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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 dschmitt@toxstrategies.com.

Sincerely,

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

ToxStrategies, Inc., 931 W. 75th St., Suite 137, PMB 255, Naperville, IL 60565
Office (630) 352-030 • www.toxstrategies.com

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

JULY 22, 2020

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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

Donald F. Schmitt, MPH
ToxStrategies, Inc.
931 W. 75th St., Suite 137, PMB 255
Naperville, IL 60565

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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, IL.

(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 cGMP, is GRAS. Recent reviews of the scientific literature revealed no potential adverse health concerns.

(10) Name/Position of Notifier

[redacted]

July 31, 2020
Date

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

(11) FSIS Statement

Not applicable.

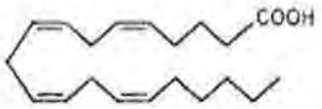
§ 170.230 Part 2, Identity, Method of Manufacture, Specifications, and Physical or Technical Effect

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 $C_{20}H_{32}O_2$. 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 (C20:4*n*-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.

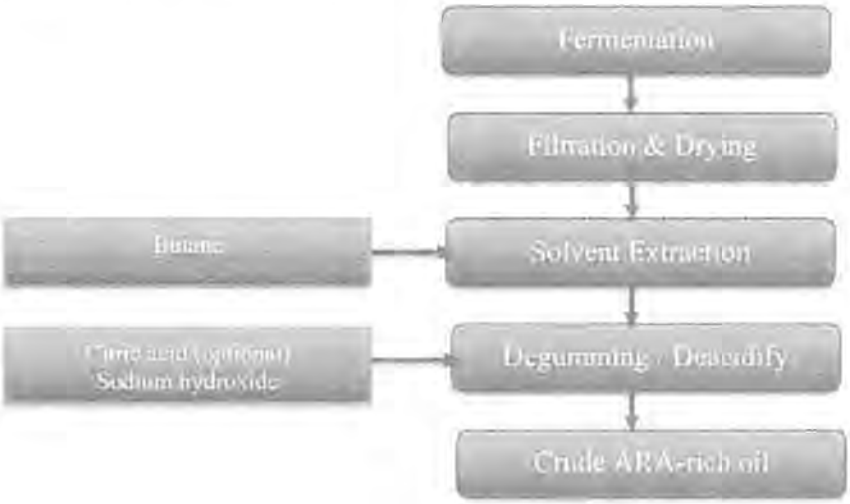


Figure 2. Crude ARA-rich oil production

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.

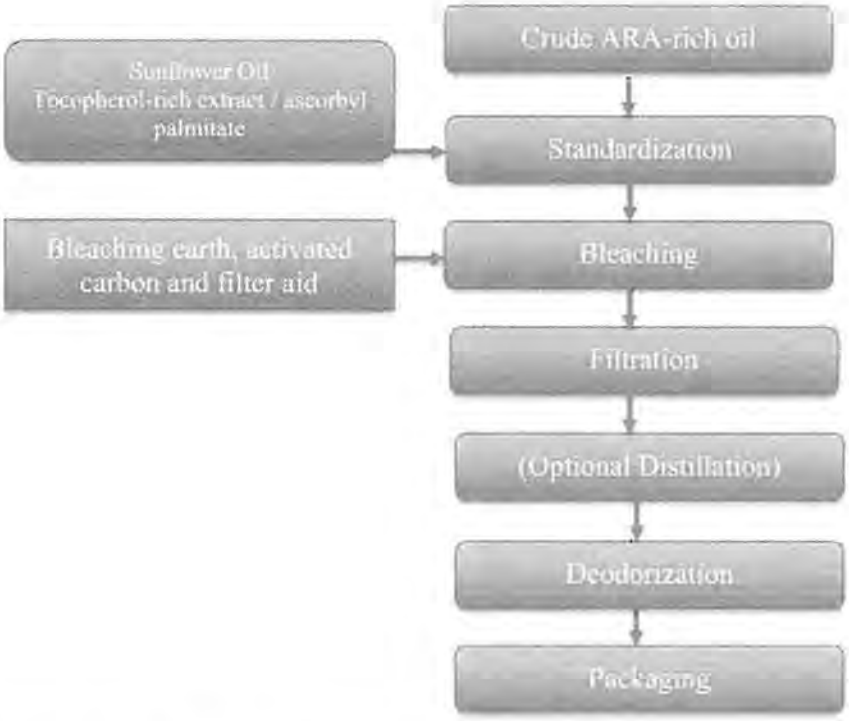


Figure 3. Oil refining process for ARA Oil Gold

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 O_2/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)

*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
Total aerobic mesophilic count (cfu/g)	max. 1000	DIN EN ISO 4833-2 mod
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	0.1
Free fatty acids (%)	≤0.45	0.07	0.07	0.07	0.06	0.04	<0.05
Peroxide value (meq O_2/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; RSSL[a] and Eurofins[b])

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[a]	Lot 0020265618[a]	Lot 0020265740[a]	Lot L26013[a]	Lot L26028[b]	Lot L26057[b]
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 O_2/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

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

**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; RSSL[a] and Eurofins[b])

Fatty Acids		ARA Oil Gold [Area %]					
		0020265261[a]	0020265618[a]	0020265740[a]	L26013[a]	L26028[b]	L26057[b]
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

Fatty Acids		ARA Oil Gold [Area %]					
		0020265261[a]	0020265618[a]	0020265740[a]	L26013[a]	L26028[b]	L26057[b]
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)

Parameter (%)	ARA Oil Gold					
	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 inner-coated 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	-	fatty, not rancid	ok	ok	ok	ok	ok
Assay ARA as TG	mg/g	min. 400	447	445	450	449	443
Trans fatty acids	%	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	-	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, m months, nt 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, nt: 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 *Mortierella alpina* (AA-rich fungal oil)
2010	USA	GRN 326: Arachidonic acid-rich oil from *M. alpina* strain I_{49}-N_{18}
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 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 ± 1.55% vs. 4.55 ± 0.78%), as were polyunsaturated fatty acids (41.02 ± 2.09% vs. 38.08 ± 2.32%), which achieved a higher average. Group A achieved a higher average Brunet Lézine score at 24 months than group B (99.9 ± 9 vs. 90.8 ± 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 ± 9 vs. 100.5 ± 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 ω-6/ω-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 ω-6/ω-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 (μg/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, voxel-based 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 LD_{50} 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 mid-dose 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 ARA-rich 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 ARA-rich 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.

References

Alshweki A, Munuzuri AP, Bana AM, de Castro J, Andrade F, Aldamiz-Echevarria L, et al. 2015. Effects of different arachidonic acid supplementation on psychomotor development in very preterm infants: A randomized, controlled trial. Nutr J 14:101.

Brenna JT. 2016. Arachidonic acid needed in infant formula when docosahexaenoic acid is present. Nutr Rev 74(5):329–336.

Burns RA, Wibert GJ, Diersen-Schade DA, Kelly CM. 1999. Evaluation of single cell sources of docosahexaenoic acid and arachidonic acid: 3-month rat oral safety study with an in utero phase. Food Chem Toxicol 37:23–36.

Colombo J, Jill Shaddy D, Kerling EH, Gustafson KM, Carlson SE. 2017. Docosahexaenoic acid (DHA) and arachidonic acid (ARA) balance in developmental outcomes. Prostaglandins Leukot Essent Fatty Acids 121:52–56.

EU (European Union) Commission. 2006. Commission directive 2006/141/EC of 22 December 2006 on infant formulae and follow-on formulae and amending directive 1999/21/EC. Official Journal of the European Union 401:1–33.

Falk MC, Zheng X, Chen D, Jiang Y, Liu Z, Lewis KD. 2017. Developmental and reproductive toxicological evaluation of arachidonic acid (ARA)-rich oil and docosahexaenoic acid (DHA)-rich oil. Food Chem Toxicol 103:270–278.

FDA (Food and Drug Administration). 2000. GRN 041: GRAS Notification for the use of DHASCO and ARASCO (single cell sources of DHA and ARA) as sources of the LCPUFAs in infant formulas.

FDA (Food and Drug Administration). 2001. GRN 080: GRAS Notice for ARASCO (arachidonic acid-rich single-cell oil).

FDA (Food and Drug Administration). 2001. GRN 094: GRAS Notice for DHA from tuna (DHA-rich tuna oil) and arachidonic acid-rich oil from *Mortierella alpina* (AA-rich fungal oil).

FDA (Food and Drug Administration). 2010. GRN 326: GRAS Notice for arachidonic acid-rich oil from M. alpina strain I49-N18.

FDA (Food and Drug Administration). 2018. GRN 730: GRAS Notice for arachidonic acid-rich oil from Mortierella alpina strain LU 166.

FSANZ (Food Standards Australia New Zealand). 2014. Standard 2.9.1: Infant formula products. Federal Register of Legislative Instruments F2014C01200.

Gao Y, Li C, Kang L , Hang B , Yan M , Li S, Jin H, Lee AW, Cho SS. 2014. A subchronic toxicity study, preceded by an in utero exposure phase, with refined arachidonic acid-rich oil (RAO) derived from Mortierella alpina XM027 in rats. Regul Toxicol Pharmacol
70:696–703.

Hadley KB, Ryan AS, Forsyth S, Gautier S, Salem Jr. N. 2016. The essentiality of arachidonic acid in infant development. Nutrients 8:216–262.

Hempenius RA, Van Delft JM, Prinsen M, Lina BA. 1997. Preliminary safety assessment of an arachidonic acid-enriched oil derived from Mortierella alpina: summary of toxicological data. Food Chem Toxicol 35:573–581.

Hempenius RA, Lina BA, Haggitt RC. 2000. Evaluation of a subchronic (13-week) oral toxicity study, preceded by an in utero exposure phase, with arachidonic acid oil derived from Mortierella alpina in rats. Food Chem Toxicol 38:127–139.

Hoffman DR, Harris CL, Wampler JL, Patterson AC, Berseth CL. 2019. Growth, tolerance, and DHA and ARA status of healthy term infants receiving formula with two different ARA concentrations: double-blind, randomized, controlled trial. Prostaglandins, Leukotrienes, and Essential Fatty Acids 146:19–27.

Jasani R, Simmer K. 2017. Long chain polyunsaturated fatty acid supplementation in infants born at term. Cochrane Database of Systematic Reviews, March.

Johnston WH, Ashley, C, Yeiser M, Harris CL, Solz SI, Wampler JL, Wittke A, Cooper TR. 2015. Growth and tolerance of formula with lactoferrin in infants through one year of age: Double-blind, randomized, controlled trial. BMC Pediatrics 15:173–183.

Kitamura T, Kitamura Y, Hamano H, Shoji H, Shimizu T, Shimizu T. 2016. The ratio of docosahexaenoic acid and arachidonic acid in infant formula influences the fatty acid composition of the erythrocyte membrane in low-birth-weight infants. Ann Nutr Metab 68(2):103–112.

Koletzko B, Boey CM, Campoy C, Carlson SE, Chang N, Guuillermao-Tuazon MA, et al. 2014. Current information and Asian perspectives on long-chain polyunsaturated fatty acids in pregnancy, lactation, and infancy: Systematic review and practice recommendations from an early nutrition academy workshop. Ann Nutr Metab 65:49–80.

Kremmyda LS, Tvrzicka E, Stankova B, Zak A. 2011. Fatty acids as biocompounds: Their role in human metabolism, health and disease: A review. Part 2: fatty acid physiological roles and applications in human health and disease. Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub 155:195–218.

Kroes R, Schaefer EJ, Squire RA, Williams GM. 2003. A review of the safety of DHA45-oil. Food Chem Toxicol 41:1443–1446.

Lepping RJ, Honea RA, Martine LE, Liao K, Choi I-Y, Lee P, et al. 2018. Long - chain polyunsaturated fatty acid supplementation in the first year of life affects brain function, structure, and metabolism at age nine years. Devel Psychobiol 61:5–16.

Lewis KD, Huang W, Zheng X, Jiang Y, Feldman RS, Falk MC. 2016. Toxicological evaluation of arachidonic acid (ARA)-rich oil and docosahexaenoic acid (DHA)-rich oil. Food Chem Toxicol 96:133–44.

Merritt RJ, Auestad N, Kruger C, Buchanan S. 2003. Safety evaluation of sources of docosahexaenoic acid and arachidonic acid for use in infant formulas in newborn piglets. Food Chem Toxicol 41:897–904.

Moon K, Rao SC, Schulzke SM, Patole SK, Simmer K. 2016. Longchain polyunsaturated fatty acid supplementation in preterm infants (review). Cochrane Database of Systematic Reviews 12:1–96.

Newberry SJ, Chung M, Booth M, Magloione MA, Tang AM, O'Hanlon CE, et al. 2016. Omega-3 fatty acids and maternal and child health: An updated systematic review. AHRQ Publication No. 16(7):1–826.

Nisha A, Muthukumar SP, Venkateswaran G.2009. Safety evaluation of arachidonic acid rich Mortierella alpina biomass in albino rats—A subchronic study. Regul Toxicol Pharmacol 53:186–194.

PRC (P.R. China). 2010. National standards on food safety of P.R. China: National food safety standard infant formula. The Ministry of Health of the People's Republic of China, March 26.

Tyburczy C, Kothapalli KS, Park WJ, Blank BS, Liu YC, Nauroth JM, et al. 2012. Growth, clinical chemistry and immune function in domestic piglets fed varying ratios of arachidonic acid and DHA. Br J Nutr 107:809–816.

Wibert GJ, Burns RA, Diersen-Schade DA, Kelly CM. 1997. Evaluation of single cell sources of docosahexaenoic acid and arachidonic acid: A 4-week oral safety study in rats. Food Chem Toxicol 35:967–974.

APPENDIX A

Certificates of Analysis

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Elemental Test Results (Eurofins)

Elemental 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)

Environmental 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 limit for EU infant food requirements for finished products					

* Upper-bound limits (calculated by toxicology equivalents TE of individual isomers)

Mycotoxins (Eurofins)

Mycotoxins						
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

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

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+49 7303 13-372
Reg. 20190212134616

Inspection Certificate 3.1 according to EN 10204

Material 50627967

Lot 0020265261

Characteristic Method	Unit	Value	Lower Limit	Upper Limit
APPEARANCE AX-001001		PASS		
ACID VALUE MG KOH/G ISO 660		0,1	0,0	1,0
FREE FATTY ACIDS, SUM CP-004002	%	0,07		0,45
PEROXIDE VALUE MEQ O2/KG ISO 3960		< 0,1	0,0	4,0
WATER CONTENT, KARL FISCHER DGF C-III 13a	%	0,00	0,00	0,05
UNSAPONIFIABLE MATTER PhEur 2.5.7	%	2,2	0,0	3,5
ANISIDINE VALUE DIN EN ISO 6885		10	0	20
FATTY ACID TRANS, SUM IA-001057	%(a)	0,4	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

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Inspection Certificate 3.1 according to EN 10204

Material 50627967

Lot 002026526

89257 Illertissen, Germany

The aforementioned data shall constitute the agreed contractual quality of the product at the time of passing of risk. The data are controlled at regular 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 or of fitness for a specific purpose. No liability of ours can be derived therefrom.

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Certificate of Analysis

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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-1** Your Refs: Sample Reference: 100393
Description: ARA Oil Gold 0020265261

Method	Analysis	Result	Units
* TM-318	Acid Value	0.2	mg KOH/g
* TM-325	Free Fatty Acid	0.11	g/100g
* TM-328	Peroxide Value	1.02	meqO2/kg Fat
* TM-319	Anisidine Value	1.3	
*	Unsaponifiable Matter	1.9	g/100g
* TM-331	alpha tocopherol	516	mg/kg
* TM-331	beta tocopherol	103	mg/kg
* TM-331	gamma tocopherol	1302	mg/kg
* TM-331	delta tocopherol	566	mg/kg
* TM-331	Total Tocopherols	2486	mg/kg
* TM-252	Cholesterol	0.1	%
* TM-252	Unidentified A	79.8	%
* TM-252	24-Methylene-cholesterol	2.1	%
* TM-252	Campesterol	1.8	%
* TM-252	Campestanol	0.1	%
* TM-252	Stigmasterol	0.6	%
* TM-252	Unidentified B	6.1	%
* TM-252	Δ-5, 23-Stigmastadienol	0.1	%
* TM-252	Chlerosterol	0.2	%
* TM-252	β-Sitosterol	3.8	%
* TM-252	Sitostanol	0.2	%
* TM-252	Δ-5-Avenasterol	0.1	%
* TM-252	Δ-5,24-Stigmastadienol	0.1	%

1216

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

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Certificate of Analysis

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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-1** Your Refs: Sample Reference: 100393
Description: ARA Oil Gold 0020265261

	Method	Analysis	Result	Units
*	TM-252	A-7-Stigmastenol	0.6	%
*	TM-252	A-7-Avenasterol	0.5	%
*	TM-252	Unidentified C	3.6	%
*	TM-252	Total Sterols	12194	mg/kg
*	TM-252	Total sterols excluding unidentified components	1282	mg/kg
*		Arachidonic Acid	456	mg/g
	TM-112	C13:0(1)	0.1	%
	TM-112	C14:0	0.2	%
	TM-112	C15:0	0.1	%
	TM-112	C16:0	5.9	%
	TM-112	C16:1	0.1	%
	TM-112	C17:0	0.3	%
	TM-112	C18:0	9.5	%
	TM-112	C18:1(trans)	0.1	%
	TM-112	C18:1(cis)	21.9	%
	TM-112	C18:2(trans)	0.2	%
	TM-112	C18:2(cis)	5.8	%
	TM-112	C18:3(gamma)	2.3	%
	TM-112	C18:3(alpha)	0.3	%
	TM-112	C20:0	1.0	%
	TM-112	C20:1	0.6	%
	TM-112	C22:0	1.9	%
	TM-112	C24:0	1.6	%

1216

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Snr Associate Principal Scientist
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28 June 2019

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Certificate of Analysis

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DE 89257 Illertossen, Germany

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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-1** Your Refs: Sample Reference: 100393
Description: ARA Oil Gold 0020265261

Method	Analysis	Result	Units
TM-112	C24:1	0.1	%
TM-112	C20:2	0.4	%
TM-112	C20:4 (n6) (ARA)	44.9	%
TM-112	C20:5 (EPA)	0.1	%
TM-112	Unidentified	0.9	%
TM-112	C20:3 (n6)	1.6	%

Normalised fatty acid profile (%).

1216

Approved By:
Robert Griffiths
Snr Associate Principal Scientist
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28 June 2019

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ARA Oil Gold, 0020265261 - éch n°100919

Détermination des stérols

Incertitude sur la composition :

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

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

Incertitude sur la teneur : 20% de la valeur

Analyse réalisée le : 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 %
stigmastérol	0,5 %
Iso fucostérol	5,9 %
Fucostérol	<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

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Bad Bocklet 31 May 2019 / KA / Basfil

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 / Demands	Result
Enterobacteriaceae, qualitative	*L 00.00-133/1, mod.		not detected / g ISO 21528, mod.
Total viable count, anaerobic, 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 ISO 21527, mod.
Pseudomonas aeruginosa, qualitativ	L+S SOP 9.035		not detected / g ISO 13720, mod.
Salmonella 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 11:39 by Alexander Klauer, Specialist Manager.

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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 temperature		
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, präsumtiv, qualitativ	L+S SOP 09.005		not detected / g
coliform bacteria, quantitative	*L 01.00 - 3, mod.		< 10 CFU / g
Cronobacter sakazakii, qualitative	SOP 9.040		not detected / 25 g
Escherichia coli, qualitative	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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Person in charge Ms D. Zarthe - 2907
Client support Ms D. Zarthe - 2907

Report date 04.02.2019

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

Sample Code 706-2019-00017874

Reference	Arachidonsäure-Öl vom 22.01.2019
Client Sample Code	Mat 11098258 ROLL
Client contract reference	Rahmenbestell-Nr. 4942613538
Lot-no.	0020265261
Number	1
Amount	660 g
Reception temperature	room temperature
Ordered by	Frau Edith von Kries
Submitted by	Frau Edith von Kries
Sender	DHL
Reception date time	28.01.2019
Packaging	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)

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)

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: 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

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

JCSRA Solvent residues (big scope) (#)

Method: Internal, CON-PV 01330 (2018-07), HS-GC-MS

Chloroform (Trichloromethane)	<0.01	* mg/kg
Trichloroethene	<0.01	* mg/kg
Tetrachloroethene	<0.01	* mg/kg
Sum 3 chlorinated solvents	Inapplicable	mg/kg
trans-Dichloroethene	<0.05	* mg/kg
1,1-Dichloroethane	<0.05	* mg/kg
cis-Dichloroethene	<0.05	* mg/kg
1,2-Dichloroethane	<0.05	* mg/kg
Dichloromethane	<0.05	* mg/kg
1,1,1-Trichloroethane	<0.01	* mg/kg
Tetrachloromethane	<0.01	* mg/kg
1,1,2-Trichloroethane	<0.03	* mg/kg
1,1,1,2-Tetrachloroethane	<0.01	* mg/kg
Dibromochloromethane	<0.05	* mg/kg
Bromodichloromethane	<0.05	* mg/kg
Tribromomethane	<0.05	* mg/kg
Benzene	<0.2	* mg/kg
Toluene	<0.01	* mg/kg
Ethylbenzene	<0.01	* mg/kg
m-/-p-Xylene	<0.01	* mg/kg
Xylene (ortho-)	<0.01	* mg/kg
Styrene	<0.01	* mg/kg
2-Butanon (Methylethylketon)	<1	* mg/kg
Ethyl Acetate	<1	* mg/kg
n-Pentane	<1	* mg/kg
n-Heptane	<1	* mg/kg
n-Hexane	<0.3	** mg/kg
2-Methylpentane	<1	* mg/kg
3-Methylpentane	<1	* mg/kg
Methylcyclopentane	<1	* mg/kg
Technical Hexane (calculated)	Inapplicable	
Methyl acetate	<1	* mg/kg

GFL13 Dioxins and Furans (17 PCDD/F)

Method: Internal, GLS DF 110, GC-MS/MS
Subcontracted to a Eurofins laboratory accredited for this test.

