



***rivm***

National Institute  
for Public Health  
and the Environment

Report 350070001/2007

M.C. Ocké | C.T.M. van Rossum | H.P. Fransen et al

# Dutch National Food Consumption Survey – Young Children 2005/2006

RIVM Report 350070001/2008

## **Dutch National Food Consumption Survey- Young Children 2005/2006**

M.C. Ocké  
C.T.M. van Rossum  
H.P. Fransen  
E.J.M. Buurma  
E.J. de Boer  
H.A.M. Brants  
E.M. Niekerk  
J.D. van der Laan  
J.J.M.M. Drijvers  
Z. Ghameshlou

Contact:  
C.T.M. van Rossum  
Centre for Nutrition and Health  
[Caroline.van.Rossum@rivm.nl](mailto:Caroline.van.Rossum@rivm.nl)

This investigation has been performed by order and for the account of Ministry of Health, Welfare and Sport, within the framework of 5.4.10 'Food consumption survey -Young Children'

© RIVM 2008

Parts of this publication may be reproduced, provided acknowledgement is given to the 'National Institute for Public Health and the Environment', along with the title and year of publication.

# Abstract

## **Dutch National Food Consumption Survey-Young Children 2005/2006**

Young children in the Netherlands aged 2 to 6 years do not consume sufficient amounts of vegetables, fruit, fish and fibre. In addition the intake of saturated fatty acids is higher than recommended in the 4 to 6 year-old age group. This unhealthy diet can lead to overweight, and later in life to chronic diseases. Policy measures need to focus on achieving optimal body weight, increasing intakes of vegetables, fruit, fish and fibre, and improving the fatty acid composition in the diet of young children.

A food consumption survey of young children (2 to 6 years of age) in the Netherlands has shown the diet to be adequate in terms of the proportions of total fat, carbohydrates and protein. However, the fatty acid composition of the diet is unfavourable, because fish consumption (rich in fish fatty acids) is low, and saturated fatty acid intake especially in 4 to 6 year-old children is high. Only a small proportion of children meet the recommended vegetable intake. For fruit the situation is slightly more favourable (one in four). Furthermore, one in seven children was found to be overweight or obese, indicating a positive energy balance in the period prior to the study.

Intakes of most vitamins and minerals were shown to be adequate, with the exception of vitamin D and folate. Only three in five children aged 2 to 3 years received the recommended vitamin D containing supplements. The implications of the low intakes of vitamin D and folate and the high intakes of zinc, retinol, synthetic folic acid and copper need to be investigated.

Key words: young children, dietary monitoring, food consumption, vegetables, fruit, nutrients

# Rapport in het kort

## Voedselconsumptiepeiling bij peuters en kleuters 2005/2006

Peuters en kleuters in Nederland eten te weinig groenten, fruit, vis en vezelrijke voedingsmiddelen. Bovendien bevat de voeding van kleuters te veel verzadigde vetzuren. De ongezonde voeding van deze generatie kinderen kan leiden tot overgewicht en op latere leeftijd tot chronische ziekten. Beleid is nodig om een gunstig lichaamsgewicht te bevorderen en om de consumptie van groenten, fruit, vis, vezelrijke producten en voedingsmiddelen met een goede vetzuursamenstelling te stimuleren.

Een peiling onder kinderen van 2 tot en met 6 jaar laat zien dat het aandeel van vet, eiwitten en koolhydraten in hun voeding goed is. Wel is het type vet in de voeding van veel jonge kinderen ongunstig. Ze eten te weinig vis (rijk aan visvetzuren) en vooral de voeding van kleuters bevat te veel verzadigde vetzuren. Daarnaast zijn er weinig jonge kinderen die voldoende groenten eten. Voor fruit is het beeld iets gunstiger: een op de vier jonge kinderen eet de geadviseerde hoeveelheid. Verder is een op de zeven kinderen in mindere of meerdere mate te dik. Het lijkt erop dat zij dus meer energie binnenkrijgen dan verbruiken.

Jonge kinderen krijgen van de meeste vitamines en mineralen voldoende binnen. Van vitamine D en foliumzuur is de inname echter laag. Slechts drie op de vijf peuters gebruikt een supplement met vitamine D. Vervolgonderzoek is nodig om vast te stellen of daadwerkelijk sprake is van tekorten. Bovendien is nader onderzoek nodig naar de gevolgen van een hoge inname van zink, koper, retinol (een type vitamine A) en synthetisch foliumzuur bij een deel van de kinderen.

Trefwoorden: voedselconsumptiepeiling, peuters, kleuters, voedingsstoffen, groenten, fruit

# Contents

<b>Summary</b>	<b>7</b>
<b>1 Introduction</b>	<b>9</b>
1.1 Dutch National Food Consumption Surveys	9
1.2 DNFCs – Young Children 2005/2006	10
<b>2 Methods</b>	<b>11</b>
2.1 Study population and recruitment	11
2.2 Data collection and data handling	11
2.3 Statistical analyses	13
<b>3 Results</b>	<b>15</b>
3.1 Response	15
3.2 Representativeness of the study population	15
3.3 Characteristics of carers	16
3.4 Anthropometry and physical activity	17
3.5 General characteristics of the diet	19
3.6 Foods	20
3.7 Fortified products	25
3.8 Artificially sweetened products	27
3.9 Dietary supplements	27
3.10 Assessment of macro-nutrient intake	28
3.11 Assessment of micro-nutrient intake	34
3.12 Sources of nutrients	40
3.13 Time of consumption	43
3.14 Place of consumption	45
3.15 Main dietary factors by socio-demographic factors	47
<b>4 Discussion</b>	<b>49</b>
4.1 Main findings	49
4.2 Methodological issues	51
4.3 Comparison with results from other surveys	53
4.4 Recommendations	53
4.5 Conclusion	54
<b>References</b>	<b>57</b>
<b>Acknowledgement</b>	<b>59</b>
<b>Appendix A List of experts</b>	<b>61</b>
<b>Appendix B Additional analyses</b>	<b>63</b>
<b>Appendix C List of nevo-codes used in EPIC-Soft classification</b>	<b>79</b>



## Summary

For effective health and food safety policy, data are required on food consumption and nutritional status of the Dutch population and of specific groups within the population. As part of the Dutch dietary monitoring system, a food consumption survey of a representative sample of young children (aged 2 to 6 years) in the Netherlands was carried out in the period October 2005 to November 2006 (DNFCS-Young Children).

This food consumption survey aimed to gain insight into the diet of Dutch children 2 to 6 years of age. More specifically to establish:

- mean intake of energy and nutrients and percentage of children who meet the Dutch recommendations for energy and nutrients;
- mean consumption of fruits, vegetables, and fish and percentage of children who meet the recommended consumption of these foods;
- percentage of children taking supplements and the micro-nutrient intake from food and supplements including vitamin D and iron;
- exposure to nitrate, organophosphates, artificial sweeteners, deoxynivalenol, dioxins, ochratoxine A, patulin, aflatoxins, and acrylamide. The results on food safety issues are to be published in a separate report.

Dietary records of two non-consecutive days, reported by carers in pre-structured diaries, were obtained for 1,279 children aged 2 to 6 years (response rate 78%). Respondents were selected from consumer panels. Carers with a good command of the Dutch language and institutionalized children were included.

In addition to the diaries, home visits were made to collect a self-administered general questionnaire and to measure height and weight of each child. Trained dieticians entered the data from the diaries into EPIC-Soft software. Habitual dietary intake was assessed using statistical modelling to account for the within-individual variation.

The study findings show that the diet of young children in the Netherlands is adequate with regard to proportions of total fat, carbohydrates and protein. However, the fatty acids composition should be improved, because the survey revealed low fish consumption (rich in fish fatty acids), and high intake of saturated fatty acid especially in 4 to 6 year-old children. Only few children met the recommendations for consumption of vegetables. For fruit the situation was more favourable (one in four). One in seven children was found to be overweight or obese, indicating a positive energy balance in the period prior to the study.

Based on available dietary reference intakes, the diets of Dutch young children were adequate in most vitamins and minerals. However, the implications of low intake of vitamin D and folate need to be analysed. Only three in five children aged 2 to 3 years receive the recommended vitamin D containing supplements. Evaluation of the intake of iron, selenium, zinc, vitamin E and retinol activity equivalents is hampered by the lack of clarity on dietary reference intakes. Risk assessment of the observed high intake of zinc, synthetic folic acid and copper from food, natural and fortified, and dietary supplements is indicated.

Policy measures should focus on maintaining energy balance, increasing consumption of vegetables, fruit, and fish and fibre intake, and improving the fatty acids composition of the diet. These improvements in the diet of young children are needed to prevent overweight and chronic diseases later on in life.





# 1 Introduction

## 1.1 Dutch National Food Consumption Surveys

For effective formulation and evaluation of health and food safety policy, data are required on the food consumption and nutritional status of the Dutch population as well as for specific groups in the population. Food consumption data give insight into the consumption of foods, into the intake of macro- and micro-nutrients, into potentially harmful chemical substances, and also insight into nutritional trends. The data are also used in public information and in scientific research.

Data on food consumption and nutritional status of the Dutch population and specific groups within the population have been collected periodically since 1987. The Dutch National Food Consumption Surveys (DNFCS) were redesigned in 2003 to meet changing policy needs, and to reflect socio-demographic developments, trends in food habits as well as developments in dietary assessment methods.<sup>2 11</sup> Consequently, differences in design and methods do not allow direct comparison of results of the surveys before and after 2003.

The new dietary monitoring system consists of five modules, as summarized in Figure 1-1. The present report concerns a specific survey of food consumption by young children. A more detailed description of the new system of dietary monitoring in the Netherlands has been published elsewhere.<sup>23</sup>

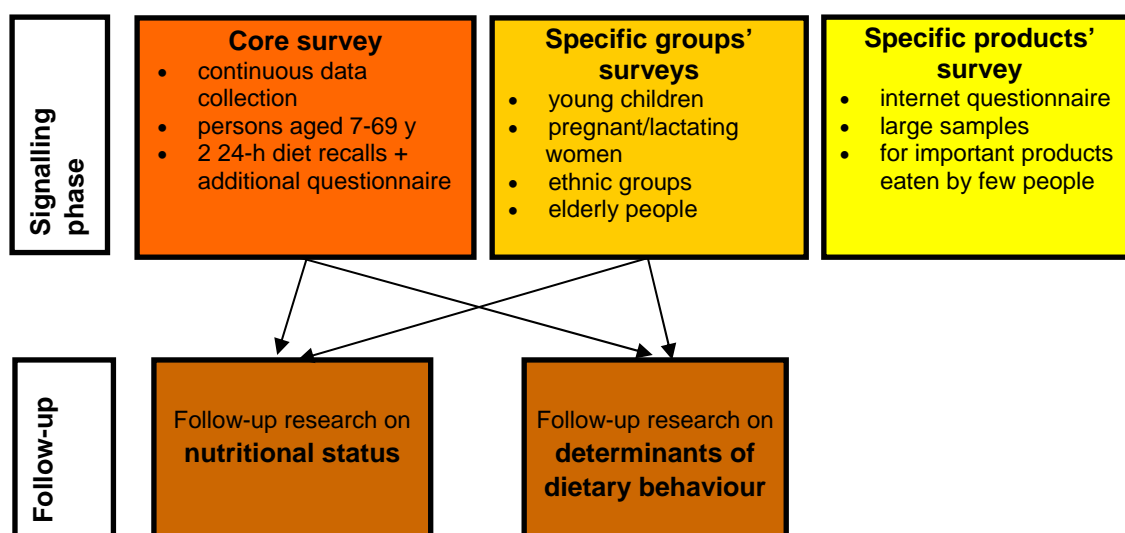


Figure 1-1 System of dietary monitoring used in the Netherlands since 2003.

## 1.2 DNFCs – Young Children 2005/2006

The aim of the DNFCs–Young Children is to gain insight in the diet of Dutch children between the ages of 2 to 6 years, specifically to establish:

- the mean intake of energy and nutrients and the percentage of children that meet the Dutch recommendations for energy and nutrients;
- the mean consumption of fruits, vegetables, and fish and the percentage of children that meet the recommended consumption for these foods;
- the percentage of children taking supplements and the intake of micro-nutrients from foods and supplements including vitamin D and iron;
- the exposure to nitrate, organophosphates, artificial sweeteners, deoxynivalenol, dioxins, ochratoxine A, patulin, aflatoxins, and acrylamide.

Children under the age of 2 were excluded in the study, because recent food consumption data are available for infants aged 6, 12, and 18 months.<sup>4</sup>

The DNFCs–Young Children was authorised by the Netherlands Ministry of Health, Welfare and Sport and co-ordinated by the Dutch National Institute for Public Health and the Environment. Part of the work was subcontracted to other organisations:

- preparation of the study design and material and data handling was carried out in collaboration with TNO-Quality of Life;
- the data were collected by GfK Panel Services;
- software for dietary assessment was updated by the International Agency for Research on Cancer (Lyon, France)
- part of the work on exposure to potential harmful chemical substances is done by RIKILT Institute of Food Safety.

An expert committee (see Appendix A) advised the Ministry on the quality of the survey during planning, data collection, analyses and reporting of the results.

This report presents the survey results with regard to energy, nutrients and foods. In 2008, the analyses of food safety will be published separately. Additionally, the data will also be available at [www.rivm.nl/vcp/en/data](http://www.rivm.nl/vcp/en/data).

## 2 Methods

### 2.1 Study population and recruitment

The target population consisted of boys and girls between the ages of 2 and 6 years living in the Netherlands. Respondents were drawn from representative consumer panels of the Market Research Agency GfK. Panel characteristics, such as socio-demographic characteristics, are known to GfK. Persons in these panels participate in all types of surveys and were not specially selected on nutritional characteristics. Institutionalised persons were excluded (because of a reduced freedom in food choice). In addition, children whose parents/carers (from now on in this report indicated with carers) did not have sufficient knowledge of the Dutch language were excluded from the survey. Per family, only one child was included.

Periodically, stratified samples of children aged 2 to 6 years were drawn. In the selection of the samples the representativeness and (expected) non-response of the different groups were taken into account. Carers were invited by regular mail to participate in the survey. Non-respondents were approached once more by phone. During recruitment, the representativeness of the study population was monitored and, if necessary, the results were adjusted for age and gender, education of the head of household, level of urbanisation, place of residence, and region.

In total, 1,634 children between the ages of 2 to 6 years were invited to participate in the study and 1,279 participated. More information about the response is presented in Section 3.1. Carers who completed and returned all materials received an incentive bonus (credit points to be exchanged for gifts selected from a catalogue). The children each received a small toy.

### 2.2 Data collection and data handling

#### 2.2.1 Overview of data collection

The data were collected in the period October 2005 to November 2006. The families willing to participate were visited at home by a trained employee of the market research agency. During the home visit survey materials were presented and overall instructions were given. In addition, the child's body weight and height were measured and recorded. Survey data were collected by means of a written general questionnaire and subsequently through two food records. After completion of the second record, the respondents returned the questionnaire and food diaries to the market research organisation by regular mail.

#### 2.2.2 Panel characteristics

The market research organisation provided household background information (panel characteristics) including the educational level of the head of household (three classes) and place of residence of the participants: region (five categories) and degree of urbanisation (three categories). This information was used during recruitment.

#### 2.2.3 Questionnaire

A copy of the questionnaire can be downloaded from the DNFCs website ([www.rivm.nl/vcp/en/](http://www.rivm.nl/vcp/en/)). The questionnaire includes questions on the background of the child and family, the child's daily rhythm

and activities (developed by TNO-Quality of Life), general characteristics of the child's diet, consumption frequency of certain specific foods, use of dietary supplements, the purchase of organic foods, and the volume of cups and glasses used habitually by the child. Carers were asked to measure the volume of cups and glasses using the measuring jug included in the study materials. Questions about the child's physical activity differed for school children (habitually from the age of 4 years) and pre-schoolers. A small number (n=9) of children aged 4 years, completed the questionnaire for non-school-going children or vice versa.

Data from the general questionnaires were checked for impossible values, inconsistencies, and missing values. When necessary, the entered data from some respondents was compared with information in the questionnaire and typing errors were corrected.

For some topics the information about the carers was combined and/or aggregated into fewer categories, such as working status or carer's educational level. Information on the highest level of education completed in a household was classified in three categories: low (primary school, lower vocational, low or intermediate general education); middle (intermediate vocational education and higher general education); and high (higher vocational education and university). Information on the working status was combined into two categories 'Both working' and 'at least one of the carers not working'. There was a category for incomplete information.

The information on physical activity was aggregated and grouped into four categories: few, moderate, much, and unknown, dependent of the number of hours per week the activity was done. The questions referred to watching television, computer time, sports at school, walking or cycling to school, sport club activities and playing outdoors. Information on the activities of the school children was evaluated using the guideline on healthy physical activity. For those groups, time spent in physical activities was added together and grouped into four categories: inactive (<3 hours); semi-inactive (3 to 5 hours), semi-active (5-7 hours) and norm-active (>7 hours).<sup>20</sup> An activity guideline is not available for pre-school children.

#### **2.2.4 Height and weight**

During the home visit (see Section 2.2.1), the child's weight and height were measured and recorded to an accuracy of 0.1 kg and 0.5 cm, respectively. Height was measured with a portable height measuring device (Care2Move Medical height measuring device, type: MARCMMH-226). Children were weighted in their underclothes on digital electronic scales (CAS-Scale type: HE-5). The scales were calibrated before and after the survey. For a calibration weight of 20.0 kg, the mean was 20.0 kg on both instances with a standard deviation of 0.1 kg at the start and 0.2 kg after completion of the study.

Extreme values of height and of weight-for-height (values >3SD) were checked for typing errors on the forms. Furthermore, when the child was wearing clothes 300 g was subtracted from the measured weight and when wearing shoes further 500 g was subtracted (22 cases).

Body mass index (BMI) was determined as weight (in kg) divided by height (in m) squared. Subsequently these BMI's were classified using age and sex specific cut-off values.<sup>28</sup>

#### **2.2.5 Dietary record**

The carer of each child recorded in pre-structured diaries the foods and drinks the child had consumed on two non-consecutive days (separated by about 8 to 13 days). The survey dates were determined for each child by the market research agency. Registration days and home visits were not planned on religious holidays, or when the participants were on vacation. In addition to the oral instruction during the home visit, each carer was given an instruction and picture booklet with 13 series of foods in

different portion sizes. A brief instruction leaflet was also provided for use if the child was not with the carer on the registration day, such as at school or child day care.

The diaries were structured according to the food consumption occasion (three meals and three in-between meals). For each food consumption occasion, the carer was asked to indicate the time and place of consumption and to tick each food on the list consumed by the child on that occasion. Ample space was provided to enter additional foods not listed. For each food, the carer was asked to indicate characteristics such as fat content, sugar content, flavour, brand name, preparation method. Portion size of the products and meals could be estimated by the carer in several ways: by means of quantities as shown in photos in the booklet; in domestic measures (a small and a large spoon were supplied to standardise estimates), standard units, weight and/or volume. The volume of cups and glasses used were measured by the carer (see Section 2.2.3). The final section of the diary included questions on the use (specific type and amount) of dietary supplements on the recorded day, and the use of tooth-paste. The questions on dietary supplements referred to type, brand, strength and dose. Furthermore, carers were asked to indicate where appropriate whether the recorded day was special in any way, such as holiday, travelling day or illness. The average time taken to complete the food record was about 30 minutes.

All diaries were checked for completeness on predefined information, such as place of consumption of the two main meals, consistency between number of sandwiches and number of sandwich fillings, recipes used and dietary supplements taken. If necessary, the carer was contacted to complete the information. Dieticians entered the data from the diaries into the EPIC-Soft computer program. EPIC-Soft is developed for highly standardised 24-hour dietary recalls.<sup>25</sup> As this method is also used for the 24-hour recalls in the national core survey of the Dutch food consumption surveys, the structure of the datasets of these two surveys is comparable. The dieticians were specifically trained in data-entry and were given detailed instructions on how to enter specific foods. The instructions were updated during the study. Moreover, for the purposes of quality control, 22 diaries were entered by several dieticians.

In addition, various quality checks were carried out on the data entered. Firstly, the data entry of the household measures, the portion size pictures, extreme consumption data per food group and extremes in the energy and nutrient intake were checked for typing errors by comparing the electronic data with the diaries. Secondly, energy intake was compared to the basal metabolic rate estimated with Schofield equations using height, weight, age and gender of the subjects.<sup>3</sup>

Foods were classified into groups using the EPIC-Soft food group classification<sup>25</sup> which in this survey comprises 17 main groups and 84 subgroups. For assessment of vegetable consumption, the main group 2 of the EPIC-Soft classification was used. Legumes are not included in this definition. For the assessment of fruit consumption a new food group was defined EPIC-Soft main group 4 'Fruit, nuts and olives', without sub-groups for 'Olives' (subgroup 0404) and 'Nuts and seeds' (0402).

Based on the food diaries, all foods consumed were classified as either fortified or not fortified, and whether artificially sweetened. If necessary, product brand information was obtained from the internet or from the food label. Energy and nutrient intakes were calculated using an extended version of the Dutch food composition database 2006 (=NEVO)<sup>27</sup> and the Dutch Supplement database (=NES).<sup>5</sup>

## 2.3 Statistical analyses

Most results are described for the whole study population and for four age-gender groups: boys aged 2 to 3 years, girls aged 2 to 3 years, boys aged 4 to 6 years, and girls aged 4 to 6 years. The cut-off at the age of 4 years corresponds with the age categories in the dietary guidelines.<sup>10 14</sup> All results were

weighted for small deviances in socio-demographic characteristics. P-values below 0.05 were considered to be statistically significant. All statistical analyses were done using SAS, version 9.1.

Average food group consumption over two days was calculated for each child. From this, the mean consumption per food group by the total study population was estimated as well as the mean consumption by food group users on at least one of the recording days. This was done for all foods, all fortified foods and all artificially sweetened foods. The contribution of last two products to the total consumption is defined as the proportion of the mean total consumption provided by either fortified or artificially sweetened foods.

For intakes of energy, nutrients and fruit and vegetables, the distribution of the habitual intake was derived. For the habitual intake of micro-nutrients two analyses were performed; the intake of micro-nutrients from food and the total intake from both food and dietary supplements. Habitual intake was estimated in order to evaluate the proportion of subjects adhering to the dietary recommendations. The habitual intake distribution was obtained from the measured intake by eliminating the intra-individual (=day-to-day) variation with the method developed by Nusser,<sup>22</sup> using C-SIDE software<sup>7</sup> for foods and IML SIDE for nutrients. To evaluate fish consumption, data from the food frequency questionnaire were used, which provided habitual consumption in the past month.

The approach for evaluation of intake against the dietary recommendations differed according to type of dietary reference intake, as recommended by the Institute of Medicine.<sup>17</sup>

- Where information on the estimated average requirement (EAR) was available, the cut-off approach was used.
- When only an adequate intake (AI) was available, a more qualitative evaluation about the adequacy was performed. Where the median intake was above the adequate intake, there is a low prevalence of inadequate intakes ('low'). When this was not the case, the adequacy of the diet could not be evaluated ('no statement').
- When a tolerable upper intake level (UL) was defined, the percentage of subjects above this level was evaluated as the percentage of children at potential risk of adverse effects due to too high intake.

Subsequently, the average of the individual percentage contributions of intake on various food consumption occasions and places of consumption (at home and outside) to the total intake of energy, nutrients and food groups were calculated. The mean contribution of each food group to the energy and nutrient intake was calculated in a similar way.

Finally, the mean consumption of fruit, vegetables and fish, and intake of saturated fatty acids, vitamin D, and fibre by socio-demographic categories were calculated and tested for significant differences using the overall F-test.

## 3 Results

### 3.1 Response

The response on the recruitment is shown in Table 3-1. Of the total 1,634 invited persons 81% was willing to participate. However, for 3% of the participants the material was not complete at the end of the study. Therefore, the net response for the total population was 78%. Response varied for different categories of socio-demographic factors between 65 and 86% (see Appendix B Table B-1). The response was the highest in the moderately urbanised parts of the Netherlands and lowest in the three large cities of Amsterdam, Rotterdam, and The Hague. This is in line with other studies.<sup>24 26</sup>

Table 3-1 Response of participants in the DNFCs-Young Children 2005/2006.

	Number	%
Overall sample	1,634	100
- Not reached	77	5
- Unwilling to participate	231	14
- Willing to participate	1,326	81
- Incomplete material	47	3
- Complete material (net sample)	1,279	78

### 3.2 Representativeness of the study population

Socio-demographic characteristics of participants in the DNFCs-Young Children 2005/2006 are presented in Table 3-2. The study population was stratified on age and gender. It was representative on socio-demographic characteristics such as region and educational level of the head of the household, but densely populated areas were slightly underrepresented. To adjust for the small deviations in the general population characteristics and the stratification, the results were weighted for children's age and gender, and for educational level of head of household, region, and urbanisation level. The market research organisation used Dutch census data from 2004 as reference population to derive the weights.

At group level, all days of the week were equally represented to ensure that systematic differences in dietary intake by days of the week did not distort the results (see Appendix B Table B-2). The distribution by season was not completely homogeneous, with higher representation in 'Winter' and 'Autumn' than in 'Spring' and 'Summer'. Therefore, the season factor was taken into account in the weighting factor.



Table 3-2 Representativeness on socio-demographic characteristics of participants in the DNFCs-Young Children 2005/2006.

	Overall sample		Net sample		Net sample after weighting for socio- demographic factors and season
	Number	%	Number	%	%
<b>Total</b>	1,634	100	1,279	100	100
<b>Gender, age*</b>					
Boys, 2 to 3 years	403	25	327	26	21
Girls, 2 to 3 years	385	24	313	24	20
Boys, 4 to 6 years	420	26	327	26	31
Girls, 4 to 6 years	426	26	312	24	29
<b>Educational level of head of household</b>					
Low	374	23	275	22	21
Moderate	694	42	544	43	43
High	566	35	460	36	36
<b>Region</b>					
Three largest cities in the west of the Netherlands**	250	15	163	13	14
Rest of the west	466	29	379	30	30
North	159	10	132	10	10
East	372	23	299	23	23
South	387	24	306	24	23
<b>Urbanisation</b>					
High	640	39	469	37	42
Moderate	350	21	301	24	22
Low	644	39	509	40	35

\* The target for gender-age strata did not aim at representativeness, but at total number.

\*\* Amsterdam, Rotterdam, The Hague.

### 3.3 Characteristics of carers

The characteristics of the carers of the children are shown in Table 3-3. About half of the participating children lived in four-person households and 2% of households are single-carer units. Furthermore, for 68% of the children, both carers are working. For 11% of the study population both carers were in the lowest educational level, whereas 43% of the children had at least one carer with a high educational level. The characteristics of the mother and father are given in Appendix B Table B-3. In total, 44% of the children lived in the west of the Netherlands and 42% in densely populated areas. Furthermore, the Netherlands was the country of origin of most carers in the study population (92%).

Table 3-3 Characteristics of the carers of Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

	Total (n=1,279)	2 to 3 years		4 to 6 years	
		Boys (n=327)	Girls (n=313)	Boys (n=(327)	Girls (n=312)
	%	%	%	%	%
<b>Size of household</b>					
2 to 3	23	26	28	18	21
4	49	50	48	53	45
5+	28	24	22	29	33
Unknown	0	0	0	0	1
<b>Highest educational level of carer(s)</b>					
Low	11	10	10	14	11
Moderate	43	45	39	41	47
High	43	44	47	44	38
At least for one carer unknown	3	2	4	3	5
<b>Working status of carers</b>					
Both working*	68	71	70	69	65
At least one carer not working	29	27	28	28	31
At least for one carer unknown	3	3	3	4	4
<b>Region</b>					
Three largest cities in the west of the Netherlands**	14	14	15	14	15
Rest of the west	30	32	30	29	29
North	10	10	11	10	10
East	23	23	22	23	22
South	23	21	22	24	25
<b>Urbanisation</b>					
High	42	43	43	42	42
Moderate	22	23	22	22	22
Low	35	34	35	36	36
<b>Native country of carers</b>					
Both of Dutch origin	92	94	92	91	92
At least one not of Dutch origin	7	5	7	8	6
Unknown for at least one carer	1	1	1	1	2

\* This category also includes working single carers.

