



GLOBAL ORGANIZATION FOR EPA AND DHA OMEGA-3S

European Commission
Sent via email to fruzsina.nyemecz@ec.europa.eu

24 July 2020

Dear Dr. Nyemecz:

On 27 June 2019, GOED sent you a letter regarding DHA in complementary foods. Over the last 12 months, GOED gained further insights into the topic which we want to share. For this reason, our original letter has been updated below.

GOED, the Global Organization for EPA and DHA Omega-3s, is a trade association representing 170+ companies worldwide that are active in the EPA and DHA omega-3 industry. GOED's membership includes all segments of the omega-3 supply chain from fishing and seafood companies to refiners, supplement manufacturers, food and beverage marketers and pharmaceutical companies. GOED's members agree to adhere to product quality and ethical standards that represent the benchmark for quality in the omega-3 market. GOED's mission is to increase global consumption of EPA and DHA and ensure that our members produce quality products that consumers can trust.

GOED writes to encourage the addition of Docosahexaenoic Acid (DHA) to complementary foods intended for infants and young children up to three years of age. Addition of DHA to complementary foods will help prevent DHA deficiencies in European infants and young children, which are of particular concern during and after the weaning period. Thus said, any new or updated regulation regarding the composition of complementary food should include reference to the addition of DHA.

DHA function and physiological need: DHA, a long-chain omega-3 fatty acid, is the central nervous system's major structural lipid. It is contained in very high concentrations in brain tissues such as brain grey matter and the retina. Its biophysical and biochemical properties influence cell properties and functions. DHA's role for brain and retinal function is well accepted as are cause and effect relationships between DHA consumption and the maintenance of normal



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brain function and vision.¹ DHA contributes to the young brain's development by allowing it to accumulate large amounts of DHA, particularly during the first two years of life.^{2,3}

DHA is present in significant amounts in human milk, providing exclusively breastfed infants with approximately 100-250 mg/day DHA. In 2013, the European Food Safety Authority (EFSA) recommended the mandatory addition of DHA to infant and follow-on formulae which was followed by the adoption of *Regulation (EU) 2016/127* mandating the addition of DHA (20-50 mg per 100 kcal) to EU-sold infant and follow-on formula from 22 February 2020.^{4,5}

Low intake of DHA-rich foods: For the majority of nutrients, complementary feeding, beginning between four to six months of age, is able to make up for the increasingly lower amounts of nutrients provided by less breast milk during the weaning period. This is not the case for DHA since - besides in breast milk and infant formula - it is only contained in relevant amounts in seafood which are not commonly consumed by infants and young children. Even if seafood consumption tends to increase with age, a significant number of very young consumers do not eat fish.

- In a representative study from Germany with 816 subjects, it was reported that over 90% of 6-12-month olds consume no fish.⁶

¹ EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific Opinion the substantiation of a health claim related to docosahexaenoic acid (DHA) and maintenance of normal (fasting) blood concentrations of triglycerides (ID 533, 691, 3150), protection of blood lipids from oxidative damage (ID 630), contribution to the maintenance or achievement of a normal body weight (ID 629), brain, eye and nerve development (ID 627, 689, 704, 742, 3148, 3151), maintenance of normal brain function (ID 565, 626, 631, 689, 690, 704, 742, 3148, 3151), maintenance of normal vision (ID 627, 632, 743, 3149) and maintenance of normal spermatozoa motility (ID 628) pursuant to Article 13(3) of Regulation (EC) No 1924/2006. EFSA Journal 2010;8(10):1734.
<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2010.1734>

² EFSA Panel on Dietetic Products, Nutrition and Allergies: Scientific Opinion on the substantiation of a health claim related to DHA and contribution to normal brain development pursuant to Article 14 of Regulation (EC) No 1924/2006. EFSA Journal 2014;12(10):3840
<https://efsa.onlinelibrary.wiley.com/doi/pdf/10.2903/j.efsa.2014.3840>

³ Opinion of the French Food Safety Agency regarding the benefits/risks of fish consumption. AFSAA – Request no. 2008-SA-0123. 14 June 2010. <https://www.anses.fr/en/system/files/NUT2008sa0123EN.pdf>

⁴ Commission Delegated Regulation (EU) 2016/127 of 25 September 2015 supplementing Regulation (EU) No 609/2013 of the European Parliament and of the Council as regards the specific compositional and information requirements for infant formula and follow-on formula and as regards requirements on information relating to infant and young child feeding. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2016.025.01.0001.01.ENG