2,3,7,8-TetraCDD	< 0.0623	pg/g
1,2,3,7,8-PentaCDD	< 0.0820	pg/g
1,2,3,4,7,8-HexaCDD	< 0.125	pg/g
1,2,3,6,7,8-HexaCDD	< 0.170	pg/g
1,2,3,7,8,9-HexaCDD	< 0.161	pg/g
1,2,3,4,6,7,8-HeptaCDD	< 0.262	pg/g
OctaCDD	< 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-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-bound)	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, GC-MS/MS
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
PCB 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

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.271	pg/g
WHO(2005)-PCDD/F+PCB TEQ (upper-bound)	0.541	pg/g

JCP01 Preparation PAH (Caffeine complexation) (#)
Method: Internal, CON-PV 01176 (2018-08), Extraction

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2018-08), 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	* µg/kg
Sum PAH 4	Inapplicable	

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD
(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

JJV04 Ochratoxin A (babyfood) (#)
Method: 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

JC0FG Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)
Method: Food Addit. Contam. 2005 Aug; 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

* = Below indicated quantification level
** = Below indicated detection level
(#) = Eurofins WEJ Contaminants GmbH (Hamburg) is accredited for this test
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 _____
Analytical Service Manager (Doris Zarthe)

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

Report date 12.06.2019

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

Sample Code 706-2019-00102718

Reference	ARA Oil Gold, 0020265261 Triglyceride
Client Sample Code	100393
Purchase Order Code	4942613538
Client contract reference	Rahmenbestell-Nr. 4942613538
Number	1
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 (#)
Method: §64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave)

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	*	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)	<0.5	*	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)	<0.05	*	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)	<0.1	*	mg/kg

JJ0CV 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 (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) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

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)

Phosphorus	<3	*	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)

Sulphur total (S)	<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		mg/kg

JCPC3 7 Plasticizers (low LOQ) (#)
Method: Internal Method, CON-PV 01337 (2018-10), LC-MS/MS

Diethylhexylphthalate (DEHP)	0.32		mg/kg
	± 0.11		mg/kg
Benzyl butyl phthalate (BBP)	<0.1	*	mg/kg
Diethylhexyl adipate (DEHA)	<0.1	*	mg/kg
Diisodecylphthalate (DIDP)	<0.5	*	mg/kg
Diisononylphthalate (DINP)	<0.5	*	mg/kg
Dibutylphthalate (DBP)	<0.07	*	mg/kg
Acetyltributylcitrat (ATBC)	<0.1	*	mg/kg

JJ088 Fumonisine B1, B2, B3 (maize and products derived from maize) (#)
Method: Internal Method, CON-PV 01085 (2018-08), LC-MS/MS

Fumonisin B1 (FB1)	<20	*	µg/kg
Fumonisin B2 (FB2)	<20	*	µg/kg
Fumonisin B3 (FB3)	<20	*	µg/kg
Fumonisin sum (B1+B2)	<40	*	µg/kg
Fumonisin sum (B1+B2+B3)	<60	*	µg/kg

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 uncertainty (95%; k=2), sampling not included

Signature

Analytical Service Manager (Yasmina Knop)

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89251 Illertissen

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

Report date 27.09.2019

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

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

Sample Code 706-2019-00017874

Reference	Arachidonsäure-Öl
Client Sample Code	Mat 11098258 ROLL
Client contract reference	Rahmenbestell-Nr. 4942613538
Lot-no.	0020265261
Number	1
Amount	660 g
Reception temperature	room temperature
Ordered by	Frau Edith von Kries
Submitted by	Frau Edith von Kries
Reception date time	28.01.2019
Packaging	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)

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)

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: 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

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

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

GFL13 Dioxins and Furans (17 PCDD/F)

Method: Internal, GLS DF 110, GC-MS/MS
Subcontracted to a Eurofins laboratory accredited for this test.

2,3,7,8-TetraCDD	< 0.0623	pg/g
1,2,3,7,8-PentaCDD	< 0.0820	pg/g
1,2,3,4,7,8-HexaCDD	< 0.125	pg/g
1,2,3,6,7,8-HexaCDD	< 0.170	pg/g
1,2,3,7,8,9-HexaCDD	< 0.161	pg/g
1,2,3,4,6,7,8-HeptaCDD	< 0.262	pg/g
OctaCDD	< 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-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-bound)	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, GC-MS/MS
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
PCB 101	< 0.328	ng/g
PCB 138	< 0.328	ng/g
PCB 153	< 0.328	ng/g
PCB 180	< 0.328	ng/g

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

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

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.271	pg/g
WHO(2005)-PCDD/F+PCB TEQ (upper-bound)	0.541	pg/g

JCP01 Preparation PAH (Caffeine complexation) (#)
Method: Internal, CON-PV 01176 (2018-08), Extraction

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2018-08), 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	* µg/kg
Sum PAH 4	Inapplicable	

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD
(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

JJV04 Ochratoxin A (babyfood) (#)
Method: 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

JC0FG Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)
Method: Food Addit. Contam. 2005 Aug; 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

JJ0BG Fumonisins (#)
Method: Internal, CON-PV 01085 (2018-08), LC-MS/MS

Fumonisin B1 (FB1)	<20	* µg/kg
Fumonisin B2 (FB2)	<20	* µg/kg
Fumonisin sum (B1+B2)	<40	* 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 (Patrick Kösters)

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

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 **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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO								
Flonicamid (LCMS)	< LQ			mg/kg	0.003		01(S121) 2018 Rev. 11 - LC-MS/MS	31/01/2019
Flonicamid metabolite: TFNA	< LQ			mg/kg	0.003		01(S121) 2018 Rev. 10 - LC-MS/MS	31/01/2019
Flonicamid metabolite: TFNG	< LQ			mg/kg	0.003		01(S121) 2018 Rev. 10 - LC-MS/MS	31/01/2019
Abamectin	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Acetamiprid	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Acetochlor	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Acibenzolar-S-methyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Aclonifen	< LQ			mg/kg	0.010		01(S144) 2018 Rev. 10 - GC-MS/MS	31/01/2019
Acrinathrin	< LQ			mg/kg	0.010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Alachlor	< LQ			mg/kg	0.010		01(S144) 2018 Rev. 10 - GC-MS/MS	31/01/2019
Aldrin	< LQ			mg/kg	0.010		01(S144) 2018 Rev. 10 - GC-MS/MS	31/01/2019
Dieldrin	< LQ			mg/kg	0.010		01(S144) 2018 Rev. 10 - GC-MS/MS	31/01/2019
Aldrin and dieldrin, sum expressed in dieldrin [414]	< LQ			mg/kg	0.010		01(S144) 2018 Rev. 10 - GC-MS/MS	31/01/2019
Ametryn	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Atrazine	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Atrazine-desethyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Atrazine-desisopropyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Azadirachtin-A	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Azinphos-ethyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Azinphos-methyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Azoxystrobin	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Benalaxyl, sum of isomers including Benalaxyl-M	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Benfluralin	< LQ			mg/kg	0.010		01(S144) 2018 Rev. 10 - GC-MS/MS	31/01/2019
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019
Carbendazim	< LQ			mg/kg	0.010		01(S121) 2018 Rev. 10 - LC-MS/MS	04/02/2019

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

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 **19A16473**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	LQ	[illegible]	[illegible]	[illegible]
Benthiavalicarb-isopropyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Bifenazate	< LQ			mg/kg	0.010		* [illegible] 2017 Rev.1 - LC-MS/MS	04/02/2019
Bifenox	< LQ			mg/kg	0.010		01(S144) 2015 Rev.10 - GC-MS/MS	31/01/2019
Bifenthrin	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Bitertanol (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Boscalid	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Bromophos-ethyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Bromophos-methyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Bromopropylate	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Bromuconazole, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Bupirimate	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Buprofezin	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Butylate	< LQ			mg/kg	0.010		01(S121) 2015 Rev.10 - LC-MS/MS	04/02/2019
Cadusafos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Carbaryl	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furathiocarb)	< LQ			mg/kg	0.001		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Carbofuran-3-hydroxy	< LQ			mg/kg	0.001		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ			mg/kg	0.001		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Chlordane cis	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Chlordane oxi	< LQ			mg/kg	0,010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Chlordane trans	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Chlordane sum of cis and trans-isomers [414]	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Chlorfenvinphos, sum of E and Z isomers	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Chlormephos	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Chlorotoluron	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Chlorpropham	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Chlorpyriphos ethyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Chlorpyriphos methyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Chlorsulfuron	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Chlorthal dimethyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019

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ACCREDIA

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

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 19A16473

ANALYSIS DESCRIPTION	RESULT		[illegible]	Unit of measure	LQ		Method	
Clofentezine	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Chlorantraniliprole (DPX E-2Y45)	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Coumaphos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Cyanazine	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Cyazofamide	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Cycloate	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Cycloxydim	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Cyhalothrin lambda	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Cymoxanil	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Cyproconazole	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Cyprodinil	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
o.p'-DDD	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
p.p'-DDD	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
o.p'-DDE	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
p.p'-DDE	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
o.p'-DDT	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
p.p'-DDT	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
DDT, sum. of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Deltamethrin (cis-deltamethrin)	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Diazinon	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dichlobenil	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Dichlofluanid	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dimethyl-sulfanilide (DMSA)	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dichloran	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Dichlorvos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dietofencarb	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Difenoconazole	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019

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ACCREDIA

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

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 19A16473

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	UNIT OF MEASURE	LQ	[illegible]	METHOD	ANALYSIS ENDING DATE
Diflubenzuron	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Diflufenican	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dimethenamid, sum of isomers including dimethenamid-P	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dimethoate	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Omethoate	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dimethomorph, sum of isomers	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Ditalimfos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Diuron	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Dodine	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Emamectin benzoate B1a, value expressed as emamectin	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Endosulfan alpha	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Endosulfan beta	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Endosulfan sulphate	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Endosulphan, sum of alpha and beta isomers and of endosulfan sulphate expressed as endosulfan [414]	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Endrin	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Epoxyconazol	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
EPTC	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Esfenvalerate and Fenvalerate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Ethion	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Ethofumesate	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Ethoprophos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Etofenprox	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Etoxazole	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Famoxadone	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Fenamidone	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenamiphos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenamiphos-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenamiphos-sulfone	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019

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Robert Hansen Strasse 1
89257 Illertissen GERMANIA

MODENA, lì 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 **19A16473**

ANALYSIS DESCRIPTION	RESULT	U	[illegible]	[illegible]	LQ	[illegible]	[illegible]	[illegible]
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenarimol	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenazaquin	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenbuconazole	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenchlorphos	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Fenchlorphos-oxon	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos [414]	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Fenhexamid	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenitrothion	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Fenoxaprop-p-ethyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenoxycarb	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenpropathrin	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Fenpropidin	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenpropimorph	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenpyroximate	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenthion	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenthion-oxon	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenthion-oxon-sulfone	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenthion-oxon-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenthion-sulfone	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenthion-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fenthion, fenthion-oxon, fenthion-oxon-sulfone, fenthion-oxon-sulfoxide, fenthion-sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Flazasulfuron	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Flucythrinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Fludioxonil	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Flufenacet	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Flufenoxuron	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019

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Robert Hansen Strasse 1
89257 Illertissen GERMANIA

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 **19A16473**

ANALYSIS DESCRIPTION	RESULT	U	REC. %	UNIT OF MEASURE	LQ	LD	METHOD	ANALYSIS END DATE
Fluopicolide	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fluquinconazole	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Flusilazole	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Flutriafol	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fluvalinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Fonofos	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Formothion	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Fosthiazate	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
HCH alpha	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
HCH beta	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
HCH delta	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
HCH epsilon	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Heptachlor	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Heptachlor Epoxide cis	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Heptachlor Epoxide trans	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Heptenophos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Hexachlorobenzene	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Hexaconazole	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Hexythiazox	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Imazalil	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Imidacloprid	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Indoxacarb, sum of R and S isomers	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Iodofenphos	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Iprodione	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Iprovalicarb	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Isofenphos	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Isofenphos-methyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Isoprothiolane	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Isoproturon	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Kresoxim-methyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Lindane	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019

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Robert Hansen Strasse 1
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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 **19A16473**

ANALYSIS DESCRIPTION	RESULT	U	REC %	UNIT OF MEASURE	LQ	LD	METHOD	ANALYSES ENDING DATE
Lindane, sum of HCH isomers included Lindane [414]	< LQ			mg/kg	0.010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Linuron	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Lufenuron	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Malaoxon	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Malathion	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Malathion and Malaoxon sum expressed as Malathion [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Mandipropamid	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Mecarbam	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Mepanipyrim	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Metalaxyl, sum of isomers including Metalaxyl-M	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Metazachlor	< LQ			mg/kg	0.010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Methidathion	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Methiocarb	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Methiocarb-sulfone	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Methiocarb-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Methiocarb, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Methomyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Thiodicarb	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Methoxychlor	< LQ			mg/kg	0.010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Methoxyfenozide	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Metolachlor, sum of isomers including S-metolachlor	< LQ			mg/kg	0.010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Metrafenone	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Metribuzin	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Metsulfuron-methyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Mevinphos, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019

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MODENA, li 05/02/2019

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Robert Hansen Strasse 1
89257 Illertissen GERMANIA

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

TEST REPORT nr. 19A16473-In-0

SAMPLE **19A16473**

ANALYSIS DESCRIPTION	RESULT		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Molinate	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Monuron	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Myclobutanil	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Napropamide	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Oxadiazon	< LQ			mg/kg	0,010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Oxadixyl	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Oxyfluorfen	< LQ			mg/kg	0,010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Paclobutrazol	< LQ			mg/kg	0,010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Paraoxon	< LQ			mg/kg	0,005		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Paraoxon-methyl	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Parathion	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Parathion-methyl	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			mg/kg	0,010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Penconazole	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Pencycuron	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Pendimethalin	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Permethrin, sum of isomers	< LQ			mg/kg	0,010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Perthane	< LQ			mg/kg	0,010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Phenmedipham	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Phenthoate	< LQ			mg/kg	0,010		01(S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Phorate	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Phorate-oxon	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Phorate-oxon-solfone	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Phorate-sulfone	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Phorate-sulfoxide	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Phosalone	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Phosmet	< LQ			mg/kg	0,010		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019

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Robert Hansen Strasse 1
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MODENA, li 05/02/2019

Sample arrived on the 28/01/2019
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TEST REPORT nr. 19A16473-In-0

SAMPLE **19A16473**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Phosmet-oxon	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Phosmet and phosmet-oxon expressed as phosmet [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Phosphamidon	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Picoxystrobin	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Piperonyl butoxide	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Pirimicarb (Pirimor)	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Pirimicarb-desmethyl	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Pirimiphos-ethyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Pirimiphos-methyl	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Prochloraz	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Procymidone	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Profenofos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Prometryn	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Propachlor	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Propanil	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Propaquizafop	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Propargite	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Propazine	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Propiconazole (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Propoxur	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Propyzamide	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Proquinazid	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Pyraclostrobin	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Pyrazophos	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Pyrethrins: pyrethrin I and II, cinerin I and II, jasmolin I and II, sum (low limit)	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019
Pyridaben	< LQ			mg/kg	0.010		01(S144) 2018 Rev.10 - GC-MS/MS	31/01/2019
Pyrimethanil	< LQ			mg/kg	0.010		01(S121) 2018 Rev.10 - LC-MS/MS	04/02/2019

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BNN-Monitoring Fruit and Vegetables Approved Laboratory

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MODENA, li 05/02/2019

Sample arrived on the 28/01/2019
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TEST REPORT nr. 19A16473-In-0

SAMPLE 19A16473

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pyriproxyfen	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Quinalphos	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Quinoxifen	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Quintozene	< LQ			mg/kg	0.010		01/S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Pentachloroaniline	< LQ			mg/kg	0.010		01/S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			mg/kg	0.01?		01/S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Rotenone	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Simazine	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spinosad, sum of spinosyn A and spinosyn D	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spirodiclofen	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spirotetramat	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spirotetramat enol	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spirotetramat enol-glucoside	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spirotetramat ketohydroxy	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spirotetramat monohydroxy	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spirotetramat and its metabilites (enol, enol-glucoside, ketohydroxy, monohydroxy) sum as spirotetramat [414]	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Spiroxamine	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Sulfallate	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Sulfotep	< LQ			mg/kg	0.010		01/S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Tebuconazole	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Tebufenozide	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Tebufenpyrad	< LQ			mg/kg	0.010		01/S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Teflubenzuron	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Tefluthrin	< LQ			mg/kg	0.010		01/S144) 2018 Rev 10 - GC-MS/MS	31/01/2019
Terbuthylazine	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Tetrachlorvinphos	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Tetraconazole	< LQ			mg/kg	0.010		01/S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Tetradifon	< LQ			mg/kg	0.010		01/S144) 2018 Rev 10 - GC-MS/MS	31/01/2019

Continued...

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

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 **19A16473**

ANALYSIS DESCRIPTION	RESULT							
Tetramethrin	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Thiabendazole	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Thiacloprid	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Thiamethoxam	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Thiobencarbe	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Thionazin	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Thiophanate-methyl	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Tolclofos-methyl	< LQ			mg/kg	0.010		01/S144/2018 Rev.10 - GC-MS/MS	31/01/2019
Tolylfluanid	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Dimethylaminosulphotoluidide (DMST)	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Tolylfluanid and DMST, sum expressed as tolylfluanid [414]	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Triadimefon	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Triadimenol	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Triallate	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Di-allate (sum of isomers)	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Triallate and Diallate sum expressed as Triallate [414]	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Triazophos	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Trichlorfon	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Tricyclazole	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Trifloxystrobin	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Triflumuron	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Trifluralin	< LQ			mg/kg	0.010		01/S144/2018 Rev.10 - GC-MS/MS	31/01/2019
Triticonazole	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Vamidothion	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Vinchlozolin	< LQ			mg/kg	0.010		01/S144/2018 Rev.10 - GC-MS/MS	31/01/2019
Zoxamide	< LQ			mg/kg	0.010		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019

Continued...

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

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 **19A16473**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	Unit of measure	LQ	[illegible]	Method	Date end analysis
PESTICIDE RESIDUES IN BABY FOODS FOR INFANTS AND YOUNG CHILDREN								
Aldrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Dieldrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Endrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Fipronil (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Fipronil-desulfinyl (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
HCH alpha (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
HCH beta (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
HCH delta (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
HCH epsilon (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Heptachlor (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Heptachlor Epoxide cis (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Heptachlor Epoxide trans (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Hexachlorobenzene (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Lindane (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Nitrofene (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
o.p'-DDD (low limit)	< LQ			mg/kg	0.001		• M-GCMS 2018 Rev3 - GC-MS/MS	31/01/2019
o.p'-DDE (low limit)	< LQ			mg/kg	0.001		• M-GCMS 2018 Rev3 - GC-MS/MS	31/01/2019
o.p'-DDT (low limit)	< LQ			mg/kg	0.001		• M-GCMS 2018 Rev3 - GC-MS/MS	31/01/2019
p.p'-DDD (low limit)	< LQ			mg/kg	0.001		• M-GCMS 2018 Rev3 - GC-MS/MS	31/01/2019
p.p'-DDE (low limit)	< LQ			mg/kg	0.001		• M-GCMS 2018 Rev3 - GC-MS/MS	31/01/2019
p.p'-DDT (low limit)	< LQ			mg/kg	0.001		• M-GCMS 2018 Rev3 - GC-MS/MS	31/01/2019
Cadusafos (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Demeton-S-methyl (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Demeton-S-methyl sulfoxide (oxydemeton-methyl) (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Demeton-S-methyl sulphone (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Disulfoton (low limit)	< LQ			mg/kg	0.001		01(S155) 2018 Rev 2 - GC-MS/MS	31/01/2019
Disulfoton-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Disulfoton-sulfoxide (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Ethoprophos (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Fensulfothion (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Fensulfothion-oxon (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Fensulfothion-oxon-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019
Fensulfothion-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2018 Rev 10 - LC-MS/MS	04/02/2019

Continued...