\*\* Amsterdam, Rotterdam, The Hague.

### 3.4 Anthropometry and physical activity

In this paragraph some other relevant characteristics of the participants are given, such as the anthropometrical factors and characteristics of physical activity. About 7% of the study population had (seriously) underweight (see Table 3-4). The prevalence of overweight was 13%, including 2% obese. These figures suggest that the energy intake of the overweight children is or was too high in relation to energy requirements. The percentage of participants within the normal weight range was slightly higher for boys than for girls.

Characteristics of physical activity shown in Table 3-5 and Table 3-6 indicate that more than 10% of the children spent on average more than 2 hours/day watching TV/video/DVD. Most children were active for less than one hour a week in sports such as swimming and gymnastics (2 to 3 year-olds) or in playing team sports (4 to 6 year-olds). Because of other activities, 64 to 66% of the 4 to 6 year-old children met the recommendations of more than 7 hours/week physical activity. In the 4 to 6 year-olds, 6 to 8% was physical inactive (<3 hours/week). For the children aged 2 to 3 years no recommendation on physical activity is formulated.

Table 3-4 Height and weight of Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

	<b>Total (n=1,279)</b>	<b>2 to 3 years</b>		<b>4 to 6 years</b>	
		<b>Boys (n=327)</b>	<b>Girls (n=313)</b>	<b>Boys (n=327)</b>	<b>Girls (n=312)</b>
	<b>mean</b>	<b>mean</b>	<b>mean</b>	<b>mean</b>	<b>mean</b>
<b>Height (cm)</b>	107.7	97.3	96.3	115.3	115.0
<b>Weight (kg)</b>	18.8	15.7	15.1	21.3	21.1
<b>Evaluation of weight*</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Seriously underweight	1	1	2	1	2
Underweight	6	6	7	6	6
Normal weight	79	80	77	82	77
Overweight	11	12	13	9	11
Obesity	2	2	2	2	4

\* Evaluation of weight is dependent on age and gender.<sup>15 28</sup>

Table 3-5 Characteristics of physical activity in Dutch children aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

	<b>2 to 3 years</b>	
	<b>Boys (n=328)*</b>	<b>Girls (n=315)*</b>
	<b>%</b>	<b>%</b>
<b>TV/ Video/ DVD, computer</b>		
Few (<3.5 hours a week)	24	31
Moderate (3.5 to 14 hours a week)	67	57
Many (>14 hours a week)	9	12
<b>Playing outdoors</b>		
Few (<3.5 hours a week)	30	34
Moderate (3.5 to 14 hours a week)	45	44
Many (>14 hours a week)	24	22
<b>Swimming, gymnastic, et cetera</b>		
Few (<1 hour a week)	66	56
Moderate (1 to 3 hours a week)	31	33
Many (>3 hour a week)	4	11

\* The questionnaire was completed for three 3 year-old children as school-going children and six 4 to 6 year-old children filled as non-school-going children.

Table 3-6 Characteristics of physical activity in Dutch children aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

	4 to 6 years	
	Boys (n=326)* %	Girls (n=310)* %
<b>Physical activity**</b>		
Inactive (<3 hours a week)	6	8
Semi-inactive (3 to 5 hours a week)	12	12
Semi-active (5 to 7 hours a week)	16	13
Norm-active (>7 hours a week)	66	64
Unknown	0	3
<b>TV/ Video/ DVD, computer</b>		
Few (<3.5 hours a week)	18	19
Moderate (3.5 to 14 hours a week)	67	69
Many (>14 hours a week)	15	12
Unknown	0	0
<b>Sport</b>		
Few (<1 hour a week)	76	70
Moderate (1 to 3 hours a week)	22	28
Many (>3 hours a week)	2	1
Unknown	0	0

\* The questionnaire was completed for three 3 year-old children as school-going children and six 4 to 6 year-old children filled as non-school-going children.

\*\* Evaluation according to the Dutch physical activity guideline 'Nederlandse Norm Gezond Bewegen'.<sup>20</sup>

### 3.5 General characteristics of the diet

General characteristics of the diet are given in Table 3-7. Almost all children (95%) had breakfast every day, only two subjects never ate breakfast. The number of food consumption occasions in addition to the main meals varied from zero to more than eight. The percentage of children who had two or less extra food consumption occasions was 23%, whereas on average, 21% of the children had five or more such occasions in addition to the main meals. The number of food consumption occasions between meals was less for children aged 4 to 6 years than for 2 to 3 year-olds. Only 4% of the 2 to 6 year-olds were on a special diet, mostly in order to prevent hypersensitivity. The most common diets were cow's milk protein free (30%), lactose restricted (22 %), and a diet for avoiding other allergic reactions (34%; see Appendix B Table B-4).

Table 3-7 General characteristics of the diet of Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

	Total	2 to 3 years		4 to 6 years	
	(n=1,279)	Boys	Girls	Boys	Girls
	%	(n=327) %	(n=313) %	(n=327) %	(n=312) %
<b>Breakfast</b>					
7 days a week	95	96	94	95	95
Once a week - 6 days a week	5	4	6	5	5
Never / less than once a week	0	0	0	0	0
<b>Number of food consumption occasions in-between meals</b>					
≤2	23	15	18	28	25
3	35	35	30	34	40
4	21	22	20	22	21
≥5	21	28	32	16	14
<b>Special diet</b>	4	4	4	5	4

## 3.6 Foods

Consumption (g/day) of a number of EPIC-Soft food groups by children aged 2 to 3 years and 4 to 6 years is given in Tables 3-8 and 3-9, respectively. All main food groups and some important subgroups in the Dutch food-based dietary guidelines<sup>31</sup> (see Text Box 3-1) were used. Although these Dutch food-based dietary guidelines are developed for educational purposes and not for evaluation of food consumption at population level, a rough comparison of the current food consumption was made using these guidelines. Consumption for all food subgroups is shown in Appendix B Table B-5, together with the statistical tests for differences between the four age-gender groups. A list of all used NEVO-codes<sup>1</sup> per EPIC-Soft group used is presented in Appendix C.

Food groups consumed by more than 90% of the subjects in all age-gender groups were 'Fruits, nuts, and olives', 'Dairy products', 'Cereals and cereal products', 'Meat and meat products', 'Fat', 'Sugar and confectionery', 'Cakes', and 'Non-alcoholic beverages'. Food products with the least number of consumers on the two survey days were 'Fish and shellfish' (15%) and 'Legumes' (5%). The consumption pattern was similar in all four age-gender groups.

For several food groups, the consumption was higher in 4 to 6 year-olds than in preschoolers. This was significant for 'Potatoes', 'Cereals and cereal products', 'Meat and meat products', 'Fat', 'Cakes', 'Non-alcoholic beverages' and 'Condiments and sauces'. However, this was in the opposite for 'Dairy products' and 'Miscellaneous'. Larger amounts of some food groups were consumed by boys than girls, such as 'Potatoes and other tubers', 'Fruits, nuts and olives', 'Dairy products', 'Cereals and cereal products', and 'Fat'.

The 4 to 6 year-olds consumed on average about 67 g of 'Potatoes', 'Pasta', 'Rice' and 'Legumes' (EPIC-Soft group 01, 03 and 0602 together). However, the Netherlands Nutrition Centre recommends

<sup>1</sup> Codes of the Dutch food composition table, extended with codes for this specific study if needed.

100 to 150 g of these products for 4 to 8 year-old children. The youngest children consumed on average about 57 g/day, while 50 to 100 g is recommended.

The mean consumption of 'Bread (including breakfast cereals)' for the 4 to 6 year-old children was 99 and 89 g/day for boys and girls, respectively. For that age group 3 to 4 slices per day (=105 to 140 g) is recommended. The 2 to 3 year-old children consumed on average about 80 g of bread a day, while 2 to 3 slices (70 to 105 g) is recommended.

The 2 to 6 year-old children consumed on average 8 to 9 g/day low fat margarine, while 10 to 15 g was recommended for children under the age of 4 and 15-20 g for children 4 to 8 years of age. Oil for cooking is recommended to be used daily in amounts of 15 g. Actual consumption is lower, since the mean consumption of the total food group 'Fat' including spreads is 11 to 13 g/day for 2 to 3 year-old children, and 13 to 15 g/day for 4 to 6 year-old children.

On average, 435 g of 'Dairy products' was eaten daily, namely 'Milk' (196 g), 'Yogurt and yogurt drinks' (144 g) and 'Milk beverages' (50 g). For the 2 to 3 year-olds the total mean intake of milk or milk beverages is higher than the recommended 300 ml milk(beverages), while for the 4 to 6 year-olds, the average consumption was close to the recommended 400 g/day. However, mean consumption of 'Cheese' was a little higher than the recommended 10 g for both age groups.

Text Box 3-1 Food-based dietary guidelines for young children<sup>31</sup>

Food group	EPIC-Soft codes	1 to 3 year	4 to 8 years
Bread	0603; 0604	2 to 3 slices (70 to 105 g)	3 to 4 slices (105 to 140 g)
Potatoes (or rice, pasta or legumes)	0101; 0602; 0301	50 to 100 g 1 to 2 potatoes or serving spoons of rice/pasta/legumes	100 to 150 g 2 to 3 potatoes or serving spoons of rice/pasta/legumes
Vegetables	02	50 to 100 g (1 to 2 serving spoons of vegetables)	100 to 150 g (2 to 3 serving spoons of vegetables)
Fruit	0401; 0403	1.5 pieces (150 g)	1.5 pieces (150 g)
Dairy products*	0501; 0502; 0503; 0504; 0506	300 ml milk(products)	400 ml milk(products)
Cheese	0505	0.5 slice (10 g)	0.5 slice (10 g)
Meat (products) fish, chicken, egg or other meat replacement products	07; 08; 09; 1701	75 g	75 to 100 g
Low-fat spread	Selection of 10	10 to 15 g	15 to 20 g
Cooking fat	Selection of 10	15 g (1 tablespoon)	15 g (1 tablespoon)
Drinks (including milk)	0501; 0502; 0503*; 1104; 13	0.75 litre	1 litre

\* This group includes yogurt and yogurt drinks.

Table 3-8 Food consumption (food groups and relevant subgroups) of Dutch children aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft classification	2 to 3 years									
	Boys (n=327)					Girls (n=313)				
				Users					Users	
	mean	SD	Users	mean	SD	mean	SD	Users	mean	SD
	g/d	g/d	%	g/d	g/d	g/d	g/d	%	g/d	g/d
<b>01 Potatoes and other tubers</b>	<b>47</b>	<b>40</b>	<b>82</b>	<b>57</b>	<b>37</b>	<b>38</b>	<b>34</b>	<b>79</b>	<b>48</b>	<b>32</b>
0101 Potatoes	47	40	82	57	37	38	34	79	48	32
<b>02 Vegetables</b>	<b>41</b>	<b>38</b>	<b>90</b>	<b>45</b>	<b>38</b>	<b>36</b>	<b>31</b>	<b>91</b>	<b>39</b>	<b>31</b>
0201 Leafy vegetables (except cabbage)	6	17	22	30	25	4	10	23	19	14
0202 Fruiting vegetables	12	24	45	27	29	14	25	54	27	28
0204 Cabbage	9	17	33	27	21	7	14	31	22	16
<b>03 Legumes</b>	<b>1</b>	<b>10</b>	<b>3</b>	<b>45</b>	<b>32</b>	<b>1</b>	<b>7</b>	<b>5</b>	<b>25</b>	<b>19</b>
<b>04 Fruits, nuts and olives</b>	<b>133</b>	<b>84</b>	<b>96</b>	<b>139</b>	<b>80</b>	<b>125</b>	<b>82</b>	<b>95</b>	<b>131</b>	<b>79</b>
0401 Fruits	127	83	94	135	79	118	80	93	128	76
0403 Mixed fruits	1	8	3	44	21	2	12	5	52	22
<b>05 Dairy products</b>	<b>449</b>	<b>238</b>	<b>98</b>	<b>457</b>	<b>232</b>	<b>427</b>	<b>207</b>	<b>99</b>	<b>429</b>	<b>205</b>
0501 Milk	214	182	82	261	168	208	179	82	253	166
0502 Milk beverages	42	94	26	160	121	39	94	25	156	132
0503 Yogurt	131	177	62	211	183	132	156	69	191	155
0504 Fromage blanc, petits suisses	13	26	29	46	28	14	25	30	45	24
0505 Cheese (including fresh cheese)	9	13	56	16	13	11	14	64	17	14
0506 Cream desserts, puddings (milk-based)	39	60	42	93	61	23	42	35	66	47
<b>06 Cereals and cereal products</b>	<b>99</b>	<b>41</b>	<b>100</b>	<b>99</b>	<b>41</b>	<b>99</b>	<b>43</b>	<b>100</b>	<b>99</b>	<b>43</b>
0602 Pasta, rice, other grain	12	24	34	36	30	14	24	43	33	26
0603 Bread, crisp bread, rusks	76	33	100	76	33	72	33	100	72	33
060301 Bread	72	33	99	73	33	69	33	100	69	33
0604 Breakfast cereals	6	12	27	21	14	5	11	30	18	12
<b>07 Meat and meat products</b>	<b>48</b>	<b>32</b>	<b>96</b>	<b>50</b>	<b>31</b>	<b>44</b>	<b>28</b>	<b>97</b>	<b>45</b>	<b>28</b>
<b>08 Fish and shellfish</b>	<b>4</b>	<b>14</b>	<b>16</b>	<b>29</b>	<b>24</b>	<b>4</b>	<b>15</b>	<b>14</b>	<b>32</b>	<b>30</b>
<b>09 Eggs and egg products</b>	<b>4</b>	<b>10</b>	<b>27</b>	<b>16</b>	<b>14</b>	<b>5</b>	<b>12</b>	<b>26</b>	<b>21</b>	<b>14</b>
<b>10 Fat</b>	<b>13</b>	<b>8</b>	<b>99</b>	<b>13</b>	<b>8</b>	<b>11</b>	<b>7</b>	<b>99</b>	<b>11</b>	<b>7</b>
1003 Margarines	10	8	96	11	7	9	6	93	10	6
<b>11 Sugar and confectionery</b>	<b>68</b>	<b>47</b>	<b>100</b>	<b>69</b>	<b>47</b>	<b>71</b>	<b>57</b>	<b>99</b>	<b>72</b>	<b>57</b>
1102 Chocolate, candy bars, paste, chocolate confetti/flocks	15	19	77	19	19	12	12	75	15	12
1104 Syrup	31	39	69	45	40	35	47	75	46	49
1105 Ice cream, water ice	12	19	33	35	18	14	25	34	40	28
<b>12 Cakes</b>	<b>35</b>	<b>32</b>	<b>94</b>	<b>38</b>	<b>32</b>	<b>32</b>	<b>33</b>	<b>92</b>	<b>35</b>	<b>33</b>
<b>13 Non-alcoholic beverages</b>	<b>547</b>	<b>283</b>	<b>99</b>	<b>550</b>	<b>281</b>	<b>528</b>	<b>303</b>	<b>99</b>	<b>532</b>	<b>301</b>
<b>14 Alcoholic beverages</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>4</b>
<b>15 Condiments and sauces</b>	<b>8</b>	<b>11</b>	<b>69</b>	<b>12</b>	<b>11</b>	<b>8</b>	<b>11</b>	<b>69</b>	<b>11</b>	<b>11</b>
<b>16 Soups, bouillon</b>	<b>13</b>	<b>34</b>	<b>17</b>	<b>76</b>	<b>43</b>	<b>13</b>	<b>37</b>	<b>16</b>	<b>83</b>	<b>52</b>
<b>17 Miscellaneous</b>	<b>15</b>	<b>65</b>	<b>19</b>	<b>75</b>	<b>132</b>	<b>14</b>	<b>57</b>	<b>19</b>	<b>74</b>	<b>112</b>
1701 Soy products	9	60	7	131	199	8	52	7	114	161
1703 Snacks	3	12	10	34	18	3	11	8	37	21

Table 3-9 Food consumption (food groups and relevant subgroups) of Dutch children aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft classification	4 to 6 years									
	Boys (n=327)					Girls (n=312)				
				Users					Users	
	mean	SD	Users	mean	SD	mean	SD	Users	mean	SD
	g/d	g/d	%	g/d	g/d	g/d	g/d	%	g/d	g/d
<b>01 Potatoes and other tubers</b>	<b>53</b>	<b>43</b>	<b>85</b>	<b>62</b>	<b>40</b>	<b>46</b>	<b>40</b>	<b>82</b>	<b>56</b>	<b>37</b>
0101 Potatoes	53	43	85	62	40	46	40	82	56	37
<b>02 Vegetables</b>	<b>43</b>	<b>36</b>	<b>88</b>	<b>49</b>	<b>34</b>	<b>44</b>	<b>38</b>	<b>89</b>	<b>49</b>	<b>37</b>
0201 Leafy vegetables (except cabbage)	6	12	23	24	13	7	17	25	29	23
0202 Fruiting vegetables	17	26	55	32	28	17	27	51	33	31
0204 Cabbage	8	17	28	28	21	7	15	27	27	18
<b>03 Legumes</b>	<b>2</b>	<b>12</b>	<b>6</b>	<b>35</b>	<b>35</b>	<b>1</b>	<b>8</b>	<b>5</b>	<b>30</b>	<b>18</b>
<b>04 Fruits, nuts and olives</b>	<b>127</b>	<b>88</b>	<b>92</b>	<b>138</b>	<b>83</b>	<b>115</b>	<b>83</b>	<b>92</b>	<b>125</b>	<b>79</b>
0401 Fruits	120	87	89	135	80	110	82	87	126	75
0403 Mixed fruits	1	12	3	56	55	1	6	2	46	22
<b>05 Dairy products</b>	<b>488</b>	<b>259</b>	<b>99</b>	<b>494</b>	<b>255</b>	<b>416</b>	<b>227</b>	<b>99</b>	<b>422</b>	<b>223</b>
0501 Milk	203	200	73	279	184	158	163	70	226	151
0502 Milk beverages	62	114	34	182	128	56	135	27	207	189
0503 Yogurt	164	187	68	240	181	148	171	65	226	164
0504 Fromage blanc, petits suisses	10	25	21	48	32	11	29	21	52	43
0505 Cheese (including fresh cheese)	12	17	61	20	18	12	14	63	20	13
0506 Cream desserts, puddings (milk-based)	35	51	42	85	46	30	50	37	81	51
<b>06 Cereals and cereal products</b>	<b>124</b>	<b>51</b>	<b>100</b>	<b>124</b>	<b>51</b>	<b>112</b>	<b>49</b>	<b>100</b>	<b>112</b>	<b>49</b>
0602 Pasta, rice, other grain	17	30	35	47	34	14	28	35	40	36
0603 Bread, crisp bread, rusks	94	41	100	94	40	86	38	100	86	38
060301 Bread	90	41	99	91	41	82	38	100	82	38
0604 Breakfast cereals	5	11	23	21	12	3	8	18	17	10
<b>07 Meat and meat products</b>	<b>55</b>	<b>35</b>	<b>96</b>	<b>57</b>	<b>34</b>	<b>52</b>	<b>34</b>	<b>96</b>	<b>54</b>	<b>32</b>
<b>08 Fish and shellfish</b>	<b>6</b>	<b>18</b>	<b>14</b>	<b>39</b>	<b>31</b>	<b>5</b>	<b>13</b>	<b>16</b>	<b>30</b>	<b>20</b>
<b>09 Eggs and egg products</b>	<b>5</b>	<b>12</b>	<b>27</b>	<b>19</b>	<b>16</b>	<b>6</b>	<b>12</b>	<b>30</b>	<b>20</b>	<b>15</b>
<b>10 Fat</b>	<b>15</b>	<b>9</b>	<b>99</b>	<b>15</b>	<b>9</b>	<b>13</b>	<b>9</b>	<b>100</b>	<b>13</b>	<b>9</b>
1003 Margarines	12	9	91	13	8	10	8	94	11	8
<b>11 Sugar and confectionery</b>	<b>73</b>	<b>49</b>	<b>99</b>	<b>74</b>	<b>49</b>	<b>74</b>	<b>51</b>	<b>100</b>	<b>75</b>	<b>51</b>
1102 Chocolate, candy bars, paste, chocolate confetti/flocks	17	18	80	21	17	17	16	81	21	16
1104 Syrup	27	35	69	39	36	27	37	68	40	39
1105 Ice cream, water ice	15	24	36	41	22	17	25	40	41	24
<b>12 Cakes</b>	<b>47</b>	<b>40</b>	<b>93</b>	<b>51</b>	<b>40</b>	<b>45</b>	<b>39</b>	<b>95</b>	<b>47</b>	<b>38</b>
<b>13 Non-alcoholic beverages</b>	<b>602</b>	<b>299</b>	<b>99</b>	<b>608</b>	<b>295</b>	<b>591</b>	<b>290</b>	<b>100</b>	<b>593</b>	<b>289</b>
<b>14 Alcoholic beverages</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>15 Condiments and sauces</b>	<b>11</b>	<b>13</b>	<b>75</b>	<b>15</b>	<b>13</b>	<b>11</b>	<b>13</b>	<b>75</b>	<b>14</b>	<b>13</b>
<b>16 Soups, bouillon</b>	<b>16</b>	<b>41</b>	<b>17</b>	<b>92</b>	<b>52</b>	<b>16</b>	<b>40</b>	<b>18</b>	<b>87</b>	<b>51</b>
<b>17 Miscellaneous</b>	<b>9</b>	<b>33</b>	<b>20</b>	<b>47</b>	<b>63</b>	<b>9</b>	<b>36</b>	<b>20</b>	<b>45</b>	<b>71</b>
1701 Soy products	4	30	7	63	96	4	31	6	62	109
1703 Snacks	4	15	11	40	26	4	13	12	31	22



The mean consumption of 'Meat and meat products', 'Fish', 'Eggs' and 'Meat replacement products' (groups 07, 08, 09 and 1701) by the youngest age groups was 66 g for boys and 62 g for girls, whereas 75 g is recommended. For the 4 to 6 year-olds, mean consumption was 70 g for boys and 67 g for girls, while 75 to 100 g is recommended.

'Fruiting vegetables' and 'Cabbage' were the most popular type of vegetables among the children. On average, the study population (2 to 6 year-olds) consumed 41 g of 'Vegetables' per day, which is less than one serving spoon, and 1.25 piece of fruit (120 g) per day. The assessment of this consumption is described in the next paragraph.

Consumption of 'Drinks' (total of food groups 0501, 0502, 0503, 1104 and 13) was on average 0.9 to 1.0 l/day. This is in excess of the dietary reference intake for 2 to 3 year-olds of 0.75 l/day. For the 4 to 6 year-olds the recommended amount is higher (1 l/day), and similar to the average consumed amount.

### 3.6.1 Assessment of food consumption

The Netherlands Health Council has defined Guidelines for a Healthy Diet<sup>13</sup> with specific quantified guidelines for the food groups 'Vegetables', 'Fruit' and 'Fish'. These are, however, not applicable for young children. Therefore, the food-based dietary guidelines from the Netherlands Nutrition Centre were used to assess consumption of these food groups ([www.voedingscentrum.nl](http://www.voedingscentrum.nl)).<sup>31</sup> In contrast to fruit and vegetables, it was not possible to estimate habitual consumption of fish from the diet records because of the many non-consumers. Therefore, for evaluation of the fish consumption, food frequency data obtained from the questionnaire were used.

Consumption of 'Vegetables' (group 02) was overall very low, with mean habitual consumption of 36 to 44 g (Table 3-10). The food-based dietary guideline for vegetables for children up to the age of four is 50 to 100 g/day and for 4 to 8 years of age 100 to 150 g/day. Consumption was inadequate in at least 79% of 2 to 3 year-old group, and almost all children in the 4 to 6 year-old group did not meet the recommendation.

The habitual consumption of 'Fruit' (group 04 without 0402 and 0404) was also low, with the mean varying between 113 g and 126 g for the four age-gender groups. The guideline is 150 g for 1 to 8 year-old children. This meant that 21 to 30% of the children met the recommendation for fruit (see Table 3-10).

Only 9% met the recommended fish consumption of twice a week, and one in four children never ate fish (see Table 3-11). The mean consumption for those who do eat fish was 33 g/day (see Appendix B Table B-5).

Table 3-10 Habitual consumption of fruit and vegetables of Dutch Children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

	n	mean g/d	P5 g/d	P25 g/d	P50 g/d	P75 g/d	P95 g/d	DRI* g/d	Percentage with inadequate consumption
<b>2 to 3 year-old boys</b>	327								
Fruit		126	61	97	124	152	200	150	73
Vegetables		40	20	29	38	48	67	50-100	79-100
<b>2 to 3 year-old girls</b>	313								
Fruit		122	58	93	119	147	196	150	77
Vegetables		36	15	25	34	45	65	50-100	83-100
<b>4 to 6 year-old boys</b>	327								
Fruit		124	36	84	120	159	224	150	70
Vegetables		44	20	31	41	54	76	100-150	99-100
<b>4 to 6 year-old girls</b>	312								
Fruit		113	34	81	112	144	194	150	79
Vegetables		41	23	33	40	48	62	100-150	100

\* Food-based dietary guidelines.<sup>31</sup>

Table 3-11 Reported frequency of fish consumption\* by Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

	Total (n=1,279) %	2 to 3 years		4 to 6 years	
		Boys (n=327) %	Girls (n=313) %	Boys (n=327) %	Girls (n=312) %
Twice or more a week (=recommended <sup>31</sup> )	9	9	10	8	8
Less than twice a week	68	68	65	71	66
Never	24	23	25	21	26

\* Items 'Shrimps', 'Mussels', 'Herring', 'Eel', 'Fish fingers and other fish' in food frequency questionnaire.

## 3.7 Fortified products

About 87% of the children surveyed consumed fortified products on one or both of the record days. The most frequently consumed fortified products are drinks such as 'Non-alcoholic beverages', 'Syrups', and 'Dairy products' (see Table 3-12).

About half of the amount of 'Syrups' and 'Fruit and vegetable juices' consumed was fortified with extra nutrients, while one-third of 'Milk beverages' and one-sixth of 'Yogurt (drinks)' were fortified. Furthermore, almost 60% of 'Breakfast cereals' and more than 90% of 'Soy products' consumed were fortified. Consumption of fortified products by age and sex group is shown in Appendix B Tables B-6, B-7 and B-8.