⁵ EFSA NDA Panel (EFSA Panel on Dietetic Products, Nutrition and Allergies), 2014. Scientific Opinion on the essential composition of infant and follow-on formulae. EFSA Journal 2014;12(7):3760, 106 pp.
doi:10.2903/j.efsa.2014.3760

<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2014.3760>

⁶ Kersting M, Clausen K (2003) Ernährungsphysiologische Auswertung einer repräsentativen Verzehrsstudie bei Säuglingen und Kleinkindern VELS mit dem Instrumentarium der DONALD Studie - Schlussbericht. Forschungsinstitut für Kinderernährung, Dortmund



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- In a representative English sample of 1,131 8-month old infants, 75% were found to be non-consumers of fish.⁷
- In a representative UK sample, 37% of 2-5-year olds did not consume fish.⁸

Per a very recent position paper from the European Academy of Paediatrics, “The second half of the first year of life deserves specific attention because common weaning foods during this period generally provide only small amounts of DHA.”⁹ Given the lack of fish intake, it comes as no surprise that typically decreasing intakes of breast milk (or DHA-supplemented formula) during the weaning period are directly connected with declining DHA status.¹⁰

The earlier breastfeeding (or feeding of DHA-supplemented formula) is stopped, the greater the concern. In the recently published SuSe II study,¹¹ investigating infant feeding practices in 966 German mothers, by 12 months of age, 16.6% of infants received neither breast milk nor formula, an increase from 12% reported in SuSe I.¹² Unless fish is consumed, these infants’ DHA intakes can be expected to approach zero.

Except for fish meals, complementary food today is virtually free from DHA. An analysis of German complementary food carried out in May 2020 by Eurofins CLF (Friedrichsdorf, Germany), revealed that **foods containing beef, pig, and poultry do not contain DHA.** The analytical findings are in clear contrast to Germany’s food composition table, BLS II,¹³ which reports relevant DHA contents in meat such as chicken and turkey. See attached for analytical results for individual foods from both Eurofins CLF and BLS II.

⁷ Noble S, Emmett P, ALSPAC Study Team. Food and nutrient intake in a cohort of 8-month-old infants in the south-west of England in 1993. *Eur J Clin Nutr.* 2001; 55:698-707. <https://www.nature.com/articles/1601210>

⁸ Kranz S, Jones NRV, Monsivais P. Intake Levels of Fish in the UK Paediatric Population. *Nutrients.* 2017; 16:9-E392. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5409731/>

⁹ Koletzko, B, Bergmann K, Brenna JT, et al. Should formula for infants provide arachidonic acid along with DHA? A position paper of the European Academy of Paediatrics and the Child Health Foundation. *Am J Clin Nutr.* 2020; 111:10–16.

¹⁰ Fewtrell M, Bronsky J, Campoy C, et al. Complementary Feeding: A Position Paper by the European Society for Paediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN) Committee on Nutrition. *J Pediatr Gastroenterol Nutr.* 2017; 64:119-132.

https://journals.lww.com/jpgn/Fulltext/2017/01000/Complementary_Feeding_A_Position_Paper_by_the.21.aspx#pdf-link

¹¹ Kersting M, Hockamp N, Burak C et al. Studie zur Erhebung von Daten zum Stillen und zur Säuglingsernährung in Deutschland – SuSe II. In: Deutsche Gesellschaft für Ernährung (Hrsg.): 14. DGE-Ernährungsbericht. Vorveröffentlichung Kapitel 3. Bonn (2020) V 1 – V 34. <http://www.dge.de/14-dge-eb/vvoe/kap3>

¹² Kersting, M, Dulon, M. Fakten zum Stillen in Deutschland - Ergebnisse der SuSe-Studie. *Monatsschrift Kinderheilkunde* 2002 - 150:1196–1201, DOI 10.1007/s00112-002-0561

¹³ Bundesministerium für Ernährung und Landwirtschaft: Bundeslebensmittelschlüssel, Version BLS 3.02 www.blsddb.de