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

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 **19A16473**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Haloxyfop methyl (low limit)	< LQ			mg/kg	0.001		01/S150/2018 Rev.2 - GC-MS MS	31/01/2019
Haloxyfop, included haloxyfop-R (low limit)	< LQ			mg/kg	0.001		01/S121/2018 Rev.10 - LC-MS MS	04/02/2019
Haloxyfop-2-ethoxyethyl (low limit)	< LQ			mg/kg	0.001		01/S150/2018 Rev.2 - GC-MS MS	31/01/2019
Omethoate (low limit)	< LQ			mg/kg	0.001		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Phorate (low limit)	< LQ			mg/kg	0.001		* [illegible] 2018 Rev.[illegible] - GC-MS MS	31/01/2019
Terbufos (low limit)	< LQ			mg/kg	0.001		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Terbufos-sulfone (low limit)	< LQ			mg/kg	0.001		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Terbufos-sulfoxide (low limit)	< LQ			mg/kg	0.001		01/S121/2018 Rev.10 - LC-MS/MS	04/02/2019
Fentin acetate and Fentin hydroxide, sum expressed as Fentin (low limit)	< LQ			mg/kg	0.004		01/S121/2018 Rev.10 - LC-MS/MS	31/01/2019
Dithiocarbamates, thiuram-disulfides as CS2 (Analytical technique: GC) (low limit) [329]	< LQ			mg/kg	0.005		01/S131/2018 Rev.7 - GC-MS	31/01/2019
Total ethylentiourea (ETU) (hydrolise pH 9,90°C) (low limit)	< LQ			mg/kg	0.005		01/S[illegible] rev 15 2018 - LC-MS MS	04/02/2019
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ			mg/kg	0.005		01/S[illegible] rev 15 2018 - LC-MS/MS	04/02/2019

END TEST REPORT

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

Notes and method references:
<LQ: = lower than Quantification Limit. Please note that results expressed as '<LQ' may not indicate the absence of the searched parameters in the sample.
U: the reported uncertainty is the expanded uncertainty calculated using a coverage factor equal to 2 which gives a reliability 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 used.
Results coming from microbiological tests are calculated according to the Standard ISO 7218:2007/Amd 1:2013. If the results are reported as <4 (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.
LQ: Quantification 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: 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 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 expression <LQ 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 pesticides belonging to this group: Ferbam, Mancozeb, Maneb, Metiram, Nabam, Propineb, Thiram, Ziram
[414]: The sum is calculated through the lower bound criterion.

Continued...

NEOTRON SpA - [illegible]
Stradello Aggazzotti, 104
41126 MODENA - ITALY - Fiscal Code and VAT n° [illegible]
Tel. +39 059461711 - Fax +39 059461777
www.neotron.it - [illegible]

[illegible]
[illegible] Emilia Romagna - AUTORIZZAZIONE [illegible]
[illegible] Fruit and Vegetables [illegible] Laboratory
[illegible]

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

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 **19A16473**

LABORATORY MANAGER: DR. ALBERTO CATT[illegible]

Approved by Analysis Manager - laboratory LMA-pic
Approved by Analysis Manager - laboratory LC-FAR
Approved by Analysis Manager - laboratory GC-BRO

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Body of Certificate

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

2019-02-14
Head of Q
juergen.dremel@basf.com
+49 7303 13-372
Reg. 20190212134629

Inspection Certificate 3.1 according to EN 10204

Material 50627967

Lot 0020265618

Characteristic Method	Unit	Value	Lower Limit	Upper Limit
APPEARANCE AX-001001		PASS		
ACID VALUE MG KOH/G ISO 660		0,1	0,0	1,0
FREE FATTY ACIDS, SUM CP-004002	%	0,07		0,45
PEROXIDE VALUE MEQ O2/KG ISO 3960		< 0,1	0,0	4,0
WATER CONTENT, KARL FISCHER DGF C-III 13a	%	0,00	0,00	0,05
UNSAPONIFIABLE MATTER PhEur 2.5.7	%	2,2	0,0	3,5
ANISIDINE VALUE DIN EN ISO 6885		10	0	20
FATTY ACID TRANS, SUM IA-001057	%(a)	0,4	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 afore-mentioned data shall constitute the agreed contractual quality of the product at the time of passing of risk. The data are controlled at regular 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 or of fitness for a specific purpose. No liability of ours can be derived therefrom.

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2019-02-14
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juergen.dremel@basf.com
+49 7303 13-372
Reg. 20190212134629

Inspection Certificate 3.1 according to EN 10204

Material	50627967
Lot	0020265618

89257 Illertissen, Germany

The aforementioned data shall constitute the agreed contractual quality of the product at the time of passing of risk. The data are controlled at regular 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 or of fitness for a specific purpose. No liability of ours can be derived therefrom.

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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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-2** Your Refs: Sample Reference: 100394
Description: ARA Oil Gold 0020265618

Method	Analysis	Result	Units
* TM-318	Acid Value	0.2	mg KOH/g
* TM-325	Free Fatty Acid	0.11	g/100g
* TM-328	Peroxide Value	2.47	meqO2/kg Fat
* TM-319	Anisidine Value	0.6	
*	Unsaponifiable Matter	1.9	g/100g
* TM-331	alpha tocopherol	459	mg/kg
* TM-331	beta tocopherol	94	mg/kg
* TM-331	gamma tocopherol	1077	mg/kg
* TM-331	delta tocopherol	469	mg/kg
* TM-331	Total Tocopherols	2099	mg/kg
* TM-252	Cholesterol	0.1	%
* TM-252	Unidentified A	80.4	%
* TM-252	24-Methylene-cholesterol	2.1	%
* TM-252	Campesterol	1.7	%
* TM-252	Campestanol	0.1	%
* TM-252	Stigmasterol	0.5	%
* TM-252	Unidentified B	6.2	%
* TM-252	Δ-5, 23-Stigmastadienol	0.1	%
* TM-252	Chlerosterol	0.1	%
* TM-252	β-Sitosterol	3.6	%
* TM-252	Sitostanol	0.2	%
* TM-252	Δ-5-Avenasterol	0.2	%
* TM-252	Δ-5,24-Stigmastadienol	0.1	%

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

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Certificate of Analysis

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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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-2** Your Refs: Sample Reference: 100394
Description: ARA Oil Gold 0020265618

Method	Analysis	Result	Units
* TM-252	Δ-7-Stigmastenol	0.6	%
* TM-252	Δ-7-Avenasterol	0.2	%
* TM-252	Unidentified C	3.6	%
* TM-252	Total Sterols	12183	mg/kg
* TM-252	Total sterols excluding unidentified components	1196	mg/kg
*	Arachidonic Acid	493	mg/g
TM-112	C13:0(I)	0.1	%
TM-112	C14:0	0.3	%
TM-112	C15:0	0.1	%
TM-112	C16:0	5.9	%
TM-112	C16:1	0.1	%
TM-112	C17:0	0.4	%
TM-112	C18:0	9.5	%
TM-112	C18:1(trans)	0.1	%
TM-112	C18:1(cis)	21.8	%
TM-112	C18:2(trans)	0.2	%
TM-112	C18:2(cis)	5.8	%
TM-112	C18:3(gamma)	2.3	%
TM-112	C18:3(alpha)	0.3	%
TM-112	C20:0	1.0	%
TM-112	C20:1	0.6	%
TM-112	C22:0	1.9	%
TM-112	C24:0	1.6	%

1216

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

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Certificate of Analysis

Ms Edith Von Kries
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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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-2** Your Ref's: Sample Reference: 100394
Description: ARA Oil Gold 0020265618

Method	Analysis	Result	Units
TM-112	C24:1	0.1	%
TM-112	C20:2	0.4	%
TM-112	C20:4 (n6) (ARA)	45.0	%
TM-112	C20:5 (EPA)	0.1	%
TM-112	Unidentified	0.0	%
TM-112	C20:3 (n6)	1.6	%

Normalised fatty acid profile (%).

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

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

Incertitude sur la teneur : 20% de la valeur

Analyse réalisée le : 01/08/2019

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

Labor | LS

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Bad Bocklet 31 May 2019 / KA / Bastll

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:	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 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 ISO 21527, mod.
Pseudomonas aeruginosa, qualitativ	L+S SOP 9.035		not detected / g ISO 13720, mod.
Salmonella 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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Bad Bocklet 15 Nov 2019 / MEZ / Basfil

Certificate of Analysis

LS No:	191107-0045-002	LS Code:	1467105 / L
Product name:	ARA OIL Gold		
Lot No:	0020265618		
Article No:	50627968		
Entry temperature:	room temperature		
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, präsumtiv, qualitativ	L+S SOP 09.005		not detected / g
coliform bacteria, quantitative	*L 01.00 - 3, mod.		< 10 CFU / g
Cronobacter sakazakii, qualitative	SOP 9.040		not detected / 25 g
Escherichia coli, qualitative	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 12:26 by Alexander Klauer, Specialist Manager.

Labor LS SE & Co. KG
Labor LS SE Verwaltungsgesellschaft

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

Report date 15.06.2019

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	1
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 / 15.06.2019

TEST RESULTS

Physical-chemical Analysis

J1001 Sample preparation (#)
Method: §64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave)

J8306 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)

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: 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

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)	<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)	<0.5	*	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)	<0.1	*	mg/kg

JJ0CV 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 (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) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

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)

Phosphorus	<3	*	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)

Sulphur total (S)	<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

JCSRA	**Solvent residues (big scope) (#)**		
Method:	Internal, CON-PV 01330 (2019-03), HS-GC-MS		
Chloroform (Trichloromethane)		<0.01	* mg/kg
Trichloroethene		<0.01	* mg/kg
Tetrachloroethene		<0.01	* mg/kg
Sum 3 chlorinated solvents		Inapplicable	mg/kg
trans-Dichloroethene		<0.05	* mg/kg
1,1-Dichloroethane		<0.05	* mg/kg
cis-Dichloroethene		<0.05	* mg/kg
1,2-Dichloroethane		<0.05	* mg/kg
Dichloromethane		<0.05	* mg/kg
1,1,1-Trichloroethane		<0.01	* mg/kg
Tetrachloromethane		<0.01	* mg/kg
1,1,2-Trichloroethane		<0.01	* mg/kg
1,1,1,2-Tetrachloroethane		<0.01	* mg/kg
Dibromochloromethane		<0.05	* mg/kg
Bromodichloromethane		<0.05	* mg/kg
Tribromomethane		<0.05	* mg/kg
Benzene		0.091	mg/kg
		± 0.045	mg/kg
Toluene		<0.01	* mg/kg
Ethylbenzene		<0.01	* mg/kg
m-/-p-Xylene		<0.01	* mg/kg
Xylene (ortho-)		<0.01	* mg/kg
Styrene		<0.01	* mg/kg
2-Butanon (Methylethylketon)		<1	* mg/kg
Ethyl Acetate		<1	* mg/kg
n-Pentane		<1	* mg/kg
n-Heptane		<1	* mg/kg
n-Hexane		<1	* mg/kg
2-Methylpentane		<1	* mg/kg
3-Methylpentane		<1	* mg/kg
Methylcyclopentane		<1	* mg/kg
Technical Hexane (calculated)		Inapplicable	mg/kg
Methyl acetate		<1	* mg/kg
GFL13	**Dioxins and Furans (17 PCDD/F)**		
Method:	Internal, GLS DF 110:2019-01-25, GC-MS/MS		
Subcontracted to a Eurofins laboratory accredited for this test.			
2,3,7,8-TetraCDD		< 0.0586	pg/g
1,2,3,7,8-PentaCDD		< 0.0772	pg/g
1,2,3,4,7,8-HexaCDD		< 0.117	pg/g
1,2,3,6,7,8-HexaCDD		< 0.160	pg/g
1,2,3,7,8,9-HexaCDD		< 0.151	pg/g
1,2,3,4,6,7,8-HeptaCDD		< 0.247	pg/g
OctaCDD		< 1.79	pg/g

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

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.

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

GFTE1 TEQ-Totals WHO-PCDD/F and PCB

Method: Internal, GLS DF 110, 120, 130, 140, Calculation

Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (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

JCPC3 7 Plasticizers (low LOQ) (#)
Method: Internal Method, CON-PV 01337 (2018-10), LC-MS/MS

Diethylhexylphthalate (DEHP)	0.31		mg/kg
	± 0.11		mg/kg
Benzyl butyl phthalate (BBP)	<0.1	*	mg/kg
Diethylhexyl adipate (DEHA)	<0.1	*	mg/kg
Diisodecylphthalate (DIDP)	<0.5	*	mg/kg
Diisononylphthalate (DINP)	<0.5	*	mg/kg
Dibutylphthalate (DBP)	<0.07	*	mg/kg
Acetyltributylcitrat (ATBC)	<0.1	*	mg/kg

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2019-03), 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	*	µg/kg
Sum PAH 4	Inapplicable		µg/kg

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD
(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

JJV04 Ochratoxin A (babyfood) (#)
Method: 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

JC0FG Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)
Method: Food Addit. Contam. 2005 Aug; 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 and products derived from maize) (#)
Method: Internal Method, CON-PV 01085 (2018-08), LC-MS/MS

Fumonisin B1 (FB1)	<20	*	µg/kg
Fumonisin B2 (FB2)	<20	*	µg/kg
Fumonisin B3 (FB3)	<20	*	µg/kg
Fumonisin sum (B1+B2)	<40	*	µg/kg
Fumonisin sum (B1+B2+B3)	<60	*	µg/kg

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 uncertainty (95%; k=2), sampling not included

Signature

Analytical Service Manager (Yasmina Knop)

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

Report date 27.09.2019

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

This report replaces report number: 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	1
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 / 15.06.2019

TEST RESULTS

Physical-chemical Analysis

J1001 Sample preparation (#)
Method: §64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave)

J8306 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)

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: 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

WEJ Contaminants

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

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)	<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)	<0.5	*	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)	<0.1	*	mg/kg

JJ0CV 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 (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) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

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)

Phosphorus	<3	*	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)

Sulphur total (S)	<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

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

GFL13 Dioxins and Furans (17 PCDD/F)
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS
Subcontracted to a Eurofins laboratory accredited for this test.

2,3,7,8-TetraCDD	< 0.0586	pg/g
1,2,3,7,8-PentaCDD	< 0.0772	pg/g
1,2,3,4,7,8-HexaCDD	< 0.117	pg/g
1,2,3,6,7,8-HexaCDD	< 0.160	pg/g
1,2,3,7,8,9-HexaCDD	< 0.151	pg/g
1,2,3,4,6,7,8-HeptaCDD	< 0.247	pg/g
OctaCDD	< 1.79	pg/g
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

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.

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

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

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (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

JCPC3 7 Plasticizers (low LOQ) (#)
Method: Internal Method, CON-PV 01337 (2018-10), LC-MS/MS

Dietnylhexylphthalate (DEHP)	0.31		mg/kg
	± 0.11		mg/kg
Benzyl butyl phthalate (BBP)	<0.1	*	mg/kg
Diethylhexyl adipate (DEHA)	<0.1	*	mg/kg
Diisodecylphthalate (DIDP)	<0.5	*	mg/kg
Diisononylphthalate (DINP)	<0.5	*	mg/kg
Dibutylphthalate (DBP)	<0.07	*	mg/kg
Acetyltributylcitrat (ATBC)	<0.1	*	mg/kg

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2019-03), 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	*	µg/kg
Sum PAH 4	Inapplicable		µg/kg

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD
(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

JJV04 Ochratoxin A (babyfood) (#)
Method: 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

JC0FG Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)
Method: Food Addit. Contam. 2005 Aug; 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 and products derived from maize) (#)
Method: Internal Method, CON-PV 01085 (2018-08), LC-MS/MS

Fumonisin B1 (FB1)	<20	*	µg/kg
Fumonisin B2 (FB2)	<20	*	µg/kg
Fumonisin B3 (FB3)	<20	*	µg/kg
Fumonisin sum (B1+B2)	<40	*	µg/kg
Fumonisin sum (B1+B2+B3)	<60	*	µg/kg

JJW2Z Sterigmatocystin (#)
Method: Internal, CON-PV 01126 (2018-08), LC-MS/MS

Sterigmatocystin	<10	*	µg/kg

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)

neotron SpA

ACCREDIA

CUSTOMER

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

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	[illegible]	[illegible]	UNIT OF MEASURE	LQ	[illegible]	METHOD	[illegible]
PESTICIDE RESIDUES IN BABY FOODS FOR INFANTS AND YOUNG CHILDREN								
Aldrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Dieldrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Endrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Fipronil (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Fipronil-desulfinyl (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH alpha (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH beta (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH delta (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH epsilon (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor Epoxide cis (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor Epoxide trans (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Hexachlorobenzene (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Lindane (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Nitrofene (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
o.p'-DDD (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
o.p'-DDE (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
o.p'-DDT (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
p.p'-DDD (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
p.p'-DDE (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
p.p'-DDT (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
Cadusafos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Demeton-S-methyl (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Demeton-S-methyl sulfoxide (oxydemeton-methyl) (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Demeton-S-methyl sulphone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Disulfoton (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Disulfoton-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Disulfoton-sulfoxide (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Ethoprophos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fensulfothion (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019

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Laboratorio Qualificato D.M. 25.2.87 Art. 4 - Legge 46/82 per la Ricerca Applicata
Regione Emilia Romagna - AUTORIZZAZIONE Autocontrollo N° 008MO/008
BNN-Monitoring Fruit and Vegetables Approved Laboratory
Monitoring EDEKA AG Fruit and Vegetables Registered Laboratory

CUSTOMER
BASF Personal Care and Nutrition GmbH
Robert Hansen Strasse 1
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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 19E20036

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	UNIT OF MEASURE	LQ	[illegible]	METHOD	ANALYSIS START - END DATE
Fensulfothion-oxon (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fensulfothion-oxon-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fensulfothion-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Haloxyfop methyl (low limit)	< LQ			mg/kg	0.001		01(S156) 2019 Rev. 3 - GC-MS/MS	28/05/2019 - 04/06/2019
Haloxyfop, included haloxyfop-R (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Haloxyfop-2-ethoxyethyl (low limit)	< LQ			mg/kg	0.001		01(S156) 2019 Rev. 3 - GC-MS/MS	28/05/2019 - 04/06/2019
Omethoate (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phorate (low limit)	< LQ			mg/kg	0.001		* [illegible] GCMS 2019 Rev. 3 - GC-MS/MS	28/05/2019 - 04/06/2019
Terbufos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Terbufos-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Terbufos-sulfoxide (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fentin (fentin including its salts, expressed as triphenyltin cation) (low limit)	< LQ			mg/kg	0.002		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Dithiocarbamates, tiuram-disulfides as CS2 (Analytical technique: GC) (low limit) [329]	< LQ			mg/kg	0.005		01(S131) 2019 Rev. 8 - GC-MS	28/05/2019 - 04/06/2019
Total ethylentiourea (ETU) (hydrolise pH 9,90°C) (low limit)	< LQ			mg/kg	0.005		01(S8) rev 15 2018 - LC-MS/MS	28/05/2019 - 03/06/2019
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ			mg/kg	0.005		01(S8) rev 15 2018 - LC-MS/MS	28/05/2019 - 03/06/2019
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO								
Flonicamid (LCMS)	< LQ			mg/kg	0.003		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Flonicamid metabolite: TFNA	< LQ			mg/kg	0.003		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Flonicamid metabolite: TFNG	< LQ			mg/kg	0.004		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Abamectin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Acetamiprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Acetochlor	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Acibenzolar-S-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Aclonifen	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Acrinathrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Alachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Aldrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Dieldrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019

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CUSTOMER
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**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	UNIT OF MEASURE	LQ	LR	METHOD	[illegible]
Aldrin and dieldrin, sum expressed in dieldrin [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ametryn	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine-desethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine-desisopropyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azadirachtin-A	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azinphos-ethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azinphos-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azoxystrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benalaxyl, sum of isomers including Benalaxyl-M	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benfluralin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbendazim	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benthiavalicarb-isopropyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bifenazate	< LQ			mg/kg	0.010		* [illegible] 2017 Rev 1 - LC-MS/MS	28/05/2019 / 04/06/2019
Bifenox	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bifenthrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bitertanol (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Boscalid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bromophos-ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromophos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromopropylate	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromuconazole, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bupirimate	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Buprofezin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Butylate	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cadusafos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbaryl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019

Continued...

