i	miss	0.010		11,512112011 for 12 - LC MS.MS	35/05/2019 PH/05/2019
Metolachlor, sum of isomers including S- metolachlor	<lq< td=""><td></td><td></td><td>myx<sub>2</sub></td><td>0010</td><td></td><td>01:00:144) 20:10 Ray 11 - 000- MS 8/5</td><td>78/18/2015 (M/2023)</td></lq<>			myx <sub>2</sub>	0010		01:00:144) 20:10 Ray 11 - 000- MS 8/5	78/18/2015 (M/2023)
Metrafenone	< LQ	1		Time	0.010		95/S121(901) For 12-10/ MS MS	1805-2019 (w/08/21/6
Metribuzin	< LQ			PV 10	5010		01/9/2017/2018 Rev. 17 + LC- Mit Lth	2×880000 0400001
Metsulfuron-methyl	< LQ			replan.	0.010		01:S121; 2010 Kee 12:-LC+ M5 MS	2405020 0406025
Mevinphos, sum of cis- and trans-isomers	<lq< td=""><td></td><td></td><td>HUN</td><td>DIME</td><td></td><td>01(9121) 2075 Rev.12 - L/S M5-0/5</td><td>Sebsters betrepos</td></lq<>			HUN	DIME		01(9121) 2075 Rev.12 - L/S M5-0/5	Sebsters betrepos
Molinate	< LQ			hir-se	0.8%		91(\$121) 2019 Res 12-1 G- M8 225	Mediatri weeps
Monuron	< LQ		1	mg/Kg	0.0%		01(512)) VOIO Res 12 - LC- M5-MS	38963013 14.06-201
Myclobutanil	< LQ			riging.	0.010		01 5121; 2016 RIV 12-1 G MS MS	2004/01 04(06/20)
Napropamide	< LQ		1	mana	0.010		81(\$131) 2019 Res 12 - LC- MG-MS	2,8405(217) (2006-201)
Oxadiazon	<lq< td=""><td></td><td></td><td>-19</td><td>0.000</td><td></td><td>01 Stee 2019 Rep. 11 - GD-</td><td>6050010 2406201</td></lq<>			-19	0.000		01 Stee 2019 Rep. 11 - GD-	6050010 2406201
Oxadixyl	< LQ			-0.40	0.010		01.S12.) 2019 Rev 12 + C- MS/MS	28/05/2019 04/00/2019
Oxyfluorfen	< LO			-90	0.010		01(5141) 2018 Rev 11 - GC MS-05	Jackson (1975)
Paclobutrazol	< LQ	-		mgag.	E 0,92		81 5 144/2019 Rep 11 - 655-	28032013 M.O.201
Paraoxon	< LQ			400	0.010		01(\$121) 201= Pin/32-40- MS/MS	-3455-2014 Dependent
Paraoxon-methy!	< LQ			mpre	2010		5/15/12/12/519 Rev 12 - LC- MS MS	21549US 8466204
Parathion	< LQ			700.00	0.000		01.6121)2019 Rev 12 - LC MS A/5	3/460040 0/460040
Parathion-methyl	<lq< td=""><td></td><td></td><td>ngris</td><td>uvs</td><td></td><td>01/B121) 3019 Key 17 + LC: MS MS</td><td>28/05/2017</td></lq<>			ngris	uvs		01/B121) 3019 Key 17 + LC: MS MS	28/05/2017



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Page 10 di 14

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BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

neotron

SAMPLE

19E20038

ANALYSIS DESCRIPTION	RESULT		SVY III.	ATVTHE	9	-10-	W 400	10 Table
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			(34)	0.010		01(9144)2010 Red 11 - 503- 5(5.4)5	78/05/2073 04/08/2079
Penconazole	< LQ			angring	010		0.115 (2.11.2019 (Cop.1) = 1.05 MS MS	24/34/0*9 04/06/2018
Pencycuron	< LQ			2000	0.010		U10652112319 Ray 12 - LC- 615 MS	25052019 0418-2519
Pendimethalin	< LQ			grigitt	2910		MS MS IN TO SHORE, 12 - LC-	Appropries Sections
Permethrin, sum of isomers	< LQ		1	my ng	0,010		01181441 2718 Re-11 - GC	28957519
Perthane	< LQ			way ng	dota		MS/45 0HS/4412019 Rtm 11 - 6C	2005/01/18 2005/01/18 14600/01/18
Phenmedipham	< LQ			10210	200		WEST 121/2019 Rev. 12 - LC-	28/8/X/0
Phenthoate	< LQ		1	mp/sq.	0.010		01/8 M4) 2019 R - 11 - GC M5/M5	3505-0019 0409-0019
Phorate	< LQ			HEIST	- Gipto		01(S121) 3010 Fee: 12 - LC- MS #'S	7605/2018 7606/2017
Phorate-oxon	< LQ			10 Q	0.016		01/51211 2210 Rev. 12-LC- USA/S	25/05/25/14 04/06/2018
Phorate-oxon-solfone	< LQ		1	20) 63	0.010		01/S1211 2010 mm 12 - LC: MS 4/9	260000000 84963515
Phorate-sulfone	< LQ			7949	0.315		01/5/121 / 2019/Her 12 × LC+ MS MS	28/84/25 x 04/84/2012
Phorate-sulfoxide	< LQ			- mpag	8,5100		01/9124) 2010 Sev 12 -1,C M6/M0	2898,995 - 5469,9975
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ			7/10	0.213		01/512/12/010 Rev 12 - LG- 15/- N/5	-M90070773 74/06/2010
Phosalone	< LQ			Para	.0.519		01/0121/2019/Rm 12-10- MS-MS	28685015 14 062015
Phosmet	< LQ			HINE	10 Ald		01.01) ) 2519 Rev 12+1 C- M5 M5	7505-1079 04-05-2010
Phosmet-oxon	<lq< td=""><td>1</td><td></td><td>110 kg</td><td>6010</td><td></td><td>01/9 2/12010 Roll 12 - EC- MS MS</td><td>24630012 14463013</td></lq<>	1		110 kg	6010		01/9 2/12010 Roll 12 - EC- MS MS	24630012 14463013
Phosmet and phosmet-oxon expressed as phosmet [414]	< LQ			27 - 190	0.010		01(S)21) 2219 Rev. 12 - EC- MS-MS	2665/9019 1406/2019
Phosphamidon	< LQ			TEN	1310		01:5121:2118 Rm:12 - £0- MS MS	20-03-2019 Ge0002015
Picoxystrobin	< LQ	1		1990	0.010		09814412019 Rev 11 - QG- MSMS	2605/2019 5406/2019
Piperonyl butoxide	< LQ			merg.	sum		01(5) 44(20) 9 Rev 11 - 5(5-	29/08/2019
Pirimicarb (Pirimor)	<lq< td=""><td>1</td><td></td><td>#10/0kg</td><td>0.010</td><td></td><td>00.51211.0019.Hed 12-12- MSMS</td><td>25 Us 95 19 04 06 96 19</td></lq<>	1		#10/0kg	0.010		00.51211.0019.Hed 12-12- MSMS	25 Us 95 19 04 06 96 19
Pirimicarb-desmethyl	< LQ			(8) (C)	2000		MSMS	28-08-2019
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ			110.50	9,010		21(8121) (218) (6, 12-10- MG MS	29:00-24:54 74:06:2111
Pirimiphos-ethyl	< LQ			770/40	99t1		MS 154 CT RES 11 - CC-	24062219 94062319
Pirimiphos-methyl	< LQ			70/9	3(653)		ONE WAS TO SECURE	36/36/2019 04/00/2010
Prochloraz	< LQ		1	7910	0.010		01/9121/2019 Rev.12 - LC- MS/MS	M0490319
Procymidone	< LQ		1	-gag	0.000		04(\$944) 2010 Sp. 11 - CC-	26859164 5066001





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Page 11 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20038

ANALYSIS DESCRIPTION	RESULT		Rife	ALTERNATION	(4)	12	N/NEC	AND THE PARTY OF T
Profenofos	< LQ			=gkg	odia		01/S12 ) / 2010 Rev 12 + LC+ MS 4/S	23492915 (4.062016
Prometryn	<lq< td=""><td></td><td></td><td>eigte</td><td>2010</td><td></td><td>01/31/4) 2/10 Roy 12 - (C) MS 155</td><td>29585819</td></lq<>			eigte	2010		01/31/4) 2/10 Roy 12 - (C) MS 155	29585819
Propachlor	< LQ			$\otimes_{\mathcal{G}} \varepsilon_{\mathcal{G}}$	0.010		91(\$121) (210 Rm 12 - 15) MSMS	29/58/2019 0+/35/2019
Propanil	< LQ			10.0	libio		01(5121) 2019 Anv 12 - UC- MS MG	2955/2019
Propaquizafop	< LQ			11942	0.010		01(\$121) 2019 Rp. 10+1C- M3 M5	2010/10/10 0456/2516
Propargite	< LQ	1		150150	0.010		01(\$121) 2017 His 12 - LC- MS MS	2+05-0519 04:00-2011
Propazine	< LQ			1976	0.015		0(15)2() 2013 (km, 72 - LC- MS/VS	26/05/2573 02/06/2019
Propiconazole (sum of isomers)	< LQ			79.49	0010		01(S121) 2019 Rev 12 - LC- M6+45	30000510 -0400521
Propoxur	< LQ		1	Jegista	0,013		51(\$121) 2019 (i.e. 1) - LC- MS NS	28/05/2619 04/09/251
Propyzamide	< LQ			1919	0.717		01/5101/2019 Re, 12 - LC- ME MS	Auto-9019 54 (0) 2315
Proquinazid	< LQ			19,64	0.012		91(5121) 2319 5m; 12 - EC- MS 233	34050519 04062518
Pyraclostrobin	< LQ			~g %g	0.212		0.11.5.12.11.2.01.9 Rev. 12 - LC- MS-N/S	28-08-2019 04-08-2012
Pyrazophos	< LQ			70.46	0/01/9		01/0121) 2019 Rev 32 - LC- MGA'S	2856,2613 34 08 2011
Pyrethrins: pyrethrin I and II, cinerin I and II, jasmolin I and II, sum (low limit)	< LQ			PM	0,000-		01(5121)2019 Fee: 12 - CC- NE NE	76/03/2019 56/06/2019
Pyndaben	<lq< td=""><td></td><td></td><td>myles.</td><td>010+0 010+0</td><td></td><td>01(5144) 2019 Hev.11 - GC- NS.145</td><td>24/05/2014 01/04/2014</td></lq<>			myles.	010+0 010+0		01(5144) 2019 Hev.11 - GC- NS.145	24/05/2014 01/04/2014
Pyrimethanil	< LQ		1	my eq.	Date.		MS MS	280000000 2400000
Pyriproxyfen	< LQ			* evg	1.00		01/5171) 2010 Rtio 12+1.C+ VS 485	28662719 0406201
Quinalphos	< LQ			-0-0	0.010		61(\$17/) 2019 Rev 12 - UC- MS-MS	25-05-0379 -04-062019
Quinoxifen	< LQ			100	0,000		01/51/17/2010 Res 12 - LC- NS NS	251,029,019 04194,2019
Quintozene	< LQ			00 to	0.066		G1(8:144) 19 Rev 11 - GC- MS MS	25/50/2019 04:05:04:01
Pentachloroaniline	< LQ			1910	7 805		31(8144) 23 (9 Rep. 11 - 6) C- MS-MS	29/08/29/9 94/08/20/0
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			Attyag	0.203		THE ME TO BE STORE	28059019 04082819
Rotenone	< LQ			make.	0.050		01(\$121) 310 No. 17 - LC- MSWS	NICSONTO NICSONTO
Simazine	< LQ			tay sy	0.000		01(5121) 7710 Riv 12 - LC- M5.46	78/04/25/10 GEORGON
Spinosad, sum of spinosyn A and spinosyn	< LQ			79/96	0.017		01(5121) 2010 Ray 12 - LC- MSNS	98050019 94989015
Spirodiclofen	< LQ			70.89	2,713		01(81/1) 22-5 (0+) 12 - LC- MS MS	76/06/2019 19/06/2019
Spirotetramat	< LQ			70.49	0.516		01/5121) 2319 Rev. 12 - LC-	Sannodin (24,007):





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Page 12 di 14

MODENA, lì 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19E20038

ANALYSIS DESCRIPTION	RESULT	100	(A) 20 10 (LIR)	160	700	D-c	10 (10 kg) 10 (10 kg) 10 (10 kg)
Spirotetramat enol	<lq< td=""><td></td><td>milko</td><td>2.010</td><td></td><td>DNS121) 21f0 Revot2 - LC- MS AS</td><td>25/05/2012 3= (6)(2010</td></lq<>		milko	2.010		DNS121) 21f0 Revot2 - LC- MS AS	25/05/2012 3= (6)(2010
Spiroletramat enoi-glucoside	<lq< td=""><td></td><td>. 11.0 61</td><td>2010</td><td></td><td>EL 8121/2019 Rev. 15 - 10- MS MS</td><td>-8/05/2018 34/20/2019</td></lq<>		. 11.0 61	2010		EL 8121/2019 Rev. 15 - 10- MS MS	-8/05/2018 34/20/2019
Spirotetramat ketohydroxy	< LQ		mg kg	010		01(S124) 3219 Rev 12-10 MS MS	78/03/05/YW 94/78/03/6
Spirotetramat monohydroxy	< LQ		17948	7,016		0 ((\$121) 7019 Reil 12 - LC- MS-MS	765500 No 14060019
Spirotetramat and its metabilites (enol. enol- glucoside, ketohydroxy, monohydroxy) sum as spirotetramat [414]	<lq< td=""><td></td><td>11050</td><td>5.010</td><td></td><td>11/913 (27.10 Max 12 - LC- M54MS</td><td>2509 OSTA Detactors</td></lq<>		11050	5.010		11/913 (27.10 Max 12 - LC- M54MS	2509 OSTA Detactors
Spiroxamine	< LQ		70.49	0,010		01(\$121) 2019 No. 12 - 10 MS MS	25050019 NeW 2019
Sulfallate	<lq< td=""><td></td><td>17K #Q</td><td>0.010</td><td></td><td>01/6*21/2195 Rev.12-LC- MS-145</td><td>Securiors Modification</td></lq<>		17K #Q	0.010		01/6*21/2195 Rev.12-LC- MS-145	Securiors Modification
Sulfotep	<lq< td=""><td></td><td>ngeg</td><td>0.010</td><td></td><td>01((Stas) 2019 Rev.11 - GCv MS-MS</td><td>24/09/2019 04/08/2019</td></lq<>		ngeg	0.010		01((Stas) 2019 Rev.11 - GCv MS-MS	24/09/2019 04/08/2019
Tebuconazole	<lq< td=""><td></td><td>70.40</td><td>0.010</td><td></td><td>01/61/21/2010 Rev 12-60-</td><td>2463/2019 1404/0011</td></lq<>		70.40	0.010		01/61/21/2010 Rev 12-60-	2463/2019 1404/0011
Tebufenozido	< LQ		-6-93	5.010		0.0(\$124) 2019 96 to 12 -1.5- MS MG	28/G&9619 04/18/2019
Tebufenpyrad	<lq< td=""><td>1</td><td>-79.49</td><td>0/010</td><td></td><td>61(5)(4), 2/19 Ray 11 - Gr.;-</td><td>26050010 5-0060011</td></lq<>	1	-79.49	0/010		61(5)(4), 2/19 Ray 11 - Gr.;-	26050010 5-0060011
Teflubenzuron	< LQ		7549	E-010		01/5121) 2010 Run 12 + EC+ M5 M5	7885/0036 3606/201
Tefluthrin	< LQ		-949	6010		ON(\$144 7019 No. 11 - (\$5	2005/2020 0406/2010
Terbuthylazine	< LQ		mg/ko	0.000		01(3171)2019 Hey 12 - 15- 815 885	3400/7076 3400/9049
Tetrachlorvinphos	< LQ		-tret	asta		01/5121;2019 Res 12-12-	28/05/2015 54/06/2016
Tetraconazole	< LQ		76.89	0,000		01(5121) 2010 Rev. 12 - U.C- MS MS	24(G3+20) + 04(Q4)Q03
Tetradifon	<lq< td=""><td>1</td><td>7079</td><td>0.510</td><td></td><td>01(3144) 2019 New 11 -4 824</td><td>76/05/2019 NEGEGIT II</td></lq<>	1	7079	0.510		01(3144) 2019 New 11 -4 824	76/05/2019 NEGEGIT II
Tetramethrin	< LQ		2000	0,010		01/8121/2010 No. 12 - CG- MS MS	7.000/2010 04.06.00 http://doi.org/10.000
Thiabendazole	<lq< td=""><td></td><td>7640</td><td>com</td><td></td><td>01/S12112019 Hay 12 - CC MS MS</td><td>2405/0014 3446/2014</td></lq<>		7640	com		01/S12112019 Hay 12 - CC MS MS	2405/0014 3446/2014
Thiacloprid	< LQ		riging	0.013		01/6121(201) Sec 12-CC- 2/5/89	3803/2015 9408/257
Thiamethoxam	<lq< td=""><td>1</td><td>110.69</td><td>0,073</td><td></td><td>01(S131) 0010 Per 12 - (C- MS/MS</td><td>28/08/07/19 5/08/05/1</td></lq<>	1	110.69	0,073		01(S131) 0010 Per 12 - (C- MS/MS	28/08/07/19 5/08/05/1
Thiobencarbe	< LQ		-9/69	0.015		01/6124) 3/10 (\$6x 12 - 6.C- M5/A/S	54645014 1470201
Thionazin	<lq< td=""><td></td><td>=6.88</td><td>2.513</td><td></td><td>UNS1211/2019 Rev.12 - LC- MS-MS</td><td>Vitte Votal Seringer</td></lq<>		=6.88	2.513		UNS1211/2019 Rev.12 - LC- MS-MS	Vitte Votal Seringer
Thiophanate-methyl	< LQ		-210/49	0.550		01/512112019 Pey 12 - LO M9/MS	J8050179 36090001
Tolclofos-methyl	<lq< td=""><td></td><td>may kip.</td><td>0,016</td><td></td><td>0.05144] 2019 Pare 11 - 0(2) MG-MS</td><td>789832015 (4398-201</td></lq<>		may kip.	0,016		0.05144] 2019 Pare 11 - 0(2) MG-MS	789832015 (4398-201
Tolylfluanio	< LQ	1	2000	3,343		01(3121) 2019 Res 12-LC	28652011
Dimethylaminosulphotoluidide (DMST)	<lq< td=""><td></td><td>ny ky</td><td>0.013</td><td></td><td>01,5121;2019 Rm (12 - 10 - 14 - 15 - 15 - 15 - 15 - 15 - 15 - 15</td><td>2848/2015</td></lq<>		ny ky	0.013		01,5121;2019 Rm (12 - 10 - 14 - 15 - 15 - 15 - 15 - 15 - 15 - 15	2848/2015