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<i>Food Category</i>	<i>Ø Serving Size</i>	<i>Ø Meat/Fish per Serving</i>	<i>Ø DHA per Serving (Eurofins)</i>	<i>For Comparison: DHA per Serving (BLS II)</i>
<i>Beef (18 products)</i>	225,1 g	17,8 g	0 mg	0 mg
<i>Pig (4)</i>	220,0 g	20,4 g	0 mg	0 mg
<i>Poultry (8)</i>	235,3 g	20,0 g	1,4 mg	20,4 mg
<i>Fish (7)</i>	215,7 g	18,8 g	63,1 mg	115,7 mg

Even complementary food with fish contains relatively little DHA. In the above study, the average DHA content of a fish meal was 63,1 mg, only about half of which would have been expected according to BLS II. Consequently, occasional consumption of complementary food with fish does not make up for the lack of DHA in all other food sources. Even consuming **fish once a week would convert into not more than a daily intake of 9 mg DHA – less than 10% of the EU’s AI for DHA.**

Consequently, infants’ and young children’s DHA intakes are very low. The limited data that exists regarding DHA intake in the population of interest demonstrates intakes falling very short of EFSA’s recommendations.¹⁴

- A Flemish study in pre-school children found DHA intakes of 5 mg and below in 25% of the 2.5-3-year old participants. The study reports mean intakes of not more than 43 mg/day, which, due to the skewed distribution of DHA intakes (as found in nearly all populations), still are not met by over 75% of the participants (25th-75th %-ile: 5-39 mg DHA/day).¹⁵
- Germany’s Dortmund Nutritional and Anthropometric Longitudinally Designed (DONALD) Study reports mean (\pm SD) DHA daily intakes at 6- and 9-months of age of 47 (119) mg and 28 (161) mg, respectively.¹⁶ These results not only point to very low intakes in a critical period for infants’ brain and eye development, but, considering that weaning typically starts around 6 months, the reported numbers clearly demonstrate the decline in DHA intake connected to the transition to complementary feeding. Considering the generally skewed

¹⁴ EFSA Panel on Dietetic Products, Nutrition, and Allergies (NDA): Scientific Opinion on Dietary Reference Values for fats, including saturated fatty acids, polyunsaturated fatty acids, monounsaturated fatty acids, trans fatty acids, and cholesterol. EFSA Journal 2010; 8(3):1461

<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2010.1461>

¹⁵ Sioen I, Huybrechts I, Verbeke W, Camp JV, De Henauw S. n-6 and n-3 PUFA intakes of pre-school children in Flanders, Belgium. Br J Nutr. 2007; 98:819-25.

¹⁶ Kersting M, Clausen K (2003) Ernährungsphysiologische Auswertung einer repräsentativen Verzehrsstudie bei Säuglingen und Kleinkindern VELS mit dem Instrumentarium der DONALD Studie - Schlussbericht. Forschungsinstitut für Kinderernährung, Dortmund



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distribution of DHA intake assessments^{17,18} – (driven by relatively few fish consumers compared to non-consumers) - it can be expected that the majority of participants' intakes are considerably below the already low mean levels. Following the Flemish study's distribution pattern, one may expect DHA intakes of around 5 mg/day in the 25th-ile for 6-month old participants and possibly considerably below 5 mg in the 25th %-ile for 9-month old participants.

- A study from Ireland found mean (\pm SD) DHA daily intakes for 1-year-olds to 3-year olds of 36 (51) mg to 33 (56) mg. Again, considering the skewed distribution of DHA intakes, levels of below 5 mg DHA/day can be expected in the 25th %-ile of participants in this age group.¹⁹

DHA addition is supported by the Codex Alimentarius Guidelines on Formulated Complementary Foods for Older Infants and Younger Children. “The use of edible oils containing polyunsaturated fatty acids, including omega-3 fatty acids and in particular docosahexaenoic acid, should be considered. The levels in the FAO/WHO recommendations may be considered.”²⁰

By 2010, FAO/WHO had set an Adequate Intake of 10-12 mg DHA per kg of bodyweight for infants and young children 6-24 months of age, confirming “convincing evidence” for DHA’s “critical role in retinal and brain development”.²¹

Considering the inadequate DHA intakes in 1-5 year-olds in Ireland, the Irish Food Safety Authority suggested that “[f]oods fortified with, or supplements containing EPA and DHA, could also be included in the diet in order to ensure adequate intakes.” In their 2020 report, the authority’s Scientific Committee also points out that while oily fish is an especially good source of EPA and DHA, due to the presence of dioxins, intake is recommended to be limited to once a week. At the same time, research is needed to identify alternative sources of EPA and DHA to address the inadequate intakes in 1-5 year-old children.²²

¹⁷ Howe P, Meyer B, Record S, Baghurst K. Dietary intake of long-chain n-3 polyunsaturated fatty acids: contribution of meat sources. *Nutr.* 2006; 22:47–53.