CUSTOMER
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

ANALYSIS DESCRIPTION	RESULT		[illegible]	[illegible]	LQ	[illegible]	METHOD	[illegible]
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furathiocarb)	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbofuran-3-hydroxy	< LQ			mg/kg	0.001		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ			mg/kg	[illegible]		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlordane cis	< LQ			mg/kg	[illegible]		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlordane oxi	< LQ			mg/kg	[illegible]		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlordane trans	< LQ			mg/kg	[illegible]		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlordane sum of cis and trans-isomers [414]	< LQ			mg/kg	[illegible]		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorfenvinphos, sum of E and Z isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlormephos	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorotoluron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlorpropham	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorpyriphos ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorpyriphos methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorsulfuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlorthal dimethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Clofentezine	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlorantraniliprole (DPX E-2Y45)	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Coumaphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cyanazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cyazofamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cycloate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cycloxydim	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Lambda-cynalothrin (includes gamma-cyhalothrin) (sum of R,S and S,R isomers)	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Cymoxanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Cyproconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cyprodinil	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
o,p'-DDD	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019

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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**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	LQ	[illegible]	[illegible]	[illegible]
p.p'-DDD	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
o.p'-DDE	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
p.p'-DDE	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
o.p'-DDT	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
p.p'-DDT	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Deltamethrin (cis-deltamethrin)	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Diazinon	< LQ			mg/kg	0.010		01(S121) 2019 Rev. [illegible] - LC-MS/MS	28/05/2019 / 04/06/2019
Dichlobenil	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Dichlofluanid	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev. [illegible] - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethyl-sulfanilide (DMSA)	< LQ			mg/kg	0.010		01(S121) 2019 Rev. [illegible] - LC-MS/MS	28/05/2019 / 04/06/2019
Dichloran	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Dichlorvos	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dietofencarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Difenoconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diflubenzuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diflufenican	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethenamid, sum of isomers including dimethenamid-P	< LQ			mg/kg	0.010		01(S121) 2019 Rev. [illegible] - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethoate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Omethoate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethomorph, sum of isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Ditalimfos	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dodine	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Emamectin benzoate B1a, value expressed as emamectin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan alpha	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan beta	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan sulphate	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019

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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**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Endosulphan, sum of alpha and beta isomers and of endosulfan sulphate, expressed as endosulfan [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Endrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Epoxyconazol	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
EPTC	< LQ			mg/kg	0.015		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Esfenvalerate and Fenvalerate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ethion	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ethofumesate	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ethoprophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Etofenprox	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Etoxazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Famoxadone	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenamidone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenamiphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenamiphos-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenamiphos-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenarimol	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenazaquin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenbuconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenchlorphos	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenchlorphos-oxon	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos [414]	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenhexamid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenitrothion	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenoxaprop-p-ethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenoxycarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenpropathrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenpropidin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019

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Robert Hansen Strasse 1
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MODENA, li 04/06/2019

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TEST REPORT nr. 19E20036-In-0

SAMPLE **19E20036**

ANALYSIS DESCRIPTION	RESULT							
Fenpropimorph	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenpyroximate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-oxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-oxon-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-oxon-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion, fenthion-oxon, fenthion-oxon-sulfone, fenthion-oxon-sulfoxide, fenthion-sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	< LQ			mg/kg	0.015		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flazasulfuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flucythrinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fludioxonil	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flufenacet	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flufenoxuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fluopicolide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fluquinconazole	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Flusilazole	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Flutriafol	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fluvalinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fonofos	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Formothion	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fosthiazate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
HCH alpha	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH beta	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH delta	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH epsilon	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor Epoxide cis	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor Epoxide trans	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019

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Laboratorio Qualificato D.M. [illegible] Art. 4 - Legge 46/82 per la Ricerca Applicata e Innovazione Tecnologica
Regione Emilia Romagna - AUTORIZZAZIONE Autocontrollo N° [illegible]
BNN-Monitoring Fruit and Vegetables Approved Laboratory
I-Monitoring Lab+A AG Fruit and Vegetables Registered Laboratory

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MODENA, li 04/06/2019

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TEST REPORT nr. 19E20036-In-0

SAMPLE **19E20036**

ANALYSIS DESCRIPTION	RESULT		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Heptenophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Hexachlorobenzene	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Hexaconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Hexythiazox	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Imazalil	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Imidacloprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Indoxacarb, sum of R and S isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Iodofenphos	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Iprodione	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Iprovalicarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Isofenphos	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Isofenphos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Isoprothiolane	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Isoproturon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Kresoxim-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Lindane	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Lindane, sum of HCH isomers included Lindane [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Linuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Lufenuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Malaoxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Malathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Malathion and Malaoxon sum expressed as Malathion [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Mandipropamid	< LQ			mg/kg	[illegible]		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Mecarbam	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Mepanipyrim	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Metalaxyl, sum of isomers including Metalaxyl-M	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Metazachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019

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MODENA, li 04/06/2019

Sample arrived on the 28/05/2019
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TEST REPORT nr. 19E20036-In-0

SAMPLE 19E20036

ANALYSIS DESCRIPTION	RESULT							
Methidathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methiocarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methiocarb-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methiocarb-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methiocarb, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methomyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Thiodicarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methoxychlor	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Methoxyfenozide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Metolachlor, sum of isomers including S-metolachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Metrafenone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Metribuzin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Metsulfuron-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Mevinphos, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Molinate	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Monuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Myclobutanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Napropamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Oxadiazon	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Oxadixyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Oxyfluorfen	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Paclobutrazol	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Paraoxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Paraoxon-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Parathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Parathion-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 - 04/06/2019

Continued...

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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**

ANALYSIS DESCRIPTION	RESULT		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ANALYSIS START AND END DATE
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Penconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pencycuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pendimethalin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Permethrin, sum of isomers	< LQ			mg/kg	0.015		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Perthane	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Phenmedipham	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phenthoate	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Phorate	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phorate-oxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phorate-oxon-solfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phorate-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phorate-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phosalone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phosmet	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phosmet-oxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phosmet and phosmet-oxon expressed as phosmet [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phosphamidon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Picoxystrobin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Piperonyl butoxide	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Pirimicarb (Pirimor)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pirimicarb-desmethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pirimiphos-ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Pirimiphos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Prochloraz	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Procymidone	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019

Continued...

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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

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Profenofos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Prometryn	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Propachlor	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Propanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Propaquizafop	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Propargite	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Propazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Propiconazole (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Propoxur	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Propyzamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Proquinazid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Pyraclostrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Pyrazophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Pyrethrins: pyrethrin I and II, cinerin I and II, jasmolin I and II, sum (low limit)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Pyridaben	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	[illegible]
Pyrimethanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Pyriproxyfen	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Quinalphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Quinoxifen	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Quintozene	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	[illegible]
Pentachloroaniline	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	[illegible]
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	[illegible]
Rotenone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Simazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Spinosad, sum of spinosyn A and spinosyn D	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Spirodiclofen	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Spirotetramat	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]

Continued...

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Robert Hansen Strasse 1
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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 19E20036

ANALYSIS DESCRIPTION	RESULT	U	[illegible]	UNIT OF MEASURE	LQ	LD	[illegible]	[illegible]
Spirotetramat enol	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Spirotetramat enol-glucoside	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Spirotetramat ketohydroxy	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Spirotetramat monohydroxy	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Spirotetramat and its metabilites (enol, enol-glucoside, ketohydroxy, monohydroxy) sum as spirotetramat [414]	< LQ			mg/kg	0.015		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Spiroxamine	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Sulfallate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Sulfotep	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Tebuconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Tebufenozide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Tebufenpyrad	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Teflubenzuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Tefluthrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Terbuthylazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Tetrachlorvinphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Tetraconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Tetradifon	< LQ			mg/kg	0.015		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Tetramethrin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Thiabendazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Thiacloprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Thiamethoxam	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Thiobencarbe	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Thionazin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Thiophanate-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Tolclofos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Tolylfluanid	< LQ			mg/kg	0.015		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Dimethylaminosulphotoluidide (DMST)	< LQ			mg/kg	0.015		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019

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Robert Hansen Strasse 1
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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 **19E20036**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	LQ	LR	[illegible]	[illegible]
Tolylfluanid and DMST, sum expressed as tolylfluanid [414]	< LQ			mg/kg	0.015		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triadimefon	< LQ			mg/kg	0.015		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triadimenol	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triallate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Di-allate (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triallate and Diallate sum expressed as Triallate [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triazophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Trichlorfon	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tricyclazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Trifloxystrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triflumuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Trifluralin	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Triticonazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Vamidothion	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Vinchlozolin	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019

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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**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Zoxamide	< LQ			[illegible]	[illegible]		[illegible] Rev.12 - LC-MS/MS	[illegible]

END TEST REPORT

Notes and method reference:
< LQ: = lower than Quantification Limit. Please note that results expressed as '<LQ' may not indicate the absence of the searched parameters in the sample.
U: the reported uncertainty is the expanded uncertainty calculated using a coverage factor equal to 2 which gives a reliability 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 itself.
Results coming from microbiological tests are calculated according to the Standard ISO 7218:2007/Amd 1:2013. If the results are reported as <4 (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 single methods, in case of analytical steps foreseen in non-activity days of the laboratory, provisions from the standard ISO 7218: 2007/Amd.12013 (items 11.2 and 10.2.5) or from specific test methods are applied. In the case of quantitative 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.
LQ: Quantification 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: 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 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 <LQ 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 pesticides belonging to this group: Ferbam, Mancozeb, Maneb, Metiram, Nabam, Propineb, Thiram, Ziram
[414] The sum is calculated through the lower bound criterion.

TEST REPORT VALID FOR ALL LEGAL PURPOSES (Italian R.D. 1-3-1928 n°842 (article 16) - Italian Law 19-7-1957 n°679 articles 16 and 18, Italian Ministerial Decree 25-3-1986)
DATA and SAMPLE STORAGE: Test Reports, Raw data, chromatographic paths and instrumental reports are stored for 5 years. One control sample is stored for 3 months.
Data expressed in this test report refer only to the sample tested in the laboratory. The description or any other reference concerning the sample are declared by the customer. This Test Report cannot be reproduced except in full. Partial reproductions must be authorized in writing by our laboratory.

LABORATORY MANAGER - DR. ALBERTO GATTI -

Approved by Analysis Manager - laboratory LM/A-pst
Approved by Analysis Manager - laboratory LC-FAR
Approved by Analysis Manager - laboratory GC-BRO

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Body of Certificate

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

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

Inspection Certificate 3.1 according to EN 10204

Material 5062/967

Lot 0020265740

Characteristic Method	Unit	Value	Lower Limit	Upper Limit
APPEARANCE AX-001001		PASS		
ACID VALUE MG KOH/G ISO 660		0,1	0,0	1,0
FREE FATTY ACIDS, SUM CP-004002	%	0,07		0,45
PEROXIDE VALUE MEQ O2/KG ISO 3960		< 0,1	0,0	4,0
WATER CONTENT, KARL FISCHER DGF C-III 13a	%	0,00	0,00	0,05
UNSAPONIFIABLE MATTER PhEur 2.5.7	%	2,2	0,0	3,5
ANISIDINE VALUE DIN EN ISO 6885		10	0	20
FATTY ACID TRANS, SUM IA-001057	%(a)	0,4	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 controlled at regular 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 or of fitness for a specific purpose. No liability of ours can be derived therefrom.

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

Inspection Certificate 3.1 according to EN 10204

Material	50627967
Lot	0020265740

89257 Illertissen, Germany

The aforementioned data shall constitute the agreed contractual quality of the product at the time of passing of risk. The data are controlled at regular 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 or of fitness for a specific purpose. No liability of ours can be derived therefrom.

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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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-3** Your Refs: Sample Reference: 100395
Description: ARA Oil Gold 0020265740

Method	Analysis	Result	Units
* TM-318	Acid Value	0.2	mg KOH/g
* TM-325	Free Fatty Acid	0.10	g/100g
* TM-328	Peroxide Value	3.03	meqO2/kg Fat
* TM-319	Anisidine Value	<0.1	
*	Unsaponifiable Matter	2.0	g/100g
* TM-331	alpha tocopherol	458	mg/kg
* TM-331	beta tocopherol	93	mg/kg
* TM-331	gamma tocopherol	1078	mg/kg
* TM-331	delta tocopherol	470	mg/kg
* TM-331	Total Tocopherols	2098	mg/kg
* TM-252	Cholesterol	0.1	%
* TM-252	Unidentified A	80.5	%
* TM-252	24-Methylene-cholesterol	2.1	%
* TM-252	Campesterol	1.7	%
* TM-252	Campestanol	0.1	%
* TM-252	Stigmasterol	0.5	%
* TM-252	Unidentified B	6.2	%
* TM-252	Δ-5, 23-Stigmastadienol	0.1	%
* TM-252	Chlerosterol	0.1	%
* TM-252	β-Sitosterol	3.7	%
* TM-252	Sitostanol	0.2	%
* TM-252	Δ-5-Avenasterol	0.1	%
* TM-252	Δ-5,24-Stigmastadienol	0.1	%

1216

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

[redacted]

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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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-3** Your Refs: Sample Reference: 100395

Description: ARA Oil Gold 0020265740

	Method	Analysis	Result	Units
*	TM-252	Δ-7-Stigmastenol	0.6	%
*	TM-252	Δ-7-Avenasterol	0.2	%
*	TM-252	Unidentified C	1.6	%
*	TM-252	Total Sterols	12131	mg/kg
*	TM-252	Total sterols excluding unidentified components	1174	mg/kg
*		Arachidonic Acid	453	mg/g
	TM-112	C13:0(I)	0.1	%
	TM-112	C14:0	0.2	%
	TM-112	C15:0	0.1	%
	TM-112	C16:0	5.9	%
	TM-112	C16:1	0.1	%
	TM-112	C17:0	0.4	%
	TM-112	C18:0	9.5	%
	TM-112	C18:1(trans)	0.1	%
	TM-112	C18:1(cis)	21.9	%
	TM-112	C18:2(trans)	0.2	%
	TM-112	C18:2(cis)	5.8	%
	TM-112	C18:3(gamma)	2.3	%
	TM-112	C18:3(alpha)	0.3	%
	TM-112	C20:0	1.0	%
	TM-112	C20:1	0.6	%
	TM-112	C22:0	1.8	%
	TM-112	C24:0	1.6	%

1216

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

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Certificate of Analysis

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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-3** Your Ref: Sample Reference: 100395
Description: ARA Oil Gold 0020265740

Method	Analysis	Result	Units
TM-112	C24:1	0.1	%
TM-112	C20:2	0.4	%
TM-112	C20:4 (n6) (ARA)	45.0	%
TM-112	C20:5 (EPA)	0.1	%
TM-112	Unidentified	0.9	%
TM-112	C20:3 (n6)	1.6	%

Normlised fatty acid profile (%).

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

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ARA Oil Gold, 0020265740 - éch n°100921

Détermination des stérols

Incertitude sur la composition :

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

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

Incertitude sur la teneur : 20% de la valeur

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	1,6 %
stigmastérol	0,4 %
Iso fucostérol	5,8 %
Fucostérol	<0,1 %
B sitostérol	3,6 %
Δ5,24 Stigmastadiénol	<0,1 %
24methyldesmostérol	0,5 %
Stigma-5-ene-3βol	0,2 %
Teneur en stérols	**13542 mg/kg**

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Bad Bocklet 31 May 2019 / KA / Bastll

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
Enterobacteriaceae, qualitative	*L 00.00-133/1, mod.		not detected / g ISO 21528, mod.
Total viable count, anaerobic, 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 ISO 21527, mod.
Pseudomonas aeruginosa, qualitativ	L+S SOP 9.035		not detected / g ISO 13720, mod.
Salmonella 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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Bad Bocklet 15 Nov 2019 / MEZ / Baefil

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 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, präsumtiv, qualitativ	L+S SOP 09.005		not detected / g
coliform bacteria, quantitative	*L 01.00 - 3, mod.		< 10 CFU / g
Cronobacter sakazakii, qualitative	SOP 9.040		not detected / 25 g
Escherichia coli, qualitative	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 12:26 by Alexander Klauer, Specialist Manager.

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

Report date 17.06.2019

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

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)

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: incl. 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

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)	<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)	<0.5	*	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)	0.06		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)	<0.1	*	mg/kg

JJ0CV 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 (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) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

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)

Phosphorus	<3	*	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)

Sulphur total (S)	<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)	5.0		mg/kg
	± 2		mg/kg

JCSRA **Solvent residues (big scope) (#)**
Method: Internal, CON-PV 01330 (2019-03), HS-GC-MS

Chloroform (Trichloromethane)	<0.01	*	mg/kg
Trichloroethene	<0.01	*	mg/kg
Tetrachloroethene	<0.01	*	mg/kg
Sum 3 chlorinated solvents	Inapplicable		mg/kg
trans-Dichloroethene	<0.05	*	mg/kg
1,1-Dichloroethane	<0.05	*	mg/kg
cis-Dichloroethene	<0.05	*	mg/kg
1,2-Dichloroethane	<0.05	*	mg/kg
Dichloromethane	<0.05	*	mg/kg
1,1,1-Trichloroethane	<0.01	*	mg/kg
Tetrachloromethane	<0.01	*	mg/kg
1,1,2-Trichloroethane	<0.01	*	mg/kg
1,1,1,2-Tetrachloroethane	<0.01	*	mg/kg
Dibromochloromethane	<0.05	*	mg/kg
Bromodichloromethane	<0.05	*	mg/kg
Tribromomethane	<0.05	*	mg/kg
Benzene	0.093		mg/kg
	± 0.047		mg/kg
Toluene	<0.01	*	mg/kg
Ethylbenzene	<0.01	*	mg/kg
m-/-p-Xylene	<0.01	*	mg/kg
Xylene (ortho-)	<0.01	*	mg/kg
Styrene	<0.01	*	mg/kg
2-Butanon (Methylethylketon)	<1	*	mg/kg
Ethyl Acetate	<1	*	mg/kg
n-Pentane	<1	*	mg/kg
n-Heptane	<1	*	mg/kg
n-Hexane	<1	*	mg/kg
2-Methylpentane	<1	*	mg/kg
3-Methylpentane	<1	*	mg/kg
Methylcyclopentane	<1	*	mg/kg
Technical Hexane (calculated)	Inapplicable		mg/kg
Methyl acetate	<1	*	mg/kg

GFL13 **Dioxins and Furans (17 PCDD/F)**
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS
Subcontracted to a Eurofins laboratory accredited for this test

2,3,7,8-TetraCDD	< 0.0623	pg/g
1,2,3,7,8-PentaCDD	< 0.0820	pg/g
1,2,3,4,7,8-HexaCDD	< 0.125	pg/g
1,2,3,6,7,8-HexaCDD	< 0.170	pg/g
1,2,3,7,8,9-HexaCDD	< 0.161	pg/g
1,2,3,4,6,7,8-HeptaCDD	< 0.262	pg/g
OctaCDD	< 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-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-bound)	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
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
PCB 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

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.271	pg/g
WHO(2005)-PCDD/F+PCB TEQ (upper-bound)	0.541	pg/g

JCPC3	**7 Plasticizers (low LOQ) (#)**		
Method:	Internal Method, CON-PV 01337 (2018-10), LC-MS/MS		
Diethylhexylphthalate (DEHP)		0.30	mg/kg
		± 0.10	mg/kg
Benzyl butyl phthalate (BBP)		<0.1	* mg/kg
Diethylhexyl adipate (DEHA)		<0.1	* mg/kg
Diisodecylphthalate (DIDP)		<0.5	* mg/kg
Diisononylphthalate (DINP)		<0.5	* mg/kg
Dibutylphthalate (DBP)		<0.07	* mg/kg
Acetyltributylcitrat (ATBC)		<0.1	* mg/kg
JC00U	**PAH 4 (#)**		
Method:	Internal, CON-PV 01176 (2019-03), 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	* µg/kg
Sum PAH 4		Inapplicable	µg/kg
A0428	**Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)**		
Method:	DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD (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
JJV04	**Ochratoxin A (babyfood) (#)**		
Method:	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
JC0FG	**Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)**		
Method:	Food Addit. Contam. 2005 Aug; 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 and products derived from maize) (#)**		
Method:	Internal Method, CON-PV 01085 (2018-08), LC-MS/MS		
Fumonisin B1 (FB1)		<20	* µg/kg
Fumonisin B2 (FB2)		<20	* µg/kg
Fumonisin B3 (FB3)		<20	* µg/kg
Fumonisin sum (B1+B2)		<40	* µg/kg
Fumonisin sum (B1+B2+B3)		<60	* µg/kg

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 uncertainty (95%; k=2), sampling not included

Signature

Analytical Service Manager (Yasmina Knop)

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

Report date 27.09.2019

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

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)

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: incl. 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

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)	<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)	<0.5	*	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)	0.06		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)	<0.1	*	mg/kg

JJ0CV 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 (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) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

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)

Phosphorus	<3	*	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)

Sulphur total (S)	<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)	5.0		mg/kg
	± 2		mg/kg

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

GFL13 Dioxins and Furans (17 PCDD/F)
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS
Subcontracted to a Eurofins laboratory accredited for this test.