Page 13 di 14

MODENA, II 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

## TEST REPORT nr. 19E20038-In-0

neotron

**BASF Personal Care and Nutrition GmbH** 

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

> SAMPLE 19E20038

ANALYSIS DESCRIPTION	RESULT		-	(811.10.48)01.04	140	- Ser	10=S	86-10-5 86-10-5 5-10-10-5 10-5
Tolylfluanid and DMST, sum expressed as tolylfluanid [414]	< LQ			rided	0,010		91,312172019 Rev. 12 - 1 C- MS-MS	06/06/20**
Triadimefon	<lq< td=""><td></td><td>1</td><td>79/40</td><td>3335</td><td></td><td>0/05/12(120148m-12+U) 155 NS</td><td>26/15/2013 (2.16/2013</td></lq<>		1	79/40	3335		0/05/12(120148m-12+U) 155 NS	26/15/2013 (2.16/2013
Triadimenol	< LQ			1949	155		01(\$12(\$20)\$ =6 : 12 +5 C+ MS-07	ARRESTS SUDMENT
Triallate	< LQ			~0~0	9,910		01(5121) 2018 Sec 12+CC+ MSAMS	ARASSINS SAMBOSIS
Di-allate (sum of isomers)	< LQ			*010	0.315		01(\$121) 2019 Sec. 12 - LC- MS A5	(815 (215 (416 (01
Triallate and Diallate sum expressed as Triallate [414]	< LQ			(2.40	9.010		01/5121(201)/Pin 12+1.C- MI WS	JW150563 W196057
Triazophos	<lq< td=""><td></td><td>1</td><td>15970</td><td>0.0%</td><td></td><td>01(3)12192319 Rev 12 - LG-</td><td>12057010</td></lq<>		1	15970	0.0%		01(3)12192319 Rev 12 - LG-	12057010
Trichlorfon	<lq< td=""><td></td><td></td><td>~649</td><td>14011</td><td></td><td>01/6121/90(1 Ber 17 - (C- MS MS</td><td>29/5-2019 98/98/2019</td></lq<>			~649	14011		01/6121/90(1 Ber 17 - (C- MS MS	29/5-2019 98/98/2019
Tricyclazole	< LQ			79/43	0.65%		01/51/11/2019 PK+ 17 - EC- MEMS	Straight September
Trifloxystrobin	< LQ			HEX	op)n		01/8 (21/2000 Rev. 12 + LO- M3 MG	SIMB DOM ANTECON
Triflumuron	< LQ	Ť		764	9.000		01/412)) 30(0 Roc 12+10- NO MS	25150019 01.00001
Trifluralin	< LQ		1	11997	0.000		01,5144),7019 Re- 11+0C-	7 K (\$100 K)
Triticonazole	< LQ			-03×0	3(010)		07(8121) 2910 f8ts 12 - 1G- MS MS	28/05/03/0 54 08/201
Vamidothion	< LQ			7"0'4"	0.000		01/0121/2019 No. 12 + LG- Michel	3636-2010 3106-2010
Vinchlozolin	< LQ			-187	0.000		01/0154/2019 Res 11 - GC- MS MS	78/05/2015 24 (06/23)





Page 14 di 14

MODENA, li 04/06/2019

Sample arrived on the 28/05/2019 Registration date 28/05/2019

### TEST REPORT nr. 19E20038-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19E20038

ANALYSIS DESCRIPTION	RESULT	-			-0	9.40	100 COM
Zoxamide	< LQ		7/19	0.020		01.5121)2019 Sev 32 - 1.C M2 N.S	28/85/34/67 24/86 J

END TEST REPORT

Kotes and metrod reference:

Notes and method reference:

-LQ = lower than Quantification Limit. Prease note that results expended as '<LQ' may not indicate the interior of the scarched parameters in the sample.

Ut the reported uncutatinty is the expanded uncertainty calculated using a coverage factor equal to 2 which gives a rettability of approximately 85%. For macrobiological detections the reported either the lower and the upper bounds of the confidence interval with a probability of 95%. K=2 or the confidence interval isself.

Results coming from microbiological tests are calculated according to the Standard is 0.5 7:18:2007/Amd 1:2013. If the results are reported as <4 (CFU/ml) or <40 (CFU/ml) this means that the microorganisms are answer in me sample but in amounts less than 4 CFU/ml or 40 CFU/m respectively, unless differently reported in the sample methods, in case of analytical steps foreseen in non-activity days of the laboratory, provisions from the standard ISO 7215: 2007/Amd, 12013 (term, 11.2 and 10.2.5) or from specific lest methods are appaid. In the case of quantitative microbiological tests, these have been setup on a single plate in accordance with ISO 7218 2007/Amid 1 2013 par. 10.2.2 unless otherwise explicitly required by current regulations.

Concernate expressly required by commit regulations.

On Quantification Limit, it is the lowest analyte concernation which can be detected at an acceptable precision (repealability) and accuracy, under well defined conditions.

Detection Limit, it is the lowest snallyte concentration which can be detected but not necessarily quantified, under well defined conditions.

Conformaly evaluation, values not complying with laws, decrees, national and EU regulations or specifications supplied by the customer are evaluated case by case, also taking into consideration the uncertainty of measure for each single test and the regulations or rounding-off of values, and pointed out when considered as non-conform.

Res %. Recovery % \*\* means and the recovery has been applied to the result. The numeric results between brackets (...) after the expression <LO are purely indicative of traces that cannot be exactly quantified.

Methods marked with an asterisk (\*) are not accredited by ACCREDIA (UNI CEI EN ISO/IEC 17025)

NOTES OF PARAMETERS.
[329]: Main postacios belonging to this group. Ferborn, Manuazob, Maret. Mesram, Nabani. Propineb, Thiram. Ziram [414]. The sum is calculated through thir lower bound coverion.

TEST REPORT VALID FOR ALL LICEAL PURPOSES (Instan R.D.) 1-3-1826 in 1942 profes 18, — plasm Law 19-2-1827 in 176 and do. "The articles 18 and 18, februar Ministerior Decree 75-3-1866).

DATA and SAMPLE STORAGE. Their Reports, Raw data of commolographic purphish and instance in plas 194 profession of the local report refer only to the sample tested in the laboratory. The description of any other relations to the sample are destated by the destance in the laboratory of the relationship of the report refer only to the sample are destated by the destance in the laboratory.

Approved by Aria year Manager - laboratory LMIA-par Approved by Aria year Manager - apprictory LG-FAR

LABORATORY MANAGER CR. ALBERTO CATTLE Approved by Analysis Manager - Individing GC-BRO

NEOTRON SpA - Wire Saw Shareholder Service Agranged 104 41126 Mr. CENA - TRUE - From Code and VAT = 4380 (8425); THE +34 (5645)711 - Fax +38 (6645)177 www.neotton.dispensionalfineotton

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# Analysis Report

Product

ARA Oil Gold

Lot number

L 26028

Production date

2019-06-21

Parameter	Unit	Value	Lower	Upper Limit
Appearance	1.51	pass	clear, yellow	vish to orange
Acid value	mg KOH/g	0.1		1.0
Free fatty acids, sum	%	0.04	400	0.45
Peroxide value	meg O2/kg	0.1	4	4.0
Water content, Karl Fischer	%	0.01	al.	0.05
Unsaponifiable matter	%	2.0		3.5
Anisidine value	9	5.6	-	20
Fatty acid trans, sum	% (a)	0.3	8.5	0.5
Content Arachidonic acid as TG	mg/g	413	400	-

Illertissen, 2020-07-09 BASF Personal Care and Nutrition GmbH Location Illertissen

Dr. Edith von Kries QC Laboratory Manager



WEI Contamounts

Eurofins WEJ Contaminants GmbH Neuländer Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

Eurotins WEJ Contaminants - Neurander Kamp 1 D-21079 Hamburg

BASF Personal Care and Nutrition GmbH -Standort Illertissenattn. Frau Edith von Kries Postfach 10 63 89251 Illertissen wej-contaminants@eurolins.de http://www.eurolins.de/wej-contaminants.aspx

Person in charge Mr P. Kösters Client support Mr P. Kösters

> Report date 27.09.2019 Page 1/6

### Analytical report: AR-19-JC-138847-03

This report replaces report number: AR-19-JC-138847-02



### Sample Code 706-2019-00726603

Reference ARA Oil Gold, L 26028

Client Sample Code 100944

Client contract reference Rahmenbestell-Nr. 4942613538

Number

Amount 1422 g

Reception temperature
Ordered by
Submitted by
Frau Edith von Kries
Frau Edith von Kries
Frau Edith von Kries
Frau Edith von Kries
DHL 5660585243
Reception date time
22.07.2019

Reception date time 22.07.2019
Packaging Glasbehältnis mit Kunststoffverschluss

Start/end of analyses 25.07.2019 / 05.08.2019

#### TEST RESULTS

hysical-ch	emical Analysis		
JK07T Method:	Tocopherole DGF F-II 4a:2000, PV 00155, LC-FLD ed to a Eurofins laboratory accredited for this test.		
	ocopherol	472	mg/kg fat
	copherol	29	mg/kg fat
	-Tocopherol	1800	mg/kg fat
	copherol	634	mg/kg fat
LYFS2 Method:	Fatty acid profile Internal Method, PV 2103:2019-01, GC-FID Internal Method, P		
C 4:0 (B	utyric acid)	< 0.05	* g/100 g
C 6:0 (C	aproic acid)	< 0.05	* g/100 g
C 8:0 (0	Caprylic acid)	< 0.05	+ g/100 g
C 10:0 (	Capric acid)	< 0.05	* g/100 g
C 12:0 (	Lauric acid)	< 0.05	* g/100 g
C 13:0 (	Tridecanoic acid)	<0.05	* g/100 g
C 14:0 (	Myristic acid)	0.4	g/100 g
C 14:1 (	Myristoleic acid)	< 0.05	* g/100 g
	Pentadecanoic acid)	0.1	g/100 g
C 15:1 (	cis-10-Pentadecenoic acid)	< 0.05	* g/100 g
C 16:0 (	Palmitic acid)	10.2	g/100 g
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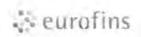
Page 2/6 Analytical report: AR-19-JC-138847-03 Sample Code 706-2019-00726603

Wife Continuous and St.

This report repla	aces report number: A	R-19-JC-138847-02
C 16:1 (trans-Hexadecenoic acid)	< 0.05	* g/100 g
C 16:1 (cis-Hexadecenoic acid)	0.2	g/100 g
C 17:0 (Margaric acid)	0.4	g/100 g
C 17:1 (Heptadecenoic acid)	0.1	g/100 g
C 18:0 (Stearic acid)	8.8	g/100 g
C 18:1 (trans-Octadecenoic acid)	0.1	g/100 g
C 18:1 (cis-Octadecenoic acid)	16.0	g/100 g
C 18:2 (trans-Octadecadienoic acid)	0.4	g/100 g
C 18:2 (cis-Octadecadienoic acid)	5.8	g/100 g
C 18:3 (trans-Octadecatrienoic acid)	< 0.1	* g/100 g
C 18:3 n6 (gamma-Linoleic acid)	< 0.05	* g/100 g
C 18:3 n3 (alpha-Linolenic acid)	< 0.05	* g/100 g
C 20:0 (Arachidic acid)	0.9	g/100 g
C 20:1 (Eicosenoic acid)	0.7	g/100 g
C 21:0 (Heneicosanoic Acid)	0.1	g/100 g
C 20:2 n6 (cis-11,14-Eicosadienoic acid	0.8	g/100 g
C 22:0 (Behenic acid)	1.8	g/100 g
C 20:3 n6 (cis-8,11,14-Eicosatrien acid)	3.9	g/100 g
C 22:1 (Docosenoic acid)	0.1	g/100 g
C 20:3 n3 (cis-11,14,17-Eicosatrien acid)	< 0.05	* g/100 g
C 20:4n6 (Aracidonic Acid)	43.9	g/100 g
C 22:2 n6 (cis-13,16-Docosadienoic acid)	< 0.05	* g/100 g
C 24:0 (Lignoceric acid)	1.4	g/100 g
C 20:5n3 (cis-5,8,11,14,17-Eicosapentaenoic Acid)	0.1	g/100 g
C 24:1 (Tetracosenoic acid)	0.4	g/100 g
C 22:5 (cis-7,10,13,16,19-Docosapentaenoic acid)	< 0.05	* g/100 g
C 22:6 (cis-4,7,10,13,16,19-Docosahexaenoic acid)	0.2	g/100 g
Unidentifiable fatty acids in the fat	3.2	g/100 g
Saturated fatty acids in the fat	24.1	g/100 g
Monounsaturated fatty acids in the fat	17.5	g/100 g
Polyunsaturated fatty acids in the fat	54.7	g/100 g
Unsaturated fatty acids in the fat fraction	72.2	g/100 g
Omega-6 fatty acids in the fat fraction	54.3	g/100 g
Omega-3 fatty acids in the fat fraction	0.3	g/100 g
Trans fatty acids in the fat	0.5	g/100 g
Saturated fatty acids in the product	24.1	g/100 g g/100 g
Monounsaturated faity acids in the product	17.5	g/100 g
Polyunsaturated fatty acids in the product	54.7	g/100 g
Unsaturated fatty acids in the product	72.2	g/100 g g/100 g
Omega-6 fatty acids in Product	54.3	g/100 g
	0.3	g/100 g
Omega-3 fatty acids in the product	0.5	
Trans fatty acids in the product	0.3	g/100 g
JJ0HU Free fatty acids (FFA) Method: DGF C-V 2:2006, PV 01147, Titrimetry		
Subcontracted to a Eurofins laboratory accredited for this test.		
Acid value (mg KOH/g)	< 0.2	* mg KOH/g
Free fatty acids (calculated as oleic acid)	<0.1	* %
Free fatty acids (calculated as lauric acid)	<0.1	* %
Free fatty acids (calculated as palmitic acid)	<0.1	* %
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Analytical report: AR-19-JC-138847-03 Sample Code 706-2019-00726603