Table 3-12 Consumption of fortified foods by Dutch Children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC Soft Classification	2 to 6 years (n=1,279)					
	Proportion of				Users	
	mean g/d	SD g/d	total consumption %*	Users %	mean g/d	SD g/d
<b>04 Fruits, nuts and olives</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>47</b>	<b>19</b>
0403 Mixed fruits	0	2	8	0	47	19
<b>05 Dairy products</b>	<b>46</b>	<b>107</b>	<b>10</b>	<b>26</b>	<b>179</b>	<b>145</b>
0501 Milk	4	34	2	1	265	129
0502 Milk beverages	18	65	35	11	160	125
0503 Yogurt	23	77	16	13	175	138
0504 Fromage blanc, petits suisses	0	1	0	0	20	0
0505 Cheese (including fresh cheese)	0	1	1	1	9	4
0506 Cream desserts, puddings (milk-based)	1	11	5	2	73	37
<b>06 Cereals and cereal products</b>	<b>4</b>	<b>10</b>	<b>3</b>	<b>17</b>	<b>21</b>	<b>15</b>
0603 Bread, crisp bread, rusks	1	6	1	2	34	24
060301 Bread	1	6	1	2	34	24
0604 Breakfast cereals	3	8	58	15	19	12
<b>10 Fat</b>	<b>2</b>	<b>5</b>	<b>14</b>	<b>19</b>	<b>9</b>	<b>7</b>
1003 Margarines	2	5	17	19	9	7
<b>11 Sugar and confectionery</b>	<b>14</b>	<b>27</b>	<b>20</b>	<b>41</b>	<b>35</b>	<b>33</b>
1101 Sugar, honey, jam	0	1	1	1	7	7
1103 Confectionery non-chocolate	0	1	1	0	20	7
1104 Syrup	14	27	47	39	35	33
1105 Ice cream, water ice	1	4	4	2	32	6
110501 Ice cream	0	2	1	0	35	1
110503 Water ice	1	4	8	2	32	6
<b>12 Cakes</b>	<b>5</b>	<b>9</b>	<b>12</b>	<b>28</b>	<b>17</b>	<b>11</b>
1201 Cakes, pies, pastries, et cetera	1	4	4	7	15	7
1202 Dry cakes, biscuits	4	9	23	22	17	11
<b>13 Non-alcoholic beverages</b>	<b>104</b>	<b>156</b>	<b>18</b>	<b>49</b>	<b>212</b>	<b>164</b>
1300 Unclassified	0	11	99	0	313	0
1301 Fruit and vegetable juices	72	128	53	38	189	145
1302 Carbonated/soft/isotonic drinks, diluted syrops	32	92	24	19	168	148
<b>15 Condiments and sauces</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>19</b>
1501 Sauces	0	1	1	0	12	19
150102 Dressing sauces	0	1	5	0	12	19
<b>17 Miscellaneous</b>	<b>6</b>	<b>43</b>	<b>52</b>	<b>4</b>	<b>155</b>	<b>161</b>
1701 Soy products	6	42	94	3	165	164
1702 Dietetic products	0	3	10	0	30	36
170200 Unclassified	0	3	10	0	30	36

\* Consumption of fortified foods in a food group as proportion of the consumption of the total food group.

### 3.8 Artificially sweetened products

The consumption of artificial sweeteners and artificially sweetened products is shown in Table 3-13. Based on the two record days, 58% of the young children consumed artificially sweetened products, mainly ‘Non-alcoholic beverages’ and ‘Yogurt(drinks)’. In total 11% of these food groups consumed were artificially sweetened products. The 4 to 6 year-old children consumed absolutely and relatively more artificially sweetened beverages than the 2 to 3 year-olds (see Appendix B Table B-9, Table B-10 and Table B-11).

Table 3-13 Consumption of artificially sweetened products by Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC Soft Classification	2 to 6 years (n=1,279)					
	Proportion of total				Users	
	mean g/d	SD g/d	consumption %*	Users %	mean g/d	SD g/d
<b>05 Dairy products</b>	<b>21</b>	<b>73</b>	<b>5</b>	<b>12</b>	<b>168</b>	<b>133</b>
0502 Milk beverages	3	25	6	2	154	89
0503 Yogurt	16	65	11	9	182	133
0506 Cream desserts, puddings (milk-based)	2	12	6	3	68	30
<b>11 Sugar and confectionery</b>	<b>6</b>	<b>19</b>	<b>9</b>	<b>21</b>	<b>30</b>	<b>33</b>
1103 Confectionery non-chocolate	0	1	1	5	2	2
1104 Syrup	6	19	21	18	36	33
1105 Ice cream, water ice	0	1	0	0	20	0
110503 Water ice	0	1	0	0	20	0
<b>13 Non-alcoholic beverages</b>	<b>65</b>	<b>128</b>	<b>11</b>	<b>34</b>	<b>190</b>	<b>155</b>
1301 Fruit and vegetable juices	27	75	20	17	162	112
1302 Carbonated/soft/isotonic drinks, diluted syrops	38	104	28	22	174	161
<b>17 Miscellaneous</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>
1702 Dietetic products	0	0	2	2	1	1
170201 Artificial sweeteners	0	0	100	2	1	1

\* Consumption of artificially sweetened products as a proportion of the consumption of the total food group.

### 3.9 Dietary supplements

In total, 43% of the total study population (aged 2 to 6 years) took dietary supplements on one or both survey days. Dietary supplement use was about twice as high among the 2 to 3 year-olds (62%) than the 4 to 6 year-olds (30%). The most commonly taken supplement by 2 to 3 year-olds was vitamin D supplements; 35 to 44% of this group used a vitamin D supplement as such (Table 3-15). Vitamin D supplementation of 5 µg/day is recommended for 1 to 4 year-old children in the Netherlands.<sup>30</sup> Only 58% of the 2 to 3 year-old boys and 61% of girls in this age group received a supplement containing vitamin D. One in five children received multivitamins/ minerals, regardless their age (see Table 3-15).

Table 3-14 Intake of dietary supplements\* by Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Survey day	Total	2 to 3 years		4 to 6 years	
	(n=1,279)	Boys (n=327)	Girls (n=313)	Boys (n=327)	Girls (n=312)
	%	%	%	%	%
One day	11	18	14	9	8
Both days	32	44	49	23	20
Total (1 or 2 days)	43	62	62	31	28

\* Toothpaste is not included as a dietary supplement.

Table 3-15 Dietary supplements taken by Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Type of supplement	Total	2 to 3 years		4 to 6 years	
	(n=1,279)	Boys (n=327)	Girls (n=313)	Boys (n=327)	Girls (n=312)
	%	%	%	%	%
Vitamin D	17	35	44	3	1
Vitamin D/A	3	7	5	1	1
Vitamin C	3	4	3	2	2
Multivitamins	2	2	1	2	2
Multivitamins/minerals	20	22	18	21	20
Fluoride	1	1	0	1	1
Fish oil	3	2	2	4	2
Other	1	1	1	1	1
Supplements containing vitamin D	39	58	61	27	24

### 3.10 Assessment of macro-nutrient intake

Habitual intake of macro-nutrients and dietary reference intakes are presented in Table 3-16 to Table 3-19. The assessment was done either quantitatively or qualitatively depending on the type of dietary reference value.

The mean habitual daily intake of *energy* was 5,787 kJ for the boys aged 2 to 3 year and 5,504 kJ for the girls in this age group. Intake was higher in the 4 to 6 year-olds; 6,677 and 6,222 kJ for boys and girls, respectively. The prevalence of inadequate energy intake can not be estimated. However, the prevalence of overweight children, suggests that 13% of children have an energy intake that is or was higher than their energy requirements.

The mean intake of *macro-nutrients* expressed in g/day was in general higher in the 4 to 6 year-olds than the 2 to 3 year-old group. In addition, intake was higher in boys than in girls. However, when expressed as contribution to energy, the macro-nutrient composition of the diet was similar in boys and

girls. The contribution of fat to total energy intake was higher in the 4 to 6 year-olds, while the contribution of carbohydrates and protein was slightly lower.

On average, *protein* contributed 13% of the total energy intake of the study population (2 to 6-year-olds). None of the children had an inadequate protein intake or an intake above the UL.<sup>10</sup>

About 30% of energy intake was on average derived from *fat*. Based on the stated adequate fat intake of 20 to 40% of all energy,<sup>10</sup> the results suggest a low prevalence of children with an inadequate intake. In all groups, some children had an intake above the UL: in total 0.2 to 1.6% (depending on the age and gender) of the children. On average, the intake of saturated fatty acids contributed 11 to 12% to energy intake in all age-gender groups. For the 2 to 3 year-olds, 4% of boys and 1% of girls had a habitual intake of saturated fatty acids above 15% of energy intake. For 4 to 6 year-old children, the majority (84% of boys and 91% of girls) had a habitual intake of saturated fatty acids above the UL.<sup>10</sup> However, also the UL for this age group was lower (10% rather than 15% of energy intake). The mean habitual intake of trans fatty acids was 0.7 to 0.8% of energy intake. For 4 to 6 year-olds an UL of 1% of total energy intake is given.<sup>10</sup> About 10% of the children in that age group had a habitual intake above this level.

The mean habitual intake of *carbohydrates* was 187 g to 222 g per day depending on the age-gender group. Given the EAR,<sup>10</sup> a small number of children had an inadequate intake for carbohydrates. This was 2.5% of the 4 to 6 year-old girls, and below 0.3% in the other age-gender groups.

The mean *fibre* intake was 2.0 to 2.3 g/MJ per day in the age-gender groups. An EAR has not been defined for fibre: the guideline cannot be used as a cut-off point to estimate the percentage of children with inadequate intakes. In fact, the guideline for fibre intake is only set as an indicator for fibre-rich foods. The median fibre intake was below the guideline of 2.8 g/MJ<sup>14</sup> for the children aged 2 to 3 years and far below 3.0 g/MJ for 4 to 6 year-olds. Since the P75 of fibre intake of pre-schoolers and P95 for school-going children are at or below the guidelines, it seems highly likely that consumption of fibre-rich foods is insufficient for many children.

Table 3-16 Assessment\* of habitual macro-nutrient intake from food by Dutch boys aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Energy or macro-nutrient	n	mean	P5	P25	P50	P75	P95	EAR	%<EAR	RDA	AI	%<AI	UL	%>UL
<b>Energy (kJ)</b>	327	5,787	4,212	5,103	5,736	6,414	7,536	5,000	**					
<b>Energy (Kcal)</b>	327	1,375	1,000	1,212	1,363	1,524	1,792	1,191	**					
<b>Protein</b>														
- g	327	44	31	38	44	50	60	11	0.0	14				
- en%	327	13	11	12	13	14	16			5			20	0.0
<b>Fat, total</b>														
- g	327	46	27	37	45	54	69							
- en%	327	29	22	26	29	33	37				25-40	low	40	1.6
<b>Saturated fatty acids</b>														
- g	327	18	10	14	17	21	27							
- en%	327	11	8	10	11	13	15						15	4.0
<b>Trans fatty acids</b>														
- g	327	1.2	0.7	0.9	1.1	1.4	1.8							
- en%	327	0.8	0.5	0.6	0.7	0.8	1.0							
<b>Unsaturated fatty acids</b>														
- g	327	24	14	19	23	28	37							
- en%	327	15	10	13	15	17	20							
<b>Carbohydrate</b>														
- g	327	196	142	172	194	218	255	92	0.0					
- en%	327	58	49	54	58	61	66			45				
<b>Mono- and disaccharides</b>														
- g	327	124	79	103	122	143	175							
<b>Fibre</b>														
- g	327	13	8	11	13	15	19							
- g/MJ	327	2.3	1.5	2.0	2.3	2.7	3.2				2.8***	no statement		

\* Sources of dietary reference intakes for macro-nutrients <sup>10</sup> and fibre <sup>14</sup>. \*\* prevalence of inadequate intake can not be estimated, requirements and intake are not independent. \*\*\* For fibre a guideline rather than an AI is set.

Table 3-17 Assessment\* of habitual macro-nutrient intake from food by Dutch girls aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Energy or macro-nutrient	n	mean	P5	P25	P50	P75	P95	EAR*	%<EAR	RDA	AI	%>AI	UL	%>UL
<b>Energy (kJ)</b>	313	5,504	4,088	4,792	5,422	6,132	7,186	4,700	**					
<b>Energy (Kcal)</b>	313	1,308	971	1,138	1,288	1,457	1,708	1,119	**					
<b>Protein</b>														
- g	313	43	31	38	43	48	57	10	0.0	13				
- en%	313	13	11	12	13	15	16			5			20	0.0
<b>Fat, total</b>														
- g	313	43	28	36	42	49	60							
- en%	313	29	23	26	29	32	35				25-40	low	40	0.2
<b>Saturated fatty acids</b>														
- g	313	16	11	14	16	19	23							
- en%	313	11	9	10	11	12	14						15	1.3
<b>Trans fatty acids</b>														
- g	313	1.1	0.6	0.8	1.0	1.3	1.7							
- en%	313	0.7	0.5	0.6	0.7	0.8	1.1							
<b>Unsaturated fatty acids</b>														
- g	313	22	14	18	21	26	33							
- en%	313	15	11	13	15	17	19							
<b>Carbohydrate</b>														
- g	313	187	136	163	184	209	248	92	0.1					
- en%	313	58	51	55	58	60	65			45				
<b>Mono- and disaccharides</b>														
- g	313	119	76	97	115	136	173							
<b>Fibre</b>														
- g	313	12	8	10	12	14	17							
- g/MJ	313	2.3	1.5	1.9	2.3	2.6	3.1				2.8***	no statement		

\* Sources of dietary reference intakes for macro-nutrients<sup>10</sup> and fibre<sup>14</sup>. \*\* Prevalence of inadequate intake can not be estimated: requirements and intake are not independent. \*\*\* For fibre a guideline rather than an AI is set.



Table 3-18 Assessment\* of habitual macro-nutrient intake from food by Dutch boys aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Energy or macro-nutrient	n	mean	P5	P25	P50	P75	P95	EAR	%<EAR	RDA	AI	%>AI	UL	%>UL
<b>Energy (kJ)</b>	327	6,677	5,270	6,074	6,642	7,241	8,202	7,200	**					
<b>Energy (Kcal)</b>	327	1,587	1,252	1,444	1,579	1,721	1,951	1,714	**					
<b>Protein</b>														
- g	327	51	35	44	51	58	70	17	0.0	22				
- en%	327	13	10	12	13	14	16			5			25	0.0
<b>Fat, total</b>														
- g	327	55	38	47	54	62	74							
- en%	327	31	24	28	31	33	37				20-40	low	40	1.0
<b>Saturated fatty acids</b>														
- g	327	21	14	18	21	24	30							
- en%	327	12	9	11	12	13	15						10	83.5
<b>Trans fatty acids</b>														
- g	327	1.4	0.9	1.2	1.4	1.6	2.0							
- en%	327	0.8	0.6	0.7	0.8	0.9	1.1						1	9.2
<b>Unsaturated fatty acids</b>														
- g	327	28	19	24	28	32	39							
- en%	327	16	12	14	16	17	20				8-38	low		
<b>Carbohydrate</b>														
- g	327	222	171	200	221	243	276	140	0.3					
- en%	327	56	48	53	56	60	64			45				
<b>Mono- and disaccharides</b>														
- g	327	135	89	114	133	153	184							
<b>Fibre</b>														
- g	327	14	9	12	14	16	20							
- g/MJ	327	2.2	1.5	1.9	2.2	2.5	3.0				3***	no statement		

\* Sources of dietary reference intakes for macro-nutrients<sup>10</sup> and fibre<sup>14</sup>. \*\* Prevalence of inadequate intake can not be estimated: requirements and intake are not independent. \*\*\* For fibre a guideline rather than an AI is set.

Table 3-19 Assessment\* of habitual macro-nutrient intake from food by Dutch girls aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Energy or macro-nutrient	n	mean	P5	P25	P50	P75	P95	EAR	%<EAR	RDA	AI	%>AI	UL	%>UL
<b>Energy (kJ)</b>	312	6,222	4,726	5,587	6,184	6,816	7,846	6,500	**					
<b>Energy (Kcal)</b>	312	1,479	1,123	1,328	1,470	1,620	1,866	1,548	**					
<b>Protein</b>														
- g	312	46	32	40	46	52	60	16	0.0	21				
- en%	312	13	10	11	12	14	16			5			25	0.0
<b>Fat, total</b>														
- g	312	51	36	44	50	57	68							
- en%	312	31	25	28	31	33	36				20-40	low	40	0.5
<b>Saturated fatty acids</b>														
- g	312	20	14	17	20	23	27							
- en%	312	12	10	11	12	13	15						10	91.0
<b>Trans fatty acids</b>														
- g	312	1.4	0.9	1.2	1.4	1.6	2.0							
- en%	312	0.8	0.6	0.7	0.8	0.9	1.1						1	10.6
<b>Unsaturated fatty acids</b>														
- g	312	26	18	22	25	29	36							
- en%	312	15	12	14	15	17	19				8-38	low		
<b>Carbohydrate</b>														
- g	312	209	152	185	208	232	271	140	2.5					
- en%	312	57	50	54	57	60	64			45				
<b>Mono- and disaccharides</b>														
- g	312	129	84	109	127	147	179							
<b>Fibre</b>														
- g	312	13	8	11	12	14	17							
- g/MJ	312	2.0	1.4	1.8	2.0	2.3	2.8				3***	no statement		

\* Sources of dietary reference intakes for macro-nutrients <sup>10</sup> and fibre <sup>14</sup>. \*\* Prevalence of inadequate intake can not be estimated: requirements and intake are not independent. \*\*\* For fibre a guideline rather than an AI is set.

## 3.11 Assessment of micro-nutrient intake

Micro-nutrient intake was assessed firstly on the basis of intake from food and then from both food and dietary supplements.

### 3.11.1 Intake from food sources

Habitual micro-nutrient intake from food is shown in Table 3-20 to Table 3-23. For most reported micro-nutrients, the median of habitual intake from food was at or above the AI,<sup>9 12 33</sup> suggesting a low prevalence of inadequate intake for the study population (2 to 6 year-olds). This was the case for *calcium, copper, magnesium, phosphorus, and vitamins B1, B2, B6, B12 and C* in all age-gender groups.

The mean daily *iron* intake from food varied from 6.1 to 7.1 mg for the four age-gender groups. For iron, the median of the habitual intake was below the AI,<sup>33</sup> and thus no statement can be made about the prevalence of inadequate intake. Nevertheless, when more recent EAR-values from the United States were used for the assessment<sup>19</sup> (see Appendix B Table B-12 and B-13), the prevalence of children with an inadequate intake varied between 0 and 2%.

The mean *selenium* intake varied between 23 and 26 µg/day for the four age-gender groups. The median of the habitual intake of selenium was above the lower limit of the AI, suggesting a low prevalence of inadequate intake.<sup>33</sup> However, when the distribution of the habitual intake of selenium was compared to the (higher) EARs from the USA,<sup>18</sup> 7 to 12% of the 2 to 3 year-olds and 35 to 53% of the 4 to 6 year-olds were estimated to have an inadequate intake.

Similarly, the median of the habitual *zinc* intake was above the AI, suggesting a low prevalence of inadequate intake.<sup>33</sup> However, when the distribution of the habitual intake of these micro-nutrients was compared to the EARs from the USA,<sup>19</sup> a considerable percentage of 4 to 6 year-olds (28 to 43%) was estimated to have inadequate intake. For the 2 to 3 year-olds, this was less than 1%. The average zinc intake varied between 5.2 and 5.9 mg/day for the four age-gender groups.

The daily mean intake of retinol and carotenoids was 513 to 581 µg *retinol activity equivalents* for the four age-gender groups. The prevalence of inadequate intake of retinol activity equivalents from food could only be assessed against the US reference values, since a Dutch recommendation in terms of retinol activity equivalents was not available. Based on the IOM-reference intakes,<sup>19</sup> the prevalence of those with an inadequate intake was 3 to 15%. There were also children with retinol levels above the UL; approximately 10% of the 2 to 3 year-olds and 1 to 3% of the 4 to 6 year-olds.

For folate and folic acid, the mean daily intake varied between 104 and 119 µg *folic acid equivalents* per day. No conclusion can be drawn about the adequacy of folic acid equivalents in the diet of 4 to 6 year-olds because median intake was below the AI,<sup>12</sup> while the percentage of inadequate intakes is assumed to be low for the pre-schoolers.

The mean daily intake of *vitamin D* from food varied between 1.8 and 2.2 µg for the four age-gender groups. The median intakes of this vitamin were below the lower limit of the AI for vitamin D in all age-gender groups. For the 2 to 3 year-old children, even the P95 of vitamin D from food was below the AI of 5 to 10 µg, indicating the importance of vitamin D containing dietary supplements for this age group.

The conclusion regarding *vitamin E* adequacy varied depending on the source and type of the dietary reference intake. Based on the Dutch AI,<sup>33</sup> the prevalence of an inadequate intake is assumed to be low, and varied between 16 to 27% based on the EARs from the IOM.<sup>18</sup> The average intake of vitamin E varied between 7.0 and 8.7 mg/day for the four age-gender groups.

The distribution of dietary intake of the micro-nutrients - calcium, selenium, vitamin B6, vitamin D and vitamin E - showed that almost none of the children had levels above the *ULs*.<sup>8</sup> However, the estimated prevalence of children with a habitual zinc intake above the UL was 7% and 4% for the 2 to 3 year-old boys and girls, respectively. Also for copper, there are children with levels above the UL; 43% and 31% for 2 to 3 year-old boys and girls, respectively. For the 4 to 6 year-old children less than 1% had habitual zinc and copper intakes above the UL.

### 3.11.2 Intake from food and dietary supplements

Dietary supplements increased the mean habitual micro-nutrient intake (Tables 3-24 to 3-27). The percentage increase was highest for mean *vitamin D* intake in the 2 to 3 year-olds. Mean daily vitamin D intake from food was 1.8 µg for boys and girls in this age group, and was 4.4 to 4.7 µg when dietary supplements were included, depending on the age and gender. Yet, the median of habitual intake of vitamin D from food and dietary supplements was below the AI for this age group (5-10 µg).<sup>9</sup> No statement can be made about the prevalence of inadequate intakes. Only for the 4 to 6 year-old boys, the percentage with inadequate vitamin D intake is estimated to be low. For girls in this age group, the median intake of 2.3 µg was close to the AI; but no statement can be made about the prevalence of inadequate intakes.

For *iron* the mean habitual intake from food and dietary supplements was approximately 5% higher than that from food. For 2 to 3 year-olds, the median intake was still below the adequate intake of 7 mg/day<sup>33</sup>. No statement can be made about the prevalence of inadequate intakes. For 4 to 6 year-old children, median iron intake from food and supplements was higher and close to the AI; although only the prevalence of inadequate intake is estimated to be low for boys. Using the more recent US recommendations<sup>19</sup>, it is estimated that <2% of the children aged 2 to 6 years have inadequate iron intakes.

For 4 to 6 year-old children, the mean intake of *folic acid equivalents* from food and dietary supplements was 154 to 158 µg per day and above the AI.<sup>12</sup> However, since the median intake for this age group was lower than the AI, no statement can be made about the prevalence of inadequate intakes. Because of the lower AI for the 2 to 3 year-olds, prevalence of inadequate intake of folic acid equivalents is estimated to be low for this age group.

For *selenium*, *zinc* (mainly 4 to 6 year-olds), *vitamin E* and *retinol activity equivalents*, the habitual dietary intake from food and dietary supplements does not seem to be adequate for a large proportion of the young children, when the IOM-references<sup>18 19</sup> are considered. The proportion of children with an inadequate intake of selenium was around 10% for the 2 to 3 year-olds and 29 and 38% for the 4 to 6 year-old boys and girls, respectively. The estimated proportion of inadequate intake of zinc was 25% and 38% of the 4 to 6 year-old boys and girls, respectively. Vitamin E intake was estimated to be inadequate in about 15% of the young children. This was even higher in the 4 to 6 year-old girls. Retinol activity equivalents were estimated to be inadequate in 11% and 6% of the 4 to 6 year-old boys and girls, respectively.

Table 3-20 Distribution of habitual micro-nutrient intake from food and their assessment\* for Dutch boys aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	n	mean	P5	P25	P50	P75	P95	AI*	%<AI	UL	%>UL
Calcium (mg)	327	788	452	630	772	928	1,180	500	low	2,500	0.0
Copper (mg)	327	1.0	0.6	0.7	0.9	1.2	1.8	0.3-0.7	low	1	43.3
Iron (mg)	327	6.1	4.3	5.3	6.0	6.9	8.4	7	no statement		
Magnesium (mg)	327	194	134	167	191	218	267	60-70	low		
Phosphorus (mg)	327	938	609	789	927	1,075	1,305	400-800	low		
Selenium (µg)	327	23	16	20	23	26	32	10-30	low	60	0.0
Zinc (mg)	327	5.2	3.5	4.4	5.2	5.9	7.2	4	low	7	6.5
Retinol activity equivalents (µg)	327	540	239	373	497	658	991				
Retinol (µg)	327	443	169	288	388	534	907			800	7.7
Vitamin B1 (mg)	327	0.7	0.4	0.6	0.7	0.9	1.1	0.3	low		
Vitamin B2 (mg)	327	1.3	0.7	1.0	1.2	1.5	1.9	0.5	low		
Vitamin B6 (mg)	327	1.1	0.7	0.9	1.1	1.3	1.7	0.4	low	5	0.0
Folic acid equivalents (µg)	327	107	73	91	105	121	151	85	low		
Vitamin B12 (µg)	327	2.6	1.4	2.1	2.6	3.2	4.1	0.7	low		
Vitamin C (mg)	327	68	33	50	64	81	115	40	low		
Vitamin D (µg)	327	1.8	1.0	1.4	1.8	2.2	3.0	5-10	no statement	50	0.0
Vitamin E (mg)	327	7.3	3.9	5.6	7.0	8.7	12.0	5.7	low	100	0.0

\* Sources of AI and UL: 8 9 12 32 33.

Table 3-21 Distribution of habitual micro-nutrient intake from food and their assessment\* for Dutch girls aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	n	mean	P5	P25	P50	P75	P95	AI	%<AI	UL	%>UL
Calcium (mg)	313	734	432	592	719	861	1,089	500	low	2,500	0.0
Copper (mg)	313	0.9	0.5	0.7	0.8	1.1	1.5	0.3-0.7	low	1	31.3
Iron (mg)	313	6.1	3.9	5.1	5.9	6.9	8.8	7	no statement		
Magnesium (mg)	313	184	123	157	183	209	250	60-70	low		
Phosphorus (mg)	313	901	621	776	893	1,017	1,208	400-800	low		
Selenium (µg)	313	23	15	19	22	26	32	10-30	low	60	0.0
Zinc (mg)	313	5.0	3.4	4.3	4.9	5.6	6.8	4	low	7	3.9
Retinol activity equivalents (µg)	313	581	229	360	504	718	1,196				
Retinol (µg)	313	476	172	298	406	573	1,019			800	10.6
Vitamin B1 (mg)	313	0.7	0.5	0.6	0.7	0.8	1.1	0.3	low		
Vitamin B2 (mg)	313	1.2	0.7	1.0	1.1	1.4	1.7	0.5	low		
Vitamin B6 (mg)	313	1.1	0.7	0.9	1.1	1.3	1.7	0.4	low	5	0.0
Folic acid equivalents (µg)	313	104	67	86	102	119	149	85	low		
Vitamin B12 (µg)	313	2.6	1.5	2.1	2.5	3.1	4.0	0.7	low		
Vitamin C (mg)	313	62	32	46	59	75	102	40	low		
Vitamin D (µg)	313	1.8	0.9	1.3	1.7	2.2	3.3	5-10	no statement	50	0.0
Vitamin E (mg)	313	7.0	3.9	5.4	6.7	8.2	11.0	5.5	low	100	0.0

\* Sources of AI and UL: 8 9 12 32 33.