2,3,7,8-TetraCDD	< 0.0623	pg/g
1,2,3,7,8-PentaCDD	< 0.0820	pg/g
1,2,3,4,7,8-HexaCDD	< 0.125	pg/g
1,2,3,6,7,8-HexaCDD	< 0.170	pg/g
1,2,3,7,8,9-HexaCDD	< 0.161	pg/g
1,2,3,4,6,7,8-HeptaCDD	< 0.262	pg/g
OctaCDD	< 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-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-bound)	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
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
PCB 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

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

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND		pg/g
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.271		pg/g
WHO(2005)-PCDD/F+PCB TEQ (upper-bound)	0.541		pg/g

JCPC3 7 Plasticizers (low LOQ) (#)
Method: Internal Method, CON-PV 01337 (2018-10), LC-MS/MS

Diethylhexylphthalate (DEHP)	0.30		mg/kg
	± 0.10		mg/kg
Benzyl butyl phthalate (BBP)	<0.1	*	mg/kg
Diethylhexyl adipate (DEHA)	<0.1	*	mg/kg
Diisodecylphthalate (DIDP)	<0.5	*	mg/kg
Diisononylphthalate (DINP)	<0.5	*	mg/kg
Dibutylphthalate (DBP)	<0.07	*	mg/kg
Acetyltributylcitrat (ATBC)	<0.1	*	mg/kg

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2019-03), 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	*	µg/kg
Sum PAH 4	Inapplicable		µg/kg

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD
(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

JJV04 Ochratoxin A (babyfood) (#)
Method: 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

JC0FG Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)
Method: Food Addit. Contam. 2005 Aug; 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 and products derived from maize) (#)
Method: Internal Method, CON-PV 01085 (2018-08), LC-MS/MS

Fumonisin B1 (FB1)	<20	*	µg/kg
Fumonisin B2 (FB2)	<20	*	µg/kg
Fumonisin B3 (FB3)	<20	*	µg/kg
Fumonisin sum (B1+B2)	<40	*	µg/kg
Fumonisin sum (B1+B2+B3)	<60	*	µg/kg

JJW2Z Sterigmatocystin (#)
Method: Internal, CON-PV 01126 (2018-08), LC-MS/MS

Sterigmatocystin	<10	*	µg/kg

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

* = 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)

neotron Spa

ACCREDIA

CUSTOMER
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**

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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PESTICIDE RESIDUES IN BABY FOODS FOR INFANTS AND YOUNG CHILDREN								
Aldrin (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Dieldrin (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Endrin (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Fipronil (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Fipronil-desulfinyl (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
HCH alpha (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
HCH beta (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
HCH delta (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
HCH epsilon (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Heptachlor (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Heptachlor Epoxide cis (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Heptachlor Epoxide trans (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Hexachlorobenzene (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Lindane (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Nitrofene (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
o.p'-DDD (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
o.p'-DDE (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
o.p'-DDT (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
p.p'-DDD (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
p.p'-DDE (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
p.p'-DDT (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Cadusafos (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Demeton-S-methyl (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Demeton-S-methyl sulfoxide (oxydemeton-methyl) (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Demeton-S-methyl sulphone (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Disulfoton (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Disulfoton-sulfone (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Disulfoton-sulfoxide (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Ethoprophos (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]
Fensulfothion (low limit)	< LQ			mg/kg	0.001		[illegible]	[illegible]

Continued...

CUSTOMER
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							
Fensulfothion-oxon (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fensulfothion-oxon-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fensulfothion-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Haloxyfop methyl (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	28/05/2019 / 04/06/2019
Haloxyfop, included haloxyfop-R (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Haloxyfop-2-ethoxyethyl (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	28/05/2019 / 04/06/2019
Omethoate (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phorate (low limit)	< LQ			mg/kg	0.001		* ...GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
Terbufos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Terbufos-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Terbufos-sulfoxide (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fentin (fentin including its salts, expressed as triphenyltin cation) (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dithiocarbamates, thiuram-disulfides as CS2 (Analytical technique: GC) (low limit) [329]	< LQ			mg/kg	0.050		01(S131) 2019 Rev 6 - GC-MS	28/05/2019 / 04/06/2019
Total ethylentiourea (ETU) (hydrolise pH 9,90°C) (low limit)	< LQ			mg/kg	0.005		01(S4) rev 15 2016 - LC-MS/MS	28/05/2019 / 03/06/2019
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ			mg/kg	0.005		01(S4) rev 15 2016 - LC-MS/MS	28/05/2019 / 03/06/2019
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO								
Flonicamid (LCMS)	< LQ			mg/kg	0.003		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flonicamid metabolite: TFNA	< LQ			mg/kg	0.003		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flonicamid metabolite: TFNG	< LQ			mg/kg	0.003		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Abamectin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Acetamiprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Acetochlor	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Acibenzolar-S-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Aclonifen	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Acrinathrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Alachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Aldrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Dieldrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019

Continued...

neotron SpA

CUSTOMER
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	U	REC %	UNIT OF MEASURE	LQ	[illegible]	METHOD	ANALYSIS STARTING/ENDING DATE
Aldrin and dieldrin, sum expressed in dieldrin [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ametryn	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine-desethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine-desisopropyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azadirachtin-A	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azinphos-ethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azinphos-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azoxystrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benalaxyl, sum of isomers including Benalaxyl-M	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benfluralin	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbendazim	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benthiavalicarb-isopropyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bifenazate	< LQ			mg/kg	0.010		* [illegible] 2017 Rev.1 - LC-MS/MS	28/05/2019 / 04/06/2019
Bifenox	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bifenthrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bitertanol (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Boscalid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bromophos-ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromophos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromopropylate	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromuconazole, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bupirimate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Buprofezin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Butylate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cadusafos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbaryl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019

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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 **19E20037**

ANALYSIS DESCRIPTION	RESULT	U	REC. %	UNIT OF MEASURE	LQ	LD	METHOD	ANALYSES BEGINNING DATE / ENDING DATE
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furathiocarb)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbofuran-3-hydroxy	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlordane cis	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlordane oxi	< LQ			mg/kg	0.001		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlordane trans	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlordane sum of cis and trans-isomers [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorfenvinphos, sum of E and Z isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlormephos	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorotoluron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlorpropham	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorpyriphos ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorpyriphos methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Chlorsulfuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlorthal dimethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Clofentezine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Chlorantraniliprole (DPX E-2Y45)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Coumaphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cyanazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cyazofamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cycloate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cycloxydim	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Lambda-cyhalothrin (includes gamma-cyhalothrin) (sum of R,S and S,R isomers)	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Cymoxanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Cyproconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cyprodinil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
o,p'-DDD	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019

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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. 19E20037-In-0

SAMPLE **19E20037**

ANALYSIS DESCRIPTION	RESULT							
p,p'-DDD	< LQ			mg/kg	0.010		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
o,p'-DDE	< LQ			mg/kg	0.005		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
p,p'-DDE	< LQ			mg/kg	0.005		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
o,p'-DDT	< LQ			mg/kg	0.005		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
p,p'-DDT	< LQ			mg/kg	0.005		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			mg/kg	0.005		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Deltamethrin (cis-deltamethrin)	< LQ			mg/kg	0.010		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Diazinon	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dichlobenil	< LQ			mg/kg	0.010		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Dichlofluanid	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethyl-sulfanilide (DMSA)	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dichloran	< LQ			mg/kg	0.010		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Dichlorvos	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dietofencarb	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Difenoconazole	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diflubenzuron	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diflufenican	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethenamid, sum of isomers including dimethenamid-P	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethoate	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Omethoate	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethomorph, sum of isomers	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Ditalimfos	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diuron	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dodine	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Emamectin benzoate B1a, value expressed as emamectin	< LQ			mg/kg	0.010		01/S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan alpha	< LQ			mg/kg	0.005		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan beta	< LQ			mg/kg	0.005		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan sulphate	< LQ			mg/kg	0.005		01/S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019

Continued...

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

MODENA, li 04/06/2019

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SAMPLE **19E20037**

ANALYSIS DESCRIPTION	RESULT							
Endosulphan, sum of alpha and beta isomers and of endosulfan sulphate, expressed as endosulfan [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Endrin	< LQ			mg/kg	[illegible]		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Epoxyconazol	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
EPTC	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Esfenvalerate and Fenvalerate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Ethion	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Ethofumesate	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Ethoprophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Etofenprox	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Etoxazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Famoxadone	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Fenamidone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenamiphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenamiphos-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenamiphos-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenarimol	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenazaquin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenbuconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenchlorphos	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Fenchlorphos-oxon	< LQ			mg/kg	[illegible]		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos [414]	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Fenhexamid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenitrothion	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Fenoxaprop-p-ethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenoxycarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenpropathrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Fenpropidin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019

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89257 Illertissen GERMANIA

MODENA, li 04/06/2019

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SAMPLE **19E20037**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fenpropimorph	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenpyroximate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-oxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-oxon-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-oxon-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenthion, fenthion-oxon, fenthion-oxon-sulfone, fenthion-oxon-sulfoxide, fenthion-sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flazasulfuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flucythrinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fludioxonil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flufenacet	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flufenoxuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fluopicolide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fluquinconazole	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Flusilazole	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Flutriafol	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fluvalinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fonofos	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Formothion	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fosthiazate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
HCH alpha	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH beta	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH delta	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH epsilon	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor Epoxide cis	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor Epoxide trans	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019

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TEST REPORT nr. 19E20037-In-0

SAMPLE **19E20037**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ			mg/kg	0.005		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptenophos	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Hexachlorobenzene	< LQ			mg/kg	0.005		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Hexaconazole	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Hexythiazox	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Imazalil	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Imidacloprid	< LQ			mg/kg	0.011		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Indoxacarb, sum of R and S isomers	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Iodofenphos	< LQ			mg/kg	0.010		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Iprodione	< LQ			mg/kg	0.010		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Iprovalicarb	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Isofenphos	< LQ			mg/kg	0.010		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Isofenphos-methyl	< LQ			mg/kg	0.010		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Isoprothiolane	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Isoproturon	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Kresoxim-methyl	< LQ			mg/kg	0.010		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Lindane	< LQ			mg/kg	0.005		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Lindane, sum of HCH isomers included Lindane [414]	< LQ			mg/kg	0.005		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Linuron	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Lufenuron	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Malaoxon	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Malathion	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Malathion and Malaoxon sum expressed as Malathion [414]	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Mandipropamid	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Mecarbam	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Mepanipyrim	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Metalaxyl, sum of isomers including Metalaxyl-M	< LQ			mg/kg	0.010		01(5121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Metazachlor	< LQ			mg/kg	0.010		01(5144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019

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neotron SpA

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

MODENA, lì 04/06/2019

Sample arrived on the 28/05/2019
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TEST REPORT nr. 19E20037-In-0

SAMPLE 19E20037

ANALYSIS DESCRIPTION	RESULT		[illegible]	UNIT OF MEASURE	LQ	[illegible]	METHOD	ANALYSIS START DATE - END DATE
Methidathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methiocarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methiocarb-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methiocarb-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methiocarb, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methomyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Thiodicarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Methoxychlor	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Methoxyfenozide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Metolachlor, sum of isomers including S-metolachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Metrafenone	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Metribuzin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Metsulfuron-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Mevinphos, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Molinate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Monuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Myclobutanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Napropamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Oxadiazon	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Oxadixyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Oxyfluorfen	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Paclobutrazol	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Paraoxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Paraoxon-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Parathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Parathion-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019

Continued...

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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. 19E20037-In-0

SAMPLE **19E20037**

ANALYSIS DESCRIPTION	RESULT							
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019
Penconazole	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Pencycuron	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Pendimethalin	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Permethrin, sum of isomers	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019
Perthane	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019
Phenmedipham	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phenthoate	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019
Phorate	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phorate-oxon	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phorate-oxon-solfone	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phorate-sulfone	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phorate-sulfoxide	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phosalone	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phosmet	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phosmet-oxon	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phosmet and phosmet-oxon expressed as phosmet [414]	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Phosphamidon	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Picoxystrobin	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019
Piperonyl butoxide	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019
Pirimicarb (Pirimor)	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Pirimicarb-desmethyl	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Pirimiphos-ethyl	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019
Pirimiphos-methyl	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019
Prochloraz	< LQ			mg/kg	0.010		01/S121:2019 Rev. 12 + LC-MS/MS	28/05/2019 - 04/06/2019
Procymidone	< LQ			mg/kg	0.010		01/S144:2019 Rev. 11 + GC-MS/MS	28/05/2019 - 04/06/2019

Continued...

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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	[illegible]	[illegible]	UNIT OF MEASURE	LQ	[illegible]	METHOD	[illegible]
Profenofos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Prometryn	< LQ			mg/kg	0.005		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propachlor	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propaquizafop	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propargite	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propiconazole (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propoxur	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propyzamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Proquinazid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyraclostrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyrazophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyrethrins: pyrethrin I and II, cinerin I and II, jasmolin I and II, sum (low limit)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyridaben	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Pyrimethanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyriproxyfen	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Quinalphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Quinoxifen	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Quintozene	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Pentachloroaniline	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Rotenone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Simazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spinosad, sum of spinosyn A and spinosyn D	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirodiclofen	< LQ			mg/kg	0.005		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019

Continued...

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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. 19E20037-In-0

SAMPLE **19E20037**

ANALYSIS DESCRIPTION	RESULT							
Spirotetramat enol	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat enol-glucoside	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat ketohydroxy	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat monohydroxy	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat and its metabilites (enol, enol-glucoside, ketohydroxy, monohydroxy) sum as spirotetramat [414]	< LQ			mg/kg	0.050		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spiroxamine	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Sulfallate	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Sulfotep	< LQ			mg/kg	0.010		01(S144)2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Tebuconazole	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tebufenozide	< LQ			mg/kg	[illegible]		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tebufenpyrad	< LQ			mg/kg	0.010		01(S144)2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Teflubenzuron	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tefluthrin	< LQ			mg/kg	0.010		01(S144)2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Terbuthylazine	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tetrachlorvinphos	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tetraconazole	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tetradifon	< LQ			mg/kg	0.050		01(S144)2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Tetramethrin	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiabendazole	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiacloprid	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiamethoxam	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiobencarbe	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thionazin	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiophanate-methyl	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tolclofos-methyl	< LQ			mg/kg	0.010		01(S144)2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Tolylfluanid	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethylaminosulphotoluidide (DMST)	< LQ			mg/kg	0.010		01(S121)2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019

Continued...

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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tolylfluanid and DMST, sum expressed as tolylfluanid [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triadimefon	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triadimenol	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triallate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Di-allate (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triallate and Diallate sum expressed as Triallate [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triazophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Trichlorfon	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tricyclazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Trifloxystrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Triflumuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Trifluralin	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Triticonazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Vamidothion	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Vinchlozolin	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 / 04/06/2019

Continued...

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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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Zoxamide	< LQ			mg/kg	0.010		[illegible] Rev 12 - LC-MS/MS	[illegible]

END TEST REPORT

Notes and method reference:
< LQ: = lower than Quantification Limit. Please note that results expressed as '<LQ' may not indicate the absence of the searched parameters in the sample.
U: the reported uncertainty is the expanded uncertainty calculated using a coverage factor equal to 2 which gives a reliability 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 itself.
Results coming from microbiological tests are calculated according to the Standard ISO 7218:2007/Amd 1:2013. If the results are reported as <4 (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 single methods. In case of analytical steps foreseen in non-activity days of the laboratory, provisions from the standard ISO 7218: 2007/Amd 1:2013 (items 11.2 and 10.2.5) or from specific test methods are applied. In the case of quantitative 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.
LQ: Quantification 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: 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 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 <LQ 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 pesticides belonging to this group: Ferbam, Mancozeb, Maneb, Metiram, Nabam, Propineb, Thiram, Ziram
[414]: The sum is calculated through the lower bound criterion

TEST REPORT VALID FOR ALL LEGAL PURPOSES (Italian R.D. 1-3-1928 n°842 (article 16) – Italian Law 19-7-1957 n°679 articles 16 and 16, Italian Ministerial Decree 25-3-1986).
DATA and SAMPLE STORAGE: Test Reports, Raw data, chromatographic paths and instrumental reports are stored for 5 years. One control sample is stored for 2 months.
Data expressed in this test report refer only to the sample tested in the laboratory. The description or any other reference concerning the sample are declared by the customer. This Test Report cannot be reproduced except in full. Partial reproductions must be authorized in writing by the laboratory.

LABORATORY MANAGER: DR. ALBERTO GATTI -

Approved by Analysis Manager - laboratory LMA-pal
Approved by Analysis Manager - laboratory LC-FAH
Approved by Analysis Manager - laboratory GC-BRD

BASF

We create chemistry

Analysis Report

Product	**ARA Oil Gold**
Lot number	**L 26013**
Production date	**2019-03-14**

Parameter	Unit	Value	Lower Limit	Upper Limit
Appearance	-	pass	clear, yellowish to orange oil at 40°C	
Acid value	mg KOH/g	0.1	-	1.0
Free fatty acids, sum	%	0.06	-	0.45
Peroxide value	meq O2/kg	<0.1	-	4.0
Water content, Karl Fischer	%	0.01	-	0.05
Unsaponifiable matter	%	2.3	-	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	-

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

Dr. Edith von Kries
QC Laboratory Manager

rssl

Certificate of Analysis

Ms Edith Von Knies
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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-4** Your Ref: Sample Reference: 100396
Description: ARA Oil Gold L26013

Method	Analysis	Result	Units
* TM-318	Acid Value	0.2	mg KOH/g
* TM-325	Free Fatty Acid	0.08	g/100g
* TM-328	Peroxide Value	0.58	meqO2/kg Fat
* TM-319	Anisidine Value	<0.1	
*	Unsaponifiable Matter	1.8	g/100g
* TM-331	alpha tocopherol	150	mg/kg
* TM-331	beta tocopherol	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	%
* TM-252	Unidentified A	86.1	%
* TM-252	24-Methylene-cholesterol	1.7	%
* TM-252	Campestanol	0.3	%
* TM-252	Stigmasterol	0.1	%
* TM-252	Unidentified B	5.4	%
* TM-252	Chlerosterol	0.2	%
* TM-252	β-Sitosterol	0.6	%
* TM-252	Sitostenol	0.0	%
* TM-252	Δ-5-Avenasterol	0.1	%
* TM-252	Δ-5,24-Stigmastadienol	0.1	%
* TM-252	Δ-7-Stigmastenol	0.2	%
* TM-252	Δ-7-Avenasterol	0.1	%

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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-4** Your Refs: Sample Reference: 100396
Description: ARA Oil Gold L26013

Method	Analysis	Result	Units
* TM-252	Unidentified C	5.1	%
* TM-252	Total Sterols	17318	mg/kg
* TM 252	Total sterols excluding unidentified components	575	mg/kg
*	Arachidonic Acid	434	mg/g
TM-112	C13:0(I)	0.1	%
TM-112	C14:0	0.4	%
TM-112	C15:0	0.2	%
TM-112	C16:0	10.3	%
TM-112	C16:1	0.2	%
TM-112	C17:0	0.4	%
TM-112	C18:0(I)	0.1	%
TM-112	C18:0	8.8	%
TM-112	C18:1(trans)	0.2	%
TM-112	C18:1(cis)	15.8	%
TM-112	C18:2(trans)	0.5	%
TM-112	C18:2(cis)	5.5	%
TM-112	C18:3(gamma)	2.4	%
TM-112	C20:0	0.9	%
TM-112	C20:1	1.2	%
TM-112	C22:0	1.7	%
TM-112	C22:1	0.1	%
TM-112	C24:0	1.5	%
TM-112	C24:1	0.4	%

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

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Certificate of Analysis

Ms Edith Von Kries
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Building: 025
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DE 89257 Illertossen, Germany

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

Arachidonic Acid Rich Oil

Sample Code: **P19-05054-4** Your Refs: Sample Reference: 100396

Description: ARA Oil Gold L26013

Method	Analysis	Result	Units
TM-112	C20:2	0.8	%
TM-112	C20:4 (n6) (ARA)	43.6	%
TM-112	C20:5 (EPA)	0.2	%
TM-112	C22:6 (DHA)	0.3	%
TM-112	Unidentified	0.8	%
TM-112	C20:3 (n6)	3.9	%

Normlised fatty acid profile (%).

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

ARA fatty acid data ref: L19-00111/74
ARA was determined using a method based on European Pharmacopoeia method 2.4.29 calculated as mg / g and reported as triglycerides.
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 969.33 & 963.22.