This report replaces report number: AR-19-JC-138847-02

JK07G Unsaponifiable matter § 64 LFGB L 13 00-19:2004-12, PV 01377, Gravimetry Method: Subcontracted to a Eurotins laboratory accredited for this lost Unsaponifiable matter 1.6 J7142 Anisidine value § 64 LFGB L 13.00-15:2008-06, PV 01269, Spectrophotometry Method: Subcontracted to a Eurolins laboratory accompled for mis test. Anisidine value <1 J7133 Peroxide value DGF C-VI 6a - Part 1:2005, PV 00377. Titrimetry Method: Subcontracted to a Eurofins laboratory accredited for this test. Peroxid value 1.4 megO2/kg J1001 Sample preparation (#) §64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave) Method: Lead (Pb) (#) JCM03 DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Lead (Pb) < 0.02 \* mg/kg JCM04 Cadmium (Cd) (#) DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification; incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Cadmium (Cd) \* mg/kg JCHG2 Mercury (Hg) (#) Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Mercury [Hg] " mg/kg JC00M Arsenic (As) (#) DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabaccoi-products) Arsenic (As) < 0.05 mg/kg J1042 Copper (Cu) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES (Modification: extension of the scope of application to food and feed after pressure digestion) Copper [Cu] J1043 DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification: extension of the scope of application to food and feed after pressure digestion) · mg/kg Iron (Fe) JJOCG Chromium (Cr) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification; incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Chromium (Cr) < 0.05 \* mg/kg J1049 Nickel (Ni) (#) DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: (Modification, extension of the scope of application to food and feed after pressure digestion) mg/kg Nickel (Ni) J1057 Tin (Sn) (#) Method: DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OES Method: DIN EN ISO 11885, mod., CON-12 00000 (25.1)

(Modification: extension of the scope of application to food and feed after pressure digestion)

<0.5 \* mg/kg

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DIN 1-N ISCREC 17025-2005

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Page 4/6

Analytical report: AR-19-JC-138847-03 Sample Code 706-2019-00726603

WEJ Contioniounts

This report replaces report number: AR-19-JC-138847-02

J1032	Aluminium (AI) (#)		
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-Of in: extension of the scope of application to food and feed after p	consum dimentian	
Aluminiu		<0.5	* mg/kg
11047	Manganese (Mn) (#)	-0.0	riiging
Method:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OI	= Q	
	on: extension of the scope of application to food and feed after p		
Mangane		<0.1	* mg/kg
1050	Phosphorus (P) (#)		
lethod:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OI	ES	
Modificatio	n: extension of the scope of application to food and feed after p		)
Phospho	rus (P)	<3	* mg/kg
1054	Sulphur (S) (#)		
lethod:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OI		
	on: extension of the scope of application to food and feed after p		
Sulphur I		<2	* mg/kg
1056	Silicon (Si) (#)	and the	
lethod:	DIN EN ISO 11885, mod., CON-PV 00006 (2017-08), ICP-OI		
	on; extension of the scope of application to food and feed after p		
Silicon (8		<2	* mg/kg
FL13	Dioxins and Furans (17 PCDD/F)		
Method:	Internal, GLS DF 110:2019-01-25, GC-MS/MS to a Eurofins laboratory accredited for this test.		
2.3.7.8-1		< 0.0625	pg/g
	-PentaCDD	< 0.0822	pg/g
make the second of the second	,8-HexaCDD	< 0.125	pg/g
3.6.4	,8-HexaCDD	< 0.171	100
		< 0.161	pg/g
	,9-HexaCDD		pg/g
	,7,8-HeptaCDD	< 0.263	pg/g
OctaCDI		< 1.91	pg/g
2,3,7,8-1		< 0.171	pg/g
	-PentaCDF	< 0.118	pg/g
	-PentaCDF	< 0.184	pg/g
	.8-HexaCDF	< 0.194	pg/g
	,8-HexaCDF	< 0.178	pg/g
	,9-HexaCDF	< 0.132	pg/g
	.8-HexaCDF	< 0.161	pg/g
	7,8-HeptaCDF	< 0.184	pg/g
T. S. A M	,8,9-HeptaCDF	< 0.128	pg/g
OctaCDI		< 0.395	pg/g
WHO(20	05)-PCDD/F TEQ (lower-bound)	ND	
WHO(20	05)-PCDD/FTEQ (medium-bound)	0.170	pg/g
WHO(20	05)-PCDD/F TEQ (upper-bound)	0.339	pg/g
SFL14	Polychlorinated biphenyls (12 WHO PCB + 6 ICES PCB)		
/lethod:	Internal, GLS DF 110:2019-01-25, GC-MS/MS		
	d to a Eurofins laboratory accredited for this test.	10000	
PCB 77		< 5.92	pg/g
PCB 81		< 0.888	pg/g
PCB 108		< 12.8	pg/g
PCB 114		< 1.74	pg/g
PCB 118		< 46.1	pg/g
PCB 123	3	< 1.32	pg/g
PCB 126	3	< 0.822	pg/g
PCB 150		< 7.24	pg/g
			iates Deposits Akarpshican , un nuc

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Page 5/6 Analytical report: AR-19-JC-138847-03

Sample Code 706-2019-00726603

# WEJ Contaminants

es report number: AF < 1.35 < 3.62 < 3.95 < 1.32 ND	pg/g pg/g pg/g pg/g pg/g pg/g ng/g ng/g
< 3.95 < 1.32 ND 0.102 0.204 < 0.329 < 0.329 < 0.329 < 0.329 < 0.329 < 0.329 ND 0.987	pg/g pg/g pg/g pg/g pg/g ng/g ng/g ng/g
< 1.32 ND 0.102 0.204 < 0.329 < 0.329 < 0.329 < 0.329 < 0.329 < 0.329 ND 0.987	pg/g pg/g pg/g pg/g ng/g ng/g ng/g ng/g
ND 0.102 0.204 < 0.329 < 0.329 < 0.329 < 0.329 < 0.329 < 0.329 ND 0.987	pg/g pg/g pg/g ng/g ng/g ng/g ng/g
0.102 0.204 < 0.329 < 0.329 < 0.329 < 0.329 < 0.329 < 0.329 ND 0.987	pg/g pg/g ng/g ng/g ng/g ng/g
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< 0.329 ND 0.987	ng/g
< 0.329 ND 0.987	
ND 0.987	1.5.5
0.987	
	ng/g
	ng/g
1.01	119/9
ND	
0.272	pg/g
0.543	pg/g
	* µg/kg
	* µg/kg
	* μg/kg
V1	* µg/kg
#) 11), IAG-LC-FLD	
no solvent exchange.	add tional
<0.01	• µg/kg
	• ha/ka
	- µg/kg
	- ha/ka
	pging
mappinoapic	
-11), IAC-LC-FLD	
<0.1	* µg/kg
(4)	
	C-MS/MS
<20	• µg/kg
<5	* µg/kg
<1	* µg/kg
<3	* µg/kg
Inapplicable	4.21.18
	1.97  ND 0.272 0.543  <0.5 <0.5 <0.5 <0.5 <0.5 inapplicable  #) -11), IAC-LC-FLD osolvent exchange, <0.01 <0.01 <0.01 <0.01 inapplicable  11), IAC-LC-FLD <0.1  v0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0

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Analytical report: AR-19-JC-138847-03 Sample Code 706-2019-00726603



seurofins :

Signature

This report replaces report number: AR-19-JC-138847-02

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JJ088 Method:	Fumonisine B1, B2, B3 (maize and products derived f Internal Method, CON-PV 01085 (2018-08), LC-MS/MS	from maize) (#)	
201000000000000000000000000000000000000	in B1 (FB1)	<20	* µg/kg
Fumonis	sin B2 (FB2)	<20	* µg/kg
Fumonis	in B3 (FB3)	<20	* µg/kg
Fumonis	in sum (B1+B2)	<40	* µg/kg
Fumonis	sin sum (B1+B2+B3)	<60	- µg/kg
JJW2Z Method:	Sterigmatocystin (#) Internal, CON-PV 01126 (2018-08), LC-MS/MS		74.19
Sterigma	atocystin	<10	· ug/kg
* - Below indicated	quantilication level		
(#) = Eurofins WEJ	Contaminants GmbH (Hamburg) is accredited for this test.		
Result +/- expande	ed measurement uncertainty (95%; k=2), sampling not included		

Analytical Service Manager (Patrick Kösters)

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# ARA Oil Gold, L 26028 - éch n°100944

### Détermination des stérols

Incertitude sur la composition :

Delta7-campesteral / Delta5-avenasteral / Delta7-stigmasteral / Delta7 avenasteral : 20 % de la valeur ovec Minimum : 0,7 / Maximum : 3,5

Autre stérols : 10 % de la valeur uvec Minimum : 0,5 / Maximum : 3,5

incertitude sur la teneur ; 20% de la valeur

Analyse réalisée le : 01/08/2019

5térols		Résultat(s)
Cholestérol	0,1	%
Sα cholesta-8, 14 dien-3βol	3,4	%
Desmostérol	82,4	%
Zymostéroi	1,7	%
Ergostérol	5,0	%
Cholest7, 24die-3ßol	1,5	%
Campéstéroi	<0,1	%
stigmastérol	<0,1	%
Iso fucostérol	5,3	%
Fucostérol	<0,1	%
B sitostérol	0,5	%
A5,24 Stigmastadiénol	<0,1	%
24methyldesmostérol	0,1	%
Stigma-5-ene-3βol	<0,1	%
Teneur en stérols	17353	mg/kg

Le Technicien Coordinateur Analyse

MEHRING Fabienne

Chargé d'affaires

Loic LEITNER



Labor LS SE & Co. KG Mangolsfeld 4, 5.6. | 10770s Bud Bocklo | Germany BASF Personal Care and Nutrition GmbH Ms Margit Kapitzke Robert-Hansen-Straße 1 89257 Illertissen

Fon: +49 (0)97 08/91 00-0 labor@labor-ls.de www.labor-ls.de

Bad Bocklot 25 Jul 2019 / KA / Basfil

### Certificate of Analysis

LS No:	190712-0062-001	LS Codo:	1395393 / L
Product name:	ARA OIL Gold		10000012
Lot No:	L 26028		
Entry temperature:	room temperature		
Your Order No	4944273100		
Order dated:	11 Jul 2019	Sample receipt:	12 Jul 2019
Start of test:	15 Jul 2019	End of test:	23 Jul 2019

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Demands	Result
Enterobactenaceae, qualitative	'L 00.00-133/1, mod.		not detected / g DIN EN ISO 21528-1 mod.
total viable count, aerobic mesophic 30°C	*L 00.00 - 38/2 mod.		< 100 CFU/g
			DIN EN ISO 4833-2. mod.
yeasts, quantitative	*L 01.00 - 37, mod.		< 100 CFU/g DIN EN ISO 21527-1 mod.
Pseudomonas aeruginosa, qualitativ	L-S SOP 9.035		nut detected / g DIN EN ISO 13/20, mod.
Salmonella sp., qualitative	*L 00.00 - 20		not detected / 25 g DIN EN ISO 6579-1, mod.
molds, quantitalive	*L 01:00 - 37, mod.		< 100 CFU / g DIN EN ISO 21527-1 mag.
Coagulase-positive Staphylococci, qualitative	L+S SOP 9 014		not detected / g
			DIN EN ISO 6888-1. mod.
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations.

This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 25 Jul 2019 at 07:54 by Elke Meinken, Specialist Manager.

Korrigierter Prüfbericht: Charge erganzi, ersetzt Prüfbericht vom 23.07.2019



Carry Carry Mark Lt.

Page 1 di 14



MODENA, II 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19G16113

Description provided by Customer: ARA OIL GOLD - L 26028 - SAMPLE NO: 100944 - THE SAMPLE HAS BEEN TAKEN BY THE CUSTOMER. THE TRANSPORT HAS BEEN MADE BY COURIER. Sample Condition on Receipt: Room temperature

ANALYSIS DESCRIPTION	RESULT	,	40	AND DESCRIPTION	-	-	2000	All States
PESTICIDE RESIDUES IN BABY FOODS							İ	-
FOR INFANTS AND YOUNG CHILDREN								-
Aldrin (low limit)	< LQ		1	2 (1 4)	0.000		MS AS	22870516 (MW/Qs/
Dieldrin (low limit)	< LQ			77,43	D 1/65		ME 155) 2018 Ray 3 - C/C-	2897261
Endrin (low limit)	< LQ			10230	0.005		GIVS15: (2019 Rev 3 - GC- MS.MS	2017/2015 2017/2015
Fipronil (low limit)	< LQ			995	0.531		91-515 2010 Rev 3 - GC	100 f 101 1946 2 201
Fipronil-desulfinyl (low limit)	<lq< td=""><td></td><td>1</td><td>70.43</td><td>-0.001</td><td>) ·</td><td>01/S12: (2010 Ro. 3 - GC)</td><td>200000000 20000000</td></lq<>		1	70.43	-0.001	) ·	01/S12: (2010 Ro. 3 - GC)	200000000 20000000
HCH alpha (low limit)	< LQ			79.9	0.901		81(3195) 2010 Han 3-6C- MS MS	22/07/20/0
HCH beta (low limit)	<lq< td=""><td></td><td></td><td>1946</td><td>0.501</td><td></td><td>61/9155 2/16 Pan 3 - OC-</td><td>1201091</td></lq<>			1946	0.501		61/9155 2/16 Pan 3 - OC-	1201091
HCH delta (low limit)	< LQ		1	1992	0.001		01/5/11 2/19 (20, 3 c).2	225072011 19/07 011
HCH epsilon (low limit)	< LQ		1	ingles	0.004		01(8155) 2019 Rev 3 × GC-	25/07/201
Heptachlor (low limit)	<lq< td=""><td></td><td>1</td><td>riging</td><td>1000</td><td></td><td>0 N 5 15 9 2 9 19 Res 3 - DC-</td><td>23 57 901</td></lq<>		1	riging	1000		0 N 5 15 9 2 9 19 Res 3 - DC-	23 57 901
Heptachlor Epoxide cis (low limit)	<lq< td=""><td></td><td>1</td><td>105.65</td><td>0.000</td><td></td><td>UV 5158) 2019 (6n 3 - GC</td><td>72/07/20/1 72/07/20/1</td></lq<>		1	105.65	0.000		UV 5158) 2019 (6n 3 - GC	72/07/20/1 72/07/20/1
Heptachlor Epoxide trans (low limit)	< LQ		1	7989	0001		01(\$156) 2219 (6-23 - GID VS MS	12072011
Hexachlorobenzene (low limit)	<lq< td=""><td></td><td></td><td>11/50</td><td>0.00</td><td></td><td>0.48161.0019 (fex 3+00) MS MS</td><td>29/10/20/1 29/2/20/1</td></lq<>			11/50	0.00		0.48161.0019 (fex 3+00) MS MS	29/10/20/1 29/2/20/1
Lindane (low limit)	<lq< td=""><td>1</td><td>1</td><td>1903</td><td>0.501</td><td></td><td>01 91/8/2 19 Bev 1-05-</td><td>SWINGHT</td></lq<>	1	1	1903	0.501		01 91/8/2 19 Bev 1-05-	SWINGHT
Nitrofene (low limit)	< LQ	1	1	1979	0.003		MS MS 0 KS 1960 2019 Phy 2 - 0 C	25/57/20 H
o.p'-DDD (low limit)	< LQ		1	20.92	1000		MS NS MACHINE . TERMO	79/57/201
o.p'-DDE (low limit)	< LQ		1	7589	5,001		* : GCMS MS	2907-951
o.p'-DDT (low limit)	< LQ		1	10,150	5001		COMPASS * STOCKED TRACES	Veromber Veromber
p.p'-DDD (low limit)	<lq< td=""><td></td><td></td><td>00/9</td><td>2006</td><td></td><td># 6/-GCUS 2015 Rays</td><td>20/07/001 20/07/001</td></lq<>			00/9	2006		# 6/-GCUS 2015 Rays	20/07/001 20/07/001
p.p'-DDE (low limit)	< LQ		1	1910	fore		# phdCMS (18 Rev3 -	25/07/2015 25/07/2015
p.p'-DDT (low limit)	< LQ	-		115/100	5 007		# 26 GCMS 2010 RevS -	29/04/95 to
Cadusafos (low limit)	< LQ	}		7'0 to	00000		GC-N5:M5 101/51211 (019 Rev.12 - LC-	2007201
Gadusaios (iow innic)	- LW						MSAS	2907001
Demeton-S-methyl (low limit)	< LQ			×9:40	0.901		91(S (21) 7319 Ray 12 - LG- Majate	2801201 2861201
Demeton-S-methyl sulfoxide (oxydemeton- methyl) (low limit)	< LQ			29.49	8/109	V	01(5121) 7019 Rev.12 - LC- MS435	political historia
Demeton-S-methyl sulphone (low limit)	< LQ			19.10	0.00%		01/51/21/2019 Rev 131-10-	22-07-201 (HIPT-071
Disulfoton (low limit)	< LQ			mg sg	0.001		01(\$155) 2010 No. 1 - GC-	728/6/911 797/7001
Disulfoton-sulfone (low limit)	< LQ			70.40	0.001		01(S131)3019 Rev 12 - LC- MS MS	27/07/2011 28/07/2011
Disulfoton-sulfoxide (low limit)	< LQ		1	ind ed.	2501		01/3121 /3119 Reg 42 + LG- MS NS	20107g09 2007g09
Ethoprophos (low limit)	< LQ	1		79.49	1,50)		01/9:21)2019 Res 12 - LC- MS-MS	22400707 2800.201
Fensulfothion (low limit)	< LQ			79/40	2.001		01 S (21) 2/19 Rev 12 - UG+ MS MS	2Dedress versper