Table 3-22 Distribution of habitual micro-nutrient intake from food and their assessment\* for Dutch boys aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	n	mean	P5	P25	P50	P75	P95	AI*	% <AI	UL	%>UL
Calcium (mg)	327	854	454	661	830	1,021	1,335	700	low	2,500	0.0
Copper (mg)	327	1.2	0.7	0.9	1.1	1.4	2.1	0.5-1.0	low	2	6.4
Iron (mg)	327	7.1	4.6	6.0	7.0	8.1	10.1	7	no statement		
Magnesium (mg)	327	215	148	184	212	243	295	90-100	low		
Phosphorus (mg)	327	1,052	680	885	1,041	1,207	1,463	400-800	low		
Selenium (µg)	327	26	17	22	25	29	37	15-45	low	90	0.0
Zinc (mg)	327	5.9	3.7	4.9	5.8	6.8	8.3	5	low	10	0.6
Retinol activity equivalents (µg)	327	546	207	329	463	667	1,168				
Retinol (µg)	327	456	157	267	394	562	970			1,100	3.3
Vitamin B1 (mg)	327	0.8	0.5	0.7	0.8	1.0	1.2	0.5	low		
Vitamin B2 (mg)	327	1.4	0.7	1.1	1.3	1.6	2.2	0.7	low		
Vitamin B6 (mg)	327	1.3	0.8	1.1	1.3	1.6	2.1	0.7	low	8.5	0.0
Folic acid equivalents (µg)	327	119	76	98	116	137	172	150	no statement		
Vitamin B12 (µg)	327	2.9	1.3	2.0	2.7	3.5	5.0	1.3	low		
Vitamin C (mg)	327	71	35	52	68	86	118	45	low		
Vitamin D (µg)	327	2.2	1.1	1.6	2.1	2.6	3.6	2.5-5	no statement	50	0.0
Vitamin E (mg)	327	8.7	4.7	6.7	8.4	10.4	13.9	7.8	low	120	0.0

\* Sources of AI and UL: 8 9 12 32 33.

Table 3-23 Distribution of habitual micro-nutrient intake from food and their assessment\* for Dutch girls aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	n	mean	P5	P25	P50	P75	P95	AI*	%AI	UL	%>UL
Calcium (mg)	312	748	426	600	736	883	1,113	700	low	2,500	0.0
Copper (mg)	312	1.2	0.7	0.9	1.1	1.4	1.9	0.5-1.0	low	2	3.9
Iron (mg)	312	6.7	4.7	5.7	6.4	7.2	9.8	7	no statement		
Magnesium (mg)	312	188	126	160	186	213	256	90-100	low		
Phosphorus (mg)	312	935	630	798	928	1,065	1,266	400-800	low		
Selenium (µg)	312	23	16	20	23	26	32	15-45	low	90	0.0
Zinc (mg)	312	5.2	3.7	4.5	5.2	5.8	6.9	5	low	10	0.0
Retinol activity equivalents (µg)	312	513	263	370	474	612	896				
Retinol (µg)	312	411	176	272	373	501	779			1,100	0.9
Vitamin B1 (mg)	312	0.7	0.5	0.6	0.7	0.8	1.1	0.5	low		
Vitamin B2 (mg)	312	1.2	0.7	1.0	1.2	1.4	1.8	0.7	low		
Vitamin B6 (mg)	312	1.2	0.7	0.9	1.1	1.3	1.7	0.7	low	8.5	0.0
Folic acid equivalents (µg)	312	107	65	87	104	124	159	150	no statement	350	0.0
Vitamin B12 (µg)	312	2.5	1.3	1.9	2.4	3.0	4.0	1.3	low		
Vitamin C (mg)	312	65	29	46	61	80	112	45	low		
Vitamin D (µg)	312	1.9	1.1	1.5	1.8	2.3	3.0	2.5-5	no statement	50	0.0
Vitamin E (mg)	312	7.5	4.3	5.9	7.2	8.8	11.6	7.1	low	120	0.0

\* Sources of AI and UL: 8 9 12 32 33.

Table 3-24 Distribution of habitual micro-nutrient intake from food and dietary supplements and their assessment\* for Dutch boys aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	n	mean	P5	P25	P50	P75	P95	AI*	%<AI	UL	%>UL
Calcium (mg)	327	795	459	638	780	935	1,184	500	low	2,500	0.0
Copper (mg)	327	1.1	0.6	0.8	1.0	1.3	2.0	0.3-0.7	low	1	48.3
Iron (mg)	327	6.6	4.3	5.5	6.5	7.6	9.5	7	no statement		
Magnesium (mg)	327	199	135	169	195	224	275	60-70	low		
Phosphorus (mg)	327	939	609	790	928	1,075	1,305	400-800	low		
Selenium (µg)	327	25.3	16	21	25	29	37	10-30	low	60	0.0
Zinc (mg)	327	5.5	3.6	4.6	5.4	6.4	7.9	4	low	7	13.7
Retinol activity equivalents (µg)	327	626	246	400	559	779	1235				
Vitamin B1 (mg)	327	0.9	0.5	0.7	0.8	1.0	1.4	0.3	low		
Vitamin B2 (mg)	327	1.4	0.8	1.1	1.4	1.6	2.1	0.5	low		
Vitamin B6 (mg)	327	1.3	0.7	1.0	1.2	1.6	2.2	0.4	low	5	0.0
Folic acid equiv. (µg)	327	165	70	101	136	192	355	85	low		
Synthetic folic acid (µg)***	327	48	0	0	0	54	243			200	6.7
Vitamin B12 (µg)	327	2.8	1.5	2.2	2.7	3.3	4.3	0.7	low		
Vitamin C (mg)	327	77	35	55	73	93	133	40	low		
Vitamin D (µg)	327	4.4	1.3	2.2	3.9	6.2	8.7	5-10	no statement	50	0.0
Vitamin E (mg)	327	8.5	3.8	5.9	7.8	10.3	15.2	5.7	low	100	0.0

Table 3-25 Distribution of habitual micro-nutrient intake from food and dietary supplements and their assessment\* for Dutch girls aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	n	mean	P5	P25	P50	P75	P95	AI*	%<AI	UL	%>UL
Calcium (mg)	313	740	434	596	725	868	1,099	500	low	2,500	0.0
Copper (mg)	313	1.0	0.5	0.7	0.9	1.1	1.7	0.3-0.7	low	1	36.7
Iron (mg)	313	6.4	3.8	5.1	6.2	7.5	9.8	7	no statement		
Magnesium (mg)	313	188	123	159	186	215	260	60-70	low		
Phosphorus (mg)	313	901	621	776	893	1,017	1,208	400-800	low		
Selenium (µg)	313	25	15	19	23	28	38	10-30	low	60	0.1
Zinc (mg)	313	5.3	3.3	4.3	5.2	6.1	7.8	4	low	7	11.3
Retinol activity equivalents (µg)	313	650	248	400	566	809	1,339				
Vitamin B1 (mg)	313	0.8	0.4	0.6	0.8	1.0	1.4	0.3	low		
Vitamin B2 (mg)	313	1.3	0.7	1.0	1.2	1.5	2.0	0.5	low		
Vitamin B6 (mg)	313	1.2	0.6	0.9	1.2	1.5	2.2	0.4	low	5	0.0
Folic acid equiv. (µg)	313	144	60	87	117	165	315	85	low		
Synthetic folic acid (µg)***	313	44	0	0	0	41	211			200	5.4
Vitamin B12 (µg)	313	2.7	1.5	2.1	2.6	3.2	4.3	0.7	low		
Vitamin C (mg)	313	69	31	49	65	85	121	40	low		
Vitamin D (µg)	313	4.7	1.2	2.2	4.3	6.7	10.0	5-10	no statement	50	0.0
Vitamin E (mg)	313	8	4	6	7	10	14	5.5	low	100	0.0

\* Sources of AI and UL: 8 9 12 32 33. \*\* Assessment of intake exceeding the UL was not feasible as the retinal intake was not available for all supplements. \*\*\* 1.7 x folic acid from fortified food + 2 x folic acid from supplements.

Table 3-26 Distribution of habitual micro-nutrient intake from food and dietary supplements and their assessment\* for Dutch boys aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	n	mean	P5	P25	P50	P75	P95	AI*	%<AI	UL	%>UL
Calcium (mg)	327	863	462	669	839	1,030	1,345	700	low	2,500	0.0
Copper (mg)	327	1.3	0.7	0.9	1.2	1.5	2.2	0.5-1.0	low	2	8.1
Iron (mg)	327	7.6	4.7	6.2	7.4	8.8	11.1	7	low		
Magnesium (mg)	327	220	149	187	216	249	303	90-100	low		
Phosphorus (mg)	327	1,052	680	886	1,041	1,207	1,463	400-800	low		
Selenium (µg)	327	27	17	22	26	31	40	15-45	low	90	0.0
Zinc (mg)	327	6.1	3.7	5.0	6.0	7.1	8.9	5	low	10	1.5
Retinol activity equivalents (µg)	327	616	218	360	515	755	1349				
Vitamin B1 (mg)	327	0.9	0.5	0.7	0.9	1.1	1.5	0.5	low		
Vitamin B2 (mg)	327	1.6	0.7	1.1	1.4	1.8	2.8	0.7	low		
Vitamin B6 (mg)	327	1.5	0.8	1.1	1.4	1.8	2.6	0.7	low	8.5	0.0
Folic acid equiv. (µg)	327	158	74	107	140	187	300	150	no statement		
Synthetic folic acid (µg)***	327	43	0	0	0	61	207			350	1.6
Vitamin B12 (µg)	327	3.2	1.3	2.1	2.8	3.7	6.3	1.3	low		
Vitamin C (mg)	327	81	36	57	75	98	147	45	low		
Vitamin D (µg)	327	2.9	1.0	1.8	2.6	3.6	6.2	2.5-5	low	50	0.0
Vitamin E (mg)	327	9.8	4.5	7.1	9.3	12.0	16.8	7.8	low	120	0.0

Table 3-27 Distribution of habitual micro-nutrient intake from food and dietary supplements and their assessment\* Dutch girls aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	n	mean	P5	P25	P50	P75	P95	AI*	%<AI	UL	%>UL
Calcium (mg)	312	756	431	606	744	892	1,124	700	low	2,500	0.0
Copper (mg)	312	1.2	0.7	0.9	1.1	1.5	2.0	0.5-1.0	low	2	5.7
Iron (mg)	312	7.5	4.7	5.9	6.8	8.2	12.5	7	no statement		
Magnesium (mg)	312	193	128	164	191	219	264	90-100	low		
Phosphorus (mg)	312	936	630	798	928	1,066	1,268	400-800	low		
Selenium (µg)	312	26	16	21	25	30	39	15-45	low	90	0.0
Zinc (mg)	312	5.6	3.6	4.7	5.5	6.4	7.8	5	low	10	0.1
Retinol activity equivalents (µg)	312	586	263	396	528	713	1,106				
Vitamin B1 (mg)	312	0.9	0.5	0.7	0.8	1.0	1.5	0.5	low		
Vitamin B2 (mg)	312	1.3	0.7	1.0	1.3	1.6	2.2	0.7	low		
Vitamin B6 (mg)	312	1.3	0.7	1.0	1.2	1.6	2.3	0.7	low	8.5	0.0
Folic acid equiv. (µg)	312	154	62	96	127	179	336	150	no statement		
Synthetic folic acid (µg)***	312	47	0	0	0	56	212			350	2.0
Vitamin B12 (µg)	312	2.6	1.4	2.0	2.5	3.2	4.2	1.3	low		
Vitamin C (mg)	312	73	30	50	68	91	132	45	low		
Vitamin D (µg)	312	2.5	1.0	1.6	2.3	3.1	4.8	2.5-5	no statement	50	0.0
Vitamin E (mg)	312	8.6	4.1	6.1	8.0	10.4	15.4	7.1	low	120	0.0

\* Sources of AI and UL: 8 9 12 32 33. \*\* Assessment of intake exceeding the UL was not feasible as the retinal intake was not available for all supplements. \*\*\* 1.7 x folic acid from fortified food + 2 x folic acid from supplements.



Due to the use of fortified products and dietary supplements, folic acid intake among some children exceeded the UL. This was the case for 6.7% of boys and 5.4% of girls in the 2 to 3 years age group, and 1.6% and 2.0% in the 4 to 6 years-old boys and girls, respectively. Also, the number of subjects with an estimated habitual intake of zinc or copper above the UL<sup>8</sup> increased due to the consumption of supplements. For the 2 to 3 year-old children 11 to 14% had an zinc intake above the UL,<sup>8</sup> for 4 to 6 year-olds this was 0.1 to 1.5%. For copper the estimated percentage with an habitual intake above the UL<sup>8</sup> was 37 to 48% and 6 to 8% for the 2 to 3 year-olds and 4 to 6 year-olds, respectively. Retinol from foods and dietary supplements could not be calculated, but the percentage of children with an intake above the UL will be higher than the percentage based on foods alone. For the other defined ULs,<sup>8</sup> the levels are not exceeded.

### 3.12 Sources of nutrients

The mean contribution of each food group to reported intake of nutrients is shown in Table 3-28 and Table 3-29. For the participants of the DNFCs-Young Children 2005/2006 the macro-nutrients were mainly delivered by the food groups 'Dairy products', 'Cereal (products)' and 'Meat(products)' and 'Fat', 'Sugar and confectionery' and 'Cakes'. The first three groups also provided a large proportion of micro-nutrients, while the last groups contributed mainly to the intake of a few micro-nutrients. As expected, the consumption of the food group 'Fat' is important for the intake of fat soluble vitamins (vitamin A, D and E; see Table 3-29).

Fibre was mainly provided by 'Cereals' (almost 40%) and 'Fruits, nuts and olives' (22%). Trans fatty acids were mainly consumed as component of 'Dairy products' (25%) and 'Cakes' (24%), followed by 'Meat(products)', and 'Fat'.

'Vegetables' contribute about 11% of intake of retinol activity equivalents and folic acid equivalents (see Table 3-29). 'Fruits, nuts and olives' contributed for 10% or more to intake of many micro-nutrients, i.e. to intake of copper, magnesium, potassium, vitamin B6, folic acid equivalents, vitamin C and vitamin E. Due to food fortification, 'Vegetables' and 'Fruits, nuts and olives' are not the main sources of vitamin C in 2 to 6 year-olds. 'Non-alcoholic beverages' contributed for 25% of the vitamin C intake, while this was 22% for 'Fruit' and only 8% for 'Vegetables'.

As well as 'Vegetables' and 'Fruits, nuts and olives', 'Dairy products' and 'Cereals and cereal products' are important sources of folic acid equivalents; each contributing more than 10%. The main contributors of iron are 'Cereal products' (31%), followed by 'Meat' (14%) and 'Sugar and confectionery' (11%). 'Dairy products' are the main sources of calcium (69%), vitamin B2 and vitamin B12 (>50%). For vitamin D, the main food sources are 'Fat', 'Meat and meat products', and 'Dairy products'.

The contribution of supplements to micro-nutrient intake varied from 0 to 24%. It was considerable for retinol activity equivalents (10%), folic acid equivalents (12%) and for vitamin D (24%).

The contribution of fortified foods to the nutrient intake is shown in Figure 3-1. Ten percent of the energy intake is derived from fortified foods. These foods contributed also to the micro-nutrient intake; the highest for vitamin B6 (19%) or vitamin C (29%). This includes both the added micro-nutrients and the micro-nutrients naturally available in these fortified products. Fortified products were also a major source of mono- and disaccharides, and contributed 20% to total intake.

Table 3-28 Average contribution of food groups\* (%) to the intake of macro-nutrients for 2 to 6-year-old Dutch children (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft classification		Total 2 to 6 years (n=1,279)								
		Energy	Protein	Fat, total	Saturated fatty acids	Trans fatty acids	Unsaturated fatty acids	Carbohydrate	Mono- and disaccharides	Fibre
01	Potatoes and other tubers	3	3	1	1	3	1	4	0	11
02	Vegetables	1	1	0	0	0	0	1	1	8
03	Legumes	0	0	0	0	0	0	0	0	1
04	Fruits, nuts and olives	7	4	5	3	0	7	9	13	22
05	Dairy products	21	35	19	30	25	11	19	28	5
06	Cereals and cereal products	20	20	10	8	9	11	25	4	39
07	Meat and meat products	9	20	19	18	13	19	1	0	0
08	Fish and shellfish	1	2	1	0	0	1	0	0	0
09	Eggs and egg products	1	2	1	1	0	1	0	0	0
10	Fat	5	0	16	11	12	21	0	0	0
11	Sugar and confectionery	14	3	10	11	8	10	19	28	5
12	Cakes	10	6	11	13	24	10	10	7	6
13	Non-alcoholic beverages	6	1	0	0	0	0	11	17	1
15	Condiments and sauces	2	0	4	2	1	6	1	1	0
16	Soups, bouillon	0	1	0	0	1	0	0	0	1
17	Miscellaneous	1	2	2	1	2	2	1	0	1

\* Including fortified foods.

Table 3-29 Average contribution of food groups\* (%) to the intake of micro-nutrients for 2 to 6-year-old Dutch children (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft classification		Total 2 to 6 years (n=1,279)																
		Calcium	Copper	Iron	Magnesium	Phosphorus	Potassium	Selenium	Zinc	Retinol activity equivalents	Vitamin B1	Vitamin B2	Vitamin B6	Folic acid equivalents	Vitamin B12	Vitamin C	Vitamin D	Vitamin E
01	Potatoes and other tubers	1	6	5	5	3	11	1	2	0	6	2	11	4	0	6	0	1
02	Vegetables	3	3	4	3	2	5	1	2	11	3	2	3	10	0	8	0	3
03	Legumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04	Fruits, nuts and olives	2	10	6	11	4	13	7	4	2	6	3	13	11	0	22	0	11
05	Dairy products	69	10	7	27	44	31	16	33	21	20	54	17	19	52	17	10	6
06	Cereals and cereal products	6	21	31	25	20	13	20	21	0	23	7	17	23	1	1	1	8
07	Meat and meat products	1	7	14	6	10	8	25	20	20	13	7	11	8	30	3	13	3
08	Fish and shellfish	0	1	1	1	1	1	5	2	0	0	0	1	0	3	0	3	0
09	Eggs and egg products	0	0	1	0	1	0	4	1	2	0	2	0	2	2	0	3	2
10	Fat	1	0	0	0	0	0	0	0	20	3	2	2	0	1	0	30	21
11	Sugar and confectionery	4	31	11	7	4	6	3	3	2	3	4	4	2	1	9	1	12
12	Cakes	5	4	10	5	6	3	7	4	6	5	5	4	3	2	0	9	10
13	Non-alcoholic beverages	6	2	4	5	2	6	3	1	3	7	4	8	4	2	25	0	6
15	Condiments and sauces	0	0	0	1	0	0	0	0	3	1	0	0	0	0	0	3	7
16	Soups, bouillon	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
17	Miscellaneous	1	1	2	1	1	1	1	2	0	1	1	0	1	1	0	1	1
	Supplements	1	4	5	2	0	0	5	4	10	8	6	7	12	4	8	24	8

\* Including fortified foods and dietary supplements.

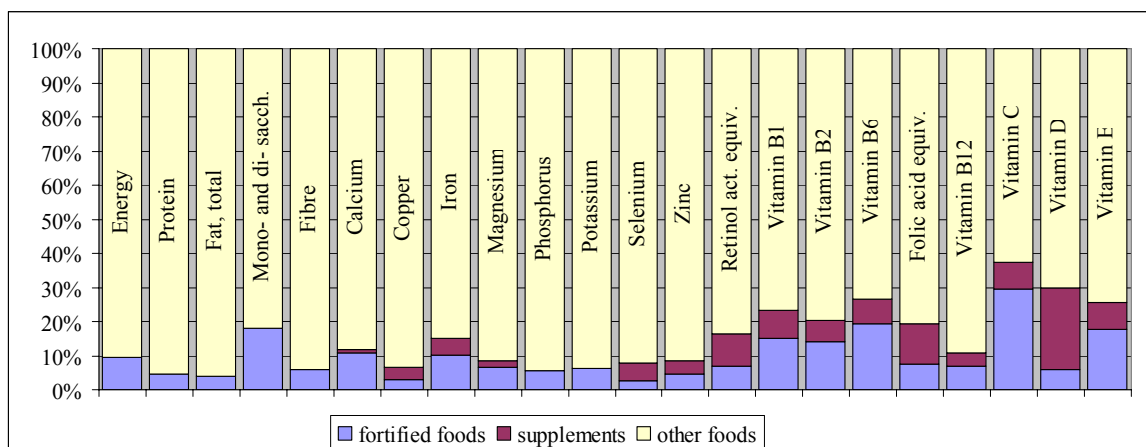


Figure 3-1 Average contribution of fortified foods and dietary supplements to the nutrient intake of Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

### 3.13 Time of consumption

Almost all children had three meals per day – a breakfast, lunch and dinner at both record days (see Appendix B Table B-14).

#### 3.13.1 Foods

‘Fruit’ was mainly consumed between the three main meals (64%) (see Table 3-30). These food consumption occasions were also the main time for consumption of ‘Sugar and confectionery’, ‘Cakes’ and ‘Non-alcoholic beverages’. ‘Meat and meat products’ and ‘Fish and shellfish’ were consumed mainly at dinner (70 to 81%). Furthermore, only 6% of ‘Vegetables’ consumption occurred outside the dinner meal. Other food groups mostly consumed during dinner are ‘Potatoes’, ‘Legumes’, ‘Fish and shellfish’, ‘Condiments and sauces’ and ‘Soups, bouillon’. Breakfast and lunch contributed mainly ‘Dairy products’, ‘Cereals and cereal products’ and ‘Fat’.

#### 3.13.2 Nutrients

The contribution of the time of consumption to the intake of energy and nutrients is shown in Table 3-31. Breakfast contributed roughly 20% of energy and macro-nutrients. The percentage was slightly higher (between 18 and 30%) for most micro-nutrients, except for vitamin C with only 11% of the intake during breakfast.

Except for calcium and vitamin B2, lunch contributed slightly more to both macro- and micro-nutrient intake than breakfast. The contribution of the dinner was more than that of the lunch, except for fibre, copper and calcium intake.

Food consumption between meals contributed about one-third of the energy, more than 50% of the mono- and disaccharides and 46% of the vitamin C intake. Although only 21% of fat intake was consumed between meals, these occasions contributed relatively more trans fatty acids (31%) and saturated fatty acids (25% between meals). Furthermore, these food consumption occasions contributed substantially to micro-nutrient intake (14 to 46%).

Table 3-30 Average contribution (%) of food consumption occasions to total food group consumption of Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft classification	Total 2 to 6 years (n=1,279)			
	Breakfast mean%	Lunch mean%	Dinner mean%	In-between meals mean%
01 Potatoes and other tubers	0	2	98	1
02 Vegetables	0	3	94	3
03 Legumes	0	0	100	0
04 Fruits, nuts and olives	5	13	18	64
05 Dairy products	31	25	23	21
06 Cereals and cereal products	33	43	16	9
07 Meat and meat products	7	19	70	4
08 Fish and shellfish	1	14	81	5
09 Eggs and egg products	15	27	55	3
10 Fat	28	36	34	2
11 Sugar and confectionery	17	14	14	55
12 Cakes	7	8	8	78
13 Non-alcoholic beverages	9	8	13	71
15 Condiments and sauces	1	5	94	1
16 Soups, bouillon	0	20	77	2
17 Miscellaneous	11	19	60	10

Table 3-31 Average contribution (%) of food consumption occasions to total nutrient intake of Dutch children age 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Nutrient	Total 2 to 6 years (n=1,279)			
	Breakfast Mean %	Lunch Mean %	Dinner Mean %	In-between meals Mean %
Energy	19	22	27	31
Protein	22	26	36	16
Fat, total	20	25	35	21
Saturated fatty acids	18	23	33	25
Trans fatty acids	16	22	31	31
Unsaturated fatty acids	21	26	36	17
Carbohydrate	19	21	21	40
Mono- and disaccharides	16	15	18	51
Fibre	21	25	28	26
Calcium	27	25	23	24
Copper	30	29	23	19
Iron	22	25	30	23
Magnesium	24	25	26	24
Phosphorus	25	27	29	19
Potassium	19	19	35	27
Selenium	18	24	39	19
Zinc	23	26	36	15
Retinol activity equivalents	23	29	32	16
Vitamin B1	23	23	33	21
Vitamin B2	28	24	27	22
Vitamin B6	18	19	34	29
Folic acid equivalents	23	26	31	20
Vitamin B12	24	24	36	16
Vitamin C	11	12	30	46
Vitamin D	21	27	38	14
Vitamin E	21	23	28	28

## 3.14 Place of consumption

### 3.14.1 Foods

Consumption of foods according to place of consumption (at home and outside home) is shown in Table 3-32. This classification does not give insight in the source of supply, but, where the food is consumed; foods may be taken from home are consumed in various places, such as school. The results show that most foods were consumed at home. The products consumed mainly between meals were also the same as those consumed relatively often outside the home, such as 'Fruits, nuts and olives' (29%), 'Sugar and confectionary' (28%), 'Cakes' (41%), and 'Non-alcoholic beverages' (32%).

Table 3-32 Average contribution (%) of place of consumption to total food group consumption of Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season\*.

		Total 2 to 6 years (n=1,279)	
		At home Mean %	Outside home Mean %
01	Potatoes and other tubers	82	14
02	Vegetables	87	10
03	Legumes	91	7
04	Fruits, nuts and olives	70	29
05	Dairy products	80	17
06	Cereals and cereal products	78	18
07	Meat and meat products	80	16
08	Fish and shellfish	85	14
09	Eggs and egg products	84	14
10	Fat	79	17
11	Sugar and confectionery	70	28
12	Cakes	58	41
13	Non-alcoholic beverages	66	32
15	Condiments and sauces	83	14
16	Soups, bouillon	78	21
17	Miscellaneous	74	24

\* It was not possible to classify the place of consumption for all foods as consumed at home or outside the home, because of missing data in the dietary records. Therefore, the percentages do not add up to 100%.

### 3.14.2 Nutrients

The nutrient intake by place of consumption is shown in Table 3-33. About 74% of the daily energy intake and 70 to 80% of nutrient intake came from foods and drinks consumed at home. On average, more than 25% of the intake of trans fatty acids, carbohydrates, mono- and disaccharides, and vitamin C was consumed outside the home.

Table 3-33 Average contribution (%) of place of consumption to total energy and nutrient intake of Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season\*.

	Total 2 to 6 years (n=1,279)	
	At home Mean %	Outside home Mean %
Energy	74	23
Protein	78	18
Fat, total	75	21
Saturated fatty acids	75	22
Trans fatty acids	71	26
Unsaturated fatty acids	76	21
Carbohydrate	72	26
Mono- and disaccharides	70	28
Fibre	76	21
Calcium	78	19
Copper	78	19
Iron	76	21
Magnesium	77	20
Phosphorus	78	19
Potassium	76	21
Selenium	78	19
Zinc	79	18
Retinol activity equivalents	78	19
Vitamin B1	78	19
Vitamin B2	79	18
Vitamin B6	76	21
Folic acid equivalents	78	19
Vitamin B12	80	17
Vitamin C	72	25
Vitamin D	79	18
Vitamin E	76	21

\* Percentages do not add up to 100%, because of missing data in the dietary records.

### 3.15 Main dietary factors by socio-demographic factors

The consumption of fruit and vegetables, and the intake of saturated fatty acids, vitamin D, fibre, and fish by socio-demographic factors are shown in Table 3-34. A higher education level of at least one of the carers was related to higher vegetable consumption, and to higher intake of vitamin D and fibre. Children from the three largest cities consumed more vegetables and had a higher intake of fibre than children in other regions. There was a difference in the consumption of vegetables, intake of saturated fatty acids and fibre by weight; without indicating a causal relationship the intake of vegetables and fibre was higher in those of higher weight. Working status of the carers was not clearly related to the main dietary factors. Only those with both carers working had an higher intake of vitamin D. Size of household was only related to vitamin D intake. Children in a 2 to 3 person household had a higher vitamin D intake than those from a 4 or more person household. No differences were observed in fish consumption by socio-demographic factors.