¹⁸ Meyer BJ. Australians are not Meeting the Recommended Intakes for Omega-3 Long Chain Polyunsaturated Fatty Acids: Results of an Analysis from the 2011-2012 National Nutrition and Physical Activity Survey. *Nutrients.* 2016; 24:8:111.

¹⁹ Lenighan YM, McNulty BA, Devlin NFC, Gibney MJ, Nugent AP. Intakes of omega-3 polyunsaturated fatty acids in an Irish pre-school population. *Proc Nutr Soc.* 2013; 72:E152.

²⁰ Codex Alimentarius Commission. Guidelines on formulated supplementary foods for older infants and young children CAC/GL 8-1991 www.codexalimentarius.net/download/standards/298/

²¹ FAO/WHO. Fats and fatty acids in human nutrition: Report of an expert consultation. Geneva, 2010. Available at https://www.who.int/nutrition/publications/nutrientrequirements/fatsandfattyacids_humannutrition/en/

²² Food Safety Authority of Ireland. Report of the Scientific Committee: Scientific Recommendations for Food-Based Dietary Guidelines for 1 to 5 Year-Olds in Ireland. 2020. Available at https://www.fsai.ie/Dietary_Recommendations_1-5_Year_Olds/



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DHA is recommended for young children formula. In a recently updated consensus paper, the Committee on Nutrition of the German Society for Pediatrics and Adolescent Medicine suggests considering DHA fortification of young child formula (1-3 years old). For young children, this would be one option for addressing gaps in the supply of those nutrients, for which intake levels have been identified as inadequate. Based on a young child formula drink, the Committee provides guidance on nutrient composition and recommends a minimum DHA inclusion of 15 mg/100 kcal, targeting to provide 15% of the adequate intake (AI) for DHA through this type of food.²³

To conclude, because

- EFSA confirmed that “DHA contributes to the young brain’s development...particularly during the first two years of life,”
- the EU set an Adequate Intake of 100 mg DHA per day for infants and young children from 0 to <24 months,
- DHA is present in significant amounts in human milk and as per *Regulation (EU) 2016/127* must be included in the amount of 20-50 mg per 100 kcal in EU-sold infant and follow-on formula since 22 February 2020,
- DHA is only found in fish and other seafood but neither in land-raised animals such as beef, pig poultry nor in vegetables and fruits,
- studies from Germany, the UK, Belgium and Ireland show fish and seafood consumption in European older infants and younger children is very low and large numbers of study participants are highly deficient of DHA and
- independent bodies like WHO/FAO, the Food Safety Authority of Ireland, the European Academy of Paediatrics and the German Society of Pediatrics and Adolescent Medicine argue in favor of considerations to add DHA to foods for infants and young children,

GOED strongly believes that EFSA’s call to "pay particular attention to ensuring an appropriate supply" of DHA “in infants and young children with inadequate or at risk of inadequate status”²⁴ should be reflected in any new or updated regulation regarding the composition of complementary food - which should support the addition of DHA.

²³ Koletzko B, Buher C, Jochum F, et al. Ernährungskommission der Deutschen Gesellschaft für Kinder- und Jugendmedizin e. V.: Folgenahrungen für Kleinkinder im Alter von einem bis 3 Jahren (sog. Kindermilchgetränke). Stellungnahme der Ernährungskommission der Deutschen Gesellschaft für Kinder- und Jugendmedizin (Aktualisierung April 2017). *Monatsschr Kinderheilkd.* 2018; 166:57-61.

²⁴ EFSA NDA Panel (EFSA Panel on Dietetic Products Nutrition and Allergies), 2013. Scientific opinion on nutrient requirements and dietary intakes of infants and young children in the European Union. *EFSA Journal* 2013;11(10):3408. Available at <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2013.3408>



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Should you have any questions or wish to discuss the contents of this letter, please do not hesitate to contact me at harry@goedomega3.com or +1 612-600-6499.