1216

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

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RESULTATS

ARA Oil Gold, L 26013 - éch n°100893

Détermination des stérols

Incertitude sur la composition :

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

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

Incertitude sur la teneur : 20% de la valeur

Analyse réalisée le : 01/08/2019

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-3βol	1,4 %
Campéstérol	<0,1 %
stigmastérol	0,1 %
iso fucostérol	5,0 %
Fucostérol	<0,1 %
B sitostérol	0,5 %
Δ5,24 Stigmastadiénol	<0,1 %
24methyldesmostérol	0,1 %
Stigma-5-ene-3βol	<0,1 %
Teneur en stérols	**19416 mg/kg**

Labor | LS

Labor LS SE & Co. KG Mangelsfeld 4, 5, 6 | 97708 Bad Bocklet | Germany

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Robert-Hansen-Straße 1
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labor@labor-ls.de
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Bad Bocklet 31 May 2019 / KA / Basfll

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 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 ISO 21527. mod.
Pseudomonas aeruginosa, qualitativ	L+S SOP 9.035		not detected / g ISO 13720. mod.
Salmonella 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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Person in charge	Ms D. Zarthe	- 2907
Client support	Ms D. Zarthe	- 2907

Report date 14.06.2019

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

Sample Code 706-2019-00102721

Reference	ARA Oil Gold, L 26013 Triglyceride
Client Sample Code	100396
Purchase Order Code	4942613538
Client contract reference	Rahmenbestell-Nr. 4942613538
Number	2
Amount	1793 g
Reception temperature	room temperature
Ordered by	Frau Edith von Kries
Submitted by	Frau Edith von Kries
Reception date time	28.05.2019
Packaging	glass container with plastic closure
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 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)

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: 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

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

JJW2B Copper (Cu) (#)
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)

Copper (Cu)	0.1		mg/kg
	± 0.1		mg/kg

JJ0CJ 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) (#)
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)	<0.05	*	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)	<0.1	*	mg/kg

JJ0CV 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 (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

JJ0CI Manganese (Mn) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

J1050 Phosphorus (P) (#)
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)

Phosphorus (P)	8.0		mg/kg
	± 3		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)

Sulphur total (S)	<5	*	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)	3		mg/kg
	± 2		mg/kg

JCSRA **Solvent residues (big scope) (#)**
Method: Internal, CON-PV 01330 (2019-03), HS-GC-MS

Chloroform (Trichloromethane)	<0.01	*	mg/kg
Trichloroethene	<0.01	*	mg/kg
Tetrachloroethene	<0.01	*	mg/kg
Sum 3 chlorinated solvents	Inapplicable		mg/kg
trans-Dichloroethene	<0.05	*	mg/kg
1,1-Dichloroethane	<0.05	*	mg/kg
cis-Dichloroethene	<0.05	*	mg/kg
1,2-Dichloroethane	<0.05	*	mg/kg
Dichloromethane	<0.05	*	mg/kg
1,1,1-Trichloroethane	<0.01	*	mg/kg
Tetrachloromethane	<0.01	*	mg/kg
1,1,2-Trichloroethane	<0.01	*	mg/kg
1,1,1,2-Tetrachloroethane	<0.01	*	mg/kg
Dibromochloromethane	<0.05	*	mg/kg
Bromodichloromethane	<0.05	*	mg/kg
Tribromomethane	<0.05	*	mg/kg
Benzene	0.013		mg/kg
	± 0.0065		mg/kg
Toluene	<0.01	*	mg/kg
Ethylbenzene	<0.01	*	mg/kg
m-/-p-Xylene	<0.01	*	mg/kg
Xylene (ortho-)	<0.01	*	mg/kg
Styrene	<0.01	*	mg/kg
2-Butanon (Methylethylketon)	<1	*	mg/kg
Ethyl Acetate	<1	*	mg/kg
n-Pentane	<1	*	mg/kg
n-Heptane	<1	*	mg/kg
n-Hexane	<1	*	mg/kg
2-Methylpentane	<1	*	mg/kg
3-Methylpentane	<1	*	mg/kg
Methylcyclopentane	<1	*	mg/kg
Technical Hexane (calculated)	Inapplicable		mg/kg
Methyl acetate	<1	*	mg/kg

WBJ Contaminants

GFL13 Dioxins and Furans (17 PCDD/F)
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS
Subcontracted to a Eurofins 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
1,2,3,7,8,9-HexaCDF	< 0.127	pg/g
2,3,4,6,7,8-HexaCDF	< 0.156	pg/g
1,2,3,4,6,7,8-HeptaCDF	< 0.178	pg/g
1,2,3,4,7,8,9-HeptaCDF	< 0.124	pg/g
OctaCDF	< 0.382	pg/g
WHO(2005)-PCDD/F TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCDD/F TEQ (medium-bound)	0.164	pg/g
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.

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 ndl-PCB (upper-bound)	1.91	ng/g

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND		pg/g
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.263		pg/g
WHO(2005)-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

Diethylhexylphthalate (DEHP)	<0.1	*	mg/kg
Benzyl butyl phthalate (BBP)	<0.1	*	mg/kg
Diethylhexyl adipate (DEHA)	<0.1	*	mg/kg
Diisodecylphthalate (DIDP)	<0.5	*	mg/kg
Diisononylphthalate (DINP)	<0.5	*	mg/kg
Dibutylphthalate (DBP)	<0.07	*	mg/kg
Acetyltributylcitrat (ATBC)	<0.1	*	mg/kg

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2019-03), 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	*	µg/kg
Sum PAH 4	Inapplicable		µg/kg

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD
(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

JJV04 Ochratoxin A (babyfood) (#)
Method: 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

JC0FG Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)
Method: Food Addit. Contam. 2005 Aug; 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 and products derived from maize) (#)
Method: Internal Method, CON-PV 01085 (2018-08), LC-MS/MS

Fumonisin B1 (FB1)	<20	*	µg/kg
Fumonisin B2 (FB2)	<20	*	µg/kg
Fumonisin B3 (FB3)	<20	*	µg/kg
Fumonisin sum (B1+B2)	<40	*	µg/kg
Fumonisin sum (B1+B2+B3)	<60	*	µg/kg

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 uncertainty (95%; k=2), sampling not included

Signature ______________________________
Analytical Service Manager (Yasmina Knop)

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

Report date 27.09.2019

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
Purchase Order Code	4942613538
Client contract reference	Rahmenbestell-Nr. 4942613538
Number	2
Amount	1793 g
Reception temperature	room temperature
Ordered by	Frau Edith von Kries
Submitted by	Frau Edith von Kries
Reception date time	28.05.2019
Packaging	glass container with plastic closure
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 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)

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: 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

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

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

JJW2B Copper (Cu) (#)
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)

Copper (Cu)	0.1		mg/kg
	± 0.1		mg/kg

JJ0CJ 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) (#)
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)	<0.05	*	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)	<0.1	*	mg/kg

JJ0CV 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 (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

JJ0CI Manganese (Mn) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

J1050 Phosphorus (P) (#)
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)

Phosphorus (P)	8.0		mg/kg
	± 3		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)

Sulphur total (S)	<5	*	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)	3		mg/kg
	± 2		mg/kg

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

GFL13 Dioxins and Furans (17 PCDD/F)
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS
Subcontracted to a Eurofins 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
1,2,3,7,8,9-HexaCDF	< 0.127	pg/g
2,3,4,6,7,8-HexaCDF	< 0.156	pg/g
1,2,3,4,6,7,8-HeptaCDF	< 0.178	pg/g
1,2,3,4,7,8,9-HeptaCDF	< 0.124	pg/g
OctaCDF	< 0.382	pg/g
WHO(2005)-PCDD/F TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCDD/F TEQ (medium-bound)	0.164	pg/g
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.

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 ndl-PCB (upper-bound)	1.91	ng/g

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

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND	pg/g
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.263	pg/g
WHO(2005)-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

Diethylhexylphthalate (DEHP)	<0.1	*	mg/kg
Benzyl butyl phthalate (BBP)	<0.1	*	mg/kg
Diethylhexyl adipate (DEHA)	<0.1	*	mg/kg
Diisodecylphthalate (DIDP)	<0.5	*	mg/kg
Diisononylphthalate (DINP)	<0.5	*	mg/kg
Dibutylphthalate (DBP)	<0.07	*	mg/kg
Acetyltributylcitrat (ATBC)	<0.1	*	mg/kg

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2019-03), 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	*	µg/kg
Sum PAH 4	Inapplicable		µg/kg

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD
(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

JJV04 Ochratoxin A (babyfood) (#)
Method: 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

JC0FG Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)
Method: Food Addit. Contam. 2005 Aug; 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 and products derived from maize) (#)
Method: Internal Method, CON-PV 01085 (2018-08), LC-MS/MS

Fumonisin B1 (FB1)	<20	*	µg/kg
Fumonisin B2 (FB2)	<20	*	µg/kg
Fumonisin B3 (FB3)	<20	*	µg/kg
Fumonisin sum (B1+B2)	<40	*	µg/kg
Fumonisin sum (B1+B2+B3)	<60	*	µg/kg

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

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

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 uncertainty (95%, k=2), sampling not included

Signature

Analytical Service Manager (Patrick Kösters)

neotron

Customer
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

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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PESTICIDE RESIDUES IN BABY FOODS FOR INFANTS AND YOUNG CHILDREN								
Aldrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Dieldrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Endrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Fipronil (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Fipronil-desulfinyl (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH alpha (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH beta (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH delta (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
HCH epsilon (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor Epoxide cis (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptachlor Epoxide trans (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Hexachlorobenzene (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Lindane (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Nitrofene (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
o,p'-DDD (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
o,p'-DDE (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
o,p'-DDT (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
p,p'-DDD (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
p,p'-DDE (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
p,p'-DDT (low limit)	< LQ			mg/kg	0.001		* bf-GCMS 2018 Rev3 - GC-MS/MS	28/05/2019 / 04/06/2019
Cadusafos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Demeton-S-methyl (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Demeton-S-methyl sulfoxide (oxydemeton-methyl) (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Demeton-S-methyl sulphone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Disulfoton (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev.3 - GC-MS/MS	28/05/2019 / 04/06/2019
Disulfoton-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Disulfoton-sulfoxide (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Ethoprophos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fensulfothion (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019

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CUSTOMER
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

SAMPLE **19E20038**

ANALYSIS DESCRIPTION	RESULT							
Fensulfothion-oxon (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fensulfothion-oxon-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fensulfothion-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Haloxyfop methyl (low limit)	< LQ			mg/kg	0.001		01(S156) 2019 Rev 3 - GC-MS/MS	28/05/2019 / 04/06/2019
Haloxyfop, included haloxyfop-R (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Haloxyfop-2-ethoxyethyl (low limit)	< LQ			mg/kg	0.001		01(S156) 2019 Rev 3 - GC-MS/MS	28/05/2019 / 04/06/2019
Omethoate (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Phorate (low limit)	< LQ			mg/kg	0.001		* [illegible]CCMS 2018 Rev3 - GC-MS/MS	[illegible] / 04/06/2019
Terbufos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Terbufos-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Terbufos-sulfoxide (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fentin (fentin including its salts, expressed as triphenyltin cation) (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dithiocarbamates, thiuram-disulfides as CS2 (Analytical technique: GC) (low limit) [329]	< LQ			mg/kg	0.005		01(S131) 2018 Rev 8 - GC-MS	28/05/2019 / 04/06/2019
Total ethylentiourea (ETU) (hydrolise pH 9,90°C) (low limit)	< LQ			mg/kg	0.005		01(S[illegible]) rev 15 2018 - LC-MS/MS	28/05/2019 / 03/06/2019
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ			mg/kg	0.005		01(S[illegible]) rev 15 2018 - LC-MS/MS	28/05/2019 / 03/06/2019
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO								
Flonicamid (LCMS)	< LQ			mg/kg	0.003		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flonicamid metabolite: TFNA	< LQ			mg/kg	0.001		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Flonicamid metabolite: TFNG	< LQ			mg/kg	0.003		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Abamectin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Acetamiprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Acetochlor	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Acibenzolar-S-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Aclonifen	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Acrinathrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Alachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Aldrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Dieldrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019

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CUSTOMER
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

SAMPLE **19E20038**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	UNIT	LQ		METHOD	[illegible]
Aldrin and dieldrin, sum expressed in dieldrin [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ametryn	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine-desethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Atrazine-desisopropyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azadirachtin-A	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azinphos-ethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azinphos-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Azoxystrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benalaxyl, sum of isomers including Benalaxyl-M	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benfluralin	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbendazim	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Benthiavalicarb-isopropyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bifenazate	< LQ			mg/kg	0.010		* [illegible] Q 2017 Rev.1 - LC-MS/MS	28/05/2019 / 04/06/2019
Bifenox	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bifenthrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bitertanol (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Boscalid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bromophos-ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromophos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromopropylate	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Bromuconazole, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Bupirimate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Buprofezin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Butylate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Cadusafos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Carbaryl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019

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ACCREDIA

CUSTOMER
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

SAMPLE **19E20038**

ANALYSIS DESCRIPTION	RESULT		[illegible]	[illegible]	LQ	[illegible]	[illegible]	[illegible]
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furathiocarb)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Carbofuran-3-hydroxy	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Chlordane cis	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Chlordane oxi	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Chlordane trans	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Chlordane sum of cis and trans-isomers [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Chlorfenvinphos, sum of E and Z isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Chlormephos	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Chlorotoluron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Chlorpropham	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Chlorpyriphos ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Chlorpyriphos methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Chlorsulfuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Chlorthal dimethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Clofentezine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Chlorantraniliprole (DPX E-2Y45)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Coumaphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Cyanazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Cyazofamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Cycloate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Cycloxydim	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Cyflutnrin e Cyfluthrin beta, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Lambda-cyhalothrin (includes gamma-cyhalothrin) (sum of R,S and S,R isomers)	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Cymoxanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019
Cyproconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
Cyprodinil	< LQ			mg/kg	0.015		01(S121) 2019 Rev.12 - LC-MS MS	28/05/2019 / 04/06/2019
o,p'-DDD	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS MS	28/05/2019 / 04/06/2019

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Robert Hansen Strasse 1
89257 Illertissen GERMANIA

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Sample arrived on the 28/05/2019
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TEST REPORT nr. 19E20038-In-0

SAMPLE **19E20038**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
p.p'-DDD	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
o.p'-DDE	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
p.p'-DDE	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
o.p'-DDT	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
p.p'-DDT	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Deltamethrin (cis-deltamethrin)	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Diazinon	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dichlobenil	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Dichlofluanid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethyl-sulfanilide (DMSA)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dichloran	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Dichlorvos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dietofencarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Difenoconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diflubenzuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diflufenican	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethenamid, sum of isomers including dimethenamid-P	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethoate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Omethoate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethomorph, sum of isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Ditalimfos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Diuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dodine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Emamectin benzoate B1a, value expressed as emamectin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan alpha	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan beta	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Endosulfan sulphate	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019

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SAMPLE 19E20038

ANALYSIS DESCRIPTION	RESULT							
Endosulphan, sum of alpha and beta isomers and of endosulfan sulphate, expressed as endosulfan [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Endrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Epoxyconazol	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
EPTC	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Esfenvalerate and Fenvalerate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ethion	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ethofumesate	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Ethoprophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Etofenprox	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Etoxazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Famoxadone	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenamidone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenamiphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenamiphos-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenamiphos-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenarimol	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenazaquin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenbuconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenchlorphos	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenchlorphos-oxon	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos [414]	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenhexamid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenitrothion	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenoxaprop-p-ethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenoxycarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Fenpropathrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Fenpropidin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019

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SAMPLE **19E20038**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fenpropimorph	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenpyroximate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenthion	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenthion-oxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenthion-oxon-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenthion-oxon-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenthion-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenthion-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fenthion, fenthion-oxon, fenthion-oxon-sulfone, fenthion-oxon-sulfoxide, fenthion-sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Flazasulfuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Flucythrinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Fludioxonil	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Flufenacet	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Flufenoxuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fluopicolide	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fluquinconazole	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Flusilazole	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Flutriafol	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fluvalinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Fonofos	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Formothion	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
Fosthiazate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	28/05/2019 - 04/06/2019
HCH alpha	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
HCH beta	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
HCH delta	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
HCH epsilon	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Heptachlor	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Heptachlor Epoxide cis	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019
Heptachlor Epoxide trans	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 11 - GC-MS/MS	28/05/2019 - 04/06/2019

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SAMPLE 19E20038

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Heptenophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Hexachlorobenzene	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Hexaconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Hexythiazox	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Imazalil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Imidacloprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Indoxacarb, sum of R and S isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Iodofenphos	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Iprodione	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Iprovalicarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Isofenphos	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Isofenphos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Isoprothiolane	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Isoproturon	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Kresoxim-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Lindane	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Lindane, sum of HCH isomers included Lindane [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Linuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Lufenuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Malaoxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Malathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Malathion and Malaoxon sum expressed as Malathion [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Mandipropamid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Mecarbam	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Mepanipyrim	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Metalaxyl, sum of isomers including Metalaxyl-M	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Metazachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019

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89257 Illertissen GERMANIA

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SAMPLE **19E20038**

ANALYSIS DESCRIPTION	RESULT	U	REC %	UNITS OF MEASURE	LQ	LR	METHOD	ANALYSIS START/END DATE
Methidathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Methiocarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Methiocarb-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Methiocarb-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Methiocarb, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Methomyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiodicarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Methoxychlor	< LQ			mg/kg	0.005		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Methoxyfenozide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Metolachlor, sum of isomers including S-metolachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Metrafenone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Metribuzin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Metsulfuron-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Mevinphos, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Molinate	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Monuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Myclobutanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Napropamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Oxadiazon	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Oxadixyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Oxyfluorfen	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Paclobutrazol	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	28/05/2019 / 04/06/2019
Paraoxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Paraoxon-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Parathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019
Parathion-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	28/05/2019 / 04/06/2019

Continued...

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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

SAMPLE **19E20038**

ANALYSIS DESCRIPTION	RESULT	U	REC %	UNIT OF MEASURE	LQ	LD	METHOD	ANALYSIS DATE START - END
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Penconazole	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Pencycuron	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Pendimethalin	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Permethrin, sum of isomers	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Perthane	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Phenmedipham	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phenthoate	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Phorate	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phorate-oxon	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phorate-oxon-solfone	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phorate-sulfone	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phorate-sulfoxide	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phosalone	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phosmet	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phosmet-oxon	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phosmet and phosmet-oxon expressed as phosmet [414]	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Phosphamidon	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Picoxystrobin	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Piperonyl butoxide	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Pirimicarb (Pirimor)	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Pirimicarb-desmethyl	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Pirimiphos-ethyl	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Pirimiphos-methyl	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019
Prochloraz	< LQ			mg/kg	0.010		01(S121)/2019 Rev.12 - LC-MS/MS	28/05/2019 - 04/06/2019
Procymidone	< LQ			mg/kg	0.010		01(S144)/2019 Rev.11 - GC-MS/MS	28/05/2019 - 04/06/2019

Continued...

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MODENA, li 04/06/2019

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

TEST REPORT nr. 19E20038-In-0

SAMPLE 19E20038

ANALYSIS DESCRIPTION	RESULT		U (±)	UNIT OF MEASURE	LQ	LD	METHOD	ANALYSIS BEGIN/END DATE
Profenofos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Prometryn	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propachlor	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propaquizafop	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propargite	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propiconazole (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propoxur	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Propyzamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Proquinazid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyraclostrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyrazophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyrethrins: pyrethrin I and II, cinerin I and II, jasmolin I and II, sum (low limit)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyridaben	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Pyrimethanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Pyriproxyfen	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Quinalphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Quinoxifen	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Quintozene	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Pentachloroaniline	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Rotenone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Simazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spinosad, sum of spinosyn A and spinosyn D	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirodiclofen	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019

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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

SAMPLE 19E20038

ANALYSIS DESCRIPTION	RESULT			UNIT OF MEASURE	LQ		METHOD	ANALYSIS DATES
Spirotetramat enol	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat enol-glucoside	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat ketohydroxy	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat monohydroxy	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spirotetramat and its metabilites (enol, enol-glucoside, ketohydroxy, monohydroxy) sum as spirotetramat [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Spiroxamine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Sulfallate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Sulfotep	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Tebuconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tebufenozide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tebufenpyrad	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Teflubenzuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tefluthrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Terbuthylazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tetrachlorvinphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tetraconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tetradifon	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Tetramethrin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiabendazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiacloprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiamethoxam	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiobencarbe	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thionazin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Thiophanate-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Tolclofos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.11 - GC-MS/MS	28/05/2019 / 04/06/2019
Tolylfluanid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019
Dimethylaminosulphotoluidide (DMST)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	28/05/2019 / 04/06/2019

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MODENA, li 04/06/2019

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

TEST REPORT nr. 19E20038-In-0

SAMPLE **19E20038**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	UNIT OF MEASURE	LQ	[illegible]	METHOD	ANALYSIS BEGINNING DATE / ENDING DATE
Tolylfluanid and DMST, sum expressed as tolylfluanid [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Triadimefon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Triadimenol	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Triallate	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Di-allate (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Triallate and Diallate sum expressed as Triallate [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Triazophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Trichlorfon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Tricyclazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Trifloxystrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Triflumuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Trifluralin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	[illegible]
Triticonazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Vamidothion	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	[illegible]
Vinchlozolin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 11 - GC-MS/MS	[illegible]

Continued...