Table 3-34 Main dietary factors by socio-demographic characteristics for 2 to 6-year-old Dutch children (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

	Vegetables (g)			P	Fruit (g)		P	Saturated fatty acids (en%)		P	Vitamin D (µg)		P	Fibre (g)		P	Fish (g)		P
	n	mean	SD		mean	SD		mean	SD		mean	SD		mean	SD		mean	SD	
Highest education level of carer(s)				<0.001			0.71			0.04			0.009			<0.001			0.19
Low	142	39	34		113	83		12.2	2.8		2.9	2.2		12.3	4.3		5	16	
Moderate	551	37	34		117	85		11.8	2.7		3.3	2.6		12.3	4.0		4	14	
High	544	47	38		120	80		11.6	2.6		3.6	2.8		13.3	4.2		6	17	
At least for one carer unknown	42	41	45		161	90		11.4	2.5		4.0	3.6		14.6	5.0		6	19	
Size of household				0.10			0.01			0.23			0.005			0.20			0.56
2 to 3	296	45	43		129	89		12.0	2.9		3.8	3.2		13.1	4.2		5	16	
4	631	39	33		120	83		11.7	2.7		3.3	2.6		12.8	4.1		4	15	
5+	352	42	36		110	78		11.7	2.5		3.2	2.4		12.6	4.2		5	15	
Working status of carers				0.83			0.68			0.97			0.046			0.50			0.89
Both working*	875	41	36		118	82		11.8	2.7		3.5	2.8		12.8	4.1		5	15	
At least one carer not working	364	41	35		120	85		11.8	2.8		3.1	2.5		12.6	4.2		5	16	
At least for one carer unknown	40	40	44		156	92		11.4	2.5		4.0	2.6		14.7	5.3		4	14	
Region				0.006			0.12			0.010			0.20			0.001			0.16
Three largest cities in the west of the Netherlands**	163	50	43		130	89		12.0	2.9		3.6	3.0		13.8	4.3		6	16	
Rest of the west	379	41	34		118	85		11.5	2.5		3.2	2.4		12.9	4.1		6	18	
North	132	41	39		120	79		12.0	2.8		3.3	2.6		13.0	4.4		4	11	
East	299	37	30		110	78		11.5	2.7		3.4	2.7		12.3	4.2		3	11	
South	306	41	37		123	85		12.1	2.7		3.6	3.0		12.4	3.9		6	16	
Evaluation weight				0.001			0.39			0.02			0.76			0.02			0.27
Seriously underweight	17	30	20		101	65		13.0	2.7		3.2	2.1		10.9	2.8		12	23	
Underweight	78	32	33		113	95		12.5	3.1		3.3	2.6		11.8	4.1		3	13	
Normal weight	1,006	41	35		122	84		11.7	2.7		3.4	2.8		12.9	4.2		5	15	
Overweight	149	45	39		110	76		11.7	2.7		3.4	2.6		12.6	3.8		5	15	
Obese	29	61	60		116	67		12.1	2.7		2.8	1.9		13.7	5.4		7	29	

\* This category also includes working single carers. \*\* Amsterdam, Rotterdam, The Hague.

## 4 Discussion

### 4.1 Main findings

The main findings of this survey of Dutch children aged 2 to 6 years are as follows:

#### ***Energy balance***

- The food groups contributing the highest energy intake were ‘Dairy products’ (21%), ‘Cereals and cereal products’ (20%), ‘Sugar and confectionery’ (14%), and ‘Cakes’ (10%). ‘Dairy products’ and ‘Cereals and cereal products’ were also important sources of many micro-nutrients, but this is not the case for ‘Sugar and confectionery’ and ‘Cakes’.
- A large proportion of energy intake (31%) is consumed between meals. One in five children had five or more food consumption occasions between meals.
- About one third of children aged 4 to 6 years were active for  $\leq 7$  hours per week, which is less than recommended for the age group. Between 6 to 8% of those children were inactive, doing  $< 3$  hours activity per week. Recommendations have not been formulated on physical activity for children aged 2 to 3 years.
- Thirteen percent of children were overweight or obese, indicating a positive energy balance.

#### ***Intake of macro-nutrients***

- Almost all children met the recommendations for the amount and proportion of *total fat, total protein, and total carbohydrates* in the diet. On average, 29 to 31% of energy intake was derived from fat, 13% from protein, and 56 to 58% from carbohydrates.
- Many children did not meet the recommendations for specific types of fatty acids. Intake of *saturated fatty acids* was too high ( $>10\%$  of energy) in 84 to 91% of children aged 4 to 6 years, whereas only 1 to 4% of 2 to 3 year-olds exceeded the UL of 15% of energy. In addition, *trans fatty acid* intake of about 10% of the children aged 4 to 6 years exceeded the UL. There are no recommendations on trans fatty acids intake for children below the age of 4 years.
- The main sources of saturated and trans fatty acids were ‘Dairy products’, ‘Meat and meat products’, ‘Fat’ and ‘Cakes’. With the exception of ‘Cakes’, these food groups were also important contributors to micro-nutrient intake. Compared to total fat (21%), a relatively large proportion of saturated fatty acids (25%) and trans fatty acids (31%) was consumed between meals.
- Fish is the main source of *n-3 fatty acids*. The recommended fish consumption is at least twice per week. Only 9% of the children met this recommendation.

#### ***Consumption of vegetables and fruit, and fibre***

- Virtually none of the children aged 4 to 6 years and about one in five 2 to 3 year-old children met the lower limit of the recommended vegetable consumption. For fruit consumption, about one in four children met the recommendation.
- Due to the low consumption of fruit and vegetables, the contribution of ‘Vegetables’ (8%) and ‘Fruit, nuts and olives’ (22%) to vitamin C intake was lower than for ‘Non-alcoholic beverages’ (25%). The latter group included beverages fortified with vitamin C.

- Most of the ‘Vegetables’ consumption occurred at dinner (94%), while ‘Fruits, nuts and olives’ are mainly eaten between meals (64%) but also at dinner (18%) and lunch (13%). ‘Vegetables’ (87%) and ‘Fruits, nuts and olives’ (70%) were eaten mainly at home.
- Consumption of fibre-rich foods was probably too low in most of the children. The food groups contributing most to fibre intake were ‘Cereals and cereal products’ (39%), ‘Fruits, nuts and olives’ (22%) and ‘Potatoes and other tubers’ (11%). In line with the low fibre intake, the average consumption of bread, potatoes and fruit was below the recommended amounts.

### ***Intake of micro-nutrients***

- For most micro-nutrients, probability of insufficient intake was low in children aged 2 to 6 years on the basis of the Dutch dietary reference values. The exceptions were intake of vitamin D, folate, and iron. Although for iron intake, the prevalence of inadequacy was low when the US-references were used. In addition, for selenium, zinc, vitamin E and retinol activity equivalents, the habitual dietary intake has been judged to be inadequate for a considerable proportion of the young children, based on the recent US-references. The findings on these exceptions need to be followed-up by investigating nutritional status to evaluate whether intake of these micro-nutrients is sufficient.
- The median daily intake of *vitamin D* from food and dietary supplements (3.9 to 4.3 µg) by 2 to 3 year-olds was less than the adequate intake of 5 to 10 µg. Forty percent of this age group did not receive vitamin D-containing supplements, yet these supplements are recommended for this age group.  
Without dietary supplements, the median vitamin D intake of the 4 to 6 year-olds was below the adequate intake range of 2.5 to 5 µg. With the contribution of supplements, the median vitamin D intake of the boys (2.6 µg) was just above and that for girls (2.3 µg) just below the lower limit of the adequate intake.
- For 4 to 6 year-old boys and girls, the median daily intake of *folic acid* equivalents from diet and dietary supplements (127-140 µg) was below the adequate intake of 150 µg. Intake was similar for 2 to 3 year-olds. However, because adequate intake for this group is 85 µg/day, the probability of insufficient intake was low.
- For most micro-nutrients, very few children exceeded the UL, except for copper, zinc, folic acid and retinol. The probability of detrimental effects might be somewhat higher for children who exceeded the UL. This should however be further explored.
- The habitual intake of *copper* was above the UL for 37 and 48% of the 2 to 3 year-old girls and boys, respectively. This was the case for 6 to 8% of 4 to 6 year-olds. ‘Sugar and confectionery’ contributed most (31%) to copper intake.
- For 11 and 14% of the 2 to 3 year-old girls and boys, respectively, *zinc* intake from diet and dietary supplements exceeded the UL. In the 4 to 6 year-olds, this was 0 to 0.1%.
- This was also the case for intake of *synthetic folic acid* for 2 to 7% of the children, depending on the age-gender group.
- For 8 and 11% of the 2 to 3 year-old boys and girls, respectively, intake of retinol from food exceeded the UL. Retinol from dietary supplements could not be calculated, but retinol from both food and supplements will be higher.
- Fortified products were consumed by 87% of children; fortified drinks were the most frequently used. Fortified products contributed 29% of vitamin C intake and 19% of vitamin B6 intake. Fortified products were also a major source of mono- and disaccharides, and contributed 20% of total intake.

### *Socio-demographic differences*

- Children with more highly educated carers and those living in the three largest cities in the Netherlands had a better diet in terms of consumption of fruit and vegetables, and intake of vitamin D, and fibre.

## 4.2 Methodological issues

### 4.2.1 Response and representativeness

The overall response rate is considered to be high. Complete information was obtained for 78% of the overall sample of 2 to 6-year-old children on all items of the study (general questionnaire, weight and height measurement, and two pre-structured food records). As explained in the study design, the results are not representative for immigrant children, because only carers with a good command of the Dutch language were included. A specific survey needs to be carried out to assess the dietary intake of immigrant children.

The sampling of  $n=1,279$  children is representative with respect to educational level of the head of the household and region of the Netherlands. Children from densely populated areas were slightly under represented, as was dietary information for Spring and Summer. These factors were taken into account in the weighting. The (weighted) results presented in this report are representative for the Dutch population of children with regard to age, gender, education level of household head, region of residence and population density, as well as for seasons.

This is however, no guarantee that the study population was representative with regard to lifestyle factors. Using participants from market research panels has the advantage that much information is available about individual participants, recruitment of participants can be done efficiently, and that representativeness with regard to socio-demographic characteristics can be monitored and influenced. However, the selection of people interested in participating in these panels might be associated with lifestyle characteristics such as diet. The results with regard to overweight indicate some selection bias. In the present study, 11% of the 4 to 6 year-old boys and 15% of the girls in this age group were either overweight or obese, while in an estimate based on data from 11 municipal health services for the period 2002 to 2004, these figures are higher: 13 and 18% respectively.<sup>29</sup> This might be partly explained by the under-representation of children not of Dutch nationality. For other life style factors, no nationally representative results are known at present to make a comparison. Whether selection bias would be smaller in participants recruited from general population registries is questionable.

### 4.2.2 Dietary assessment

The DNFCs-Young Children is part of the Dutch dietary monitoring system. The core survey of the DNFCs uses a 24-hour recall method based on telephone interviews on two non-consecutive days. The interviews are computer-administered using EPIC-Soft. For data comparability, the same method of data collection has been aimed at. For practical reasons, a dietary record method was used for the DNFCs-Young Children. Data entered by carers into pre-structured food consumption diaries were entered in EPIC-Soft by trained dietitians. This ensured data format and structure identical to the core survey of DNFCs. Procedures were pre-tested in a pilot study.

Some information was missing or incomplete in the diaries, for example the brand name of dietary supplement. In such cases, we assumed that the supplement most often reported in the category was

used. This occurred in 4% of total supplements reported to contain nutrients. Information was not complete for consumption during periods when the carer who completed the diary was not present. It is not clear how more detailed information about the food products would have influenced the results. Probably, consumption data at food group level would be influenced marginally. The effect might have been somewhat greater for nutrients and most likely would have had a greater effect on the standard deviation of intake than on the average or median intake. Data collection might be improved on in future surveys if dieticians were to collect the diaries at home rather than the carers returning them to the market organisation by mail. If they are collected at home, the dieticians can check the records for completeness in the presence of the carer. If needed, additional information such as product specifications and detailed amounts could have been included. But this would have led to substantial extra costs. A less costly alternative would be to obtain missing information by telephone after receiving the completed diaries.

Although collection of food consumption data was standardised as much as possible, and numerous quality checks were performed, misreporting occurred, either consciously or unconsciously. For example, participants sometimes like to give socially accepted answers, or recall is inadequate. Gross underreporting of energy intake at the group level was evaluated by means of the ratio of reported energy intake and estimated energy requirement for basal metabolic rate. The expected ratios were 1.64 for boys and 1.57 for girls of this age with a sedentary lifestyle.<sup>3</sup> The observed mean ratios were 1.63 and 1.62 for boys and girls, respectively. This indicates that on average underreporting is not a major issue in the current study. A similar finding was observed in a study of Belgian children.<sup>16</sup> This is in agreement with validation studies using doubly labelled water estimates of energy expenditure. Livingstone et al concluded that, at best, energy intake at the group level for younger age groups provide unbiased estimates.<sup>21</sup> While from the age of 7 years, underreporting occurs habitually.

Data collection was carried out over a period of a year. Data for Spring and Summer were slightly underrepresented, partly because of a lower response during vacation periods, but also because of the higher response rate than expected in the previous periods. Potential bias was taken into account by including season in the weighting factor. For the future it is recommended that the number of subjects is increased during vacation periods.

To account for within-person variability in dietary intake, the ISU-method<sup>22</sup> was used to estimate the population distribution of habitual intake rather than intake over two days. The habitual intake distribution should be compared to the dietary recommendations. The assumption of the ISU-method is that intakes on the two consumption days are independent or that the dependency is known. A strength of our study design compared to the previous survey in 1998 is that the record days were more independent of one another with the interval between day 1 and day 2 of recording varying between 8 and 13 days. However, recent international recommendations suggest an interval of at least one month in order to achieve more independency.<sup>6</sup> Doing so, it would be best to collect the day-1-diary shortly after recording and to send a reminder shortly before record day 2.

The derivation of dietary reference values for children is difficult since few underlying studies have been performed in children. For this reason the recommended daily allowance (RDA's) for adults are extrapolated to children taking account of differences in body size. The resulting dietary reference values are then indicated as adequate intakes by the Dutch Health Council. When the reference value is an adequate intake, nutrient intake cannot be evaluated quantitatively. Therefore, evaluation of nutrient intake of the young children in terms of adequacy is difficult. In addition, some current reference values for Dutch children were determined in 1989 and it is questionable whether these references are still valid. For this reason, the more recent references set by the US Institute of Medicine were also used in assessing habitual intake of micro-nutrients with old Dutch reference values. The comparison

showed that the conclusion could differ according to the references used. Therefore, there is a clear need to update the Dutch dietary reference values. The Dutch Health Council and Institute of Medicine applies the age groups 1 to 3 year-olds and 4 to 6 year-olds (for some nutrients 4 to 8) for the dietary recommendations. That is why children who become 4 years of age, theoretically from one day to the next day have to meet substantially higher nutrient recommendations. In practice, a gradual increase in requirements is expected, and our estimates of prevalence of insufficient intake are likely overestimations in the age group of 4 to 6 years.

## 4.3 Comparison with results from other surveys

The main findings of this survey were compared with other recent studies on the diet of young children. Because these studies use different data collection methods, food composition data may differ in definition, and different analytical methods are used, the comparison was based on the main conclusions.

The same issues play a role in the Dutch study of infants aged 6-18 months as in the present study. In both studies, the consumption of vegetables and fish, and intake of fibre is too low. Most age trends observed in the children under 2 years of age, such as the increase in consumption of meat and vegetables, and decrease in fruit and dairy products, and in vitamin D intake continue in children aged 2 to 6 years.<sup>4</sup> Also, a study of pre-school children in Flanders-Belgium showed that the fatty acid composition of the diet was unfavourable and that the implication of the low intake of iron and fibre and vitamin D needs to be analysed.

Unfortunately, a trend analyses based on the results of the previous food consumption survey (1997/1998)<sup>1</sup> can not be made, as a calibration study has not been conducted. A crude comparison has shown that the intake of many nutrients is in the same order of magnitude. For some micro-nutrients, such as vitamins B6 and C, now used in many fortified foods, intakes in 2005/2006 appear somewhat higher; and for trans fatty acids a lower intake was expected. In comparison to the previous survey, this survey reports on intake of foods and nutrients, as well as nutrient intake from supplements, and where available, the percentage of children with intakes above the UL. At present, this information is more relevant because for example, consumption of fortified foods is more prominent in the diet.

## 4.4 Recommendations

Based on the survey findings, the following recommendations are made:

### *Diet of young children*

- The number of food consumption occasions between meals should be limited to a maximum of four.
- The consumption of energy dense foods, rich in saturated fatty acids and/or trans fatty acids and poor in dietary fibre and micro-nutrients should be discouraged (empty calories). Examples of these products can be found in the groups 'Cakes' and 'Sugar and confectionery'.
- Low-fat choices should be stimulated in the product groups 'Dairy products' and 'Meat and meat products'. In the food group 'Fat' consumption of products with a more favourable fatty acid composition should be encouraged.
- Consumption of fruit and vegetables and wholemeal products should be stimulated. Encouraging consumption of vegetables, also at times other than at dinner, might help to

increase consumption of these foods. Higher fruit and vegetable consumption will also improve the intake of folate and dietary fibre.

- Consumption of fish should be encouraged.
- If nutritional status research confirms the inadequate vitamin D intake, ways to improve use of vitamin D supplements by children aged 2 to 3 years, and extension of the age range for recommended supplement use up to 6 years, or food fortification with vitamin D should also be considered. For adequate vitamin D intake, consumption of foods in the 'Fat' group should not be limited. As mentioned above, within this food group, the consumption of products with a more favourable fatty acid composition should be encouraged.

#### *Dietary reference intakes*

- The dietary reference intakes which are set more than 10 years ago should be updated.
- This study shows clearly an urgent need for more scientific research on dietary requirements and UL's for the different paediatric age groups.

#### *Follow-up research*

- The adequacy of the diet with regard to folate and vitamin D intake should be further investigated. Nutritional status research is indicated in this respect.
- The health consequence of exceeding the UL for retinol, synthetic folic acid, copper, and zinc should be investigated.
- Additional research is indicated to elucidate the advantages and disadvantages of the frequent use of fortified foods and dietary supplements by children, especially for retinol and folic acid.
- This report presents the main findings of the survey. More in-depth analyses of the current data are encouraged.
- In order to investigate trends in dietary intake, it is recommended that food consumption of young children is monitored regularly, every 4 to 5 years.
- The next survey of young children should be done in an extended group aged from 1 to 8 years. Before the next monitoring survey is performed, ways to further improve the detailed information in the dietary records should be investigated. Alternative ways should be sought to collect food consumption data in periods when the child is not with his/her carer. Furthermore, before a food consumption survey is conducted, consideration should be given to recruiting a most representative study population. Although using a market research panel of consumers has advantages, the representativeness is a possible issue for attention.

## 4.5 Conclusion

Based on the survey findings, the diet of young children in the Netherlands is adequate with regard to proportions of total fat, carbohydrates and protein. However, the fatty acids composition is unfavourable, as consumption of fish (rich in fish fatty acids) is too low, and the saturated fatty acid intake especially among the 4 to 6 year-old children is too high. Only few children meet the recommendations for consumption of vegetables. For fruit the situation is slightly more favourable (one in four). One in seven children was found to be overweight or obese, indicating a positive energy balance in the period prior to the study.

Based on the currently available dietary reference intakes, the diets of young children in the Netherlands is adequate for most vitamins and minerals. However, the implications of low intake of vitamin D and folate need to be investigated. Only three in five 2 to 3 year-old children receive the recommended vitamin D containing supplement. Evaluation of intakes of iron, selenium, zinc, and

vitamin E and retinol activity equivalents is hampered by lack of clarity on dietary reference intakes. Risk assessment on the observed high intake of zinc, synthetic folic acid and copper from food, natural and fortified, and dietary supplements is indicated.

Policy measures should focus on maintaining energy balance, increasing consumption of fruit, vegetables, and fish and fibre intake and improving the fatty acids composition of the diet. Such improvements in the diet of children are needed to prevent overweight and chronic diseases later in life.





## References

1. Zo eet Nederland 1998. Resultaten van de Voedselconsumptiepeiling 1998. Den Haag: Voedingscentrum, 1998.
2. Beheerscommissie VCP. Notitie. Opzet van een signaleringssysteem Voedselconsumptie Inventarisatie van informatiebehoefte. Zeist, 2002.
3. Black AE. Critical evaluation of energy intake using the Goldberg cut-off for energy intake:basal metabolic rate. A practical guide to its calculation, use and limitations. *Int J Obes Relat Metab Disord* 2000; 24(9):1119-30.
4. Breedveld BC, Hulshof KFAM. Zo eten jonge peuters in Nederland 2002; resultaten van het Voedingsstoffen Inname Onderzoek (VIO) 2002. Voedingscentrum, Den Haag: Voedingscentrum, 2002; 762.
5. Buurma-Rethans E, Fransen H, Ghameshlou Z, de Jong N. Een supplementendatabestand: behoeftes en acties. *Voeding Nu* 2008; 10(1):21-4.
6. De Henauw S, Brants HA, Becker W et al. Operationalization of food consumption surveys in Europe: recommendations from the European Food Consumption Survey Methods (EFCOSUM) Project. *Eur J Clin Nutr* 2002; 56 Suppl 2:S75-88.
7. Dodd KW. A technical guide to C-SIDE. Department of statistics and CARD, Iowa State University, 1996; Technical report 96-TR 32.
8. European Food Safety Authority. Tolerable upper intake levels for vitamins and minerals. Parma: EFSA, 2006.
9. Gezondheidsraad. Voedingsnormen: calcium, vitamine D, thiamine, riboflavine, niacine, pantotheenzuur en biotine. Den Haag: Gezondheidsraad, 2000.
10. Gezondheidsraad. Voedingsnormen: energie, eiwit, vet en koolhydraten. Den Haag: Gezondheidsraad, 2001.
11. Gezondheidsraad. Enkele belangrijke ontwikkelingen in de voedselconsumptie. Den Haag: Gezondheidsraad, 2002.
12. Gezondheidsraad. Voedingsnormen: vitamine B<sub>6</sub>, foliumzuur en vitamine B<sub>12</sub>. Den Haag: Gezondheidsraad, 2003.
13. Gezondheidsraad. Richtlijnen goede voeding 2006. Den Haag: Gezondheidsraad, 2006.
14. Gezondheidsraad. Richtlijnen voor de vezelconsumptie. Den Haag: Gezondheidsraad, 2006.
15. Hirasing RA, Fredriks AM, van Buuren S, Verloove-Vanhorick SP, Wit JM. [Increased prevalence of overweight and obesity in Dutch children, and the detection of overweight and obesity using international criteria and new reference diagrams]. *Ned Tijdschr Geneesk* 2001; 145(27):1303-8.
16. Huybrechts I, De Henauw S. Energy and nutrient intakes by pre-school children in Flanders-Belgium. *Br J Nutr* 2007; 1-11.
17. Institute of Medicine. Dietary reference intakes. Applications in dietary assessment. Washington DC: National Academy Press, 2000.
18. Institute of Medicine. Dietary reference intakes for vitamin C, vitamin E, selenium, and carotenoids. Washington D.C.: National Academy Press, 2000.

19. Institute of Medicine. Dietary reference intakes for vitamin A, vitamin K, arsenic, boron, chromium, copper, iodine, iron, manganese, molybdenum, nickel, silicon, vanadium, and zinc. Washington D.C.: National Academy Press, 2001.
20. Kemper HC, Ooijendijk WTM, Stiggelbout M. Consensus over de Nederlandse norm voor gezond bewegen. TSG 2000; 78:180-3.
21. Livingstone MB, Robson PJ, Wallace JM. Issues in dietary intake assessment of children and adolescents. Br J Nutr 2004; 92 Suppl 2:S213-22.
22. Nusser SM, Carriquiry AL, Dodd KW, Fuller WA. A semiparametric transformation approach to estimating usual daily intake distributions. J Am Stat Assoc 1996; 91:1440-9.
23. Ocké MC, Hulshof KFAM, Bakker MI, Stafleu A, Streppel MT. Naar een nieuw Nederlands voedingspeilingsstelsel. Bilthoven: RIVM, 2005; RIVM rapport 350050001/2005, TNO rapport nr. V6463.
24. Ocké MC, Hulshof KFAM, Buurma-Rethans EJM et al. Voedselconsumptiepeiling 2003, Samenvatting werkwijze en evaluatie. Bilthoven: RIVM, 2004; RIVM rapport 350030003/2004, TNO rapport nr. V5999/01.
25. Slimani N, Ferrari P, Ocke M et al. Standardization of the 24-hour diet recall calibration method used in the European Prospective Investigation into Cancer and Nutrition (EPIC): general concepts and preliminary results. Eur J Clin Nutr 2000; 54(12):900-17.
26. Smeets H, Michiels J. Het effect van non-respons onder allochtonen. Bevolkingstrend 1904e; (1):52-7.
27. Stichting NEVO. NEVO-tabel. Nederlands Voedingsstoffenbestand 2006. Den Haag: Voedingscentrum, 2006.
28. Van Buuren S. Afkapwaarden van de Body-mass index voor de bepaling van ondergewicht bij Nederlandse kinderen. NTvG 2004; 148(40).
29. Van den Hurk K, van Dommelen P, de Wilde JA, Verkerk PH, van Buuren S, HiraSing RA. Prevalentie van overgewicht en obesitas bij jeugdigen 4-15 jaar in de periode 2002-2004. Leiden: TNO, 2007; KvL/JPB/2006.010.
30. Voedingscentrum. Heeft uw kind extra vitamines nodig? [Web Page]. Available at [http://www.voedingscentrum.nl/voedingscentrum/Public/Dynamisch/zwangerschap+en+kinderen/vanaf+1+jaar/extra+vitamines\\_.htm](http://www.voedingscentrum.nl/voedingscentrum/Public/Dynamisch/zwangerschap+en+kinderen/vanaf+1+jaar/extra+vitamines_.htm). (Accessed 2 October 2007).
31. Voedingscentrum. Richtlijnen goede voedselkeuze. 2007. Available at <http://www.voedingscentrum.nl/voedingscentrum/Private/Nieuws/2007/Nieuwe+Richtlijnen+goede+voedselkeuze.htm>.
32. Voedingsraad. Mogelijkheden tot het opzetten van een voedingspeilingsstelsel in Nederland. Voeding 1987; 48:35-43.
33. Voedingsraad. Nederlandse voedingsnormen 1989. Den Haag: Voedingsraad, 1992.

## Acknowledgement

First and foremostly we wish to thank the 1,279 children and their parents/carers for participating to the survey. Without their collaboration this survey could not have been conducted. The DNFCs–Young Children was carried out on behalf of the Netherlands Ministry of Health, Welfare and Sport. Alma van der Gref and Letteke Boot, we appreciated your confidence in our work and your involvement. Nadia Slimani and your team from the International Agency for Research on Cancer, thank you for the EPIC-Soft updates for the dietary assessment. We also thank the project-team from GfK Panel Services: Marcel Temminghoff, Kim Paulussen, Kees Meijs, Anne-Louise van Bijnen and Inge van der Bunt, Frans Louwen, Willem van der Linden, Inge Snoeren and Sjannie van Vugt, and all home visitors for performing the fieldwork. We appreciate your expertise. Furthermore, we appreciate the willingness of the expert committee to comment on our proposals and drafts during the meetings or by e-mail: Prof P. van 't Veer, Dr. J.H.M. de Vries, A. de Mul, J. Bruil, B.C. Breedveld, N. Blok, Dr. C.J. Spaaij, M.C.J.M. van Dongen, R.M.C. Theelen, J.M. de Stoppelaar, W. Bosman, and Dr. J.J.M. Castenmiller. Your comments were very valuable. Moreover, we would like to thank our colleagues in RIVM Centre for Nutrition and Health and TNO-Quality of Life Louise Verloop, Marloeke Geominy, Jildau Meijers, Linda van den Bosch, Karin van Mourik, Diana ter Doest, Petra van Aken, Martine Jansen, Martine Bakker, Dorine Hoek, Marita Donders, Annette Stafleu, Christine Hoogendoorn and Ellen Dutman for their contribution to this survey and report. Helen West, thank you for your revisions. Karin Hulshof especially we thank you for your expertise in build-up of the survey and for your valuable comments on the draft of this report.