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Page 2 di 14

MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

# TEST REPORT nr. 19G16113-In-0

SAMPLE

**BASF Personal Care and Nutrition GmbH** 

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19G16113

ANALYSIS DESCRIPTION	RESULT	te	161.11	HT M TELESALE	-	Y MO-S	Africa Tach
Fensulfothion-oxon (low limit)	< 1.Q			-19/xii	erbon, r	0)(\$121)2019 =nc 12 - LG- MSA(\$	23/00/2014 23/01/2014
Fensulfothion-oxon-sulfone (low limit)	<lq< td=""><td></td><td>1</td><td>*******</td><td>nany.</td><td>01:31215 2010 Res. 12 - 1 &amp; ACC MS</td><td>2,6750/9 22070/16</td></lq<>		1	*******	nany.	01:31215 2010 Res. 12 - 1 & ACC MS	2,6750/9 22070/16
Fensulfothion-sulfone (low limit)	< 1.Q		1	19904	D301	01:0101; 2018 Rosy 12 x (2) ARS MS	33070044 29070044
Haloxyfop methyl (low limit)	< LQ			- Propositi	5,001	03 MS 1961 2 P Rev 3 - CC	zionano
Haloxyfop, included haloxyfop-R (low limit)	< LQ			refess	0.005	01912112045 REV 11+105	21/07/2019 21/07/2019 24/07/2019
Haloxyfop-2-ethoxyethyl (low limit)	<lq.< td=""><td></td><td></td><td>10240</td><td>P201</td><td>01(\$150.25 to 4) 3 - CC-</td><td>Districts Districts</td></lq.<>			10240	P201	01(\$150.25 to 4) 3 - CC-	Districts Districts
Omethoate (low limit)	< LQ			250	0.035	MS 458	25 to 100 to
Phorate (low limit)	< LQ			110000	0.001	* E-GOVE 2016 Rev3 - GOWENS	2011/2019
Terbufos (low limit)	< LQ			-many	0,291	01/9121) 2010 Ran 12 - LC-	2007/0023 2007/20023
Terbufos-sulfone (low limit)	< LQ			Fichy	5,001	01/\$1/11/2019 Bis 12: LC: MSARS	January Jeonomy
Terbufos-sulfoxide (low limit)	<lq< td=""><td></td><td></td><td>my sq</td><td>6/581</td><td>01.5121; 2011 Rev 12-13. Ma 645</td><td>23 TO THE PARTY OF</td></lq<>			my sq	6/581	01.5121; 2011 Rev 12-13. Ma 645	23 TO THE PARTY OF
Fentin (fentin including its salts, expressed as triphenyltin cation) (low limit)	< LQ			or synch	2004	01/9/121) 2019 Rav.12 - 6G-	Jacksons Secretary
Dithiocarbamates, thiuram-disulfides as CS2 (Analytical technique: GC) (low limit) 329	< LQ			19/19	1101	51(\$181)(2017 Reg 1 - 6CM9	.7267 06 rd 30.03 00 c
Total ethylentiourea (ETU) (hydrolise pH 9.90°C) (low limit)	< LQ			-03-03	0.701	D1(S(c) S(f)) (f) (c) 17 + LC- MS (VG)	Subresia Subresia
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ			-04.49	0,006	01,50, 1019 Rev.17 (1.G.) 03 V3	240,000
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO							
Flonicamid (LCMS)	< LQ			- mp+6	0,000	01.312112010 Rev 12.4C- VS-MS	20072014
Flonicamid metabolite: TFNA	< LQ			11.7.83	2003	01/9101/2019 Rev. 12-15	2468-0056 28-1796-0
Flonicamid metabolite: TFNG	< LQ			17640	0.003	0/(5/24) 2018 May /2 - EG- MS MS	2102000
Abamectin	< LQ			70275	0.010	03(91)(1)2(/1) Re(/12-LC- M3M3	2) TATOM 2347 Q348
Acetamiprid	< LQ			79.10	29.6	\$16\$121) 2019 New 12+10-	2/97/00/0 29/07/25/0
Acetochlor	<lq< td=""><td></td><td>1</td><td>- mad</td><td>9.315</td><td>51/5121 2010 Rec. 12 - (C)</td><td>20000000 20000000</td></lq<>		1	- mad	9.315	51/5121 2010 Rec. 12 - (C)	20000000 20000000
Acibenzolar-S-methyl	< LQ			ung	9.915	01(\$134) 7010 Re (12 - 60) VBAIS	13400 phrs
Aclonifen	< LQ		1	make.	2.010	01(\$144) 2019 Rev 12+00-	23020010
Acrinathrin	< LQ		1	maxa	0.040	0.481412019 Rev.12 - GG MS MS	29/67/20/9
Alachlor	<lq< td=""><td></td><td></td><td>6949</td><td>5000</td><td>MS MS 01:6144) 27/10 Pay 12 - G/S MS 6/8</td><td>28/07/2015</td></lq<>			6949	5000	MS MS 01:6144) 27/10 Pay 12 - G/S MS 6/8	28/07/2015
Aldrin	< LQ			-576	0.005	01/814/12/02 Rev. (2 - GC)	22000000
Dieldrin	<lq< td=""><td></td><td></td><td>20150</td><td>5,508</td><td>01(\$144) 2013 Rep 12+GC-</td><td>22010016 22010016 2401001</td></lq<>			20150	5,508	01(\$144) 2013 Rep 12+GC-	22010016 22010016 2401001





ACCREDIA 🔨

Page 3 di 14

MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

**BASF Personal Care and Nutrition GmbH** Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT		MIT 15	(ALX-PAGE)		Miles	MALTHON SCHWISC WATER CANCEL SCHOOL
Aldrin and dieldrin, sum expressed in dieldrin [414]	<lq< td=""><td></td><td></td><td>1999</td><td>0.909</td><td>DIS144 2319 Am 12 - GC- MS/AS</td><td>256/5/2010 256/5/2010</td></lq<>			1999	0.909	DIS144 2319 Am 12 - GC- MS/AS	256/5/2010 256/5/2010
Ametryn	<lq< td=""><td></td><td></td><td>~0.Kg</td><td>Ø 510</td><td>01(\$121)2019 Per 12 / US MS MS</td><td>\$8424.50m</td></lq<>			~0.Kg	Ø 510	01(\$121)2019 Per 12 / US MS MS	\$8424.50m
Atrazine	<lq< td=""><td>Ì</td><td></td><td>make</td><td>5,010</td><td>01(9131) 2010 Har/12-115- NS-MS</td><td>22/510/01/2 22/51/2015</td></lq<>	Ì		make	5,010	01(9131) 2010 Har/12-115- NS-MS	22/510/01/2 22/51/2015
Atrazine-desethyl	<lq< td=""><td></td><td></td><td>marks</td><td>2.734</td><td>51(5121) 2119 Rev 12+15- MS MS</td><td>22 0 0 0 0 19 29 0 1 2 2 1</td></lq<>			marks	2.734	51(5121) 2119 Rev 12+15- MS MS	22 0 0 0 0 19 29 0 1 2 2 1
Atrazine-desisopropyl	<lq< td=""><td></td><td></td><td>100.00</td><td>Out to</td><td>01/51/41/2015 (Sev. 42 - LC- M5/M5</td><td>22/41/2019 29/21/2011</td></lq<>			100.00	Out to	01/51/41/2015 (Sev. 42 - LC- M5/M5	22/41/2019 29/21/2011
Azadirachtin-A	<1.Q		1	70.15	0,555	01:512117010 Bio 12 - UC-	23/10/2016 79/07/2019
Azinphos-ethyl	< LQ			West and	0.015	51/312933019 Sec.17 - UC- MS/MS	20010000 2007001
Azinphos-methyl	<lq< td=""><td></td><td></td><td>7975</td><td>3200</td><td>01/51/21/2017 Rep. 12-LC- MIGNAS</td><td>23/07/2017 22/2016</td></lq<>			7975	3200	01/51/21/2017 Rep. 12-LC- MIGNAS	23/07/2017 22/2016
Azoxystrobin	< LQ			2949	neg.6	01/21/2000 Rev 12 - LC- MS MS	12/6/c0/66 39/07/96/19
Benalaxyl, sum of isomers including Benalaxyl-M	< LQ			meve	9,010	91(\$121) 2019 Bar 12 - LC- MS MS	21-1/2016 24-17-2016
Benfluralin	< LQ	ł		TICNE	3,290	MS MS	70-63180 N
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ	1		MCM.	0.410	MS MS	28/37/06/49 29/37/06/49
Carbendazim	< LQ			1616	-9770	01/5121) 7515 Rev 12-1-0- MSW5	32170013 3997001
Benthiavalicarb-isopropyl	< LQ		1	20/99	0.04	01(3121) X12 Yes (2) LC- M2 M2	29/07/2010 29/07/2010
Bifenazate	< LQ			10,619	0.010		28973009 390020
Bifenox	<lq< td=""><td></td><td>1</td><td>79.40</td><td>0.010</td><td>01-5144(2019 Rev. 12 - GC-</td><td>2,171,2010</td></lq<>		1	79.40	0.010	01-5144(2019 Rev. 12 - GC-	2,171,2010
Bifenthrin	<lq< td=""><td></td><td>1</td><td>279/93</td><td>8019</td><td>M5/N5 01(6144) 2010 Res 12 - 0/0-</td><td>2907261 22070073</td></lq<>		1	279/93	8019	M5/N5 01(6144) 2010 Res 12 - 0/0-	2907261 22070073
Bitertanol (sum of isomers)	<lq< td=""><td>i</td><td>1</td><td>(1944)</td><td>0.213</td><td>MS MS 01/517:1/2019 Fam: 12 - LC- MS MS</td><td>29107/0011 28107/0113 28107/0113</td></lq<>	i	1	(1944)	0.213	MS MS 01/517:1/2019 Fam: 12 - LC- MS MS	29107/0011 28107/0113 28107/0113
Boscalid	<lq< td=""><td></td><td></td><td>mg/c2</td><td>0.010.</td><td>01/9:01)2010 FM/12-5C- M9 M5</td><td>224F-3013 24-07Cp+</td></lq<>			mg/c2	0.010.	01/9:01)2010 FM/12-5C- M9 M5	224F-3013 24-07Cp+
Bromophos-ethyl	<lq< td=""><td>1</td><td></td><td>militar</td><td>0 010</td><td>01,514417910 Rei 12 - 00-</td><td>27401-2019</td></lq<>	1		militar	0 010	01,514417910 Rei 12 - 00-	27401-2019
Bromophos-methyl	<lq< td=""><td>1</td><td>1</td><td>POR</td><td>0.018</td><td>956-M6 01/91447-2018-Ref-12-60-</td><td>29 0 125 H</td></lq<>	1	1	POR	0.018	956-M6 01/91447-2018-Ref-12-60-	29 0 125 H
Bromopropylate	< LQ	1	1	25,000	000	UG 165 CNS1411-6-19 Rev 12 - DG-	2947294 23510414
Bromuconazole, sum of cis- and trans-	< LQ			re-re	ED4D	MS-MS (2) 61211-2219 Rev 12 - LC- MS-MS	2007 301 23-2007/6 24-37 201
isomers Bupirimate	< LQ			299	0.010	0155121) 2019 Rts .12 - LC- MS MS	20012918 300112918
Buprofezin	< LQ			21996	-0.010	GHSNZH TOTR RE- 12 - LC- MS MS	2007200
Butylate	< LQ			TWIS	0.046	01(S121) 2019 Res. 12 - LC: NS MS	35670019 39670019
Cadusafos	< LQ			1092	0,010	01/5121) 2/18 Sec. 12 - LC- M5 M5	22:07/2016 20:07/2016
Carbaryl	< LQ			-0-5	0.010	01 S 02 13019 Re- 12 - LC	28000000





Page 4 di 14

MODENA, II 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

**BASF Personal Care and Nutrition GmbH** Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT		-00-1-	9000	~	-0.145	5-1-002 m
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furathiocarb)	< LQ			P2 45	0.021	0015121) 60°5 Rev 17 - LC- MSMS	230 X0019 20079211
Carbofuran-3-hydroxy	< LQ			179.19	0.001	01/51/21/2019/Rey 12 -1.C- M3/NS	229/2019 200(gil)
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ			-10 ×12	0.007	91,512112319 Rev. 12 - LC MS MS	2802.202
Chlordane cis	< LQ		1	mana.	0.005	01:31+47:2019 Nov. 12 - G/S- MS 5/5	2001/2916 2407/2016
Chlordane oxi	< LQ			119.40	0.655	01/31441,019 Rev 12 - GC-	22.00.2019
Chlordane trans	< LQ	İ		771	T105	01/51/4/2719 Re. 12 - GC- MS MS	97 07 90 19 30 67 20 H
Chlordane sum of cis and trans-isomers	< LQ	Į.		7070	(C00a	61(9*44) 2019 Rev 12 - OC- MG/MG	22029010 2007001
Chlorfenvinphos, sum of E and Z isomers	< LQ			(F)(F)	1930	A 1912 (7.19 Rec. 12-10) Modds	200/2019 200/201
Chlormephos	< LQ			P15.44	ouna	61/5142/2319 Rev 17 - G/O	25/87/2019
Chlorotoluron	< LQ	1		mpay	2,010	00/51/21/2019 Rev.12 - LC-	20000000 08070000 2000000
Chlorpropham	< LQ		1	1979	0,058	91(\$144) 2019 Sev 12 - GC-	-2006/0039
Chlorpyriphos ethyl	< LQ	l .		19690	0.010	MS/MS 21/51-44 22 (9 Rev. 12 - GC)	29 FF CT 1 72 FF CT 1 1
Chlorpyriphos methyl	< LQ	i .	1	1983	0.000	M9/M9 01.3.144 2379 Nev 12 - GC	2907201 32073019
Chlorsulfuron	< LQ	1		75%	0.013	MS-MS 01/01/21/22/5 Re-12-1/0- MS-M3	25.09.06.19 25.09.06.19 29.05.07.11
Chiorthal dimethyl	< LQ	1	1	710-kd	9,040	01/01/441 2000 Rev 12 - GC/-	22,97,0010
Clofentezine	< LQ	i		70.46	0.075	01(81(21)(20)(954)(12-12-12-12-12-12-12-12-12-12-12-12-12-1	29/07/2019 20/07/2019 29/07/2017
Chlorantraniliprole (DPX E-2Y45)	< LQ			7990	0.543	01:6121) 2010 Res. 12 - LC- 1/5 VIS	25/9/10/14 39/00/20 11
Coumaphos	< LO			11.014.3	6313	01:51: 10:00 (4 Re- 12 - 15-	82979019 9857361
Cyanazine	< LQ	l l		cieixo.	65ta	01 3 121 12 . 19 Rov. 12 - 1.0: 215 615	22/07/4010 23/07/4010
Cyazofamide	< LQ		1	P-(74)	546	0/1512132314 Rt + 12 - LC- 115 MS	26042010 26042010
Cycloate	< LQ			ingong	5100	DISTRICTS RULES - CC.	\$60000 \$60000
Cycloxydim	< LQ	}		7970	0.000	01(\$121) 21(\$100, \$2 - LC- MS MS	25670679 2507307
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ			mpre	0.60	51(514)(201) Rev. 12 + 100.	78582649 269002019
Lamoda-cyhalothrin (includes gamma- cyhalothrin) (sum of R,S and S,R isomers)	< LQ			next	0.010	01(5)44) 2013 Rev 12+CC- MS MS	20:07:00:10 29:07:20:11
Cymoxanil	< LQ	į.		100 VI	9010	01(\$121) 2019 Sec. 12 - I.C. MS AS	Morack Vacation
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	< LQ			-wag	3313	81/5114-7019 Hav 12 + GC-	22070911 2467000
Cyproconazole	< LQ			79.95	9540	01/512% //19 Re; 12 - I/C- MS MS	\$3.0950+1 \$2.0950+3
Cyprodinil	< LQ			1992	1010	0 (9151) 2014 Rev 12 - LC- MS MS	220070010 28007201
o.p'-DDD	< LQ			75.49	2002	51/5145(\$519 fee: 12 - GC-	SPEADON PROTUIN