MODENA, li 04/06/2019

BASF Personal Care and Nutrition GmbH
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89257 Illertissen GERMANIA

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

TEST REPORT nr. 19E20038-In-0

SAMPLE 19E20038

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Zoxamide	< LQ			[illegible]	[illegible]		[illegible]	[illegible]

END TEST REPORT

Notes and method reference:
< LQ = lower than Quantification Limit. Please note that results expressed as '<LQ' may not indicate the absence of the searched parameters in the sample.
U: the reported uncertainty is the expanded uncertainty calculated using a coverage factor equal to 2 which gives a reliability 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 itself.
Results coming from microbiological tests are calculated according to the Standard ISO 7218:2007/Amd 1:2013. If the results are reported as <4 (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 single methods, in case of analytical steps foreseen in non-activity days of the laboratory, provisions from the standard ISO 7218: 2007/Amd.1:2013 (items 11.2 and 10.2.5) or from specific test methods are applied. In the case of quantitative 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.
LQ: Quantification 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: 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 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 expression <LQ 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 pesticides belonging to this group: Ferbam, Mancozeb, Maneb, Metiram, Nabam, Propineb, Thiram, Ziram
[414]: The sum is calculated through the lower bound criterion.

TEST REPORT VALID FOR ALL LEGAL PURPOSES (Italian R.D. 1-3-1928 n°842 (article 16), – Italian Law 19-7-1957 n°679 articles 16 and 18, Italian Ministerial Decree 25-3-1986).
DATA and SAMPLE STORAGE: Test Reports, Raw data, chromatographic paths and instrumental reports are stored for 5 years. One control sample is stored for 2 months.
Data expressed in the test report refer only to the sample tested in the laboratory. The description or any other reference concerning the sample are declared by the customer. The Test Report cannot be reproduced except in full. Partial reproductions must be authorized in writing by our laboratory.

LABORATORY MANAGER: DR. ALBERTO GATTI

Approved by Analysis Manager - laboratory LMA-pur
Approved by Analysis Manager - laboratory LC-FAR
Approved by Analysis Manager - laboratory GC-BRO

NEOTRON SpA

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Analysis Report

Product	ARA Oil Gold
Lot number	L 26028
Production date	2019-06-21

Parameter	Unit	Value	Lower Limit	Upper Limit
Appearance	-	pass	clear, yellowish to orange oil at 40°C	
Acid value	mg KOH/g	0.1	-	1.0
Free fatty acids, sum	%	0.04	-	0.45
Peroxide value	meq O2/kg	0.1	-	4.0
Water content, Karl Fischer	%	0.01	-	0.05
Unsaponifiable matter	%	2.0	-	3.5
Anisidine value	-	5.6	-	20
Fatty acid trans, sum	% (a)	0.3	-	0.5
Content Arachidonic acid as TG	mg/g	413	400	-

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

[redacted]

Dr. Edith von Kries
QC Laboratory Manager

eurofins
WEJ Contaminants

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

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

Report date 27.09.2019

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	1
Amount	1422 g
Reception temperature	room temperature
Ordered by	Frau Edith von Kries
Submitted by	Frau Edith von Kries
Sender	DHL 5660585243
Reception date time	22.07.2019
Packaging	Glasbehältnis mit Kunststoffverschluss
Start/end of analyses	25.07.2019 / 05.08.2019

TEST RESULTS

Physical-chemical Analysis

JK07T Tocopherole

Method: DGF F-II 4a:2000, PV 00155, LC-FLD

Subcontracted to a Eurofins laboratory accredited for this test.

Alpha-Tocopherol	472		mg/kg fat
Beta-Tocopherol	29		mg/kg fat
Gamma-Tocopherol	1800		mg/kg fat
Delta-Tocopherol	634		mg/kg fat

LYFS2 Fatty acid profile

Method: Internal Method, PV 2103:2019-01, GC-FID

Subcontracted to a Eurofins laboratory accredited for this test.

C 4:0 (Butyric acid)	<0.05	*	g/100 g
C 6:0 (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
C 14:0 (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
C 16:0 (Palmitic acid)	10.2		g/100 g

This report replaces report number: AR-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
Monounsaturated fatty 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
Omega-6 fatty acids in Product	54.3		g/100 g
Omega-3 fatty acids in the product	0.3		g/100 g
Trans fatty acids in the product	0.5		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	*	%

WEJ Contaminants

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

JK07G Unsaponifiable matter
Method: § 64 LFGB L 13.00-19:2004-12, PV 01377, Gravimetry
Subcontracted to a Eurofins laboratory accredited for this test.

Unsaponifiable matter	1.6		%

J7142 Anisidine value
Method: § 64 LFGB L 13.00-15:2008-06, PV 01269, Spectrophotometry
Subcontracted to a Eurofins laboratory accredited for this test.

Anisidine value	<1	*	

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	1.4		meqO2/kg

J1001 Sample preparation (#)
Method: §64 LFGB L 00.00-19/1, CON-PV 00001 (2019-03), Digestion (microwave)

JCM03 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)	<0.02	*	mg/kg

JCM04 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)	<0.005	*	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

JC00M 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)	<0.05	*	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]	<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)	<0.5	*	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)	<0.05	*	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)	<0.1	*	mg/kg

J1057 Tin (Sn) (#)
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)

Tin (Sn)	<0.5	*	mg/kg

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

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) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

J1050 Phosphorus (P) (#)
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)

Phosphorus (P)	<3	*	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)

Sulphur total (S)	<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)	<2	*	mg/kg

GFL13 Dioxins and Furans (17 PCDD/F)
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS
Subcontracted to a Eurofins laboratory accredited for this test.

2,3,7,8-TetraCDD	< 0.0625	pg/g
1,2,3,7,8-PentaCDD	< 0.0822	pg/g
1,2,3,4,7,8-HexaCDD	< 0.125	pg/g
1,2,3,6,7,8-HexaCDD	< 0.171	pg/g
1,2,3,7,8,9-HexaCDD	< 0.161	pg/g
1,2,3,4,6,7,8-HeptaCDD	< 0.263	pg/g
OctaCDD	< 1.91	pg/g
2,3,7,8-TetraCDF	< 0.171	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	< 0.194	pg/g
1,2,3,6,7,8-HexaCDF	< 0.178	pg/g
1,2,3,7,8,9-HexaCDF	< 0.132	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	< 0.395	pg/g
WHO(2005)-PCDD/F TEQ (lower-bound)	ND	
WHO(2005)-PCDD/F TEQ (medium-bound)	0.170	pg/g
WHO(2005)-PCDD/F TEQ (upper-bound)	0.339	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.

PCB 77	< 5.92	pg/g
PCB 81	< 0.888	pg/g
PCB 105	< 12.8	pg/g
PCB 114	< 1.74	pg/g
PCB 118	< 46.1	pg/g
PCB 123	< 1.32	pg/g
PCB 126	< 0.822	pg/g
PCB 156	< 7.24	pg/g

WEJ Contaminants

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

PCB 157	< 1.35	pg/g
PCB 167	< 3.62	pg/g
PCB 169	< 3.95	pg/g
PCB 189	< 1.32	pg/g
WHO(2005)-PCB TEQ (lower-bound)	ND	
WHO(2005)-PCB TEQ (medium-bound)	0.102	pg/g
WHO(2005)-PCB TEQ (upper-bound)	0.204	pg/g
PCB 28	< 0.329	ng/g
PCB 52	< 0.329	ng/g
PCB 101	< 0.329	ng/g
PCB 138	< 0.329	ng/g
PCB 153	< 0.329	ng/g
PCB 180	< 0.329	ng/g
Total 6 ndl-PCB (lower-bound)	ND	
Total 6 ndl-PCB (medium-bound)	0.987	ng/g
Total 6 ndl-PCB (upper-bound)	1.97	ng/g

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND	
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.272	pg/g
WHO(2005)-PCDD/F+PCB TEQ (upper-bound)	0.543	pg/g

JCP01 Preparation PAH (Caffeine complexation) (#)
Method: Internal, CON-PV 01176 (2019-03), Extraction

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2019-03), 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	* µg/kg
Sum PAH 4	Inapplicable	

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2018-11), IAC-LC-FLD
(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	Inapplicable	

JJV04 Ochratoxin A (babyfood) (#)
Method: 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

JC0FG Fusarium toxins, small, babyfood (DON, ZON, T2, HT2) (#)
Method: Food Addit. Contam. 2005 Aug; 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	Inapplicable	

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

JJ088 Fumonisine B1, B2, B3 (maize and products derived from maize) (#)

Method: Internal Method, CON-PV 01085 (2018-08), LC-MS/MS

Fumonisin B1 (FB1)	<20	* µg/kg
Fumonisin B2 (FB2)	<20	* µg/kg
Fumonisin B3 (FB3)	<20	* µg/kg
Fumonisin sum (B1+B2)	<40	* µg/kg
Fumonisin sum (B1+B2+B3)	<60	* µg/kg

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 uncertainty (95%; k=2), sampling not included

Signature

Analytical Service Manager (Patrick Kösters)

ARA Oil Gold, L 26028 - éch n°100944

Détermination des stérols

Incertitude sur la composition :

Delta7-campesterol / Delta5-avenastérol / Delta7-stigmasterol / Delta7 avenostérol : 20 % de la valeur avec Minimum : 0,7 / Maximum : 3,5

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

Incertitude sur la teneur : 20% de la valeur

Analyse réalisée le : 01/08/2019

Stérols	Résultat(s)
Cholestérol	0,1 %
5α cholesta-8, 14 dien-3βol	3,4 %
Desmostérol	82,4 %
Zymostérol	1,7 %
Ergostérol	5,0 %
Cholest7, 24die-3βol	1,5 %
Campéstérol	<0,1 %
stigmastérol	<0,1 %
Iso fucostérol	5,3 %
Fucostérol	<0,1 %
B sitostérol	0,5 %
Δ5,24 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

Loïc LEITNER

Labor | LS

Labor LS SE & Co. KG Mangelsfeld 4, 5, 6 | 97708 Bad Bocklet | 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 Bocklet 25 Jul 2019 / KA / Basfll

Certificate of Analysis

LS No:	190712-0062-001	**LS Code:**	1395393 / L
Product name:	ARA OIL Gold		
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
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	*L 00.00 - 20		not detected / 25 g DIN EN ISO 6579-1, mod.
molds, quantitative	*L 01.00 - 37, mod.		< 100 CFU / g DIN EN ISO 21527-1, mod.
Coagulase-positive Staphylococci, qualitative	L+S SOP 9.014		not detected / g DIN EN ISO 6888-1, mod
			All results conform 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 ergänzt, ersetzt Prüfbericht vom 23.07.2019

Labor LS SE & Co. KG
[illegible]
Labor LS SE Verwaltungsgesellschaft
[illegible]

neotron

ACCREDIA

MODENA, li 30/07/2019

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

TEST REPORT nr. 19G16113-In-0

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

SAMPLE **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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PESTICIDE RESIDUES IN BABY FOODS FOR INFANTS AND YOUNG CHILDREN								
Aldrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Dieldrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Endrin (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Fipronil (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Fipronil-desulfinyl (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
HCH alpha (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
HCH beta (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
HCH delta (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
HCH epsilon (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Heptachlor (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Heptachlor Epoxide cis (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Heptachlor Epoxide trans (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Hexachlorobenzene (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Lindane (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Nitrofene (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
o,p'-DDD (low limit)	< LQ			mg/kg	0.001		* 01-GCMS 2018 Rev3 - GC-MS/MS	22/07/2019 - 29/07/2019
o,p'-DDE (low limit)	< LQ			mg/kg	0.001		* 01-GCMS 2018 Rev3 - GC-MS/MS	22/07/2019 - 29/07/2019
o,p'-DDT (low limit)	< LQ			mg/kg	0.001		* 01-GCMS 2018 Rev3 - GC-MS/MS	22/07/2019 - 29/07/2019
p,p'-DDD (low limit)	< LQ			mg/kg	0.001		* 01-GCMS 2018 Rev3 - GC-MS/MS	22/07/2019 - 29/07/2019
p,p'-DDE (low limit)	< LQ			mg/kg	0.001		* 01-GCMS 2018 Rev3 - GC-MS/MS	22/07/2019 - 29/07/2019
p,p'-DDT (low limit)	< LQ			mg/kg	0.001		* 01-GCMS 2018 Rev3 - GC-MS/MS	22/07/2019 - 29/07/2019
Cadusafos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 - 29/07/2019
Demeton-S-methyl (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 - 29/07/2019
Demeton-S-methyl sulfoxide (oxydemeton-methyl) (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 - 29/07/2019
Demeton-S-methyl sulphone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 - 29/07/2019
Disulfoton (low limit)	< LQ			mg/kg	0.001		01(S155) 2019 Rev 3 - GC-MS/MS	22/07/2019 - 29/07/2019
Disulfoton-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 - 29/07/2019
Disulfoton-sulfoxide (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 - 29/07/2019
Ethoprophos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fensulfothion (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 - 29/07/2019

Continued...

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

MODENA, li 30/07/2019

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

TEST REPORT nr. 19G16113-In-0

SAMPLE **19G16113**

ANALYSIS DESCRIPTION	RESULT								
Fensulfothion-oxon (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fensulfothion-oxon-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fensulfothion-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Haloxyfop methyl (low limit)	< LQ			mg/kg	0.001		01(S156) 2019 Rev.3 - GC-MS/MS	22/07/2019 / 29/07/2019
Haloxyfop, included haloxyfop-R (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Haloxyfop-2-ethoxyethyl (low limit)	< LQ			mg/kg	0.001		01(S156) 2019 Rev.3 - GC-MS/MS	22/07/2019 / 29/07/2019
Omethoate (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Phorate (low limit)	< LQ			mg/kg	0.001		* EN-GCMS 2018 Rev.3 - GC-MS/MS	22/07/2019 / 29/07/2019
Terbufos (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Terbufos-sulfone (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Terbufos-sulfoxide (low limit)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fentin (fentin including its salts, expressed as triphenyltin cation) (low limit)	< LQ			mg/kg	0.005		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Dithiocarbamates, thiuram-disulfides as CS2 (Analytical technique: GC) (low limit) [329]	< LQ			mg/kg	0.005		01(S131) 2019 Rev.5 - GC-MS	22/07/2019 / 30/07/2019
Total ethylentiourea (ETU) (hydrolise pH 9,90°C) (low limit)	< LQ			mg/kg	0.005		01(S6) 2019 Rev.17 - LC-MS/MS	22/07/2019 / 29/07/2019
Total Propylenthiourea (PTU) (hydrolise pH 9, 90°C) (low limit)	< LQ			mg/kg	0.005		01(S6) 2019 Rev.17 - LC-MS/MS	22/07/2019 / 29/07/2019
QuEChERS Basic - Nuts, oleaginous seeds and oil BIO								
Flonicamid (LCMS)	< LQ			mg/kg	0.003		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Flonicamid metabolite: TFNA	< LQ			mg/kg	0.003		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Flonicamid metabolite: TFNG	< LQ			mg/kg	0.003		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Abamectin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Acetamiprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Acetochlor	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Acibenzolar-S-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Aclonifen	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Acrinathrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Alachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Aldrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Dieldrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019

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ANALYSIS DESCRIPTION	RESULT							
Aldrin and dieldrin, sum expressed in dieldrin [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev. 12 - GC-MS/MS	22/07/2019 29/07/2019
Ametryn	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Atrazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Atrazine-desethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Atrazine-desisopropyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Azadirachtin-A	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Azinphos-ethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Azinphos-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Azoxystrobin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Benalaxyl, sum of isomers including Benalaxyl-M	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Benfluralin	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 12 - GC-MS/MS	22/07/2019 29/07/2019
Benomyl, Carbendazim sum expressed as Carbendazim [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Carbendazim	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Benthiavalicarb-isopropyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Bifenazate	< LQ			mg/kg	0.010		• QuPPe-PO 2017 (Rev. 1 - LC-MS/MS	22/07/2019 29/07/2019
Bifenox	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 12 - GC-MS/MS	22/07/2019 29/07/2019
Bifenthrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 12 - GC-MS/MS	22/07/2019 29/07/2019
Bitertanol (sum of isomers)	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Boscalid	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Bromophos-ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 12 - GC-MS/MS	22/07/2019 29/07/2019
Bromophos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 12 - GC-MS/MS	22/07/2019 29/07/2019
Bromopropylate	< LQ			mg/kg	0.010		01(S144) 2019 Rev. 12 - GC-MS/MS	22/07/2019 29/07/2019
Bromuconazole, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Bupirimate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Buprofezin	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Butylate	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Cadusafos	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019
Carbaryl	< LQ			mg/kg	0.010		01(S121) 2019 Rev. 12 - LC-MS/MS	22/07/2019 29/07/2019

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ANALYSIS DESCRIPTION	RESULT							
Carbofuran (including any carbofuran generated from carbosulfan, benfuracarb or furathiocarb)	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Carbofuran-3-hydroxy	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Carbofuran and Carbofuran-3-hydroxy, sum expressed as Carbofuran [414]	< LQ			mg/kg	0.001		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Chlordane cis	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Chlordane oxi	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Chlordane trans	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Chlordane sum of cis and trans-isomers [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Chlorfenvinphos, sum of E and Z isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Chlormephos	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Chlorotoluron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Chlorpropham	< LQ			mg/kg	0.050		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Chlorpyriphos ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Chlorpyriphos methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Chlorsulfuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Chlorthal dimethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Clofentezine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Chlorantraniliprole (DPX E-2Y45)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Coumaphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Cyanazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Cyazofamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Cycloate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Cycloxydim	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Cyfluthrin e Cyfluthrin beta, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Lambda-cyhalothrin (includes gamma-cyhalothrin) (sum of R,S and S,R isomers)	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Cymoxanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Cypermethrin, including other mixtures of constituent isomers (sum of isomers)	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Cyproconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Cyprodinil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
o,p'-DDD	< LQ			mg/kg	0.002		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019

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ANALYSIS DESCRIPTION	RESULT							
p,p'-DDD	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	
o,p'-DDE	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	
p,p'-DDE	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	
o,p'-DDT	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	
p,p'-DDT	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	
DDT, sum, of pp'-DDT, op'-DDT, pp'-DDE, pp'DDD expressed as DDT [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	
Deltamethrin (cis-deltamethrin)	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	
Diazinon	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Dichlobenil	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	
Dichlofluanid	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Dichlofluanid and DMSA, sum expressed as dichlofluanid [414]	< LQ			mg/kg	0.01		01(S121) 2019 Rev.12 - LC-MS/MS	
Dimethyl-sulfanilide (DMSA)	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Dicloran	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	
Dichlorvos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Dietofencarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Difenoconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Diflubenzuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Diflufenican	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Dimethenamid, sum of isomers including dimethenamid-P	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Dimethoate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Omethoate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Dimethomorph, sum of isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Ditalimfos	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Diuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Dodine	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Emamectin benzoate B1a, value expressed as emamectin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	
Endosulfan alpha	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	
Endosulfan beta	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	
Endosulfan sulphate	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	

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neotron

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ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	UNIT OF MEASURE	LQ	[illegible]	METHOD	[illegible]
Endosulphan, sum of alpha and beta isomers and of endosulfan sulphate, expressed as endosulfan [414]	< LQ			mg/kg	0.005		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Endrin	< LQ			mg/kg	0.005		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Epoxyconazol	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
EPTC	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Esfenvalerate and Fenvalerate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Ethion	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Ethofumesate	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Ethoprophos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Etofenprox	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Etoxazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Famoxadone	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Fenamidone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenamiphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenamiphos-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenamiphos-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenamiphos, fenamiphos-sulfone, fenamiphos-sulfoxide, sum expressed as fenamiphos [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenarimol	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenazaquin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenbuconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenchlorphos	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Fenchlorphos-oxon	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Fenchlorphos and fenchlorphos-oxon sum expressed as fenchlorphos [414]	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Fenhexamid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenitrothion	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Fenoxaprop-p-ethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenoxycarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Fenpropathrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Fenpropidin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019

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ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fenpropimorph	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fenpyroximate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fenthion	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fenthion-oxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fenthion-oxon-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fenthion-oxon-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fenthion-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fenthion-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fenthion, fenthion-oxon, fenthion-oxon-sulfone, fenthion-oxon-sulfoxide, fenthion-sulfone, fenthion-sulfoxide, sum expressed as fenthion [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Flazasulfuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Flucythrinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Fludioxonil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Flufenacet	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Flufenoxuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fluopicolide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fluquinconazole	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Flusilazole	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Flutriafol	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fluvalinate, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Fonofos	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Formothion	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Fosthiazate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
HCH alpha	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
HCH beta	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
HCH delta	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
HCH epsilon	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Heptachlor	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Heptachlor Epoxide cis	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Heptachlor Epoxide trans	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019