## Appendix A List of experts

### *Client:*

C.A Boot (from June 2006)

A.M. van der Gref (until July 2006))

### *Members of expert-panel:*

Prof P. van 't Veer (chairman)

Dr. J.H.M. de Vries

A. de Mul

J. Bruil (until July 2006)

B.C. Breedveld

E.N. Blok (until July 2006)

Dr. C.J. Spaaij (until April 2007)

M.C.J.M. van Dongen

R.M.C. Theelen

J.M. de Stoppelaar (until July 2006)

W. Bosman (until December 2005)

Dr. J.J.M. Castenmiller (from October 2006)

### *Conducting organisations:*

Dr. E. de Boer (until July 2007 TNO/from July 2007 RIVM)

Dr. C.T.M. van Rossum-RIVM

Dr. M.C. Ocké-RIVM

Dr. K.F.A.M. Hulshof-TNO (until July 2006)

Dr. A. Stafleu- TNO (from July 2006 to March 2007)



## Appendix B Additional analyses

Table B-1 Response by socio-economic factors of participants of DNFCs-Young Children 2005/2006.

	Overall Sample	Net Sample	
	n	n	%
<b>Total</b>	1634	1,279	78
<b>Gender, age</b>			
Boys, 2 to 3 years	403	327	81
Girls, 2 to 3 years	385	313	81
Boys, 4 to 6 years	420	327	78
Girls, 4 to 6 years	426	312	73
<b>Region</b>			
Three largest cities in the west of the Netherlands*	250	163	65
Rest of the west	466	379	81
North	159	132	83
East	372	299	80
South	387	306	79
<b>Education</b>			
Low	374	275	74
Moderate	694	544	78
High	566	460	81
<b>Urbanisation</b>			
High	640	469	73
Moderate	350	301	86
Low	644	509	79

\* Amsterdam, Rotterdam, The Hague.



Table B-2 Number of diaries by day of the week and season of participants inDNFCS-Young Children 2005/2006

	Net sample		After weighting
	n	%	%
<b>Total</b>	2,558	100	
<b>Day of the week</b>			
Monday	372	15	15
Tuesday	360	14	14
Wednesday	373	15	15
Thursday	356	14	14
Friday	366	14	14
Saturday	367	14	14
Sunday	364	14	14
<b>Season*</b>			
Spring	598	23	25
Summer	572	22	25
Autumn	668	26	25
Winter	720	28	25

\* This variable was not a factor on which recruitment for the study was based.

Table B-3 Characteristics of the carers of the participants in DNFCs-Young Children 2005/2006

	<b>Mother</b>		<b>Father</b>	
	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>
<b>Age</b>				
20 to 29	138	11	65	5
30 to 39	892	70	777	61
40 to 49	211	17	343	27
50+	4	0	26	2
No answer	32	3	43	3
Not applicable	3	0	26	2
<b>Educational level</b>				
Low	295	23	296	23
Moderate	622	49	530	41
High	357	28	388	30
No answer	6	0	42	3
Not applicable	0	0	23	2
<b>Working situation</b>				
Paid work, >30 hours per week	122	10	1,142	89
Paid work, < 30 hours per week	790	62	45	4
- Paid work, 15 to 29 hours per week	536	42	27	2
- Paid work, <15 hours per week	254	20	19	2
No job <sup>1</sup>	359	28	26	2
No answer	6	0	41	3
Not applicable	2	0	24	2
<b>Nationality</b>				
Netherlands	1,234	97	1,209	95
Other western country	21	2	17	1
Non-western country	18	1	40	3
No answer	6	0	13	1

Table B-4 Proportion of Dutch children aged 2 to 6 years on a special diet (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

<b>Special diet</b>	<b>%*</b>
Cow's milk protein-free	30
Lactose restricted	22
Chicken egg protein-free	3
Gluten-free	1
Other food intolerance/allergy	30
Protein restricted	2
Fat and/or cholesterol restricted	2
Fibre fortified	2
Energy restricted	2
Other restriction	5

\* Percentage of all children on a special diet (4% of all children).

Table B-5 Food consumption of Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC Soft Classification	Total (n=1,279)						f-test		
	2 to 6 years						Overall P	Gender effect P	Age effect P
	mean	SD	Users	Users					
				mean	SD				
	g/d	g/d		g/d	g/d				
01 Potatoes and other tubers	47	40	82	57	37	<0.001	<0.001	<0.001	
0101 Potatoes	47	40	82	57	37	<0.001	<0.001	<0.001	
02 Vegetables	41	36	89	46	35	0.047	0.480	0.008	
0201 Leafy vegetables (except cabbage)	6	15	23	26	20	0.089	0.883	0.238	
0202 Fruiting vegetables	16	26	51	30	29	0.084	0.763	0.048	
0203 Root vegetables	5	14	22	24	19	0.032	0.628	0.643	
0204 Cabbage	8	16	29	26	19	0.529	0.223	0.483	
0205 Mushrooms	1	3	9	7	8	0.190	0.321	0.067	
0206 Grain and pod vegetables	1	6	7	19	13	0.072	0.029	0.706	
0207 Onion, garlic	2	4	27	6	6	0.987	0.757	0.762	
0208 Stalk vegetables, sprouts	1	3	9	8	8	0.358	0.360	0.498	
0209 Mixed salad, mixed vegetables	2	8	17	14	14	0.463	0.182	0.184	
03 Legumes	2	9	5	33	28	0.567	0.329	0.251	
0301 Legumes	2	9	5	33	28	0.567	0.329	0.251	
04 Fruits, nuts and olives	125	85	93	133	81	0.052	0.026	0.146	
0401 Fruits	118	83	90	131	78	0.088	0.048	0.148	
0402 Nuts and seeds (+ nut spread)	5	11	32	16	14	0.078	0.024	0.320	
0403 Mixed fruits	1	10	3	50	33	0.258	0.974	0.186	
0404 Olives	0	1	1	4	4	0.800	0.569	0.774	
05 Dairy products	447	237	99	453	233	<0.001	<0.001	0.040	
0501 Milk	193	183	76	255	169	<0.001	0.005	0.003	
0502 Milk beverages	52	113	29	180	147	0.026	0.401	0.001	
0503 Yogurt	146	175	66	220	172	0.050	0.340	0.001	
0504 Fromage blanc, petits suisses	12	26	24	48	32	0.313	0.696	0.005	
0505 Cheese (including fresh cheese)	11	15	61	18	15	0.012	0.420	0.004	
0506 Cream desserts, puddings (milk-based)	32	51	39	82	52	0.002	0.001	0.191	
0507 Dairy and non-dairy creams	1	4	8	12	10	0.178	0.265	0.182	
050701 Dairy creams	1	4	8	12	10	0.124	0.187	0.261	
050702 Non-dairy creams	0	1	0	14	8	0.708	0.390	0.261	
0508 Milk for coffee and creamers	0	0	1	3	3	0.780	0.758	0.680	
06 Cereals and cereal products	111	48	100	111	48	<0.001	0.003	<0.001	
0601 Flour, flakes, starches, semolina	0	1	7	1	2	0.793	0.997	0.410	
0602 Pasta, rice, other grain	14	27	36	39	32	0.191	0.626	0.020	
0603 Bread, crispbread, rusks	84	38	100	84	38	<0.001	0.001	<0.001	
060301 Bread	80	38	99	80	38	<0.001	0.001	<0.001	
060302 Crispbread, rusks	4	8	35	11	9	0.976	0.952	0.731	
0604 Breakfast cereals	5	10	24	19	12	0.006	0.060	0.007	
0605 Salty biscuits, aperitif biscuits, crackers	6	10	47	13	11	0.004	0.971	<0.001	

Food groups based on EPIC Soft Classification		Total (n=1,279)					f-test		
		2 to 6 years					Overall  P	Gender effect  P	Age effect  P
				Users	Users				
		mean g/d	SD g/d		mean g/d	SD g/d			
0606	Dough and pastry (puff, short-crust, pizza)	2	10	6	29	29	0.425	0.216	0.479
07	Meat and meat products	50	33	96	52	32	<0.001	0.063	<0.001
0701	Fresh meat	14	20	52	26	21	0.396	0.761	0.054
0701	Unclassified	4	12	16	25	20	0.395	0.193	0.835
070101	Beef	5	12	21	22	17	0.990	0.843	0.544
070102	Veal	0	2	1	25	14	0.545	0.183	0.834
070103	Pork	5	13	20	25	19	0.012	0.184	0.011
070104	Mutton/lamb	0	1	1	11	5	0.649	0.631	0.327
070105	Horse	0	0	0	4	0	0.369	0.378	0.536
0702	Poultry	5	15	21	26	23	0.722	0.702	0.497
070200	Unclassified and other poultry	0	1	0	26	0	0.479	0.418	0.581
070201	Chicken, hen	5	15	20	26	23	0.788	0.652	0.477
070202	Turkey, young turkey	0	2	1	17	15	0.546	0.769	0.957
0704	Processed meat	31	29	85	37	28	0.002	0.032	<0.001
08	Fish and shellfish	5	15	15	33	26	0.735	0.529	0.155
0801	Fish	2	8	7	25	21	0.647	0.552	0.025
0802	Crustaceans, molluscs	0	4	2	10	26	0.457	0.240	0.126
0803	Fish products, fish in crumbs	3	12	8	38	24	0.853	0.397	0.845
09	Eggs and egg products	5	12	28	19	15	0.293	0.144	0.287
0901	Egg	5	12	28	19	15	0.293	0.144	0.287
10	Fat	13	8	99	13	8	<0.001	<0.001	<0.001
1000	Unclassified	1	2	32	3	3	0.047	0.271	0.004
1001	Vegetable oils	1	2	28	2	2	0.393	0.715	0.060
1002	Butter	1	2	12	4	5	0.295	0.319	0.083
1003	Margarines	10	8	93	11	8	0.001	0.002	0.001
1004	Deep frying fats	1	2	12	5	3	0.254	0.167	0.032
1006	Other animal fat	0	0	0	4	9	0.560	0.487	0.602
11	Sugar and confectionery	72	51	99	73	51	0.464	0.552	0.071
1100	Unclassified	0	0	0	1	1	0.322	0.532	0.837
1101	Sugar, honey, jam	4	7	48	9	8	0.022	0.356	0.004
1102	Chocolate, candy bars, paste, chocolate confetti/flocks	15	17	79	19	16	<0.001	0.107	<0.001
1103	Confectionery non-chocolate	9	11	74	12	11	0.005	0.665	0.004
1104	Syrup	29	39	70	42	41	0.054	0.370	0.007
1105	Ice cream, water ice	14	24	36	40	23	0.055	0.160	0.003
110501	Ice cream	7	17	20	36	20	0.029	0.487	<0.001
110502	Sorbet	0	4	1	31	12	0.255	0.250	0.019
110503	Water ice	7	16	20	33	20	0.101	0.013	0.761
12	Cakes	41	37	94	44	37	<0.001	0.167	<0.001
1201	Cakes, pies, pastries, etc	25	35	61	40	37	0.003	0.470	<0.001
1202	Dry cakes, biscuits	17	15	81	21	15	<0.001	0.091	<0.001
13	Non-alcoholic beverages	573	295	99	576	293	0.004	0.358	<0.001
1300	Unclassified	0	11	0	180	192	0.274	0.198	0.377

Food groups based on EPIC Soft Classification		Total (n=1,279)					f-test		
		2 to 6 years					Overall P	Gender effect P	Age effect P
		mean	SD	Users	Users				
					mean	SD			
		g/d	g/d		g/d	g/d			
1301	Fruit and vegetable juices	135	167	64	210	166	0.345	0.632	0.181
1302	Carbonated/soft/isotonic drinks, diluted syrups	135	191	55	245	198	<0.001	0.463	<0.001
1303	Coffee, tea and herbal teas	39	95	27	144	136	0.063	0.581	0.004
130301	Coffee	1	8	1	55	38	0.569	0.893	0.314
130302	Tea	38	95	26	145	136	0.085	0.620	0.005
130303	Herbal tea	0	4	0	77	3	0.190	0.222	0.424
1304	Waters	263	256	86	307	250	0.178	0.641	0.015
14	Alcoholic beverages	0	0	1	1	2	0.391	0.756	0.064
1401	Wine	0	0	0	3	3	0.359	0.664	0.057
1402	Fortified wines (sherry, port, vermouth)	0	0	1	0	0	0.331	0.084	0.518
15	Condiments and sauces	10	12	73	13	12	0.001	0.686	<0.001
1501	Sauces	10	12	71	14	12	0.001	0.708	<0.001
150100	Unclassified and other sauces	5	9	49	11	11	0.093	0.816	0.004
150101	Tomato sauces	2	6	22	9	9	0.084	0.181	0.170
150102	Dressing sauces	1	4	17	6	6	0.013	0.490	0.002
150103	Mayonnaises and similars	1	4	16	7	8	0.333	0.590	0.053
150104	Dessert sauces	0	1	1	9	7	0.405	0.590	0.318
1502	Yeast	0	0	0	1	0	0.452	0.297	0.142
1503	Spices, herbs and flavourings	0	0	0	0	0	0.493	0.313	0.453
1504	Condiments	0	0	6	1	2	0.498	0.450	0.009
16	Soups, bouillon	15	38	17	86	50	0.662	0.914	0.325
1601	Soups	14	38	16	92	45	0.599	0.835	0.302
1602	Bouillon	0	5	2	18	34	0.119	0.024	0.786
17	Miscellaneous	11	47	19	57	94	0.271	0.890	0.029
1700	Unclassified	0	1	1	11	12	0.372	0.705	0.159
1701	Soy products	6	43	7	87	141	0.350	0.840	0.083
1702	Dietetic products	1	12	3	43	55	0.065	0.335	0.002
170200	Unclassified	1	12	2	87	50	0.060	0.334	0.001
170201	Artificial sweeteners	0	0	2	1	1	0.234	0.898	0.036
1703	Snacks	4	13	11	35	22	0.556	0.475	0.370

Table B-6 Consumption of fortified foods by Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC Soft Classification	Total (n=1,279) 2 to 6 years					f-test		
						Overall P	Gender effect P	Age effect P
			Users					
	mean g/day	SD g/day	Users %	mean g/day	SD g/day			
<b>04 Fruits, nuts and olives</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>47</b>	<b>19</b>	<b>0.258</b>	<b>0.872</b>	<b>0.102</b>
0403 Mixed fruits	0	2	0	47	19	0.258	0.872	0.102
<b>05 Dairy products</b>	<b>46</b>	<b>107</b>	<b>26</b>	<b>179</b>	<b>145</b>	<b>0.051</b>	<b>0.117</b>	<b>0.469</b>
0501 Milk	4	34	1	265	129	0.003	0.600	0.001
0502 Milk beverages	18	65	11	160	125	0.020	0.367	0.009
0503 Yogurt	23	77	13	175	138	0.407	0.136	0.674
0504 Fromage blanc, petits suisses	0	1	0	20	0	0.261	0.320	0.485
0505 Cheese (including fresh cheese)	0	1	1	9	4	0.031	0.226	0.014
0506 Cream desserts, puddings (milk-based)	1	11	2	73	37	0.488	0.271	0.496
<b>06 Cereals and cereal products</b>	<b>4</b>	<b>10</b>	<b>17</b>	<b>21</b>	<b>15</b>	<b>0.153</b>	<b>0.119</b>	<b>0.047</b>
0603 Bread, crispbread, rusks	1	6	2	34	24	0.941	0.598	1.000
060301 Bread	1	6	2	34	24	0.941	0.598	1.000
0604 Breakfast cereals	3	8	15	19	12	0.073	0.121	0.012
<b>10 Fat</b>	<b>2</b>	<b>5</b>	<b>19</b>	<b>9</b>	<b>7</b>	<b>0.115</b>	<b>0.017</b>	<b>0.786</b>
1003 Margarines	2	5	19	9	7	0.115	0.017	0.786
<b>11 Sugar and confectionery</b>	<b>14</b>	<b>27</b>	<b>41</b>	<b>35</b>	<b>33</b>	<b>0.421</b>	<b>0.815</b>	<b>0.032</b>
1101 Sugar, honey, jam	0	1	1	7	7	0.401	0.093	0.815
1103 Confectionery non-chocolate	0	1	0	20	7	0.237	0.062	0.940
1104 Syrup	14	27	39	35	33	0.255	0.972	0.023
1105 Ice cream, water ice	1	4	2	32	6	0.058	0.065	0.594
110501 Ice cream	0	2	0	35	1	0.182	0.237	0.455
110503 Water ice	1	4	2	32	6	0.156	0.135	0.799
<b>12 Cakes</b>	<b>5</b>	<b>9</b>	<b>28</b>	<b>17</b>	<b>11</b>	<b>&lt;0.001</b>	<b>0.046</b>	<b>&lt;0.001</b>
1201 Cakes, pies, pastries, etc	1	4	7	15	7	0.111	0.064	0.674
1202 Dry cakes, biscuits	4	9	22	17	11	<0.001	0.202	<0.001
<b>13 Non-alcoholic beverages</b>	<b>104</b>	<b>156</b>	<b>49</b>	<b>212</b>	<b>164</b>	<b>0.261</b>	<b>0.520</b>	<b>0.073</b>
1300 Unclassified	0	11	0	313	0	0.272	0.201	0.370
1301 Fruit and vegetable juices	72	128	38	189	145	0.039	0.512	0.005
1302 Carbonated/soft/isotonic drinks, diluted syrups	32	92	19	168	148	0.560	0.978	0.322
<b>15 Condiments and sauces</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>19</b>	<b>0.395</b>	<b>0.208</b>	<b>0.819</b>
1501 Sauces	0	1	0	12	19	0.395	0.208	0.819
150102 Dressing sauces	0	1	0	12	19	0.395	0.208	0.819
<b>17 Miscellaneous</b>	<b>6</b>	<b>43</b>	<b>4</b>	<b>155</b>	<b>161</b>	<b>0.260</b>	<b>0.804</b>	<b>0.058</b>
1701 Soy products	6	42	3	165	164	0.321	0.812	0.076
1702 Dietetic products	0	3	0	30	36	0.278	0.882	0.077
170002 Unclassified	0	3	0	30	36	0.278	0.882	0.077

Table B-7 Consumption of fortified foods by Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft classification	2 to 3 years									
	Boys (n=327)					Girls (n=313)				
	mean	SD	Users	Users		mean	SD	Users	Users	
				mean	SD				mean	SD
	g/d	g/d	%	g/d	g/d	g/d	g/d	%	g/d	g/d
<b>04 Fruits, nuts and olives</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>59</b>	<b>18</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>36</b>	<b>17</b>
0403 Mixed fruits	0	4	1	59	18	0	3	1	36	17
<b>05 Dairy products</b>	<b>41</b>	<b>95</b>	<b>25</b>	<b>163</b>	<b>127</b>	<b>47</b>	<b>100</b>	<b>30</b>	<b>160</b>	<b>126</b>
0501 Milk	4	28	2	191	83	10	54	4	253	109
0502 Milk beverages	10	41	8	130	77	14	56	10	141	118
0503 Yogurt	24	76	13	178	127	22	69	14	157	115
0504 Fromage blanc, petits suisses	0	1	0	20	0					
0505 Cheese (incl fresh cheese)	0	1	2	6	2	0	2	2	11	5
0506 Cream desserts, puddings (milk-based)	2	16	3	73	57	1	9	2	65	27
<b>06 Cereals and cereal products</b>	<b>4</b>	<b>12</b>	<b>20</b>	<b>22</b>	<b>18</b>	<b>4</b>	<b>9</b>	<b>20</b>	<b>18</b>	<b>12</b>
0603 Bread,crispbread, rusks	1	8	3	31	30	1	6	2	35	25
060301 Bread	1	8	3	31	30	1	6	2	35	25
0604 Breakfast cereals	3	9	17	20	14	3	7	19	16	8
<b>10 Fat</b>	<b>2</b>	<b>5</b>	<b>22</b>	<b>9</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>21</b>	<b>7</b>	<b>5</b>
1003 Margarines	2	5	22	9	6	1	4	21	7	5
<b>11 Sugar and confectionery</b>	<b>15</b>	<b>28</b>	<b>41</b>	<b>36</b>	<b>33</b>	<b>17</b>	<b>29</b>	<b>49</b>	<b>34</b>	<b>33</b>
1101 Sugar, honey, jam	0	0	0	3	0	0	1	1	7	8
1103 Confectionery non-chocolate	0	2	1	17	8					
1104 Syrup	15	27	40	36	33	16	28	47	34	33
1105 Ice cream, water ice	0	2	1	33	0	0	4	1	43	11
110501 Ice cream	0	2	0	33	0					
110503 Water ice	0	2	0	33	0	0	4	1	43	11
<b>12 Cakes</b>	<b>3</b>	<b>7</b>	<b>23</b>	<b>14</b>	<b>7</b>	<b>3</b>	<b>7</b>	<b>23</b>	<b>13</b>	<b>9</b>
1201 Cakes, pies, pastries, etc	1	4	7	13	5	1	5	3	22	17
1202 Dry cakes, biscuits	2	6	17	14	7	2	6	20	12	6
<b>13 Non-alcoholic beverages</b>	<b>100</b>	<b>166</b>	<b>45</b>	<b>223</b>	<b>185</b>	<b>93</b>	<b>159</b>	<b>44</b>	<b>210</b>	<b>181</b>
1300 Unclassified										
1301 Fruit and vegetable juices	63	129	32	197	161	59	130	31	187	174
1302 Carbonated/soft/isotonic drinks, diluted syrups	38	108	20	186	175	34	99	20	170	160
<b>15 Condiments and sauces</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>
1501 Sauces	0	0	1	3	0	0	0	0	2	0
150102 Dressing sauces	0	0	1	3	0	0	0	0	2	0
<b>17 Miscellaneous</b>	<b>9</b>	<b>61</b>	<b>5</b>	<b>195</b>	<b>214</b>	<b>8</b>	<b>51</b>	<b>4</b>	<b>183</b>	<b>172</b>
1701 Soy products	9	60	4	232	223	8	51	4	205	175
1702 Dietetic products	0	4	1	32	28	0	5	1	47	74
170200 Unclassified	0	4	1	32	238	0	6	1	58	798



Table B-8 Consumption of fortified foods by Dutch children aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft Classification	4 to 6 years									
	Boys (n=327)					Girls (n=312)				
	mean	SD	Users	Users		mean	SD	Users	Users	
				mean	SD				mean	SD
	g/d	g/d	%	g/d	g/d	g/d	g/d	%	g/d	g/d
<b>04 Fruits, nuts and olives</b>										
0403 Mixed fruits										
<b>05 Dairy products</b>	<b>57</b>	<b>126</b>	<b>29</b>	<b>199</b>	<b>164</b>	<b>37</b>	<b>98</b>	<b>20</b>	<b>182</b>	<b>145</b>
0501 Milk	3	37	1	476	66					
0502 Milk beverages	26	77	16	163	123	18	72	10	186	151
0503 Yogurt	27	90	15	186	161	18	67	11	171	131
0504 Fromage blanc, petits suisses										
0505 Cheese (incl fresh cheese)	0	0	0	10	0	0	1	0	10	0
0506 Cream desserts, puddings (milk-based)	1	10	2	69	23	1	10	1	89	10
<b>06 Cereals and cereal products</b>	<b>4</b>	<b>11</b>	<b>16</b>	<b>23</b>	<b>16</b>	<b>3</b>	<b>9</b>	<b>13</b>	<b>21</b>	<b>14</b>
0603 Bread,crispbread, rusks	1	7	2	37	25	1	6	2	32	19
060301 Bread	1	7	2	37	25	1	6	2	32	19
0604 Breakfast cereals	3	8	13	21	13	2	6	11	17	10
<b>10 Fat</b>	<b>2</b>	<b>6</b>	<b>19</b>	<b>12</b>	<b>8</b>	<b>2</b>	<b>4</b>	<b>18</b>	<b>8</b>	<b>7</b>
1003 Margarines	2	6	19	12	8	2	4	18	8	7
<b>11 Sugar and confectionery</b>	<b>14</b>	<b>29</b>	<b>36</b>	<b>38</b>	<b>36</b>	<b>13</b>	<b>24</b>	<b>40</b>	<b>33</b>	<b>29</b>
1101 Sugar, honey, jam	0	0	0	2	0	0	1	1	12	9
1103 Confectionery non-chocolate	0	1	0	25	0					
1104 Syrup	13	28	36	37	36	12	24	37	32	29
1105 Ice cream, water ice	1	4	2	30	4	1	6	3	31	4
110501 Ice cream						0	3	1	35	0
110503 Water ice	1	4	2	30	4	1	5	3	30	3
<b>12 Cakes</b>	<b>7</b>	<b>12</b>	<b>33</b>	<b>20</b>	<b>13</b>	<b>5</b>	<b>9</b>	<b>31</b>	<b>16</b>	<b>9</b>
1201 Cakes, pies, pastries, etc	1	5	10	14	6	1	4	6	15	5
1202 Dry cakes, biscuits	5	11	24	22	14	4	9	26	16	10
<b>13 Non-alcoholic beverages</b>	<b>102</b>	<b>143</b>	<b>51</b>	<b>200</b>	<b>142</b>	<b>117</b>	<b>161</b>	<b>53</b>	<b>220</b>	<b>161</b>
1300 Unclassified						1	20	0	313	0
1301 Fruit and vegetable juices	74	119	41	179	124	85	134	43	197	141
1302 Carbonated/soft/isotonic drinks, diluted syrups	28	80	17	167	122	30	87	20	153	140
<b>15 Condiments and sauces</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>28</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
1501 Sauces	0	3	1	28	27	0	0	0	0	0
150102 Dressing sauces	0	3	1	28	27	0	0	0	0	0
<b>17 Miscellaneous</b>	<b>4</b>	<b>29</b>	<b>3</b>	<b>140</b>	<b>105</b>	<b>4</b>	<b>31</b>	<b>3</b>	<b>104</b>	<b>134</b>
1701 Soy products	4	29	3	140	105	4	31	3	104	134
1702 Dietetic products						0	0	0	1	0
170200 Unclassified						0	0	0	1	0