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Page 5 di 14

MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT	0	Mill	ay 1 Million	P9	.m.	41	SA TO
p.p'-DDD	< LQ	1		mgeg	- oxe		MS NEW YORK TO SE	20/cr26/0
o.p'-DDE	< LQ			179.5%	2,005		51/2161/2516 Rev.12 - GG-	39(08:30 H
p.p'-DDE	< LQ			25043	100		01(\$144) 2018 (6) 17 4(10) MS MS	2000 Dack
o.p'-DDT	< LQ			-cong	0.104		01:5144   2018 Rev. () - 66-	2500/25# 2961/201
p.p'-DDT	< LQ			10.41	0,005		18(\$144,70/8 Rev 12-60) MS MS	27970FH 2907VC
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			no kg	9,00%		91(6164) (07/0 Aug. 12 - GC) 115 (15)	20/07/20/0
Deltamethrin (cis-deltamethrin)	<lq< td=""><td></td><td>1</td><td>510,40</td><td>0.010</td><td></td><td>ut 5161) 2019 Hay 12 - 6/2 M5 N3</td><td>23/07/25 F</td></lq<>		1	510,40	0.010		ut 5161) 2019 Hay 12 - 6/2 M5 N3	23/07/25 F
Diazinon	< LQ	1	1	100 kg	0.590		01 91211 2010 Rm, 12 - LC- MBMS	22,000 total
Dichlobenil	< LQ			og eg	2010		MS345	naorgas Zantigu
Dichlofluanid	< LQ	1		D 2 A2	2010		31/51/21/3049/844/12-LC- MEMAS	2007001 200720
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			opeg	0.617		MISSENTY TO HELD 12 - EC.	2007/2015 2017/2015
Dimethyl-sulfanilide (DMSA)	< LQ			royey	3,010		01.9121) 2 1/5 Rev. 12 - LC- LIGARS	29/07/3015 29/02/2015
Dicloran	< LQ	1	1	20.79	polo	Ì	01/5144) 2019 No. 12 - 6C	79972d
Dichlorvos	< LQ			nong	0,015		01/05/12/12/19 St : 12 - LC-	2307001 280720
Dietofencarb	< LQ	ŀ		70.40	0.210		01:512112019 (0:412 - E/C M0:605	7600/200 2600/200
Difenoconazole	< LQ			higher.	0.310		31(5121)2018 Set 15-10x NS-MS	250000
Diflubenzuron	<lq< td=""><td></td><td></td><td>regists"</td><td>9510</td><td></td><td>01/5121) 2/03/Fav. 12 - 10/ NS-V5</td><td>220520s 230720</td></lq<>			regists"	9510		01/5121) 2/03/Fav. 12 - 10/ NS-V5	220520s 230720
Diflufenican	< LQ			marku	0.210		01/5/2019 Re- 42 - LC 95/MS	Salastana Salastana
Dimethenamid, sum of isomers including	< LQ			HDW7	= (41)		01/51/21/2019 Rev 12 - LO NSMS	25-67-361 27-67-361
Dimethoate	< LQ			History	010		01:5121/2010 Res 12-40- VENS	\$2,50000 29/07/068
Omethoate	< LQ			1900	010		1.1.5.121) 2.118 Rev. 12.4.C+ MS MB	27517640 2657331
Dimethomorph, sum of isomers	< LQ			mp/sa	0.010		01:3121) 2:11: Ro-12-10: Mb/M5	2007001 20170211
Ditalimfos	< LQ			mi_kg	2010		55-612) (2015 Fig. 12 - 175- 115-915	25/07/201 25/07/201
Diuron	< LQ			hoko	D-010.		31(\$125) (515) R4-12-10 M5 M5	230700x 290720
Dodine	< LQ			9000	0.010		01(817)) 2019 His 12-10- 116 MS	289 QV 290700
Emamectin benzoate B1a, value expressed	< LQ			= 0 ed	0.010		91/5121) 2009 Rev. 17 (4,C-	22 serioria 20 milioria
Endosulfan alpha	< LQ			1.044	0.006		01.5150.2519 Hi 12 : GC	V0075075 2962109
Endosulfan beta	< LQ	1		rigita:	0.00		00,0144 (2019 Rec 12 + CC+	75.68000 7988000
Endosulfan sulphate	< LQ			101	1,000		CONTRACTOR PROTECTION	250725





SPRING SPEC

Page 6 di 14

MODENA, II 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT		-	(STERRIESE	10-	######################################	50,5, -000 5075 Albace 5073 - 500 N 600/E
Endosulphan, sum of alpha and beta somers and of endosulfan sulphate, expressed as endosulfan [414]	< LQ			79.46	0 (0.6	31/8444, 2019 Rev (2 = GC- MS MS	246702073 29607(207)
Endrin	<lq< td=""><td></td><td></td><td>750.60</td><td>0.595</td><td>01(\$154) 2019 (No. 12 - 13 - 15)</td><td>32020509</td></lq<>			750.60	0.595	01(\$154) 2019 (No. 12 - 13 - 15)	32020509
Epoxyconazol	< LQ			mg es	0.012	015121) 508 Rev 12-1.C	23.67 go (1 23.67 go (4 29.67 go (4
EPTC	<lq< td=""><td></td><td></td><td>6649</td><td>0.010</td><td>01(\$121) 2019 Ray 12 - LC M5 MG</td><td>25/07/2015</td></lq<>			6649	0.010	01(\$121) 2019 Ray 12 - LC M5 MG	25/07/2015
Esfenvalerate and Fenvalerate, sum of isomers	< LQ			mg/d:	C010	01/2144) 2/(15/66) (12 - GC- M5185	29477,0016 20407(2016
Ethion	<lq< td=""><td>İ</td><td>1</td><td>mg/wg</td><td>5,819</td><td>0" (\$144) 2 (19 Pm) 12 - 570- MS/MS</td><td>25/07/95/9</td></lq<>	İ	1	mg/wg	5,819	0" (\$144) 2 (19 Pm) 12 - 570- MS/MS	25/07/95/9
Ethofumesate	< LQ			TEN	5,010	01(514A) 21/19 Rev 12 - (312-	20/07/2019 20/07/2019
Ethoprophos	< LQ			4341	2000	91121217221316 ; 32 - CC- MS WS	2407gp19
Etofenprox	< LQ			1000	90013	91(5121) 2319 Res 12 - LC- 135 MS	2407/05/9 79(27/907)
Etoxazole	< LQ	1	1	-9/49	9.01.0	91/51/21/2019 Nov 12 - LC: E/5 W5	22/07/2010
Famoxadone	< LQ			79.92	0.022	01/8142) Z/18 Per 12 - G/2 MEMS	2807/7////
Fenamidone	< LQ			79(4)	0.000	01/1/21/2018 Rev 12 - LG-	2/10/(00) ii 29:07/203
Fenamiphos	< LQ			ngag	4,010	01;\$121;2019 Rei 12 - C- 8/5/96	2407/2019 2407/2010
Fenamiphos-sulfoxide	< LQ			114.0	0.0101	07/51217/2019 For, 12 + 1/3- 05 1/6	2007/2019 2007/2019
Fenamiphos-sulfone	<1.Q			Have	1010	01(9)21(2010 Rsv 12+1C-	360,000,000,000,000,000,000,000,000,000,
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	< LQ			15,92	5.0(0	01,5121) (#19 Row 12 - 1.C- Mr) Mr.	2555200
Fenarimol	< LQ	1		77595	0.010	07(5121) (CFFRey 52+1C- MG-MG	22.0520 to 25.01.000
Fenazaquin	< LQ			10 E M 5	0.010	10 5 (20) 2 20 Rep 42 24 C.	27072619 2907261
Fenbuconazole	<lq< td=""><td></td><td></td><td>199</td><td>0,040</td><td>21/5/24/2018 Row 12+LC+ MS MS</td><td>29/00/00/00 29/2/00/0</td></lq<>			199	0,040	21/5/24/2018 Row 12+LC+ MS MS	29/00/00/00 29/2/00/0
Fenchlorphos	< LQ	1		700	3.010	01.5144V2, 19 Nov 12 - 010- MS MS	124070049 29407004
Fenchlorphos-oxon	< LQ	1	1	779-97	0.010	01/51/44/2016 Revolts - GO-	22/07/0/19
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos [414]	< LQ			TUAL	4,010	21814452018 Res 12 - GET MS MS	23/01 an o
Fenhexamid	< LQ	İ		rgiva	0.010	61/51211/514 HE-12-LG- MS VS	200000000 2000000
Fenitrothion	< LQ			7979	300	01/\$134) 2019 Relicit - GO-	20012019
Fenoxaprop-p-ethyl	< LQ			70,10	0040	01/6121; Adlu Sov 12×1/C-	2007 (011) 22-07 (01) 0-02 (00)
Fenoxycarb	<lq< td=""><td></td><td>i</td><td>manu</td><td>0.000</td><td>01/8101/09//Res.12+US- ME/MS</td><td>120A266 2407200</td></lq<>		i	manu	0.000	01/8101/09//Res.12+US- ME/MS	120A266 2407200
Fenpropathrin	<lq.< td=""><td></td><td></td><td>11092</td><td>0.010</td><td>01(3245) 2019 Rev 12 + GC-</td><td>200000000</td></lq.<>			11092	0.010	01(3245) 2019 Rev 12 + GC-	200000000
Fenpropidin	<lq< td=""><td></td><td></td><td>MESS</td><td>5010</td><td>MS MS 21.5121(2019 Rev 12+1C+ ME MS</td><td>29/07/05/19 29/07/2019 24/07/05/19</td></lq<>			MESS	5010	MS MS 21.5121(2019 Rev 12+1C+ ME MS	29/07/05/19 29/07/2019 24/07/05/19





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ON SCORE

SQUARE SCHOOL SCHOOL

Vine People - Colomba

Page 7 di 14

MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT	16	40.0	TET HELSE	12	vife	MHS	Park Table BET Period Table Bet Bet
Fenpropimorph	<lq< td=""><td></td><td></td><td>e digital</td><td>0.010.</td><td></td><td>ATRICIO DE 18 NO 12 NO MS MS</td><td>22/07/2014 25/07/2014</td></lq<>			e digital	0.010.		ATRICIO DE 18 NO 12 NO MS MS	22/07/2014 25/07/2014
Fenpyroximate	< LQ	į.		apig	amu		01/51/21/2013 Rev. 12 - LC- MS 6/3	25/07/05/19
Fenthion	< LQ			onload	-0.010		54.6424.5012 See 12 -1 C. US NS	2007/00/9
Fenthion-oxon	< LQ	1		70/90	0,000		01(S121) 2010 Sto 12×LC MS MS	2007/8/19 290709/0
Fenthion-oxon-sulfone	< LQ		1	99.49	9:010		00(0121) 2015 Nov. 12+1 (2 MEWS	25/07/05/0 29/07/2011
Fenthion-oxon-sulfoxide	< LQ			11974	(8.0%)		01(5121) 751 /r RE - 12 - LC- MS M9	70070/f6 296/00/
Fenthion-sulfone	< LQ			offelt	9,010		03/5121/2019 Rev 12 - 115-	23-0/19019 29-0/2011
Fenthion-sulfoxide	< LQ			100.01	a tou		01(S12112010F07.12-LC) MS MS	20070014 30070015
Fenthion, fenthion-oxon, fenthion-oxon- sulfone, fenthion-oxon-sulfoxide, fenthion- sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	< LQ				950		01-S12() 2rt9 Rev 12 -LC- 6"SASS	\$30000014 \$30000014
Flazasulfuron	< LQ	}		T9*6	noto		01/81/1/ 2010 Rev 12-1 0- MS MS	25 (34 (8 19
Flucythrinate, sum of isomers	<lq< td=""><td></td><td>1</td><td>riging</td><td>0,010</td><td></td><td>11 S1 MI) 25 19 Res 12 - 60 MSMS</td><td>20/07/2016 20/07/2016</td></lq<>		1	riging	0,010		11 S1 MI) 25 19 Res 12 - 60 MSMS	20/07/2016 20/07/2016
Fludioxonil	<lq< td=""><td></td><td></td><td>=14.8g</td><td>0.010</td><td></td><td>MS NS</td><td>24674009 2456500</td></lq<>			=14.8g	0.010		MS NS	24674009 2456500
Flufenacet	< LQ			470.40	0.010		s MS12N 2017 Rev 19 - LC+ MS MS	290072019 290072019
Flufenoxuron	< LQ			1000	5,010		\$1,8121) 70 19 Res 12 - LC- M5 M5	Value of the same
Fluopicolide	< LQ			TO AG	0010		0115121) . 01 ( Res 12 + 1.C+ MB 1/2	Valantaine Valantaine
Fluquinconazole	< LQ			100-50	0.000		01/8 164) 201   Rev. 12 - CC MS MS	19/07/00 M
Flusilazole	< LQ			719/30	2013		61,6144) 2019 Ren 12 - GC-	2017/83/019 29/07/07/
Flutriafol	< LQ		1	7970	9.584		03/83/21/21/2 (0 - 12 - LC) M5 M5	25/07/2014 25/07/2014 25/07/2014
Fluvalinate, sum of isomers	< LQ			mg/kg	9.210		M(\$164 2015 Rev 12 - GC-	29070019
Fonofos	< LO	İ		100 10	360101		59/514412019 Rev 12 - GC-	2207-200
Formothion	< LQ		İ	ngxg	20032		51(5121) 2019 Rev.12-LG- MS MS	2907001 2907001
Fosthiazate	< LQ			mina	9.015		01/512/12/19/09/19/10/ M3/05	200 A0000 200 7/2010
HCH alpha	< LQ	1		= (1.4)	0,008		(Hg81647 23/9 Rev 12 (IDC) MS MS	22052913
HCH beta	< LQ			nu kg	0.105		01(5144) 21(3-935-12-GC) MS-MS	25/01/2014 23/01/2014
HCH delta	< LQ			-pig	0,08		01 61e4 2 HII Ric. 12 - GC-	JOHN JOHN
HCH epsilon	< LQ	1		119.62	0.86		1015144-7019 Rev.12 - OC-	29/07/00/0
Heptachlor	<lq< td=""><td></td><td>1</td><td>7676</td><td>0.705</td><td></td><td>\$15 MS 61/5*+5/2010/Rep. (2-4).2-</td><td>20/07/2010 20/07/2010</td></lq<>		1	7676	0.705		\$15 MS 61/5*+5/2010/Rep. (2-4).2-	20/07/2010 20/07/2010
Heptachlor Epoxide cis	< LQ			768)	0.006		MS-MS 01(\$140,7019.Rm,12+5C-	2505752010 3041-32915
Heptachlor Epoxide cis	< LQ		1	WE'VE	0.005		MS.MS 01/51441 2/12 Rev 12 + CC+	29/5/180A
neptacilioi Epoxide trans	LU				1		Mt. 945	250700