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Robert Hansen Strasse 1
89257 Illertissen GERMANIA

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Sample arrived on the 22/07/2019
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TEST REPORT nr. 19G16113-In-0

SAMPLE **19G16113**

ANALYSIS DESCRIPTION	RESULT							
Heptachlor, Heptachlor Epoxide cis and Epoxide trans sum expressed as Heptachlor [414]	< LQ				0.005		01/S144) 2018 Rev.12 - GC-MS/MS	
Heptenophos	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Hexachlorobenzene	< LQ				0.005		01/S144) 2018 Rev.12 - GC-MS/MS	
Hexaconazole	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Hexythiazox	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Imazalil	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Imidacloprid	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Indoxacarb, sum of R and S isomers	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Iodofenphos	< LQ				0.010		01/S144) 2018 Rev.12 - GC-MS/MS	
Iprodione	< LQ				0.010		01/S144) 2018 Rev.12 - GC-MS/MS	
Iprovalicarb	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Isofenphos	< LQ				0.010		01/S144) 2018 Rev.12 - GC-MS/MS	
Isofenphos-methyl	< LQ				0.010		01/S144) 2018 Rev.12 - GC-MS/MS	
Isoprothiolane	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Isoproturon	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Kresoxim-methyl	< LQ				0.010		01/S144) 2018 Rev.12 - GC-MS/MS	
Lindane	< LQ				0.005		01/S144) 2018 Rev.12 - GC-MS/MS	
Lindane, sum of HCH isomers included Lindane [414]	< LQ				0.005		01/S144) 2018 Rev.12 - GC-MS/MS	
Linuron	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Lufenuron	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Malaoxon	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Malathion	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Malathion and Malaoxon sum expressed as Malathion [414]	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Mandipropamid	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Mecarbam	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Mepanipyrim	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Metalaxyl, sum of isomers including Metalaxyl-M	< LQ				0.010		01/S121) 2018 Rev.12 - LC-MS/MS	
Metazachlor	< LQ				0.010		01/S144) 2018 Rev.12 - GC-MS/MS	

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ANALYSIS DESCRIPTION	RESULT							
Methidathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Methiocarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Methiocarb-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Methiocarb-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Methiocarb, methiocarb sulfone and methiocarb sulfoxide, sum expressed as Methiocarb [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Methomyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Thiodicarb	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Methomyl and Thiordicarb sum expressed as Methomyl [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Methoxychlor	< LQ			mg/kg	0.005		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Methoxyfenozide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Metolachlor, sum of isomers including S-metolachlor	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Metrafenone	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Metribuzin	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Metsulfuron-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Mevinphos, sum of cis- and trans-isomers	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Molinate	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Monuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Myclobutanil	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Napropamide	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Oxadiazon	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Oxadixyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Oxyfluorfen	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Paclobutrazol	< LQ			mg/kg	0.010		01(S144) 2019 Rev.12 - GC-MS/MS	22/07/2019 / 29/07/2019
Paraoxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Paraoxon-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Parathion	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019
Parathion-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev.12 - LC-MS/MS	22/07/2019 / 29/07/2019

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Robert Hansen Strasse 1
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SAMPLE **19G16113**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Parathion-methyl and Paraoxon-methyl sum expressed as Parathion-methyl [414]	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Penconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Pencycuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Pendimethalin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Permethrin, sum of isomers	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Perthane	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Phenmedipham	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phenthoate	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Phorate	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phorate-oxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phorate-oxon-solfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phorate-sulfone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phorate-sulfoxide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate) [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phosalone	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phosmet	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phosmet-oxon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phosmet and phosmet-oxon expressed as phosmet [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Phosphamidon	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Picoxystrobin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Piperonyl butoxide	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Pirimicarb (Pirimor)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Pirimicarb-desmethyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Pirimicarb and pirimicarb-desmethyl, sum expressed as pirimicarb [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Pirimiphos-ethyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Pirimiphos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019
Prochloraz	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS/MS	22/07/2019 - 29/07/2019
Procymidone	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS/MS	22/07/2019 - 29/07/2019

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Robert Hansen Strasse 1
89257 Illertissen GERMANIA

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ANALYSIS DESCRIPTION	RESULT							
Profenofos	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Prometryn	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Propachlor	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Propanil	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Propaquizafop	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Propargite	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Propazine	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Propiconazole (sum of isomers)	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Propoxur	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Propyzamide	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Proquinazid	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Pyraclostrobin	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Pyrazophos	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Pyrethrins: pyrethrin I and II, cinerin I and II, jasmolin I and II, sum (low limit)	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Pyridaben	< LQ				0.010		01/S144/2019 Rev.12 - GC-MS/MS	
Pyrimethanil	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Pyriproxyfen	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Quinalphos	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Quinoxifen	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Quintozene	< LQ				0.010		01/S144/2019 Rev.12 - GC-MS/MS	
Pentachloroaniline	< LQ				0.006		01/S144/2019 Rev.12 - GC-MS/MS	
Quintozene and pentacloroanilin, sum expressed as quintozene [414]	< LQ				0.016		01/S144/2019 Rev.12 - GC-MS/MS	
Rotenone	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Simazine	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Spinosad, sum of spinosyn A and spinosyn D	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Spirodiclofen	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	
Spirotetramat	< LQ				0.010		01/S121/2019 Rev.12 - LC-MS/MS	

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ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Spirotetramat enol	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Spirotetramat enol-glucoside	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Spirotetramat ketohydroxy	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Spirotetramat monohydroxy	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Spirotetramat and its metabilites (enol, enol-glucoside, ketohydroxy, monohydroxy) sum as spirotetramat [414]	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Spiroxamine	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Sulfallate	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Sulfotep	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS-MS	22/07/2019 / 29/07/2019
Tebuconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Tebufenozide	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Tebufenpyrad	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS-MS	22/07/2019 / 29/07/2019
Teflubenzuron	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Tefluthrin	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS-MS	22/07/2019 / 29/07/2019
Terbuthylazine	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Tetrachlorvinphos	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Tetraconazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Tetradifon	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS-MS	22/07/2019 / 29/07/2019
Tetramethrin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Thiabendazole	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Thiacloprid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Thiamethoxam	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Thiobencarbe	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Thionazin	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Thiophanate-methyl	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Tolclofos-methyl	< LQ			mg/kg	0.010		01(S144) 2019 Rev 12 - GC-MS-MS	22/07/2019 / 29/07/2019
Tolylfluanid	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019
Dimethylaminosulphotoluidide (DMST)	< LQ			mg/kg	0.010		01(S121) 2019 Rev 12 - LC-MS-MS	22/07/2019 / 29/07/2019

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Tolylfluanid and DMST, sum expressed as toiylfluanid [414]	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Triadimefon	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Triadimenol	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Triallate	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Di-allate (sum of isomers)	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Triallate and Diallate sum expressed as Triallate [414]	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Triazophos	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Trichlorfon	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Tricyclazole	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Trifloxystrobin	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Triflumuron	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Trifluralin	< LQ			mg/kg	0.010		01/S144/2019 Rev. 12 - GC-MS/MS	
Triticonazole	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Vamidothion	< LQ			mg/kg	0.010		01/S121/2019 Rev. 12 - LC-MS/MS	
Vinchlozolin	< LQ			mg/kg	0.010		01/S144/2019 Rev. 12 - GC-MS/MS	

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Robert Hansen Strasse 1
89257 Illertissen GERMANIA

MODENA, li 30/07/2019

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

TEST REPORT nr. 19G16113-In-0

SAMPLE **19G16113**

ANALYSIS DESCRIPTION	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Zoxamide	< LQ			[illegible]	[illegible]		[illegible] LC-MS/MS	[illegible]

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 Quantification Limit. Please note that results expressed as '<LQ' may not indicate the absence of the searched parameters in the sample.
U: the reported uncertainty is the expanded uncertainty calculated using a coverage factor equal to 2 which gives a reliability 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 itself.
Results coming from microbiological tests are calculated according to the Standard ISO 7218:2007/Amd 1:2013. If the results are reported as <4 (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 single methods. In case of analytical steps foreseen in non-activity days of the laboratory, provisions from the standard ISO 7218: 2007/Amd.1:2013 (items 11.2 and 10.2.5) or from specific test methods are applied. In the case of quantitative 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.
LQ: Quantification 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: 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 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 <LQ 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 pesticides belonging to this group: Ferbam, Mancozeb, Maneb, Metiram, Nabam, Propineb, Thiram, Ziram
[414]: The sum is calculated through the lower bound criterion

TEST REPORT VALID FOR ALL LEGAL PURPOSES (Italian R.D. 1-3-1928 n 842 (article 16) - Italian Law 19-7-1957 n 679 articles 18 and 16, Italian Ministerial Decree 25-3-1986)
DATA and SAMPLE STORAGE: Test Reports, Raw data, chromatographic paths and instrumental reports are stored for 5 years. One control sample is stored for 2 months.
Data expressed in this test report refer only to the sample tested in the laboratory. The description or any other reference concerning the sample are declared by the customer. This Test Report cannot be reproduced except in full. Partial reproductions must be authorized in writing by our laboratory.

LABORATORY MANAGER: DR. ALBERTO GATTI -

Approved by Analysis Manager - laboratory LMA-pst
Approved by Analysis Manager - laboratory LC-FAR
Approved by Analysis Manager - laboratory GC-BRO

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Analysis Report

Product	**ARA Oil Gold**
Lot number	**L 26057**
Production date	**2020-01-20**

Parameter	Unit	Value	Lower Limit	Upper Limit
Appearance	-	pass	clear, yellowish to orange oil at 40°C	
Acid value	mg KOH/g	0.1	-	1.0
Free fatty acids, sum	%	<0.05	-	0.45
Peroxide value	meq O2/kg	1.7	-	4.0
Water content, Karl Fischer	%	0.01	-	0.05
Unsaponifiable matter	%	2.2	-	3.5
Anisidine value	-	4.4	-	20
Fatty acid trans, sum	% (a)	0.2	-	0.5
Content Arachidonic acid as TG	mg/g	404	400	-

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

[redacted]

Dr. Edith von Kries
QC Laboratory Manager

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89251 Illertissen

Person in charge Mr P. Kösters - 2907
Client support Mr P. Kösters - 2907

Report date 26.03.2020

Analytical report: AR-20-JC-064226-01

Sample Code 706-2020-00064398

Reference	ARA Oil Gold, L26057 Triglyceride
Client Sample Code	102885
Client contract reference	Rahmenbestell-Nr. 4942613538
Number	1
Amount	1673 g
Reception temperature	room temperature
Ordered by	Frau Edith von Kries
Submitted by	Frau Edith von Kries
Sender	DHL
Reception date time	11.02.2020
Packaging	glass container with plastic closure
Start/end of analyses	26.03.2020 / 26.03.2020

TEST RESULTS

Physical-chemical Analysis

JK07T Tocopherole
Method: DGF F-II 4a:2000, PV 00155, LC-FLD
Subcontracted to a Eurofins laboratory accredited for this test.

Alpha-Tocopherol	166	mg/kg fat
Beta-Tocopherol	20	mg/kg fat
Gamma-Tocopherol	649	mg/kg fat
Delta-Tocopherol	232	mg/kg fat

LYFS2 Fatty acid profile
Method: Internal Method, PV 2103:2019-01, GC-FID
Subcontracted to a Eurofins laboratory accredited for this test.

C 4:0 (Butyric acid)	<0.05	* g/100 g
C 6:0 (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
C 14:0 (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

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		g/100 g
C 21:0 (Heneicosanoic Acid)	<0.05	*	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)	3.6		g/100 g
C 22:1 (Docosenoic acid)	0.1		g/100 g
C 20:3 n3 (cis-11,14,17-Eicosatrien acid)	0.4		g/100 g
C 20:4n6 (Aracidonic Acid)	40.6		g/100 g
C 22:2 n6 (cis-13,16-Docosadienoic acid)	<0.05	*	g/100 g
C 24:0 (Lignoceric acid)	1.3		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)	0.1		g/100 g
C 22:6 (cis-4,7,10,13,16,19-Docosahexaenoic acid)	0.3		g/100 g
unidentifiable fatty acids in the fat	0.4		g/100 g
saturated fatty acids in the fat	0.4		g/100 g
monounsaturated fatty acids in the fat	21.7		g/100 g
polyunsaturated fatty acids in the fat	54.3		g/100 g
Unsaturated fatty acids in the fat fraction	76.0		g/100 g
Omega-6 fatty acids in the fat fraction	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

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	*	%

JK07G Unsaponifiable matter
Method: § 64 LFGB L 13.00-19:2004-12, PV 01377, Gravimetry
Subcontracted to a Eurofins laboratory accredited for this test.

Unsaponifiable matter	1.4	%

J7142 Anisidine value
Method: § 64 LFGB L 13.00-15:2008-06, PV 01269, Spectrophotometry
Subcontracted to a Eurofins laboratory accredited for this test.

Anisidine value	3.1		

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		meqO2/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)

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: 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

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

JJW2B Copper (Cu) (#)
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)

Copper (Cu)	<0.1	*	mg/kg

JJ0CJ 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) (#)
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)	<0.05	*	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)	<0.1	*	mg/kg

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JJ0CV 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 (Al) (#)
Method: EN ISO 11885 (2009-09), mod., CON-PV 00006 (2020-01), ICP-OES
(Modification: extension of the scope of application to food and feed after pressure digestion)

Aluminium	<0.5	*	mg/kg

JJ0CI Manganese (Mn) (#)
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)

Manganese (Mn)	<0.1	*	mg/kg

J1050 Phosphorus (P) (#)
Method: EN ISO 11885 (2009-09), mod., CON-PV 00006 (2020-01), ICP-OES
(Modification: extension of the scope of application to food and feed after pressure digestion)

Phosphorus (P)	6.0		mg/kg
	± 3		mg/kg

J1054 Sulphur (S) (#)
Method: EN ISO 11885 (2009-09), mod., CON-PV 00006 (2020-01), ICP-OES
(Modification: extension of the scope of application to food and feed after pressure digestion)

Sulphur total (S)	<2	*	mg/kg

J1056 Silicon (Si) (#)
Method: EN ISO 11885 (2009-09), mod., CON-PV 00006 (2020-01), ICP-OES
(Modification: extension of the scope of application to food and feed after pressure digestion)

Silicon (Si)	2.0		mg/kg
	± 2		mg/kg

GFL13 Dioxins and Furans (17 PCDD/F)
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS
(Modification: GLS DF 110:2019-01-25)
Subcontracted to a Eurofins laboratory accredited for this test.

2,3,7,8-TetraCDD	<0.0601		pg/g
1,2,3,7,8-PentaCDD	<0.0791		pg/g
1,2,3,4,7,8-HexaCDD	<0.120		pg/g
1,2,3,6,7,8-HexaCDD	<0.165		pg/g
1,2,3,7,8,9-HexaCDD	<0.155		pg/g
1,2,3,4,6,7,8-HeptaCDD	<0.253		pg/g
OctaCDD	<1.84		pg/g
2,3,7,8-TetraCDF	<0.165		pg/g
1,2,3,7,8-PentaCDF	<0.114		pg/g
2,3,4,7,8-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
1,2,3,7,8,9-HexaCDF	<0.127		pg/g
2,3,4,6,7,8-HexaCDF	<0.155		pg/g
1,2,3,4,6,7,8-HeptaCDF	<0.177		pg/g
1,2,3,4,7,8,9-HeptaCDF	<0.123		pg/g
OctaCDF	<0.380		pg/g
WHO(2005)-PCDD/F TEQ (lower-bound)	ND		
WHO(2005)-PCDD/F TEQ (medium-bound)	0.163		pg/g
WHO(2005)-PCDD/F TEQ (upper-bound)	<0.34	*	pg/g

GFL14 Polychlorinated biphenyls (12 WHO PCB + 6 ICES PCB)
Method: Internal, GLS DF 110:2019-01-25, GC-MS/MS
(Modification: GLS DF 110:2019-01-25)
Subcontracted to a Eurofins laboratory accredited for this test.

PCB 77	<5.70		pg/g
PCB 81	<0.854		pg/g
PCB 105	<12.3		pg/g
PCB 114	<1.68		pg/g
PCB 118	<44.3		pg/g
PCB 123	<1.27		pg/g
PCB 126	<0.791		pg/g
PCB 156	<6.96		pg/g
PCB 157	<1.30		pg/g
PCB 167	<3.48		pg/g
PCB 169	<3.80		pg/g
PCB 189	<1.27		pg/g
WHO(2005)-PCB TEQ (lower-bound)	ND		
WHO(2005)-PCB TEQ (medium-bound)	0.0980		pg/g
WHO(2005)-PCB TEQ (upper-bound)	<0.21	*	pg/g
PCB 28	<0.316		ng/g
PCB 52	<0.316		ng/g
PCB 101	<0.316		ng/g
PCB 138	<0.316		ng/g
PCB 153	<0.316		ng/g
PCB 180	<0.316		ng/g
Total 6 ndl-PCB (lower-bound)	ND		
Total 6 ndl-PCB (medium-bound)	0.949		ng/g
Total 6 ndl-PCB (upper-bound)	1.90		ng/g

GFTE1 TEQ-Totals WHO-PCDD/F and PCB
Method: Internal, GLS DF 110, 120, 130, 140, Calculation
(Modification: GLS DF 110, 120, 130, 140)
Subcontracted to a Eurofins laboratory accredited for this test.

WHO(2005)-PCDD/F+PCB TEQ (lower-bound)	ND		
WHO(2005)-PCDD/F+PCB TEQ (medium-bound)	0.261		pg/g
WHO(2005)-PCDD/F+PCB TEQ (upper-bound)	0.522		pg/g
	± 0.131		pg/g

JCPC3 7 Plasticizers (low LOQ) (#)
Method: Internal Method, CON-PV 01337 (2019-08), LC-MS/MS

Diethylhexylphthalate (DEHP)	0.14		mg/kg
	± 0.065		mg/kg
Benzyl butyl phthalate (BBP)	<0.1	*	mg/kg
Diethylhexyl adipate (DEHA)	<0.1	*	mg/kg
Diisodecylphthalate (DIDP)	<0.5	*	mg/kg
Diisononylphthalate (DINP)	<0.5	*	mg/kg
Dibutylphthalate (DBP)	<0.07	*	mg/kg
Acetyltributylcitrat (ATBC)	<0.1	*	mg/kg

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JCP01 Preparation PAH (Caffeine complexation) (#)
Method: Internal, CON-PV 01176 (2019-09), Extraction

JC00U PAH 4 (#)
Method: Internal, CON-PV 01176 (2019-09), 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	*	µg/kg
Sum PAH 4	Inapplicable		

A0428 Aflatoxins B1, B2, G1, G2 (Baby food, dietary food) (#)
Method: DIN EN 15851, (2010-07), mod., CON-PV 00855 (2019-10), IAC-LC-FLD
(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

JJV04 Ochratoxin A (babyfood) (#)
Method: DIN EN 15835 (2010-05), mod., CON-PV 00852 (2019-11), IAC-LC-FLD
(Modification: extraction solvent, IAC-volumina, no solvent exchange)

Ochratoxin 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 00854 (2019-11), 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 and products derived from maize) (#)
Method: Internal Method, CON-PV 01085 (2019-11), LC-MS/MS

Fumonisin B1 (FB1)	<20	*	µg/kg
Fumonisin B2 (FB2)	<20	*	µg/kg
Fumonisin B3 (FB3)	<20	*	µg/kg
Fumonisin sum (B1+B2)	<40	*	µg/kg
Fumonisin sum (B1+B2+B3)	<60	*	µg/kg

JJW2Z Sterigmatocystin (#)
Method: Internal, CON-PV 01126 (2019-11), LC-MS/MS

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 (Patrick Kösters)

RESULTS :

ARA Oil Gold, L26057 - n° 102885

Sterols determination	
Composition uncertainty :	
Delta7-campestérol / Delta5-avenastérol / Delta7-stigmastérol / Delta7-avenastérol : 20 % of value with Minimum : 0,7 / Maximum : 3,5	
Other sterols : 10 % of value with Minimum : 0,5 / Maximum : 3,5	
Content uncertainty : 20% of value	
Date of Analysis : 28/02/2020	
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 %
Δ5,24 Stigmastadiénol	<0,1 %
24methyldesmostérol	0,2 %
Stigma-5-ene-3βol	0,1 %
Sterols content	17131 mg/kg de matière grasse

@ Chargé d'affaires

Signature numérique agréée

Loïc LEITNER

Labor LS

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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	*L 00.00 - 20		not detected / 25 g DIN EN ISO 6579-1, mod.
molds, quantitative	*L 01.00 - 37, mod.		< 100 CFU / g DIN EN ISO 21527-1, 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 21 Feb 2020 at 10:49 by Alexander Klauer, Specialist Manager.