Table B-9 Consumption of artificially sweetened products by Dutch children aged 2 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC Soft Classification	Total (n=1,279) 2 to 6 years					f-test		
				Users		Overall	Gender effect	Age effect
	mean	SD	Users	mean	SD	P	P	P
	g/d	g/d	%	g/d	g/d			
<b>05 Dairy products</b>	<b>21</b>	<b>73</b>	<b>12</b>	<b>168</b>	<b>133</b>	0.823	<b>0.513</b>	<b>0.337</b>
0502 Milk beverages	3	25	2	154	89	0.667	0.519	0.986
0503 Yogurt	16	65	9	182	133	0.811	0.440	0.311
0506 Cream desserts, puddings (milk-based)	2	12	3	68	30	0.369	0.131	0.772
<b>11 Sugar and confectionery</b>	<b>6</b>	<b>19</b>	<b>21</b>	<b>30</b>	<b>33</b>	0.437	<b>0.376</b>	<b>0.021</b>
1103 Confectionery non-chocolate	0	1	5	2	2	0.137	0.947	0.006
1104 Syrup	6	19	18	36	33	0.453	0.361	0.025
1105 Ice cream, water ice	0	1	0	20	0	0.342	0.367	0.190
110503 Water ice	0	1	0	20	0	0.342	0.367	0.190
<b>13 Non-alcoholic beverages</b>	<b>65</b>	<b>128</b>	<b>34</b>	<b>190</b>	<b>155</b>	<0.001	<b>0.246</b>	<b>&lt;0.001</b>
1301 Fruit and vegetable juices	27	75	17	162	112	0.065	0.742	0.019
1302 Carbonated/soft/isotonic drinks, diluted syrups	38	104	22	174	161	0.001	0.096	<0.001
<b>17 Miscellaneous</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	0.234	<b>0.898</b>	<b>0.036</b>
1702 Dietetic products	0	0	2	1	1	0.234	0.898	0.036
170201 Artificial sweeteners	0	0	2	1	1	0.234	0.898	0.036

Table B-10 Consumption of artificially sweetened products by Dutch children aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft classification	2 to 3 years									
	Boys (n=327)					Girls (n=313)				
	mean	SD	Users	Users		mean	SD	Users	Users	
				mean	SD				mean	SD
	g/d	g/d	%	g/d	g/d	g/d	g/d	%	g/d	g/d
<b>05 Dairy products</b>	<b>18</b>	<b>67</b>	<b>12</b>	<b>145</b>	<b>138</b>	<b>21</b>	<b>64</b>	<b>14</b>	<b>144</b>	<b>104</b>
0502 Milk beverages	1	12	2	87	33	4	25	3	115	81
0503 Yogurt	15	62	8	180	137	16	57	10	157	103
0506 Cream desserts, puddings (milk-based)	2	10	4	52	19	1	10	2	60	26
<b>11 Sugar and confectionery</b>	<b>5</b>	<b>18</b>	<b>15</b>	<b>33</b>	<b>36</b>	<b>6</b>	<b>18</b>	<b>18</b>	<b>32</b>	<b>30</b>
1103 Confectionery non- chocolate	0	1	2	4	3	0	0	2	2	2
1104 Syrup	5	18	14	35	37	6	18	17	35	30
1105 Ice cream, water ice	0	1	0	20	0					
110503 Water ice	0	1	0	20	0					
<b>13 Non-alcoholic beverages</b>	<b>47</b>	<b>101</b>	<b>30</b>	<b>156</b>	<b>129</b>	<b>43</b>	<b>100</b>	<b>25</b>	<b>175</b>	<b>134</b>
1301 Fruit and vegetable juices	18	63	13	143	116	23	73	14	163	126
1302 Carbonated/soft/isotonic drinks, diluted syrups	29	83	19	152	131	20	71	12	166	134
<b>17 Miscellaneous</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>
1702 Dietetic products	0	0	0	0	0	0	0	2	1	1
170201 Artificial sweeteners	0	0	0	0	0	0	0	2	1	1

Table B-11 Consumption of artificially sweetened foods by Dutch children aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Food groups based on EPIC-Soft Classification		4 to 6 years									
		Boys (n=327)					Girls (n=312)				
		mean n	SD	Users	Users		mean	SD	Users	Users	
					mean	SD				mean	SD
		g/d	g/d	%	g/d	g/d	g/d	g/d	%	g/d	g/d
<b>05 Dairy products</b>		<b>21</b>	<b>67</b>	<b>13</b>	<b>163</b>	<b>109</b>	<b>23</b>	<b>87</b>	<b>11</b>	<b>217</b>	<b>168</b>
0502	Milk beverages	3	27	2	182	79	3	29	1	231	84
0503	Yogurt	15	51	9	154	82	19	82	8	243	184
0506	Cream desserts, puddings (milk-based)	3	16	4	77	38	1	11	2	82	17
<b>11 Sugar and confectionery</b>		<b>6</b>	<b>17</b>	<b>24</b>	<b>27</b>	<b>25</b>	<b>8</b>	<b>23</b>	<b>25</b>	<b>30</b>	<b>39</b>
1103	Confectionery non- chocolate	0	1	6	2	3	0	1	8	2	2
1104	Syrup	6	17	20	32	24	7	23	18	40	41
1105	Ice cream, water ice										
110503	Water ice										
<b>13 Non-alcoholic beverages</b>		<b>83</b>	<b>140</b>	<b>41</b>	<b>202</b>	<b>153</b>	<b>73</b>	<b>144</b>	<b>36</b>	<b>203</b>	<b>178</b>
1301	Fruit and vegetable juices	32	80	18	174	101	31	80	20	158	112
1302	Carbonated/soft/isotonic drinks, diluted syrups	51	116	29	180	155	42	120	23	184	193
<b>17 Miscellaneous</b>		<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>
1702	Dietetic products	0	0	2	2	2	0	0	2	1	1
170201	Artificial sweeteners	0	0	2	2	2	0	0	2	1	1

Table B-12 Assessment of habitual micro-nutrient intake from food alone and from food and dietary supplements based on US-recommendations by Dutch children aged 2 to 3 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	AI	EAR	Boys		Girls	
			%<AI	%<EAR	%<AI	%<EAR
Foods						
Calcium (mg)	500		low		low	
Copper (mg)	260		low		low	
Iron (mg)		3.0		0.2		0.7
Magnesium (mg)		65		0.0		0.0
Phosphorus (mg)		380		0.0		0.0
Selenium (µg)		17		7.3		11.8
Zinc (mg)		2.5		0.2		0.4
Retinol activity equivalents (µg)		210		2.7		3.3
Vitamin C (mg)		13		0.0		0.0
Vitamin E (mg)		5		16.4		18.2
Foods and dietary supplements						
Calcium (mg)	500		low		low	
Copper (mg)	260		low		low	
Iron (mg)		3.0		1.6		0.7
Magnesium (mg)		65		0.0		0.0
Phosphorus (mg)		380		0.0		0.0
Selenium (µg)		17		7.3		12.9
Zinc (mg)		2.5		0.2		0.6
Retinol activity equivalents (µg)		210		2.5		2.3
Vitamin C (mg)		13		0.0		0.0
Vitamin E (mg)		5		14.6		17.1

Table B-13 Assessment of habitual micro-nutrient intake from food alone and from food and dietary supplements based on recent US-recommendations by Dutch children aged 4 to 6 years (DNFCS-Young Children 2005/2006), weighted for socio-demographic factors and season.

Micro-nutrient	AI	EAR	Boys		Girls	
			%<AI	%<EAR	%<AI	%<EAR
Foods						
Calcium (mg)	800		low		low	
Copper (mg)	340		low		low	
Iron (mg)		4.1		1.8		1.0
Magnesium (mg)		110		0.4		1.7
Phosphorus (mg)		405		0.0		0.2
Selenium (µg)		23		34.9		53.1
Zinc (mg)		4.6		28.4		43.4
Retinol activity equivalents (µg)		275		14.8		6.5
Vitamin C (mg)		22		0.5		1.7
Vitamin E (mg)		6		16.2		27.1
Foods and dietary supplements						
Calcium (mg)	800		low		low	
Copper (mg)	340		low		low	
Iron (mg)		4.1		1.7		1.3
Magnesium (mg)		110		0.4		1.4
Phosphorus (mg)		405		0.0		0.2
Selenium (µg)		23		29.4		38.3
Zinc (mg)		4.6		25.2		34.1
Retinol activity equivalents (µg)		275		11.5		6.2
Vitamin C (mg)		22		0.5		1.6
Vitamin E (mg)		6		14.8		24.0

Table B-14 Number of participants of (DNFCS-Young Children 2005/2006) not taking one of the three main meals on the recording days.

	On both days	At least on one day
	<b>n</b>	<b>n</b>
No breakfast	2	28
No lunch	6	21
No dinner	0	29

## Appendix C List of nevo-codes\* used in EPIC-Soft classification

\* Codes of the Dutch Food Composition Table, extended with codes for this specific study where required

### 01 Potatoes and other tubers

#### 0101 Potatoes

121	Mashed potatoes - ready to eat	Aardappelpuree bereid
948	Rösti - prepared without fat	Rösti bereid z vet
982	Boiled potatoes	Aardappelen gekookt
1150	Potatoes - frozen slices	Aardappelschijfjes diepvries onbereid
1456	Pre-fried chips	Frites voorgebakken
1679	Oven-baked chips - frozen	Frites oven- diepvries bereid
1680	Potato croquettes - frozen prepared	Aardappelkroketten diepvries bereid
2108	Chips - ready to eat (averaged)	Frites bereid gemiddeld
5336	Instant mashed potato (powdered milk& fat)	Pureepoeder instant incl melkpoeder+vet
5337	Potato croquettes - deep-fried, no fat	Aardappelkroket dpv bereid excl vet
5400	Instant mashed potato prepared with low-fat milk & water	Instantpuree ber+hfv melk+water
5401	Instant mashed potato prepared with low-fat milk	Instantpuree ber + hfv melk
5402	Instant mashed potato prepared with water	Instantpuree ber+water
5405	Mashed potatoes fresh with low-fat milk & fat (2077)	Aardappelpuree hfv melk+vet 2077
5408	Mashed potatoes fresh with low-fat milk & butter	Aardappelpuree melk hv+boter
6045	Potatoes boiled in skins	Aardappelen gekookt met schil
6217	Mashed potatoes fresh with low-fat milk, no fat	Aardappelpuree vers met hv melk z vet
6233	Mashed potatoes fresh with low-fat milk & low-fat margarine (2059)	Aardappelpuree vers met hv melk en halvarine 2059
6257	Mashed potatoes fresh with low-fat milk & margarine (2067)	Aardappelpuree vers met hv melk en marg 2067
6258	Instant mashed potato prepared with low-fat milk, water & low-fat margarine (2060)	Aardappelpuree instant met hv melk+water+halv 2060
6259	Instant mashed potato prepared with low-fat milk & margarine (2063)	Instant aardappelpuree instant met hv melk+water+marg 2063
6265	Instant mashed potato with low-fat milk & liquid fat (2066/2077)	Aardappelpuree instant met hv melk+vlvet 2066/2077

### 02 Vegetables

#### 0201 Leafy vegetables (excluding cabbage)

7	Endive - raw	Andijvie rauw
8	Endive - boiled	Andijvie gekookt
46	Lettuce - raw	Sla rauw
48	Swiss chard leaf - boiled	Snijbiet gekookt
51	Spinach - raw	Spinazie rauw
52	Spinach - boiled	Spinazie gekookt
65	Lambs lettuce - raw	Sla veld- rauw
66	Lambs lettuce - boiled	Sla veld- gekookt
67	Chicory - raw	Witlof rauw
68	Chicory - boiled	Witlof gekookt
140	Spinach - canned/bottled	Spinazie blik/glas
146	Spinach - frozen/boiled	Spinazie diepvries gekookt
1399	Iceberg lettuce - raw	Sla ijsberg- rauw

#### 0202 Fruiting vegetables

11	Aubergine - boiled	Aubergine gekookt
27	Cucumber - raw	Komkommer rauw
28	Cucumber - boiled	Komkommer gekookt
31	Sweet pepper, green - raw	Paprika groene rauw
32	Sweet pepper, green - boiled	Paprika groene gekookt



	60	Tomato - raw	Tomaat rauw
	61	Tomato - boiled	Tomaat gekookt
	131	Gherkins - pickled/bottled	Augurken tafelzuur glas
	138	Runner beans - canned/bottled	Bonen snij- blik/glas
	139	French beans - canned/bottled	Bonen sperzie- blik/glas
	141	Tomato, concentrated puree, canned	Puree tomaten- geconcentreerd blik
	665	Plantain (baking banana) - ripe raw	Banaan bak- plantain rijp rauw
	689	Avocado - raw	Avocado rauw
	884	Sweet pepper, red - raw	Paprika rode rauw
	885	Sweet pepper, red - boiled	Paprika rode gekookt
	951	French beans - boiled	Bonen sperzie- gekookt
	954	French beans- frozen boiled	Bonen sperzie- diepvries gekookt
	961	Runner beans - boiled	Bonen snij- gekookt
	964	Peas, mange-tout - boiled	Peultjes gekookt
	966	Courgette - boiled	Courgette gekookt
	1021	Artichoke - raw	Artisjok rauw
	1143	Runner beans - frozen unprepared	Bonen snij- diepvries onbereid
	1161	Cucumber - pickled slices	Komkommerschijven zoetzuur glas
	1524	Tomato sauce - ready to eat/bottled	Saus tomaten- kant-en-klaar glas
	1811	Chinese long beans - boiled	Kousenband gekookt
	2113	Pumpkin - boiled	Pompoen gekookt
	2293	Tomato - canned	Tomaat in blik
	5417	Sweet pepper ns - raw	Paprika ns rauw
	5418	Sweet pepper n.s. - prepared	Paprika ns bereid
0203		<b>Root vegetables</b>	
	26	Celeriac - boiled	Selderij knol- gekookt
	29	Swede - boiled	Koolraap gekookt
	30	Kohlrabi - boiled	Koolrabi gekookt
	71	Carrots - raw	Wortelen rauw
	72	Carrots - boiled	Wortelen gekookt
	124	Radish, red/white - raw	Radijs rauw
	143	Carrots - canned/bottled	Wortelen blik/glas
	558	Celeriac - raw	Selderij knol- rauw
	958	Beetroot - boiled	Bieten gekookt
	1454	Beetroot - pickled	Bieten rode zoetzuur glas
0204		<b>Cabbage</b>	
	15	Cauliflower - boiled	Kool bloem- gekookt
	16	Kale, curly - boiled	Kool boeren- gekookt
	21	Chinese cabbage - raw	Kool Chinese rauw
	22	Chinese Cabbage - boiled	Kool Chinese gekookt
	25	Green cabbage - boiled	Kool groene gekookt
	41	Red cabbage - raw	Kool rode rauw
	42	Red cabbage - boiled	Kool rode gekookt
	43	Savoy cabbage - raw	Kool savooie- rauw
	44	Savoy cabbage - boiled	Kool savooie- gekookt
	53	Conical cabbage - raw	Kool spits- rauw
	54	Conical cabbage - boiled	Kool spits- gekookt
	55	Brussels sprouts - boiled	Spruitjes gekookt
	69	White cabbage, raw	Kool witte rauw
	70	White cabbage, cooked	Kool witte gekookt
	74	Sauerkraut - cooked	Kool zuur- gekookt
	145	Red cabbage - canned	Kool rode blik/glas
	650	Red cabbage with apple - frozen/boiled	Kool rode m appeltjes diepvries gekookt
	920	Broccoli - boiled	Broccoli gekookt
	952	Kale, curly - frozen/boiled	Kool boeren- diepvries gekookt
	1398	Kale, curly - bottled/boiled	Kool boeren- glas
0205		<b>Mushrooms</b>	
	17	Chanterelle - raw	Cantharellen rauw
	18	Chanterelle - boiled	Cantharellen gekookt
	19	Mushrooms - raw	Champignons rauw
	20	Mushrooms - boiled	Champignons gekookt

	133	Mushrooms - canned/bottled	Champignons blik/glas
0206		<b>Grain and pod vegetables</b>	
	57	Sweet corn - boiled	Mais suiker- gekookt
	134	Green peas - medium/fine - canned	Doperwten middelfijn blik/glas
	142	Broad beans - canned/bottled	Bonen tuin- blik/glas
	953	Peas - frozen/boiled	Doperwten diepvries gekookt
	963	Peas - fresh/boiled	Doperwten gekookt
	1148	Broad beans, frozen -unprepared	Bonen tuin- diepvries onbereid
0207		<b>Onion, garlic</b>	
	63	Onions - raw	Ui rauw
	64	Onions - boiled	Ui gekookt
	144	Silver-skin onions - sweet pickled/bottled	Uien zilver- zoetzuur glas
	830	Garlic - fresh	Knoflook vers
	1484	Onions - deep-fried packet	Uitjes gefrituurd zak
0208		<b>Stalk vegetables, sprouts</b>	
	13	Celery - boiled	Selderij bleek- gekookt
	37	Leek - boiled	Prei gekookt
	58	Mung bean sprouts - raw	Taugé rauw
	130	Asparagus - canned/bottled	Asperges blik/glas
	557	Celery - raw	Selderij bleek- rauw
	562	Leek - raw	Prei rauw
	957	Asparagus - boiled	Asperges gekookt
	967	Fennel - boiled	Venkel gekookt
	1187	Bamboo shoots - canned/bottled	Bamboespruiten blik/glas
0209		<b>Mixed salad, mixed vegetables</b>	
	75	Vegetable soup - raw	Groente soep- rauw
	127	mixed vegetables - raw	Rauwkost gemiddeld
	136	Peas and carrots - canned/bottled	Doperwten m wortelen blik/glas
	850	Mixed vegetables, sweet/sour	Groente zoetzuur atjar tjampoer glas
	1139	Peas & carrots - frozen/unprepared	Doperwten m wortelen diepvries onbereid
	1141	Mexican mixed vegetables - frozen/unprepared	Groentemix Mexico diepvries onbereid
	1142	Vegetable mix, puszta - frozen/unprepared	Groentemix poesta diepvries onbereid
	1144	Vegetables mix for soup – frozen/unprepared	Groente soep- diepvries onbereid
	1501	Herbs & vegetables mix sachet	Kruidenmix m groente zakje
	1904	Vegetables - boiled (averaged)	Groenten gekookt gemiddeld
	1905	Vegetables - raw (averaged)	Groenten rauw gemiddeld
	5415	Bami mix fresh	Bamipakket
	5416	Oven delicious mix	Mix ovenheerlijk
	5419	Salad mix	Slamelange
	6044	Sauce, dried sachet, 30g (>3g fat prepared)	Saus pakje droog ca. 30 g V (> 3 g vet bereid)
	6219	Mange-tout & carrots - boiled	Peultjes met wortelen gekookt
	6232	Dried vegetables with mixed herbs (after preparation)	Mix kruiden met groente gedroogd na bereiding
03		<b>Legumes</b>	
0301		<b>Legumes</b>	
	196	Marrowfat peas - canned/bottled	Kapucijners blik/glas
	197	Baked beans - canned/bottled	Bonen witte in tomatensaus blik/glas
	660	Brown beans - canned/bottled	Bonen bruine blik/glas
	968	White or brown beans - boiled	Bonen witte/bruine gekookt
	969	Marrowfat peas - boiled	Kapucijners gekookt
	970	Lentils - boiled	Linzen gekookt
	972	Green peas - boiled	Erwten groene gekookt
	1095	Chick peas - boiled	Erwten kikker- gekookt
04		<b>Fruits, nuts and olives</b>	
0401		<b>Fruits</b>	
	33	Raisins - dried	Rozijnen gedroogd
	147	Apple - peeled	Appel z schil
	148	Strawberries	Aardbeien
	149	Apricots with skin	Abrikozen m schil
	150	Pineapple	Ananas
	151	Banana	Banaan

152	Blueberries	Bessen blauwe
153	Red currants	Bessen rode
154	Blackcurrants	Bessen zwarte
157	Blackberries	Bramen
159	Fresh cranberries	Cranberries vers
160	White/Black grapes with skins	Druiven witte/blauwe m schil
161	Raspberries	Frambozen
162	Grapefruit	Grapefruit
163	Cherries	Kersen
165	Tangerines	Mandarijn
166	Melon netted	Meloen net
168	Pear without skin	Peer z schil
169	Peach without skin	Perzik z schil
170	Plums with skin	Pruimen m schil
171	Orange	Sinaasappel
173	Fruit all varieties except citrus	Fruit vers excl citrus- gemiddeld
175	Dried apricots	Abrikozen gedroogd
176	Apricots in syrup canned/bottled	Abrikozen op siroop blik/glas
177	Pineapple in syrup canned/bottled	Ananas op siroop blik/glas
178	Dried apples	Appeltjes gedroogd
179	Apple puree canned/bottled	Appelmoes blik/glas
181	Dates preserved	Dadels geconfijt
182	Raspberries in syrup canned/bottled	Frambozen op siroop blik/glas
184	Cherries in syrup canned/bottled	Kersen op siroop blik/glas
185	Dried currants	Krenten gedroogd pak
186	Tangerines in syrup canned/bottled	Mandarijnen op siroop blik/glas
188	Pears in syrup canned/bottled	Peren op siroop blik/glas
189	Peaches in syrup canned/bottled	Perziken op siroop blik/glas
190	Dried prunes	Pruimen gedroogd
193	Dried figs	Vijgen gedroogd
194	Fruit in syrup canned/bottled	Vruchten op siroop gemiddeld blik/glas
538	Rhubarb puree	Rabarbermoes
692	Mango	Mango
875	Apple with skin	Appel m schil
1056	Kiwi fruit	Kiwi
1057	Kaki	Kaki
1090	Litchi	Lychee
1105	Watermelon	Meloen water-
1106	Honeydew melon	Meloen suiker-
1182	Apple puree without sugar canned/bottled	Appelmoes z suiker blik/glas
1396	Rhubarb puree, home-made with sugar	Rabarbermoes huishoudelijk bereid m suiker
1812	Nectarine	Nectarine
1887	Fresh dates	Dadels vers
0402	<b>Nuts and seeds (+ nut spread)</b>	
198	Almonds	Noten amandelen
199	Cashew nuts	Noten cashew-
201	Chestnuts	Kastanjes
202	Fresh coconut meat	Kokosnootvlees
206	Walnuts	Noten wal
207	Mixed nuts - unsalted	Noten gemengd ongezoeten
455	Peanut butter	Pindakaas
546	Peanuts - coated	Noten borrel-
838	Sesame seed	Sesamzaad
867	Linseed	Lijnzaad
872	Sunflower pits	Zonnebloempitten
1461	Sesame paste/ tahin	Pasta sesam- tahin
1896	Pistachio nuts	Noten pistache-
2176	Pine nuts	Pijnboompitten
5422	Peanuts (unknown)	Pinda's onbekend
6065	Peanut butter less fat (3/4)	Pindakaas driekwart
0403	<b>Mixed fruits</b>	

	173	Fruit all varieties except citrus	Fruit vers excl citrus- gemiddeld
	179	Apple puree, canned/bottled	Appelmoes blik/glas
	183	Fruit cocktail in syrup, canned/bottled	Fruitcocktail op siroop blik/glas
	205	Mixed nuts and raisins	Studentenhaver
	1280	Infant fruit, 4 months	Babyvoeding fruit 4 mnd
	1764	Infant food fruit, 12 months	Babyvoeding fruit 12 mnd
	1906	Fruit fresh including citrus (averaged)	Fruit vers incl citrus- gemiddeld
	2056	Infant food fruit, 6 months	Babyvoeding fruit 6 mnd
	6038	Blédina baby fruit	Blédina babyfruit
	6068	Breaker fruit	Breaker fruit
0404	<b>Olives</b>		
	137	Olives canned/bottled	Olijven blik/glas
05	<b>Dairy products</b>		
0501	<b>Milk</b>		
	270	Raw milk	Melk rauwe
	279	Full cream milk	Melk volle
	286	Low-fat milk	Melk halfvolle
	289	Buttermilk	Melk karne
	294	No-fat milk	Melk magere
	295	No-fat powdered milk	Melkpoeder magere
	297	Breastmilk	Melk moeder-
	657	Yoghurt drink	Yoghurtdrank
	1649	Nutrilon Pepti 2 per 100 ml	Nutrilon Pepti 2 per 100 ml Nutricia
	1687	Nutrilon 2 per 100 ml	Nutrilon 2 p 100 ml Nutricia
	1719	Milk Calcium Plus	Melk Calcium Plus
	1973	Nutrilon 3 per 100 ml	Nutrilon 3 p 100 ml Nutricia
	1977	Nutrilon Omneo 2 per 100 ml	Nutrilon Omneo 2 p 100 ml Nutricia
	2209	Friso 2 normal p 100 ml	Friso 2 normaal p 100 ml Friso Kindervoeding
	2210	Friso 3 normal p 100 ml	Friso 3 normaal p 100 ml Friso Kindervoeding
	2216	Friso 2 hypo-allergy p 100 ml	Friso 2 hypo-allergeen p 100 ml Friso Kindervoeding
	2240	Goat's milk	Melk geiten- volle
	5005	Similac 3 per 100 ml	Similac 3 per 100 ml
	6033	Rice Dream rice drink protein (Ca+)	Rice Dream rijstedrank proteïne (Ca+)
	6059	Kruidvat toddler milk standard 3 per 100 ml	Kruidvat opvolgmelk standaard 3 p 100 ml
0502	<b>Milk beverages</b>		
	272	Full cream chocolate milk	Melk chocolade- volle
	273	No-fat chocolate milk	Melk chocolade- magere
	479	Buttermilk with fruit	Melk karne- m vruchten
	657	Yoghurt drink	Yoghurtdrank
	862	Milkshake	Milkshake
	1294	Whey drink Taksi	Weidrank Taksi
	1464	Low-fat chocolate milk	Melk chocolade- halfvolle
	1649	Nutrilon Pepti 2 p er 100 ml	Nutrilon Pepti 2 per 100 ml Nutricia
	1970	Chocomel light – low-fat chocolate milk with sweeteners	Melk chocolade- Chocomel light
	2052	Milk & Fruit drink – strawberry-cherry/mango	Zuiveldrank Milk&Fruit aardb-kers/mango
	2053	Milk & Fruit drink - orange	Zuiveldrank Milk&Fruit sinaasappel
	2210	Friso 3 normal p 100 ml	Friso 3 normaal p 100 ml Friso Kindervoeding
	2220	Taksi whey drink with sweeteners	Weidrank Taksi m zoetstof
	2254	Yoghurt drink with sweeteners	Yoghurtdrank m zoetstof
	2256	Yomild yoghurt drink fruit	Yoghurtdrank Yomild drink vruchten
	2259	Milk & Fruit light	Zuiveldrank Milk&Fruit light
	5342	McDonald milkshake	Milkshake McDonald
	5425	Instant chocolate low-fat powdered milk	Chocolademelk hfv van instantpoeder
	6034	Campina fruit milk	Campina fruitmelk
	6243	Instant chocolate prepared with full cream milk	Chocolademelk vol van instantpoeder
	6244	Instant chocolate Nesquik plus chocolate flavour prepared with low-fat milk	Chocolademelk halfvol van Nesquik plus chocoladesmaak
	6245	Instant chocolate prepared with no-fat milk	Chocolademelk mager van instantpoeder
	6249	Instant chocolate Nesquik no added sugar, prepared with low-fat milk	Chocolademelk halfvol van Nesquik zonder suiker