Page 8 di 14

MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT		-		0	.,5	- 6/364	FORM
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ				0.005		11/9144) 2/19 Res 12 - 60- M5 M5	29-2019-10 29-2019-19
Heptenophos	< LQ			7000	2,810		13 (6.12 15 2019 Res 1); - L.C. 195 MS	2,567(2019 29497(2019
Hexachlorobenzene	< LQ		1	76/70	9 000		01(S1/4) 2018 Sec 12 - GC-	29.07.25% 29.07.20%
Hexaconazole	< LQ		Í	100.00	0.010		01/5121   2019 Sec. 12 - LC- MS MS	23/00/2019 23/20/2019
Hexylhiazox	< LQ		1	-440	9,910.		01 9331) 20 (9 Rev 12 - LC- XIS NS	(267.50+) 78(7)7(1)
Imazalil	< LQ	İ	1	- Organia	6.030		01 5121, 2019 Res 12 - C-	2/10/500/rg 2007/2010
Imidacloprid	<lq< td=""><td>To the same of the</td><td></td><td>+q2q</td><td>9.00</td><td></td><td>51 5121 120 19 Km 12 - 6.5. 96 465</td><td>22/67/2018 26/27/2018</td></lq<>	To the same of the		+q2q	9.00		51 5121 120 19 Km 12 - 6.5. 96 465	22/67/2018 26/27/2018
Indoxacarb, sum of R and S isomers	< LQ	and the same of th		Inger	6.016		21/31/2016 Res 12 - 10- 5/3/65	25/77/0019 25/07/0019
lodofenphos	< LQ			- mpay	2,010		91(8144) 35° 6 Fe - 13 - 10G-	23/07/00/16 29/07/2011
Iprodione	< LQ			7989	a uto		01(\$184) \$0' \$ file: 12 - 50- MS M5	20000000 2000000
Iprovalicarb	< LQ			.440	0.005		07/9421630/0 Hp. 12+10-	29/07/20159 29/07/2015
Isofenphos	<lq< td=""><td></td><td></td><td>106.49</td><td>0510</td><td></td><td>01(\$142) 3 H0 RULLIZ - GC-</td><td>20072111</td></lq<>			106.49	0510		01(\$142) 3 H0 RULLIZ - GC-	20072111
Isofenphos-methyl	< LQ		1	7030	0.510		01/51/42) JOHN Roy 12 - GC-	(2)(7,211) 2)(0740)
Isoprothiolane	< LQ		1	296-200	0.210		01:5121) 20:00 Fav. 12 - LC NS NS	(26000t) 29-01001
Isoproturon	< LQ			mana	0.510		01/51/21) 2019 Rev 17:- LC- MS-MS	516000111 216000111
Kresoxim-methyl	< LQ				0.000		01 41 sq 2018 Rev 12 - 675-	13/6005919 ZaidZg010
Lindane	< LQ		1	cue	1005		01 9144 20 H Re. 17 - GC	Distriction
Lindane, sum of HCH isomers included Lindane [414]	< LQ	1		England	2.009		574473019 Rep 12 - GC- MS MS	25/07/2016 25/07/2019
Linuron	< LQ			Trime	0.010		01/6121/2010/0m/12 - LGc M5:M5	19/10/10/19 19/01/01/19
Lufenuron	< LQ		1	15/24	3.046		00:5121) 2019 Rev.12+EC-	9600999 26070919
Malaoxon	< LQ			1675	units		01(5121) 2019 Rey 32 - LC	2987/2019 2997/2019
Malathion	< LQ			=0.~4	0.010		01(8121) 2319 Rev 12 - LC	22.07.0015 23.07.201
Malathion and Malaoxon sum expressed as Malathion [414]	< LQ			- 10 Kg	0.16		91/51/21) 2918 Rev 12 (DC) 198 VS	7 > 16,807 A 7 9 167 (70 h)
Mandipropamid	< LQ		1	300	956		01-5121) 2010 for 12 - LC- 55536	gianger) Tenegan
Mecarbam	< LQ			112.46	0.010		05,3101)2019 Rev 17 - LC- MS-MS	2010712070
Mepanipyrim	< LQ			regay	1010		01 5 121 (2019 Re), 12 - 1/C- 1/S 1/S	1) 17/2016 20 17/2016
Metalaxyl, sum of isomers including	< LQ			int of	2000		MSHC 2412719 Rev 12 - LC-	Server
Metalaxyl-M Metazachlor	<lq< td=""><td></td><td>1</td><td>2000</td><td>0.016</td><td></td><td>MSMS</td><td>denous record</td></lq<>		1	2000	0.016		MSMS	denous record





Page 9 di 14



MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-ln-0

BASF Personal Care and Nutrition GmbH Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT	4	MULTINESS.	D.	480	4440-116 615-45-45 1417-114-15 0416
Methidathion	< LQ		-10) eg.	glin	01.5121):0019.8ev 12-10- 45.MS	2200 903 y 29 0 0 20 0
Methiocarb	< LQ		P9X5	5,010	21/Startzuro Rentzieligi Militari	2011/2019
Methiocarb-sulfone	< LQ		-540	Edil	01/S121/79/5 Revit9 - (S- MS/MS	72/8/20/9 30/07/20/9
Methiocarb-sulfoxide	< LQ		ereku.	Sare	01(\$101) 2010 Nav 101-LD1 MS 5/8	-24070019 peological
Methiocarb, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb (414)	< LQ		716*49	3.545	01/3121/3034 Res 12-10 M6-95	22+112515 20012011
Methomyl	< LQ		7016	0.010	01/5121 (2012 Har) 12-17 MS NS	22000027H J0077014
Thiodicarb	< LQ		myoq	0.00%	31/51/21) 00/19 Key, 10 - LC+ W/5/10	23072072 23072073
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ		md sq.	u 010	31(\$121)2019 (0s-12-1C- MS-MS	22/97/09/3 28(2) (00/9
Methoxychior	< LQ		7990	0.005	#1.5144) 2010 Rev 12 - Cit-	20.18900s 200700s
Methoxyfenozide	< LQ		70010	2010	01/8121) X099 (barcia - 10- M6.145	\$2070079 0027500
Metolachlor, sum of isomers including S- metolachlor	< LQ		muss	-020	01(9144) 2019 (80, 12 - 0.0- MS MS	72mAspre georgone
Metrafenone	< LQ		195X0	0.000	JUST2117219 Rev 12 - LCs MS MS	2007-2019 20-0 foots
Metribuzin	< LQ		100149	Sott	5/15/121) 27/16 Key 12 - LC- MS-MS	20070010 79010010
Metsulfuron-methyl	< LQ	1	more.	0.00	01(\$121) 2519 (cm.)2 - LC- (#5 WS	29012012 29012913
Mevinphos, sum of cis- and trans-isomers	< LQ		=144	0.273	01(312112919 Fey 12 - LC) ME WE	\$800,000 A
Molinate	<lq< td=""><td></td><td>mare.</td><td>0.010</td><td>01/3121/2019 Rev. 12 - LC- VAMS</td><td>22/15/2019 21/25/2011</td></lq<>		mare.	0.010	01/3121/2019 Rev. 12 - LC- VAMS	22/15/2019 21/25/2011
Monuron	< LQ		POJIKO	0 610	01;\$121) 2010 (Gu. 12 - ¿C- M5:06S	300000019 590009910
Myclobutanii	< LQ		receiso.	ores	11(\$121) 2019 Am 12 - LC- MS MS	30/77/2019 29/21/2019
Napropamide	< LQ		*1053	010	31(\$121) 2315 No. 12+1.C MS MS	93635049 9867904
Oxadiazon	< LQ		700/40	2,010	MS 1/3	29/07/90/9 29/07/02/40
Oxadixyl	< LQ	1	110/49	0.555	01(5121) 751 R Sec. 12 - LCc 127 PS	20ch0015
Oxyfluorfen	< LQ		20,60	0.510	2018144; 2012 (Rev. 12 - C/C) MO MG	22012219 20012219
Paclobutrazol	< LQ		70,00	0.110	01(\$1/4) 2019 Sur 12 - GG-	2907 2010 3907 2010
Paraoxon	< LQ	ŀ	marig	9.310	01/5121] 2019 Sec 12-LC MS-MS	250/(2019 2007(2019
Paraoxon-methyl	< LQ		~0.4	5513	01(\$121)2019 Rev 12 - 10 - M5 MS	Jantones Jantones
Parathion	< LQ		100/60	0.550	01/5121/2019 Res/12 - LC- 115-MS	25012012 35012012
Parathion-methyl	< LQ		ngx	0.010	51(5121) 2019 Rev 12 - LG- MEMS	23/0 / Seria





Page 10 di 14

MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

**BASF Personal Care and Nutrition GmbH** Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT		1507	397.013 (43.44)	8	Hims	Man, Tip, 1 Dispitalisas Dispitalisas Alberta
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			mit ku	gota	01(\$144) 2019 Rev 12 - Cic MS MS	22872816 VASA286
Penconazole	< LQ			76.79	0,010	01/9/2/13/2018/2018/12 - LC- MSAIS	2000001x
Pencycuron	< LQ	1		regay	0.019	01(5101) 2019 Rev 12 - LC- MSA/S	7357000 981030019
Pendimethalin	< LQ			1610	0,010	01(6161):2019 (00x12-15- MS-145	- Americans Decreases
Permethrin, sum of isomers	< LQ	î		29.50	0.010	51(5)(44)(22) 9 How 12 - 075	29079019
Perthane	< LQ	1		75/4/	5,010	1/2 461/70 HEV -3 - 2/2	2297(2019
Phenmedipham	< LQ	1		to'eg.	8818	01/9121) 21/13 Aw. 12 - LC- M5/M5	20000000
Phenthoate	< LQ	1		mgray	0010	JE(514412019 Rev 12 - CC-	2007.051x
Phorate	< LQ	1		140(40)	9.019	01/5/E/1) 2019 Hay 12 - LC MS/MS	200000001a 27000000
Phorate-oxon	< LQ			200	9(210	01/5121) 2012 96 12 -1 C.	2007/2010
Phorate-oxon-solfone	< LQ			20,00	0.010	01(0121) 2219 (up 12 - EC) MS/MS	2201/2014 28/45/2019
Phorate-sulfone	< LQ			11/4×0	à ini	MIGRET PROFESSION 12 - UC- MS (85)	70WA7014 X967 (511
Phorate-sulfoxide	< LQ		114	7046	8010	01/512() 2019 Rev. 12 Cr MS-MS	2300A2613 210A12011
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	<lq< td=""><td></td><td></td><td>Paras</td><td>0.310</td><td>01(5121)20(8 Rol 12 - 1.C MS MS</td><td>23/07/2016 21/07/2016</td></lq<>			Paras	0.310	01(5121)20(8 Rol 12 - 1.C MS MS	23/07/2016 21/07/2016
Phosalone	< LQ			riting	1010	01/31/21) 2019 Rm 12 - LC- 145 NS	200055854 95.07.0010
Phosmet	< LQ			2000	2010	01(3 (31)) 2219 Rev 12 - LC - MSMS	Products
Phosmet-oxon	< LQ		1	1000	0.010	31(5121);319 Rev 12 - LC- M9 MS	20000000
Phosmet and phosmet-oxon expressed as phosmet (414)	< LQ			1994	0010	01/6421/27/9Rp/52-10- 115.85	22/11/20/15/ 19/03/05/10
Phosphamidon	< LQ			7000	761	MIN'S	Spectality PAGK (219
Picoxystrobin	< LQ	1	1	20.49	0.075	25.5164 7/19/nes 12-00 MS-MS	220000000 [9890]013
Piperonyl butoxide	< LQ		1	rig eq	0.037	03151241 (019 Rts. 12 x 004	2505201X 25052018
Pirimicarb (Pirimor)	< LQ			g/sq	n.òm-	01 S17 () Fath For 12 - 5Co MS ASS	7260-9010 29/0/10010
Pirimicarb-desmethyl	< LQ			ryse	0.013	61/61/21) 2019 Rev 12 - 10- MS MS	2007A-0010
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	<lq< td=""><td></td><td></td><td>rold</td><td>0015</td><td>01,5121) 2019 Re- 12+LC- MS MS</td><td>2867-1019 2867-1019</td></lq<>			rold	0015	01,5121) 2019 Re- 12+LC- MS MS	2867-1019 2867-1019
Pirimiphos-ethyl	< LQ			1,8,4	0.010	21(5144) 2319 Rev 12 - 2G- MS MS	22/8/19019 25/01/2019
Pirimiphos-methyl	< LQ			49.19	2,015	21(516-77) (8 By - 12 - 00- 1451/5	29:57:00 H9 (19:07-01:5
Prochloraz	< LQ			10-0	0.010	011512113018 Rev 12 - LC- MS 129	2504201 2504201
Procymidone	< LQ			710.49	o,o to	005344)2010 8±.12 - CC	2007/2019 2807/2019





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Page 11 di 14

Sample arrived on the 22/07/2019 Registration date 22/07/2019

MODENA, li 30/07/2019

## TEST REPORT nr. 19G16113-In-0

**BASF Personal Care and Nutrition GmbH** Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT		ar+	PATRICINE		7 M = S	MATRI MILAND PER
Profenofos	<lq< td=""><td></td><td></td><td></td><td>6,005</td><td>01(3121)2010 Res 12 - LG- MS MS</td><td>254P1001</td></lq<>				6,005	01(3121)2010 Res 12 - LG- MS MS	254P1001
Prometryn	< LQ			10,40	9.019	01/812112019 Bes 12 - 10- MS 315	92-95 mm 22-082-0
Propachlor	< LQ			119.19	2,010	00/912173019 Re+ 13 - 10 MRMS	22/07/2015 24/07/2015
Propanil	< LQ			77570	0.000	01/5121) 75/19 Rev. 12+1 Cx MS M3	23:07:0016 28:07:001
Propaquizafop	< LQ			- mark	0.70	01(512)) 2019 RE-12 - EC-	25/07/2010 29/07/2011
Propargite	< LQ			100.40	0.00	01(S121) 20( 9 Rev 12 - LC- 185 WS	2(107/201) 29/07/201
Propazine	< LQ			ma/sg	0,010	01/5121370 W W 12 - LC- M5/V**	25/07/2016 2016/201
Propiconazole (sum of isomers)	< LQ			трка	0.770	91(812)(10)9 Har 12-1C- 0508	9202020 290200
Propoxur	< LQ			-9.99	name!	01/3121/2015/Rev 12 - LC- M6/V6	25/07/2071 25/07/207
Propyzamide	< LQ			70%	0,040	61 S1211, 019 Rev. 12 -LC- MS/MS	22/97/5/2/1 28/07/09/
Proquinazid	< LQ			34	0,210	01:5121) 2000 465:12 - CC- MS-MS	12 07 UTL 23 07 UTL
Pyraclostrobin	< LQ			-9	7.0000	01/3121120/19366, 42-4C- MS MS	29/7/201
Pyrazophos	<lq< td=""><td></td><td></td><td>D<sub>M</sub>OO<sub>M</sub></td><td>2.010</td><td>57 S 13 () 2619 Rev 12 (1,C) MS MS</td><td>29-07-2019 29-07-2019</td></lq<>			D <sub>M</sub> OO <sub>M</sub>	2.010	57 S 13 () 2619 Rev 12 (1,C) MS MS	29-07-2019 29-07-2019
Pyrethrins: pyrethrin I and II, cinerin I and II, iasmolin I and II, sum (low limit)	< LQ			07% 46	260	01(5021) 2019 Res 12-10- MSM5	22-07-05M (4:00.01)
Pyridaben	< LQ			7049	0.000	51/5144/2019 Ray 12+6(): NSM5	7710 A 2011 274 07 07 1
Pyrimethanil	< LQ			100	0.010	01(5121(2016 Rin 12 / LC) M3 M3	20072610 2467361
Pyriproxyfen	< LQ		1	20040	0.016	01(S)21(2019 Rev. 12 - LC- M5 MS	25/07/201
Quinalphos	< LQ			-339	9,550	01(0121) (H12 Rev. 12 - LC- M0A10	2207/20% 24070%
Quinoxifen	< LQ			119.65	4000	01(5121) 2719 Mev 12+LG- MS US	72 (10.791) 29 (10.00)
Quintozene	< LQ	İ		799	0.000	01,5141,2019 Nov. (2 - GC- V6 M5	22/07/2016
Pentachloroaniline	< LQ	1		E-SER	1106	01:0 544) 2519 Res. 12 - GG- MS-MS	30 07/201
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			maxiy	9,88	07,8144)3019 Rev 12 - GC- MS MS	2300300
Rotenone	< LQ	1		row att	OBIN!	01.81517.0099 Res 1.51.02 MS Ms	2,057,005 2×07,015
Simazine	< LQ	İ		*543	9.01%	51/812/17019 Box 17+1.G- MGMS	25-01-201 31-01-201
Spinosad, sum of spinosyn A and spinosyn	< LO			25/80	3.000	01(5121)2019 Ray 12-1 C- H3 M3	20 00 70 N PROVIDE
Spirodiclofen	< LQ			Market	9,610	2 (15 12 1) 2020 PGC+ (2 +1.05- 14 5 M/5	25-07001
Spirotetramat	< LQ			-3-9	0,010	011512112:01:04: 12:LC-	27407-011C