Sincerely,

Harry B. Rice, PhD
Vice-President, Regulatory & Scientific Affairs

P.S. Please allow us to point to an error in the 2019 JRC Report *Feeding Infants and Children*,²⁵ which aims to support the work around the new EU compositional requirements for complementary foods. The report’s table 4 indicates an AI of 100 mg DHA only for the age group of 1-12-month-old infants, while, according to EFSA, the AI applies to infants and young children from 0 to <24 months.²⁶

Table 4. Summary of Population Reference Intakes (PRIs) for protein, Reference Intake Ranges (RI) for total fat and carbohydrates and Adequate Intakes (AIs) for fatty acids, dietary fibre for infants and young children.

Age group (y)	Protein (g/kg bw ^a per day)	Age group (y)	Total fat (E%) ^b	SFA	LA (E%) ^c	ALA (E%) ^c	EPA+ DHA (mg/d) ^c	DHA (mg/d) ^c	TFA	Age group (y)	CHO (E%) ^b	Dietary fibre (g/d) ^c
0.5	1.31	7-11 mo ^d	40	ALAP	4	0.5		100	ALAP			
1	1.14	1	35-40	ALAP	4	0.5		100	ALAP			
1.5	1.03	2-3	35-40	ALAP	4	0.5	250		ALAP	1-3	45-60	10
2	0.97											
3	0.90											

²⁵ Grammatikaki E, Wollgast J, Caldeira S. Feeding infants and young children. A compilation of national food-based dietary guidelines and specific products available in the EU market; PUBSY No. 115583. Available at https://ec.europa.eu/jrc/sites/jrcsh/files/processed_cereal_baby_food_online.pdf

²⁶ EFSA NDA Panel (EFSA Panel on Dietetic Products Nutrition and Allergies), 2013. Scientific opinion on nutrient requirements and dietary intakes of infants and young children in the European Union. EFSA Journal 2013;11(10):3408. Available at <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2013.3408>

Complementary Food Samples

Food category	Product	Brand	Age	Serving size [g]	Animal ingredient [%]	Average serving size [g]	Animal ingredient [%]	DHA (mg/ serving size g) acc. BLS*	DHA (mg/ serving size) acc. Eurofins analysis
Poultry	Gemüsereis mit Süßkartoffel und Hühnchen	Babylove	ab 12. Monat	250	8,0	233,2	8,5	21,7	1,4
	Gemüsereis mit Hühnchen süß-sauer	Bebivita	ab 8. Monat	220	8,0				
	Gemüse-Couscous mit Huhn	dmBio	ab 12. Monat	250	8,0				
	Couscous mit Gemüse und Bio Hähnchen	Hipp	ab 8. Monat	220	8,0				
	Gemüsereis mit Bio-Hühnchen	Hipp	nach 4. Monat	190	8,0				
	Paella mit buntem Gemüse und Bio-Hühnchen	Hipp	ab 1. Jahr	250	9,8				
	Hühnchenfleisch Zubereitung + Karottenbrei	Holle	nach 4. Monat	252,5	9,9				
	Gemüserisotto mit zarter Bio-Pute	Hipp	ab 12. Monat	250	8,0	250	8,0	4,2	
Beef/Calf	Gemüsepfanne mit Kartoffeln und Rind	Babylove	ab 12. Monat	250	8,0	225,1	7,5	0,0	0,0
	Karotten mit Süßkartoffeln und Rind	Babylove	nach 4. Monat	190	8,0				
	Kartoffeltopf mit Rindergulasch	Babylove	ab 8. Monat	220	8,0				
	Spaghetti Bolognese	Babylove	ab 12. Monat	250	8,0				
	Spaghetti Bolognese	Bebivita	ab 8. Monat	220	5,0				
	Dinkel-Spaghetti Bolognese	dmBio	ab 8. Monat	220	8,0				