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Page 12 di 14

MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

**BASF Personal Care and Nutrition GmbH** Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT	2	40 -	Second His Appell	24	36,400	00 0070 0070 0070
Spirotetramat enol	< LQ			unter	0.010	01 9421; 70886v 12 ; C MSMS	23/05/2019 24/07/2015
Spirotetramat enol-glucoside	< LQ			estay	0,014	01/81211/2010 Rev 12 - LC- MS AIS	23060075 25678375
Spirotetramat ketohydroxy	< LQ			mg eg.	0.008	91 5121) 2019 Rev 12 - 15- M5 M5	2979019 30279010
Spirotetramat monohydroxy	<lq< td=""><td>* · · · · · · · · · · · · · · · · · · ·</td><td></td><td>nakt</td><td>-010</td><td>0/(\$12/675)19 Rev 15 - LC MS-MS</td><td>2012/00/10 2027/01/10</td></lq<>	* · · · · · · · · · · · · · · · · · · ·		nakt	-010	0/(\$12/675)19 Rev 15 - LC MS-MS	2012/00/10 2027/01/10
Spirotetramat and its metabilites (enol, enol- glucoside, kelohydroxy, monohydroxy) sum as spirotetramat [414]	< LQ	The state of the s		-Freeh-	2016	01/8521) 2019 Re-12 • CO- MO 889	2000-2019 2007-2019
Spiroxamine	< LQ		1	mene	0.040	01/8421) 20/0 Rev 12 - £C- MS MS	2010/2019 2010/2019
Sulfallate	< LQ			Ayto	2.010	(3)(3)(2)) 2236 Re. (4-10- M2 M3	29.07.2518
Sulfotep	< LQ	1		Market	0.010	05.8144) 2319 Sep. 12 - GE- MS-MS	20/07/25/19
Tebuconazole	< LQ			75/84	0.040	01:5-121) 0/14 Rep. 12 - LC- 143-145	2307/9019 26/07/2014
Tebufenozide	< LQ			46.40	0,010	33(\$121) 7310 Km 12 - LC- MS MS	\$2107/00 F0 20:07/20 F
Tebufenpyrad	< LQ			70%	3,010	01(\$144) 20 (P Ker-17 ) GC+	2907-291
Teflubenzuron	< LQ			.5639	10.016	21(\$121) 2213 Rev. 127-1 C- MS 603	2000000
Tefluthrin	< LQ			TUNE	0.010-	01/3164) 2010 Nov 12 - 0 C- MS NS	22072919 2807201
Terbuthylazine	< LQ			750 (0)	0.200	01:5121) 2019 How 12 - LC- 1/5 AtS	2,40 c./5 r a 79 6 7 (20 )
Tetrachlorvinphos	< LQ			100 %)	D 044	03-912312019 Rev 12-LC- WS Mb	70000015 7001001
Tetraconazole	< LQ		1	~exp.	9 010	01(5121)20(9 Ho: 12 - 10- 06 NS	25970019 2597001
Tetradifon	< LQ			river	0.010	04(\$144) 2000 Roy 12 - 60- Me MS	2007/0019
Tetramethrin	< LQ			clave	11 0 10	07 5121)2019 Rec 12 - 15 VIS-MS	22/57/20/15 20/5/20/19
Thiabendazole	< LQ			PWN	2,015	01(S)(21)(20)(9)(Run 12 x)(C) (35)(MS	20073010 31072010
Thiacloprid	< LQ			791	0.036	01 010112015 Rej 12 - 1.5- WS-ME.	29/07/2019 29/07/2019
Thiamethoxam	< LQ			995	0.010	81,532(12)/10 Re-12-12-	7000,000 fg
Thiobencarbe	< LQ			100	20%	23, 5 (23) 2247 Rev 17 + CC- 145 Mg	20/07/08/19 20/07/2019
Thionazin	<lq< td=""><td></td><td></td><td>-00%</td><td>2010</td><td>25(\$12)\ J. (10 Rev. 12 ( LC) M9.0(5</td><td>22072616 28772316</td></lq<>			-00%	2010	25(\$12)\ J. (10 Rev. 12 ( LC) M9.0(5	22072616 28772316
Thiophanate-methyl	< LQ			7949	0.010	03/51/1/2018 Res. (3-16- MS1//S	22/08/29/19
Tolclofos-methyl	< LQ			25/35	0.010	(4)544) 2018 Rey 12+ 205 MS MS	(Second)
Tolyifluanid	< LQ			10.49	0.010	2)(5)(2)) 20) ( Ray 12 - LC- M3 M5	290 (251) 286 (291) 286 (291) 286 (201)
Dimethylaminosulphotoluidide (DMST)	< LQ			79%	0010	01(9121) 2019 Ray 12 - LC-	/200201 200220





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Page 13 di 14

MODENA, li 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

## TEST REPORT nr. 19G16113-In-0

SAMPLE

BASF Personal Care and Nutrition GmbH

Robert Hansen Strasse 1 89257 Illertissen GERMANIA

19G16113

ANALYSIS DESCRIPTION	RESULT	400	N/ayee	4	-	1996	1816,761 921,962 1877 - 1977 1877
Tolylfluanid and DMST, sum expressed as tolylfluanid [414]	< LQ		79.90	0.010		01-5121) 2019 Rev (2 - LC) MSA/9	\$907.25/4
Triadimefon	< LQ	1	700,49	0.510		01/\$121)2/018/86% (2-1C- [/58/6]	2365 m+1
Triadimenol	< LQ		705.40	9,000		54:5121) 2019 Rev. 12 - 20- MS-90	23/07/2019
Triallate	< LQ		-10 %0	1205		01/3121/12010 Her 12 - LC- MC MS	20/07/2014 25/07/2014
Di-allate (sum of isomers)	< LQ		79.40	0.010		01/0121/2019 Nev 42 = LC- MSAM	300319019 20072019
Triallate and Diallate sum expressed as Triallate [414]	< LQ		764	3213		01/01/21/2010 Rev 12 - LC- MS AT	32945019 29:97201
Triazophos	< LQ	1	ong hip	4.575		(H/R121) 2019 Rev 12 - LC-	9867907
Trichlorfon	<lq< td=""><td></td><td>gro</td><td>9.992</td><td></td><td>0110121) 2019 Nov. 12 - 6G- 8/5-145</td><td>Jant'yoru Connen</td></lq<>		gro	9.992		0110121) 2019 Nov. 12 - 6G- 8/5-145	Jant'yoru Connen
Tricyclazole	< LQ		-910	a535		01(BF21) 20) 9 (8=112 - LC ME XIII	22/01/24/14 2/4/07/25/1
Trifloxystrobin	< LQ		=9.46	0.011		01/9121/2019 Rev. 67 - 00-	22(0.5(27) ) 2(0.5(27))
Triflumuron	< LQ		20	3,015.		\$10 (21) 2016 Sec. 12 - LCs \$25 (45)	2802 (1)
Trifluralin	< LQ		100.40	-0.000		((H5464) 7013 Rev. 12 - GC-	27/07/0/1/
Triticonazole	< LQ		199,44	0.70		01/51/11/2019 Rev. 12 - 120 MS 4/5	23107261 2310420
Vamidothion	< LQ		~9.49	0.510		01(S124) 2010 Rty 12 - LC - MS MS	200001
Vinchlozolin	< LQ		10.00	n.ca		51(\$144) \$400 Key (2 + 6C) MSMS	22002010 290100



Page 14 di 14

MODENA, II 30/07/2019

Sample arrived on the 22/07/2019 Registration date 22/07/2019

### TEST REPORT nr. 19G16113-ln-0

**BASF Personal Care and Nutrition GmbH** Robert Hansen Strasse 1 89257 Illertissen GERMANIA

SAMPLE

19G16113

ANALYSIS DESCRIPTION	RESULT		ACTION OF	-	-		100
Zoxamide	<lq< td=""><td></td><td>x g/ig</td><td>offine</td><td></td><td>STRIPTIZETORAL CLASS</td><td>22/1/05/90 21/4/1/23/9</td></lq<>		x g/ig	offine		STRIPTIZETORAL CLASS	22/1/05/90 21/4/1/23/9

END TEST REPORT

The original document is a PDF file with Digital Signature: 19G16113-In-0-DigitalSignature.pdf

Notes and method reference:

« LQ: – lower than Quartification Limit. Please note that results expressed as '« Q' may not indicate the absence of the searched parameters in the sample the reported uncertainty is the uspin-bet uncertainty additional using a coverage factor equal to 2 which gives a reliability of approximately 85 %. For microbiological detections it is reported either the lower and the upper bounds of the confidence interval with a probability of 0.00% KHZ or the confidence interval listed. Results coming from microbiological tests are calculated according to the Standard ISO 7218 2007/And 1,2013. If the results are reported as 44 (CFU/ml) or 40 (CFU/g) this means that the microorganisms are present in the sample but in amounts less than 4 CFU/ml or 40 CFU/g respectively, unless differently reported in the sample methods in case of analytical steps foreseen on non-activity days of the laboratory, provisions from the standard ISO 7218: 2007/Amd.12013 (Berns 11.2 and 10.2.5) or from specific test methods are applied. In the case of quarastative microbiological tests, these have been set up on a single plate in accordance with ISO 7218:2007/Amd.1.2013 par. 10.2.2

unless otherwise explicitly required by current regulations.

LO: Quantification Limit, it is the lowest analyte concentration which can be districted at an acceptable precision (menerality) and ecouracy, under well defined conditions. 

Methods marked with an asterisk (\*) are not accredited by ACCREDIA (UNI CEI EN ISO/IEC 17025)

NOTES OF PARAMETERS.

(329): Main post-cases beforging to this group. Fertam: Mancoach, Maneb, Metrium, Naturm, Proprieto, Tirrium, Ziram (414): The sum is calculated through the lower bound criterion.

TEST REPORT VALID FOR ALL LEGAL PURPOSES (where R.D. 1-x-1926 in 842 land in a 15-7-187 in the Ancies 18 and 16, fadian Ministrial Durine 13-1-1966)
DATA and SAMPLE STORAGE. Tool Reports, Ray dina chromatographic paths and manufacture packs are stored to 5 years. One closed sample is already and the appreciation of any other individual packets of the appreciation of any other individual packets. The Test Report clares are declared by the customer. The Test Report clares are declared by the customer than the appreciation of any other individual packets.

Approved by Analysis Manager - laboratory LV-A-pst Approved by Analysis Manager - laboratory LC- As:

LABORATORY MANAGER: DR. ALEERTO GATTI - Approaval by Analysis Medinger - Reportury GC-RRQ

NEOTRON SpA - Not Som Street Color Stradeno Apparado. 104 A1126 MODENA - ITALY - Fisch Code and VAT 17 0360/640302 76 -30 059461711 - Fax -39 059461771 Www.heoletin ( - mighout/Encolonal

Laborazano Questionino D.M. 19-2-87 Art. 4 - Legge 4563 pio la France Applicate e minosi tiene Response Envira Rismagna - Na TOR CZB 20018 - Accuratorialis N° 004/NO1008 BNN4-Vendoring Envira No Evolutioned Apericus II, Abbradory I Mercaloning EGEA AGI Francis est inseptatione il legistra d'activatation.





# **Analysis Report**

Product

ARA Oil Gold

Lot number

L 26057

Production date

2020-01-20

Parameter	Unit	Value	Lower	Upper Limit
Appearance	-	pass	clear, yellov	vish to orange
Acid value	mg KOH/g	0.1		1.0
Free fatty acids, sum	%	<0.05	4	0.45
Peroxide value	meg O2/kg	1.7		4.0
Nater content, Kan Fischer	%	0.01	1.0	0.05
Unsaponifiable matter	%	2.2		3.5
Anisidine value		4.4	2	20
Fatty acid trans, sum	% (a)	0.2		0.5
Content Arachidonic acid as TG	mg/g	404	400	3

Illerussen, 2020-07-09 BASF Personal Cars and Nutrition GmbH Location Illerussen

Dr. Edith von Kries QC Laboratory Manager



Eurofins WEJ Contaminants GmbH Neulander Kamp 1 D-21079 Hamburg GERMANY

> Tel: +49 40 49294 2222 Fax: +49 40 49294 99 2222

Euronins WEJ Confaminants New ander Kamp 1 D-21079 Hamburg

BASF Personal Care and Nutrition GmbH -Standort Illertissenattn. Frau Edith von Kries Postfach 10 63

wej-contaminants@eurofina.dir http://www.eurofins.de/wej-contaminants.aspx

Person in charge Mr P. Kösters Client support

Mr P. Kösters

- 2907 - 2907

Report date 26.03.2020 Page 1/6

Analytical report: AR-20-JC-064226-01



## Sample Code 706-2020-00064398

ARA Oil Gold, L26057 Reference

Triglyceride 102885

Client Sample Code Client contract reference

Rahmenbestell-Nr 4942613538

Number

Amount

room temperature

Reception temperature Ordered by Submitted by

89251 Illertissen

Frau Edith von Kries Frau Edith von Kries

Sender Reception date time DHL 11.02.2020

Packaging

glass container with plastic closure

Start/end of analyses

26.03.2020 / 26.03.2020

### TEST RESULTS

Physical-ch	emical Analysis		
JK07T	Tocopherole		
Method:	DGF F-II 4a:2000, PV 00155, LC-FLD		
	ed to a Eurofins laboratory accredited for this test	1,000	
	ocopherol	166	mg/kg fat
Beta-To	copherol	20	mg/kg fat
Gamma	-Tocopherol	649	mg/kg fat
Delta-To	ocopherol	232	mg/kg fat
LYFS2	Fatty acid profile		
Method: Subcontracte	Internal Method, PV 2103:2019-01, GC-FID and to a Eurofins laboratory accredited to this test.		
C 4:0 (I	Butyric acid)	< 0.05	* g/100 g
C 6:0 (C	Caproic acid)	< 0.05	* g/100 g
C 8:0 (	Caprylic acid)	< 0.05	* g/100 g
C 10:0 (	Capric acid)	< 0.05	* g/100 g
C 12:0 (	Lauric acid)	< 0.05	* g/100 g
C 13:0	Tridecanoic acid)	< 0.05	* g/100 g
	Myristic acid)	0.4	g/100 g
C 14:1 (	(Myristoleic acid)	< 0.05	* g/100 g
C 15:0	Pentadecanoic acid)	0.1	g/100 g
C 15:1	(cis-10-Pentadecenoic acid)	< 0.05	* g/100 g
enails Suscessive	Cartina marks of the command surgery	Dura	St. Dilly I. Co. St. on Harrison

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Date - Str. Disky in Countries 184 arthropiocous Professional Informa-JIN EN ISDAE C 17825-2005

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Altrocate program in the second