	Karotten mit Süßkartoffeln und Rind	dmBio	ab 8. Monat	220	8,0				
	Pastinaken mit Kartoffeln und Rind	dmBio	nach 4. Monat	190	8,0				
	Bio-Rindfleisch Zubereitung + Karottenbrei	Hipp	nach 4. Monat	252,5	10,1				
	Gemüseallerlei mit Bio-Rind	Hipp	ab 12. Monat	250	8,9				
	Karotten mit Mais und Bio-Kalb	Hipp	ab 6. Monat	190	8,7				
	Kartoffelgemüse mit Bio-Rind	Hipp	ab 8. Monat	220	8,2				
	Kartoffeln mit mildem Rahm-Gulasch	Hipp	ab 8. Monat	220	9,3				
	Kartoffel-Rindfleisch-Eintopf	Hipp	ab 12. Monat	250	8,0				
	Nudel-ABC mit Bolognesesauce	Hipp	ab 1. Jahr	250	5,0				
	Spaghetti Bolognese	Hipp	nach 4. Monat	190	5,0				
	Spaghetti Bolognese	Hipp	ab 8. Monat	220	5,0				
	Spaghetti Bolognese	Hipp	ab 12. Monat	250	5,0				
Pig	Schinkennudeln in Tomatensaucé	Bebivita	ab 12. Monat	250	8,9	220,0	9,3	0,0	0,0
	Schinkennudeln mit Gemüse-Allerlei	Bebivita	ab 8. Monat	220	9,1				
	Bio-Schinkennudeln mit Gemüse	Hipp	ab 8. Monat	220	10,5				
	Bio-Schinkennudeln mit Tomaten und Karotten	Hipp	ab 6. Monat	190	8,6				
Pollock	Paella mit Gemüse und Alaska-Seelachs	Bebivita	ab 8. Monat	220	9,5	210,0	9,6	71,5	63,1
	Risotto mit Gemüse und Alaska-Seelachs	Bebivita	ab 8. Monat	220	8,7				

	Mini-Pasta mit Alaska-Seelachsfilet und Buttergemüse	Hipp	ab 6. Monat	190	10,5			
Wild Salmon	Karotten mit Reis und Wildlachs	Hipp	ab 8. Monat	220	8,0	220,0	8,0	182,0
	Frühkarotten mit Kartoffeln und Wildlachs	Hipp	nach 4. Monat	190	8,0			
	Karotten mit Kartoffeln und feinem Wildlachs	Hipp	ab 1. Jahr	250	8,0			
Salmon	Dinkelnudeln mit Rahmspinat und Lachs	dmBio	ab 8. Monat	220	8,0	220,0	8,0	49,5

Sample Composition

A	Product description	Brand	Serving size [g]	Sample	DHA-Content [mg/100 g]
1A	Gemüsereis mit Süßkartoffel und Hühnchen	Babylove	250	25	
2A	Gemüsereis mit Hühnchen süß-sauer	Bebivita	220	22	
3A	Gemüse-Couscous mit Huhn	dmBio	250	25	
4A	Couscous mit Gemüse und Bio Hähnchen	Hipp	220	22	
5A	Gemüsereis mit Bio-Hühnchen	Hipp	190	19	
6A	Bio-Hühnchenfleisch Zubereitung	Hipp		6,25	
7A	Reine Bio Karotten	Hipp	252,5	19	
8A	Gemüserisotto mit zarter Bio-Pute	Hipp	250	25	
9A	Paella mit buntem Gemüse und Bio-Hühnchen	Hipp	250	25	0,6
B	Product description	Brand	Serving size [g]	Sample	DHA-Content [mg/100 g]
1B	Karotten mit Süßkartoffeln und Rind	Babylove	190	19	
2B	Kartoffeltopf mit Rindergulasch	Babylove	220	22	
3B	Spaghetti Bolognese	Babylove	250	25	
4B	Spaghetti Bolognese	Bebivita	220	22	
5B	Dinkel-Spaghetti Bolognese	dmBio	220	22	
6B	Karotten mit Süßkartoffeln und Rind	dmBio	220	22	
7B	Pastinaken mit Kartoffeln und Rind	dmBio	190	19	
8B	Gemüseallerlei mit Bio-Rind	Hipp	250	25	
9B	Karotten mit Mais und Bio-Kalb	Hipp	190	19	
10B	Kartoffelgemüse mit Bio-Rind	Hipp	220	22	
11B	Kartoffeln mit mildem Rahm-Gulasch	Hipp	220	22	
12B	Kartoffel-Rindfleisch-Eintopf	Hipp	250	25	
13B	Spaghetti Bolognese	Hipp	190	19	
14B	Spaghetti Bolognese	Hipp	220	22	