Analytical report: AR-20-JC-064226-01 Sample Code 706-2020-00064398

## WEI Cantilminums

C 16:0 (Palmitic acid)	9.9	g/100 g	
C 16:1 (trans-Hexadecenoic acid)	< 0.05	g/100 g	
C 16:1 (cis-Hexadecenoic acid)	0.2	g/100 g	
C 17:0 (Margaric acid)	0.4	g/100 g	
C 17:1 (Heptadecenoic acid)	0.1	g/100 g	
C 18:0 (Stearic acid)	8.4	g/100 g	
C 18:1 (trans-Octadecenoic acid)	0.1	g/100 g	
C 18:1 (cis-Octadecenoic acid)	20.2	g/100 g	
C 18:2 (trans-Octadecadienoic acid)	0.4	g/100 g	
C 18:2 (cis-Octadecadienoic acid)	6.0	g/100 g	
C 18:3 (trans-Octadecatrienoic acid)	<0.1	- g/100 g	
C-18:3 n6 (gamma-Linoleic acid)	2.4	g/100 g	
C 18:3 n3 (alpha-Linolenic acid)	< 0.05	* g/100 g	
C 20:0 (Arachidic acid)	0.8	g/100 g	
C 20:1 (Eicosenoic acid)	0.7	4	
C 21:0 (Heneicosanoic Acid)	<0.05	g/100 g	
C 20:2 n6 (cis-11,14-Eicosadienoic acid		* g/100 g	
C 22:0 (Behenic acid)	0.8 1.8	g/100 g	
C 20:3 n6 (cis-8,11,14-Eicosatrien acid)		g/100 g	
C 22:1 (Docosenoic acid)	3.6	g/100 g	
C 20:3 n3 (cis-11,14,17-Elcosatrien acid)	0_1 0.4	g/100 g	
C 20:4n6 (Aracidonic Acid)	176.44	g/100 g	
C 22:2 n6 (cis-13,16-Docosadienoic acid)	40.6	g/100 g	
C 24:0 (Lignoceric acid)	<0.05	* g/100 g	
C 20:5n3 (cis-5.8.11,14,17-Eicosapentaenoic Acid)	1.3	g/100 g	
C 24:1 (Tetracosenoic acid)	0.1	g/100 g	
C 22:5 (cis-7,10,13,16,19-Docosapentaenoic acid)	0.1	g/100 g	
C 22:6 (cis-4,7,10,13,16,19-Docosahexaenoic acid)		g/100 g	
unidentifiable fatty acids in the fat	0.3	g/100 g	
saturated fatty acids in the fat		g/100 g	
monounsaturated fatty acids in the fat	0.4	g/100 g	
polyunsaturated fatty acids in the fat	21.7	g/100 g	
Unsaturated fatty acids in the fat fraction	54.3	g/100 g	
Omega-6 fatty acids in the fat fraction	76.0	g/100 g	
	53,4	g/100 g	
Omega-3 fatty acids in the fat fraction	0.9	g/100 g	
trans fatty acids in the fat	0.5	g/100 g	
saturated fatty acids in the product	23.1	g/100 g	
monounsaturated fatty acids in the product	21.7	g/100 g	
polyunsaturated fatty acids in the product	54.3	g/100 g	
Unsaturated fatty acids in the product	76.0	g/100 g	
Omega-6 fatty acids in Product	53.4	g/100 g	
Omega-3 fatty acids in the product	0,9	g/100 g	
trans fatty acids in the product	0.5	g/100 g	
Method: DGF C-V 2:2006, PV 01147, Titrimetry Subcontracted to a Eurofins laboratory accredited for this test:			
Acid value (mg KOH/g)	< 0.2	* mg KOH/g	
Free fatty acids (calculated as oleic acid)	<0.1	* %	
Free fatty acids (calculated as lauric acid)	< 0.1	* %	
Free fatty acids (calculated as palmitic acid)	< 0.1	• %	

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Analytical report; AR-20-JC-064226-01 Sample Code 706-2020-00064398

## WEJ Contaminants

JK07G Unsaponifiable matter § 64 LFGB L 13:00-19:2004-12, PV 01377, Gravimetry Method: Subcontracted to a Eurofins laboratory accordited for this test Unsaponifiable matter 1.4 J7142 Anisidine value § 64 LFGB L 13.00-15:2008-06, PV 01269, Spectrophotometry Method: Subcontracted to a Eurotins laboratory accredited for this test. 3.1 Anisidine value J7133 Peroxide value Method: DGF C-VI 6a - Part 1:2005, PV 00377, Titrimetry Subcontracted to a Eurofins laboratory accredited for this test. Peroxid value 1,3 megO2/kg J1001 Sample preparation (#) Method: DIN EN 13805 (2014-12), mod., CON-PV 00001 (2020-03), Digestion (microwave) (Modification: extension of scope for feed and tobacco; direct digestion) J8306 Lead (Pb) (#) Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Lead (Pb) < 0.05 \* mg/kg J8308 Cadmium (Cd) (#) Method: DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS (Modification; incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) \* mg/kg Cadmium (Cd) < 0.01 JCHG2 Mercury (Hg) (#) DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) < 0.005 Mercury [Hg] · mg/kg J8312 Arsenic (As) (#) DIN EN 15763:2010 (2010-04), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Arsenic (As) \* mg/kg JJW2B DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification: incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and labacco/-products) Copper (Cu) \* mg/kg JJOCJ Iron (Fe) (#) Method: DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to feed and tabacco/-products) Iron (Fe) < 0.5 \* mg/kg JJ0CG Chromium (Cr) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS Method: (Modification, incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

Method: DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (2017-12), ICP-MS (Modification: Incl. ICP-MS/MS, extension of the analysis parameters, extension of the application scope to

The martial through the second of the second

Nickel (Ni) (#)

Acron W. Community of the street of the stre

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TE WE ( DARKS

< 0.05

< 0.1

DIN EN IGO WCC 17025 2006

\* mg/kg

\* mg/kg

Accessory in the Committee

feed and tabacco/-products)

feed and tabacco/-products)

Chromium (Cr)

Nickel (NI)

**JJOCM** 



Analytical report: AR-20-JC-064226-01 Sample Code 706-2020-00064398

## WEL Englammants

JJ0CV Method:	Tin (Sn) (#) DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (		
	on: incl. ICP-MS/MS, extension of the analysis parameters,	extension of the app	plication scope
	abacco/-products)	-0.2	*
Tin (Sn)		<0.2	* mg/kg
J1032 Method:	Aluminium (AI) (#) EN ISO 11885 (2009-09), mod., CON-PV 00006 (2020-0	It ich are	
10-20-00	on; extension of the scope of application to food and feed af		on!
Aluminiu		<0.5	* mg/kg
JJOCI	Manganese (Mn) (#)	-0.0	High
Method:	DIN EN ISO 17294-2 (2017-01), mod., CON-PV 01274 (	(2017-12) ICP-MS	
A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	on: incl. ICP-MS/MS, extension of the analysis parameters,		plication scope
	abacco/-products)		
Mangan	ese (Mn)	< 0.1	* mg/kg
J1050	Phosphorus (P) (#)		
Method;	EN ISO 11885 (2009-09), mod., CON-PV 00006 (2020-0		
	on: extension of the scope of application to food and feed at		
Phospho	orus (P)	6.0	mg/kg
Contract .	W	±3	mg/kg
J1054	Sulphur (S) (#)		
Method:	EN ISO 11885 (2009-09), mod., CON-PV 00006 (2020-0		
	<ul> <li>extension of the scope of application to food and feed at total (S)</li> </ul>	ner pressure digesti <2	
J1056	Silicon (Si) (#)	42	* mg/kg
Method:	EN ISO 11885 (2009-09), mod., CON-PV 00006 (2020-0	11 ICP-OFS	
	on: extension of the scope of application to food and feed at		ion)
Silicon (		2.0	mg/kg
	20	±2	mg/kg
GFL13	Dioxins and Furans (17 PCDD/F)		
Method:	Internal, GLS DF 110:2019-01-25, GC-MS/MS		
	on: GLS DF 110:2019-01-25)		
	ed to a Eurofins laboratory accredited for this test.	in mini	
	TetraCDD	<0.0601	pg/g
10000	8-PentaCDD	< 0.0791	pg/g
3011	7.8-HexaCDD	<0.120	pg/g
	7,8-HexaCDD	< 0.165	pg/g
	8,9-HexaCDD	< 0.155	pg/g
	6,7,8-HeptaCDD	< 0.253	pg/g
OctaCD		<1.84	pg/g
3242341	TetraCDF	< 0.165	pg/g
1,2,3,7,8	8-PentaCDF	< 0.114	pg/g
2,3,4,7,8	8-PentaCDF	< 0.177	pg/g
1.2,3,4,	7,8-HexaCDF	< 0.187	pg/g
1,2,3,6,	7,8-HexaCDF	< 0.171	pg/g
1,2,3,7,1	8.9-HexaCDF	< 0.127	pg/g
2.3,4.6,	7.8-HexaCDF	< 0.155	pg/g
1,2,3,4,1	6,7,8-HeptaCDF	< 0.177	pg/g
	7,8,9-HeptaCDF	< 0.123	pg/g
OctaCD		< 0.380	pg/g
	005)-PCDD/F TEQ (lower-bound)	ND	
VVDUIZ			
	005)-PCDD/F TEQ (medium-bound)	0.163	pg/g

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DIN FN INDIES 17129-2015



Sample Code 706-2020-00064398



# WEJ Contambons

	Polychlorinated biphenyls (12 WHO PCB + 6 ICES PCB) Internal, GLS DF 110:2019-01-25, GC-MS/MS on: GLS DF 110:2019-01-25) d to a Eurofins laboratory accredited for this test.		
PCB 77	To display the state of the sta	< 5.70	pg/g
PCB 81		< 0.854	pg/g
PCB 105	5	<12.3	pg/g
PCB 114	i i	<1.68	pg/g
PCB 118		<44.3	pg/g
PCB 123	3	<1.27	pg/g
PCB 126	i i	< 0.791	pg/g
PCB 156	3	<6.96	pg/g
PCB 15	7	<1.30	pg/g
PCB 16		<3.48	pg/g
PCB 169	9	<3.80	pg/g
PCB 189		<1.27	pg/g
WHO(20	005)-PCB TEQ (lower-bound)	ND	133
	005)-PCB TEQ (medium-bound)	0.0980	pg/g
WHO(20	005)-PCB TEQ (upper-bound)	< 0.21	* pg/g
PCB 28		< 0.316	ng/g
PCB 52		< 0.316	ng/g
PCB 10	1	< 0.316	ng/g
PCB 13	3	< 0,316	ng/g
PCB 15	3	< 0.316	ng/g
PCB 18		< 0.316	ng/g
Total 6 r	dl-PCB (lower-bound)	ND	
Total 6 r	idl-PCB (medium-bound)	0.949	ng/g
Total 6 r	dl-PCB (upper-bound)	1.90	ng/g
	TEQ-Totals WHO-PCDD/F and PCB Internal, GLS DF 110, 120, 130, 140, Calculation on: GLS DF 110, 120, 130, 140) of to a Eurofins laboratory accredited for this test.		
WHO(20	005)-PCDD/F+PCB TEQ (lower-bound)	ND	
WHO(20	005)-PCDD/F+PCB TEQ (medium-bound)	0.261	pg/g
WHO(20	005)-PCDD/F+PCB TEQ (upper-bound)	0.522	pg/g
		± 0.131	pg/g
JCPC3 Method:	7 Plasticizers (low LOQ) (#) Internal Method, CON-PV 01337 (2019-08), LC-MS/MS		
Diethylh	exyiphthalate (DEHP)	0,14	mg/kg
		± 0.065	mg/kg
	outyl phthalate (BBP)	<0.1	* mg/kg
	exyl adipate (DEHA)	<0.1	* mg/kg
	cylphthalate (DIDP)	<0.5	* mg/kg
	nylphthalate (DINP)	<0.5	" mg/kg
	hthalate (DBP)	< 0.07	* mg/kg
Acetyltri	butylcitrat (ATBC)	< 0.1	* mg/kg

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Analytical report: AR-20-JC-064226-01 Sample Code 706-2020-00064398

# WEI Contaminanti

JCP01 Method	Preparation PAH (Caffeine complexation) (#) Internal, CON-PV 01176 (2019-09), Extraction		
JC00U	PAH 4 (#)		
Method:	Internal, CON-PV 01176 (2019-09), GC-MS		
	anthracene	< 0.5	+ μg/k
Benzo(a		<0.5	· µg/k
	fluoranthene	< 0.5	* µg/k
Chrysen		< 0.5	+ µg/k
Sum PA		Inapplicable	Park
A0428 Method: (Modification	Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (DIN EN 15851, (2010-07), mod., CON-PV 00855 (2019) on: sample weight, extraction solvent, enrichment on IAC, ion of Aflatoxin B2, G1 and G2)	#) 9-10), IAC-LC-FLD	e, addition
Aflatoxir	81	< 0.01	→ µg/k
Aflatoxir	B2	< 0.01	* µg/k
Afiatoxir	G1	< 0.01	* µg/k
Aflatoxir	G2	< 0.01	* µg/k
Sum of	all positive Aflatoxins	< 0.04	+ µg/k
JJV04	Ochratoxin A (babyfood) (#)		
Method: (Modificati	DIN EN 15835 (2010-05), mod., CON-PV 00852 (2019 on: extraction solvent, IAC-volumina, no solvent exchange		
Ochrato	xin A (OTA)	<0.1	* µg/k
Method:	Fusarium toxins, small, babyfood (DON, ZON, T2, H' Food Addit. Contam. 2005 Aug; 22(80);752-60, CON-P valenol (Vornitoxin)		LC-MS/M:
	none (ZON)	<5	* µg/k
T-2 Tox	The state of the s	<1	* µg/k
HT-2 To		<3	
0.00	HT-2 toxin	<4	* µg/k
JJ088		CONTRACTOR OF THE PARTY OF THE	* µg/k
Method:	Fumonisine B1, B2, B3 (maize and products derived Internal Method, CON-PV 01085 (2019-11), LC-MS/MS	3	3
	sin B1 (FB1)	<20	μg/k
	In B2 (FB2)	<20	· µg/k
	in B3 (FB3)	<20	* µg/k
	sin sum (B1+B2)	<40	- halk
	sin sum (B1+B2+B3)	<60	* µg/k
JJW2Z Method:	Sterigmatocystin (#) Internal, CON-PV 01126 (2019-11), LC-MS/MS	1,1,2	
Sterigm	atocystin	<10	· µg/k
selow indicated	quantification level		
	Contaminants GmbH (Hamburg) is accredited for this test.		
	d measurement uncertainty (95%; k=2), sampling not included		

The founds of the month and produced in the households are placed in the second of the month of

DIN FN ISO.#12 17625 2005



## RESULTS:

# ARA Oil Gold, L26057 - n° 102885

#### Sterols determination

Composition uncertainty:

Delta 7-compestivol / Delta 5-avenus terol / Delta 7-sugmasterol / Delta 7-avenus terol : 20% of value with Minimum: 0,7 / Maximum: 3,5Other sterols: 10 % of value with Minimum: 0,5 / Maximum: 3,5

Content uncertainty : 20% of value

Sterols	Result	
Cholestérol	0,1	%
5α cholesta-8, 14 dien-3βol	3,4	%
Desmostérol	82,8	%
Zymostérol	1,6	%
Stigmastérol	0,2	%
Ergostérol	4,5	%
Cholest7, 24die-3βol	1,0	%
Campéstérol	0,2	%
Iso fucostérol	4,7	%
Fucostérol	0,2	%
Bêta sitostérol	0,9	96
Δ5,24 Stigmastadiénol	<0,1	%
24methyldesmosterol	0,2	%
Stigma-5-ene-3βol	0,1	%
Sterols content	17131	mg/kg de matière grasse

Chargé d'affaires

Loïc LEITNER



Labor LS SE & Co. KG Mangerelaid 4, 5, 6 | 97708 Bad 6cr\text{Alm | Germany BASF Personal Care and Nutrition GrabH Ms Margit Kapitzke
Robert-Hansen-Straße 1
89257 (Illertissen

Fon: +49 (0)97 08/91 00-0 labor@abor-ls.de www.labor-ls.de

Bad Bocklet 21 Feb 2020 / MEZ / Basfil

#### Certificate of Analysis

LS No:	200207-0208-001	LS Code:	1520579 / L
Product name:	ARA OIL Gold		
Lot No:	L 26057		
Description:	Blome 102885		
Entry temperature:	room temperature		
Your Order No:	4944273100		
Order dated:	06 Feb 2020	Sample receipt:	07 Feb 2020
Start of test:	10 Feb 2020	End of test:	21 Feb 2020

#### according to paragraph 64 LFGB\*

Parameter	Method	Specification / Demands	Result
Enterobacteriaceae, qualitative	*L 00,00-133/1, mod		not detected / g DIN EN ISO 21528-1 mod.
total viable count, aerobic mesophilic 30°C	*L 00.00 + 88/2 mod.		< 100 CFU/g
***			DIN EN ISO 4833-2, mod.
yeasts, quantitative	*L 01.00 - 37, mod.		< 100 CFU/g DIN EN ISO 21527-1, mod.
Pseudomonas aeruginosa, qualitativ	L+S SOP 9.035		not detected / g DIN EN ISO 13720, mod.
Salmonella sp., qualitative	1.00,00 - 20		not detected / 25 g DIN EN ISO 6579-1, mac
moids, quantitative	L 01 00 - 37, mod.		< 100 CFU / g DIN EN ISO 21527-1, mod.
Coegulase-positive Staphylococci,	L+S SOP 9.014		not detected / g
24 27 20 20 20 20 20 20 20 20 20 20 20 20 20			DIN EN ISO 6888-1. mod.
			All results confirm with the specifications of the order

The test was conducted in compliance with GMP guidelines. There were no test-related deviations. This document was created by a GMP-supervised LIMS and approved by electronic signature.

Approved on 21 Feb 2020 at 10:49 by Alexander Klauer, Specialist Manager.

Aboy is and a secreting and training example of the Master Secreting 2000 — The County Teacher Secreting Secreting Secreting Secreting Secreting Secreting Secreting Secreting Secreting Secreting Secreting Secreting Secre

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