15B	Bio-Rindfleisch Zubereitung	Hipp		6,25	
16B	Reine Bio Karotten	Hipp	252,5	19	
17B	Spaghetti Bolognese	Hipp	250	25	
18B	Gemüsepfanne mit Kartoffeln und Rind	Babylove	250	25	
19B	Nudel-ABC-Bolognese	Hipp	250	25	< 0,4
C	Product description	Brand	Serving size [g]	Sample	DHA-Content [mg/100 g]
1C	Schinkennudeln mit Gemüse-Allerlei	Bebivita	220	22	
2C	Bio-Schinkennudeln mit Gemüse	Hipp	220	22	
3C	Bio-Schinkennudeln mit Tomaten und Karotten	Hipp	190	19	
4C	Schinkennudeln in Tomatensaucé	Bebivita	250	25	< 0,5
D	Product description	Brand	Serving size [g]	Sample	DHA-Content [mg/100 g]
D1	Risotto mit Gemüse und Alaska-Seelachs	Bebivita	220	22	
D2	Mini-Pasta mit Alaska-Seelachsfilet und Buttergemüse	Hipp	190	19	
D3	Paella mit Gemüse und Alaska-Seelachs	Bebivita	220	22	7,5
E	Product description	Brand	Serving size [g]	Sample	DHA-Content [mg/100 g]
E1	Frühkarotten mit Kartoffeln und Wildlachs	Hipp	190	19	
E2	Karotten mit Kartoffeln und feinem Wildlachs	Hipp	250	25	
E3	Karotten mit Reis und Wildlachs	Hipp	220	22	39,1
F	Product description	Brand	Serving size [g]	Sample	DHA-Content [mg/100 g]
F	Dinkelnudeln mit Rahmspinat und Lachs	dmBio	220		62,1

German Nutrient Table BLS: DHA and EPA Content of Selected Meat and Fish

Description	Preparation	Information for addition	DHA [mg/100g]	EPA [mg/100g]	Fat content [%]
Seelachs	gedünstet	Fischzuschnitt	438	297	2,7
Seelachs	gegart	Fischzuschnitt	459	311	2,8
Seelachs	gekocht	Fischzuschnitt	438	297	2,7
Seelachs	roh	Fischzuschnitt	356	241	2,4
Lachsfische	gegart		329	222	
Lachs			1348	842	11,3
Lachs	gekocht		1464	914	12,3
Lachsfische	roh		281	189	1,7
Lachs pazifisch	roh		1034	752	10,6
Königslachs	roh		1034	752	10,4
Goldlachs	roh	Fischzuschnitt	342	248	3,5
Goldlachs	gegart	Fischzuschnitt	391	284	4
Buckellachs	roh		342	248	3,5
Weißlachs	roh		673	490	6,9
Scholle	gegart	Goldbutt	199	256	1,9
Pute	roh	Baby-Pute	257	96	
Pute	gekocht	Putenbrust	33	12	
Pute	roh	Putenbrust	37	14	
Pute	gegart	mit Haut	22	124	
Pute	roh	mit Haut	21	120	
Pute	gekocht	ohne Haut	74	28	
Pute	roh	ohne Haut	83	31	
Pute	gekocht	Flügel	419	155	

Pute	roh	Flügel	465	174	
Pute	roh		21	121	8,6
Pute	gegart	Schenkel	132	49	
Pute	roh	Schenkel	136	51	
Huhn	gegart	Suppenhuhn	397	32	17,5
Huhn	roh	Suppenhuhn	465	38	20,5
Huhn	gebraten	Brustfilet	3	1	5,3
Brathähnchen	roh	Flügel	76	15	16,1
Brathähnchen	roh		109	7	9,7
Brathähnchen	gegart		107	7	9,5
Rind	roh	fett	0	25	12,6
Rind	gegart	fett	0	23	
Rind	roh	mager	0	15	
Rind	gegart	mager	0	17	
Rind	roh	Gulasch fett	0	23	
Rind	gegart	Gulasch fett	0	25	
Rind	gegart	Gulasch mager	0	10	
Rind	roh	Gulasch mager	0	9	
Kalb	gegart	fett	0	17	
Kalb	roh	fett	0	15	10,4
Kalb	gegart	mager	0	1	
Kalb	roh	mager	0	1	
Schwein	gegart	fett	0	10	
Schwein	roh	fett	0	8	15,7
Schwein	gegart	mager	0	12	
Schwein	roh	mager	0	10	
Schwein	gekocht	Schinken	0	6	

Hühnerei	roh		75	0	9,3
Hühnerei	gekocht		75	0	9,4
Hühnerei	roh	Eigelb	180	0	32,5
Hühnerei	roh	Eiweiß	0	0	0
Hühnerei	roh	Vollei	93	0	9,4

Bundeslebensmittelschlüssel (German Nutrient Table)

<https://www.blsdb.de/>, 06.2020