0503	<b>Yoghurt</b>	
	278 Yoghurt	Yoghurt volle
	284 No-fat yoghurt with fruit	Yoghurt magere m vruchten
	301 No-fat yoghurt	Yoghurt magere
	657 Yoghurt drink	Yoghurtdrank
	863 Yoghurt with fruit	Yoghurt volle m vruchten
	1502 Low-fat yoghurt	Yoghurt halfvolle
	1721 Low-fat yoghurt/vanilla custard	Yoghurt vanille- halfvolle
	1813 Yakult	Yakult
	1832 Yoghurt drink - Vifit fruit	Yoghurtdrank Vifit vruchten
	1833 Optimel no-fat yoghurt with fruit/vanilla with sweeteners	Yoghurt magere m vruchten/vanille m zoetst Optimel
	1834 Optimel yoghurt drink with sweeteners	Yoghurtdrank Optimel m zoetstof
	2023 Yoki yoghurt drink, with sweeteners	Yoghurtdrank Yoki drink m zoetstof
	2037 Biomild milk drink peaches with sweeteners	Melkdrank Biomild drink perzik gst (geen suiker toegevoegd)
	2038 Yomild yoghurt drink - natural	Yoghurtdrank Yomild drink naturel
	2039 Yoki yoghurt drink	Yoghurtdrank Yoki drink
	2240 Goat's milk	Melk geiten- volle
	2241 Breaker yoghurt snack	Yoghurtsnack Breaker
	2244 Yoghurt cream with fruit	Yoghurt room- m vruchten
	2245 Vitalinea yoghurt no-fat, with fruit & sweeteners	Yoghurt magere m vruchten m zoetstof Vitalinea
	2247 Cottage cheese yoghurt with fruit	Kwarkyoghurt m vruchten
	2248 Danootje cottage cheese with fruit	Danoontje fruitkwark
	2253 Vifit yoghurt drink fruit - light	Yoghurtdrank Vifit vruchten light
	2254 Yoghurt drink - with sweetener	Yoghurtdrank m zoetstof
	2255 Fristi yoghurt drink - with sweetener	Yoghurtdrank Fristi m zoetstof
	2256 Yomild yoghurt drink fruit	Yoghurtdrank Yomild drink vruchten
	2257 Goede Morgen breakfast drink	Drinkontbijt Goede Morgen
	2258 Actimel drink naturel	Actimel drink naturel
	2265 Yakult light	Yakult light
	2310 Becel pro.activ yoghurt product	Yoghurtproduct Becel pro.activ
	5008 Low-fat fruit yoghurt	Halfvolle vruchtenyoghurt
	5428 Straciatelli yoghurt	Yoghurt straciatelli
	5431 Greek yoghurt	Yoghurt griekse
	6003 Albert Heijn yoghurt/cottage cheese dessert (fortified children's dessert)	AH yoghurtkwarktoetje (kindertoetje verrijkt)
	6027 Cottage cheese fruit full cream	Kwark vruchten- volle
	6035 Bi-Yo low-fat yoghurt drink without sweeteners	Bi-Yo drinkyoghurt hv z zoetstof
	6061 Melkan Topvit (yoghurt drink light fortified)	Melkan Topvit (yoghurtdrank light verrijkt)
	6086 Campioentje yoghurt dessert	Campioentje yoghurttoetje
	6087 Campioentje yoghurt drink	Campioentje yoghurtdrink
	6088 Danone Dora drink	Dora drink Danone
0504	<b>Fromage blanc, petits suisses</b>	
	305 Cottage cheese - no-fat	Kwark magere
	306 Cottage cheese - low-fat	Kwark halfvolle
	654 Cheese cottage	Kaas hüttenkäse
	863 Full cream milk yoghurt with fruit	Yoghurt volle m vruchten
	917 Cottage cheese - low-fat with fruit	Kwark vruchten- halfvolle
	931 Cottage cheese - no-fat with fruit	Kwark vruchten- magere
	2242 Breaker cottage cheese snack	Kwarksnack Breaker
	2248 Danootje cottage cheese with fruit	Danoontje fruitkwark
	6003 Albert Hijn yoghurt/cottage cheese dessert (fortified children's dessert)	AH yoghurtkwarktoetje (kindertoetje verrijkt)
	6027 Cottage cheese with fruit full cream	Kwark vruchten- volle
	6051 Melkan children's cottage cheese	Melkan kinderkwark
0505	<b>Cheese (including fresh cheeses)</b>	
	304 Swiss cheese powdered	Kaas strooi- Zwitserse
	511 Edam 40+	Kaas Edammer 40+
	512 Processed rindless cheese 40+	Kaas 40+ korstloze
	513 Gouda 48+	Kaas Goudse 48+

514	Leiden 20+ with cumin/Fries clove	Kaas 20+ Leidse/Friese nagel-
515	Cheese spread 48+	Kaas smeer- volvet 48+
516	Cheese spread 40+	Kaas smeer- 40+
517	Cheese spread 20+	Kaas smeer- 20+
556	Camembert 45+	Kaas Camembert 45+
593	Brie 50+	Kaas Brie 50+
715	Cream cheese 60+	Kaas room- 60+
718	Parmesan	Kaas Parmezaanse
719	Soft cream cheese Mon Chou	Kaas room- zachte Mon Chou
722	Gruyère	Kaas Gruyère
724	Emmenthaler	Kaas Emmentaler
725	Cheddar	Kaas Cheddar
726	Bluefort	Kaas Bluefort
728	Boursin soft cream cheese	Kaas room- zachte Boursin
804	Sheep's cheese - fresh	Kaas schapen- vers
881	Cheese 48+ low salt	Kaas 48+ minder zout
883	Amsterdam 48+	Kaas Amsterdammer 48+
1103	Cheese spread 30+	Kaas smeer- 30+
1104	Smoked cheese	Kaas rook-
1112	Cheese raw milk 48+	Kaas rauwmelkse 48+
1302	Paturain soft cream cheese	Kaas room- zachte Paturain
1382	Cheese 30+	Kaas 30+
1487	Brie 60+	Kaas Brie 60+
1489	Cheese fresh light 8% fat	Kaas verse light 8% vet
1650	Goat's cheese - fresh	Kaas geiten- verse naturel
1723	Cheese 20+	Kaas 20+
1725	Maasdam 45+	Kaas Maasdammer 45+
1809	Cheese 45+	Kaas 45+
1955	Mozzarella	Kaas Mozzarella
5435	Philadelphia spread (with herbs)	Philadelphia spread (met kruiden)
5436	Eru Slimkuipje cheese spread 15+	smeerkaas Eru slimkuipje
6037	Eru Goudkuipje kids cheese spread (35+,Ca+)	Smeerkaas Eru Goudkuipje kids (35+, Ca+)
6093	Goat's cheese - hard	Geitenkaas hard
0506	<b>Cream desserts, puddings (milk-based)</b>	
276	Chocolate custard - dairy cream milk	Vla chocolade- volle
282	Custard vanilla -dairy cream milk	Vla vanille- volle
298	Porridge rice pasteurised	Pap rijste-
477	No-fat vanilla custard	Vla vanille- magere
605	Bessola barley porridge with raisins	Watergruwel Bessola
736	Vanilla pudding	Pudding vanille-
767	Chocolate mousse	Mousse chocolade-
912	Pudding raspberries with currant sauce	Pudding frambozen- m bessensaus
915	Chocolate pudding with cream sauce	Pudding chocolade- m roomsaus
938	Semolina pudding with red currant sauce	Pudding griesmeel- m rode bessensap
1008	Dairy dessert with cream (averaged)	Toetje m room
1720	Custard dairy cream milk several flavours	Vla volle overige smaken
1722	Semolina porridge	Pap griesmeel-
1957	Whipping cream custard	Vla slagroom-
1958	Porridge buttermilk groats	Pap karnemelkse gorte-
2244	Yoghurt cream - with fruit	Yoghurt room- m vruchten
2267	Optimel no-fat custard with sweeteners	Vla magere m zoetstof Optimel
2269	Pudding light	Pudding light
2270	Chocolate mousse light	Mousse chocolade- light
5007	Low-fat custard	Halfvolle vla
5044	Pudding like baverois, chipolata	Luchtige pudding, baverois, chipolata
5437	Saroma home-made pudding with fruit	Pudding zelf bereid vruchten (Saroma)
5438	Mona cream pudding with fruit	Roompudding-vruchten Mona
5440	Porridge with low-fat milk, unsweetened	Pap hfv melk ongezoet
5446	Tiramisu	Tiramisu
6000	Campina yoghurt flip	Yoghurtflip Campina
6001	Campina custard flip	Vlaflip Campina

6004	Campina yoghurt & custard	Campina yoghurt&vla
6036	Donoontje Prince chocolate/milk dessert	Danoontje Prince chocolade/melktoetje
6089	Campina soft & light custard dessert	Campina zacht&luchtig vladessert
6090	Nestlé pyjama porridge	Nestlé pyjamapapje
6091	Campina double custard flip	Dubbelvlaflip Campina
6092	Friesche Vlag Bollino custard (with chocolate sprinkles)	Bollino vla Friesche Vlag
6254	Porridge from Dutch rusk with low-fat milk	Pap beschuit van hv melk
0507	<b>Dairy and non-dairy creams</b>	
050701	Dairy creams	
283	Low-fat cream	Room half-
299	Whipping cream	Room slag- onbereid
812	Sour cream	Room zure
1791	Whipped cream from spray can	Room spuitbus
1808	Crème fraîche	Crème fraiche
1916	Whipped cream with added sugar	Room slag- geklopt m suiker
2262	Alpro Cuisine, cream based on vegetable oil	Cuisine Alpro
2268	Low-fat crème fraîche	Crème fraiche halfvol
2275	Cooking cream	Room kook-
2276	Cooking cream - light	Room kook- light
050702	Non-dairy creams	
1791	Whipped cream from spray can	Room spuitbus
2262	Alpro Cuisine, cream based on vegetable oil	Cuisine Alpro
2279	Blue Band Finesse for cooking	Blue Band Finesse voor koken
2280	BlueBand Finesse Creme fraiche type product	Blue Band Finesse voor verrijken
0508	Milk for coffee and creamers	
271	Becel coffee creamer with poly unsaturated fatty acids	Melk koffie- mov verrijkt Becel
274	Completa powdered coffee creamer	Creamer koffie- Completa
285	Liquid low-fat coffee creamer	Melk koffie- halfvolle
293	Coffee cream 20% fat	Room koffie
06	<b>Cereals and cereal products</b>	
0601	<b>Flour, flakes, starches, semolina used as</b>	
80	Rice flour	Bloem rijste-
215	Corn starch	Maizena
220	Wheat flour white 75% extraction	Bloem tarwe- patent
222	Wheat flour 50% extraction	Meel tarwe-
223	Thickener (averaged)	Bindmiddel gemiddeld
226	Potato starch	Meel aardappel-
0602	<b>Pasta, rice, other grains</b>	
646	Spaghetti Bolognese, frozen	Spaghetti Bolognese diepvries
658	White rice - boiled	Rijst witte gekookt
659	Macaroni - boiled	Macaroni gekookt
1014	Brown rice -boiled	Rijst zilvervlies- gekookt
2157	Macaroni wholemeal - boiled	Macaroni volkoren gekookt
2158	Couscous - boiled	Couscous gekookt
6246	Tortellini - boiled	Tortellini gekookt
6247	Multi-grain rice - boiled	Meergranenrijst gekookt
0603	<b>Bread, crispbread, rusks</b>	
060301	Bread	
230	Soft white roll	Broodje luxe- witte
233	Currant bread	Brood krenten-
236	Brown wheat bread	Brood tarwe-
241	White bread made with milk	Brood wit- melk
242	Rye bread - dark	Brood rogge- donker
243	Rye bread - light	Brood rogge- licht
244	Raisin bread	Brood rozijnen-
246	Wholemeal bread	Brood volkoren-
248	White bread made with water	Brood wit-
249	Tarvo wheat malt bread	Brood mout- Tarvo
1017	Wholemeal wheat/rye bread	Brood tarwerogge volkoren

1361	Turkish white bread	Brood wit- Turks
1395	Rye bread (averaged)	Brood rogge- gemiddeld
1534	Pizza crossa crust, frozen	Pizza m crossabodem diepvries
2115	Glutafin gluten-free bread	Brood glutenvrij Glutafin
2277	Blue Band Goede Start bread	Brood Blue Band Goede Start
5452	Unknown bread	Brood onbekend
5453	Linseed bread	Brood lijnzaad
5454	Sovital bread	Brood sovital
5455	Casino white bread	Brood casino wit
5456	Raisin bread with (imitation) almond paste	Brood krente met spijs
5457	Muesli bread	Brood muesli
5459	Sugar bread	Brood suiker
5461	Brown bread with fruits and nuts	Brood bruin met vruchten en noten
5462	Brown bread with sunflower pits	Brood bruin, zonnebloempitten
5463	Baguette with cheese & onion	Stokbrood kaas-uien
5464	Wholemeal bread, sunflower pits	Brood volkoren, zonnebloempitten
5465	White bread, sunflower pits	Brood wit, zonnebloempitten
5466	Tortilla	Tortilla
060302	<b>Crispbread, rusks</b>	
227	Dutch rusk	Beschuit
228	Cream crackers	Cracker cream-
229	Crispbread (averaged)	Knäckebröd gemiddeld
230	Soft white bread roll	Broodje luxe- witte
238	Cracker matzo	Cracker tea- matses
565	Toast	Brood geroosterd toast
596	Crispbread gold-brown	Knäckebröd goudbruin
655	Dutch rusk toast, wholemeal	Beschuit volkoren
756	Breakfast biscuit	Biscuit ontbijt-
975	Crispbread sesame	Knäckebröd sesam
1013	Bread crumbs	Paneermeel
1253	Crispbread - high fibre	Knäckebröd vezelrijk
1312	Cracottes crispbread	Cracottes naturel
1322	Cracottes crispbread wholemeal	Cracottes volkoren
1352	Glutafin gluten-free crackers	Cracker glutenvrij Glutafin
1481	Puffed rice wafer	Wafel rijst-
1779	Crispbread - wholemeal	Knäckebröd volkoren
2229	VitaLU cracker	Cracker VitaLU
2231	Puffed rice wafer with chocolate	Wafel rijst- m chocolade
5460	Dutch rusk toast, multigrain	Beschuit meergranen
6053	Puffed rice wafer with caramel	Rijstwafel caramel
0604	<b>Breakfast cereals</b>	
209	Kellogg's corn flakes	Ontbijtproduct Cornflakes Kellogg's
213	Oatmeal	Mout haver-
225	Brinta breakfast cereal	Ontbijtproduct Brinta
591	Kellogg's All Bran	Ontbijtproduct All Bran Kellogg's
653	Kellogg's Rice Krispies	Ontbijtproduct Rice Krispies Kellogg's
656	Muesli without sugar	Muesli z suiker
887	Muesli with sugar	Muesli m suiker
1023	Nutrix instant rice flour	Bloem rijste- instant Nutrix
1338	Bambix Groeipap wholemeal cereal	Ontbijtproduct Bambix Groeipap volkoren
1804	Molenaar 7 grain energy cereal	Ontbijtprod Molenaar 7-granen-energie ontbijt
1989	Bambix Smulpap with pear-banana	Ontbijtprod Bambix Smulpap peer-banaan
1990	Bambix Smulpap with apple-honey	Ontbijtprod Bambix Smulpap appel-honing
1991	Bambix Groeipap 8 grains	Ontbijtprod Bambix Groeipap 8 granen
1999	Kellogg's Frosties	Ontbijtproduct Frosties Kellogg's
2002	Kellogg's Choco Pops	Ontbijtproduct Choco Pops Kellogg's
2004	Kellogg Fruit 'n Fibre	Ontbijtproduct Fruit 'n Fibre Kellogg's
2005	Kellogg's Special K	Ontbijtproduct Special K Kellogg's
2006	Kellogg's Smacks	Ontbijtproduct Smacks Kellogg's
2007	Kellogg's Loops	Ontbijtproduct Loops Kellogg's
2081	Cornflakes	Ontbijtproduct cornflakes



	5015	Molenaar multigrain cereal	Molenaar meergranenontbijt
	5037	Albona 7 grain energy cereal	Albona 7-granen Energie ontbijt
	5468	Weetabix	Weetabix
	6005	Wheat-based cereals - not fortified	Ontbijtproduct tarwebasis niet verrijkt
	6054	Kellogg's Winnie the Pooh hunny bzzz	Ontbijtproduct Winnie the Pooh hunny bzzz
			Kellogg's
	6055	Quaker cruesli (averaged)	Cruesli gemiddeld Quaker
	6058	Albert Heijn & Edah corn flakes	Cornflakes AH en Edah
	6082	Brinta fruitvit cereal	Brinta fruitvit
0605		<b>Salty biscuits, aperitif biscuits, crackers</b>	
	122	Crisps	Chips
	228	Cream crackers	Cracker cream-
	264	Biscuit - salted (averaged)	Biscuit zoute
	265	Puff pastry - salted	Korstgebak zout
	267	Pretzel sticks	Pepsels
	269	Shrimp crackers	Kroepoek bereid
	565	Toast	Brood geroosterd toast
	617	Ringlings cocktail snacks	Ringlings
	618	Nibbits cocktail snacks	Nibbits
	619	Wokkels cocktail snacks	Wokkels
	620	Potato crisps straws - salted	Frites sticks
	630	Popcorn puffed - natural	Popcorn gepoft naturel
	1481	Puffed rice wafer	Wafel rijst-
	1505	Crisps - light	Chips light
	1699	Cheese cookies (averaged)	Koekje kaas- gemiddeld
	1937	Crisps tortilla plain	Chips tortilla naturel
	1943	Japanese crackers with rice & peanut	Japanse mix m rijstcrackers en pinda's
	2147	Japanese crackers without peanuts	Japanse mix z pinda's
	2163	Bugles maize crisps	Bugles
	2173	Crisps based on potato flour	Chips op basis van aardappelmeel
	5028	Bread sticks	Soepstengels
	5469	Chipitos cocktail snacks	Chipito's
	6083	Zonnatura Socrispy	Socrispy Zonnatura
0606		<b>Dough and pastry (puff, short-crust, pizza</b>	
	265	Puff pastry - salted	Korstgebak zout
	1914	Dough for bread pizza and savoury pie	Brooddeeg (bodem voor pizza/hartige taart)
07		<b>Meat and meat products</b>	
0701		<b>Fresh meat</b>	
070100		Unclassified	
	1434	Minced beef/pork - raw	Gehakt hoh rauw
	5647	Minced meat - not specified	Gehakt ns
	5660	Minced beef/pork (0318)	Gehakt h.o.h. (0318)
	6250	Mixed raw meat (no liver)	Vlees rauw gem excl lever
070101		Beef	
	1400	Beef rump steak - raw	Runderbiefstuk rauw
	1401	Beef tenderloin steak - raw	Runderbiefstuk van de haas rauw
	1402	Beef prime rib raw	Runderentrecote rauw
	1404	Beef frying steak - raw	Runder bak- en braadlappen rauw
	1405	Minced beef - raw	Gehakt runder- rauw
	1406	Beef rib - raw	Runderklapstuk rauw
	1408	Beef stewing meat - raw	Runderpoelet rauw
	1409	Beef rolled sirloin - raw	Runderlenderollade rauw
	1410	Roast beef - raw	Runderrosbief rauw
	1412	Beef rib steak - raw	Runderriblappen rauw
	1414	Beef stewing steak - raw	Rundersukadelappen rauw
	1415	Beef steak tartare - raw	Rundertartaar rauw
	1663	Beef <5% fat - raw	Rundvlees <5 g vet rauw gemiddeld
	5646	Beef - not specified	Rund ns
	5648	Stewing beef	Rundvlees om te stoven ns
	5649	Beef olives	Rund vink
	6212	Minced beef (with bread crumbs & egg)	Rundergehakt met paneermeel en ei

070102	Veal	
1437	Veal olive - raw	Vink blinde kalfs- rauw
1673	Veal <5% fat raw	Kalfsvlees <5 g vet rauw
1674	Veal >5% fat raw	Kalfsvlees >5 g vet rauw
5650	Crumbed pork schnitzel	Varkensschnitzel gepaneerd
070103	Pork	
1418	Pork fillet - raw	Varkensfiletlappen rauw
1419	Pork fricandeau (part of leg) - raw	Varkensfricandeau rauw
1420	Pork steak - raw	Varkenshamlappen rauw
1421	Minced pork - raw	Gehakt varkens- rauw
1422	Pork tenderloin - raw	Varkenshaas rauw
1424	Pork loin chop - raw	Varkenshaaskarbonade rauw
1425	Pork shoulder chop - raw	Varkensschouder-/halsarbonade rauw
1427	Pork spare rib - raw	Varkenskrabbetjes rauw
1428	Pork chopped stewing meat - raw	Varkensnavivlees rauw
1430	Pork shoulder - raw	Varkensschouderlappen rauw
1431	Kromesky filled meat -raw	Vink sla- rauw
1667	Pork <5% fat - raw	Varkensvlees <5 g vet rauw gemiddeld
1668	Pork 5-14% fat - raw	Varkensvlees 5-14 g vet rauw gemiddeld
1788	Pork rib chop - raw	Varkensribarbonade rauw
1790	Pork schnitzel not crumbed - raw	Varkensschnitzel ongepaneerd rauw
5650	Pork schnitzel - crumbed	Varkensschnitzel gepaneerd
070104	Mutton/lamb	
1444	Minced lamb - raw	Gehakt lams-/schapen- rauw
1675	Lamb >10 g fat - raw	Lamsvlees >10 g vet rauw
070105	Horse	
95	Horsemeat - raw	Paardenvlees rauw
0702	<b>Poultry</b>	
070200	Unclassified and other poultry	
1305	Chicken without skin - raw	Kip z vel rauw
070201	Chicken, hen	
108	Chicken with skin - raw	Kip m vel rauw
1305	Chicken without skin - raw	Kip z vel rauw
1634	Chicken fillet - raw	Kipfilet rauw
1642	Chicken rolled - raw	Kiprollade rauw
5472	Chicken fillet/schnitzel - crumbed	Kip filet/schnitzel gepaneerd
070202	Turkey, young turkey	
330	Turkey - raw	Kalkoen rauw
1936	Turkey fillet - raw	Kalkoenfilet rauw
5472	Chicken fillet/schnitzel - crumbed	kip filet/schnitzel gepaneerd
070203	Duck	
070204	Goose	
070205	Rabbit (domestic)	
0704	<b>Processed meat</b>	
95	Horsemeat - raw	Paardenvlees rauw
108	Chicken with skin - raw	Kip m vel rauw
319	Corned beef	Cornedbeef
322	Meat roll deep-fat fried	Frikandel bereid
324	Smoked sausage - boiled	Worst rook- gekookt
328	Smoked ham	Ham rauwe
335	Liver pâté	Pastei lever-
336	Luncheon meat - canned	Luncheon meat blik
340	Beef smoke-dried	Runderrookvlees
343	Bacon fat - raw	Spek vers vet rauw
566	Frankfurter sausage - canned/bottled	Worst knak- blik/glas
567	Luncheon sausage	Worst boterham-
638	Salami sausage saveloy	Worst cervelaat-
639	Bacon rashers streaky	Spek onthijt-
640	Liver sausage	Worst lever-
641	Bacon	Bacon
642	Paté	Pâté

643	Pork side cured and smoked	Casselerrib gerookt/gekookt
782	Sausage - spiced and smoked	Worst thee-
783	Sausage with smoked bacon-bits	Worst paling-
784	Lean gammon - boiled	Ham achter-
785	Ham shoulder medium-fat - boiled	Ham schouder-
810	Beef steak tartare spiced/filet American	Filet américain
1152	Salami	Worst salami
1155	Minced meat loaf - fried	Gehakt gebraden
1162	Sausage - cooked	Worst gekookte
1238	Liver sausage coarse hausmacher	Worst lever- hausmacher
1239	Liver pâté sausage	Worst smeerlever-
1392	Chicken fillet - cooked	Kipfilet bereid
1405	Minced beef - raw	Gehakt runder- rauw
1417	Pork frying sausage - raw	Varkensbraadworst rauw
1432	Bacon rasher - raw	Speklap rauw
1434	Minced beef/pork - raw	Gehakt hoh rauw
1435	Hamburger - raw	Hamburger rauw
1545	Beef roast - cooked	Runderrosbief bereid
1558	Pork loin chop - cooked	Varkenshaaskarbonade bereid
1568	Minced meat ball (with egg/crums) – cooked	Gehaktbal hoh bereid
1641	Chicken rolled - cooked	Kiprollade bereid
1643	Chicken nuggets - oven heated	Kipnuggets bereid in oven
1771	Liver pâté/Berliner liver sausage	Leverkaas/berliner
1772	Pork fricandeau - fried	Varkensfricandeau gebraden
1773	Brawn, pork pickled in vinegar	Zult zure
1775	Bacon rashers streaky - grilled	Spek ontbijt- gegrild
1777	Deboned gammon - boiled	Ham been-
1790	Pork schnitzel not breaded raw	Varkensschnitzel ongepaneerd rauw
1909	Sausage - no liver (averaged)	Worst excl leverproducten gemiddeld
2300	Lean smoked sausage - boiled	Worst rook- magere gekookt
2301	Smoked beef sausage - boiled	Worst rook- runder gekookt
2302	Frankfurter sausage - lean – canned/bottled	Worst knak- magere blik/glas
5357	Meat roll cooked, excluding, cooking fat/oil	Frikandel bereid, excl bereidingsvet
5475	Pork escalope with ham and cheese	Cordon bleu
5476	Pork schnitzel with cheese - crumbed	Schnitzel vark-, kaas gepaneerd
5478	Scrapple	Balkenbrij
5480	Minced escalope with ham & cheese	Gehakt cordon bleu
5481	Chicken schnitzel	Kipschnitzel
5650	Pork schnitzel - crumbed	Varkensschnitzel gepaneerd
5660	Minced beef & pork (0318)	Gehakt h.o.h. (0318)
5661	Chicken with chicken and cheese	Cordon bleu van kip
0705	<b>Offal</b>	
08	<b>Fish and shellfish</b>	
0801	<b>Fish</b>	
115	Fish medium fat > 2-10 g fat - raw	Vis matig vet >2-10 g vet rauw
349	Herring fillet in tomato sauce - canned	Haringfilet in tomatensaus blik
350	Herring - salted	Haring gezouten
355	Sardines/pilchards in oil - canned	Sardines in olie blik
602	Salmon - canned	Zalm blik
819	Cod - boiled	Kabeljauw gekookt
918	Plaice – boiled	Schol gekookt
919	Pollack - boiled	Koolvis gekookt
1096	Smoked salmon	Zalm gerookt
1586	Mackerel fillet - smoked	Makreelfilet gerookt
1588	Anchovy in oil - canned	Ansjovis in olie blik
1589	Tuna in oil - canned	Tonijn in olie blik
1590	Tuna in water - canned	Tonijn in water blik
1608	Mackerel - microwave prepared - no added ingredients	Makreel bereid in magnetron z toevo
1609	Mackerel in oil - canned	Makreel in olie blik

	1610	Salmon - microwave prepared no added ingredients	Zalm bereid in magnetron z toev
	1613	Cod - microwave prepared no added ingredients	Kabeljauw bereid in magnetron z toev
	1615	Pollack - microwave prepared no added ingredients	Koolvis bereid in magnetron z toev
	1619	Sole - microwave prepared no added ingredients	Tong bereid in magnetron z toev
	1624	Eel - microwave prepared no added ingredients	Paling bereid in magnetron z toev
	2297	Tuna - raw	Tonijn rauw
	5482	Haddock fillet boiled, in batter (no cooking fat)	Lekkerbekje (pate frire, excl. bereidingsvet)
0802	<b>Crustaceans, molluscs</b>		
	111	Mussels - boiled	Mosselen gekookt
	348	Shrimps/prawns, peeled - boiled	Garnalen gepeld
	351	Crab in water - canned	Krab in water blik
	1631	Shrimps/prawns in water -canned	Garnalen in water blik
0803	<b>Fish products, crumbed fish</b>		
	815	Fish fingers - uncooked	Vissticks onbereid
	818	Haddock fillet - fried in batter	Lekkerbekje gefrituurd
	5482	Haddock fillet boiled, in batter (no cooking fat)	Lekkerbekje (pate frire, excl. bereidingsvet)
09	<b>Eggs and egg products</b>		
0901	<b>Egg</b>		
	84	Chicken egg - boiled	Ei kippen- gekookt
	86	Chicken yolk - boiled	Eidooier kippen- gekookt
	358	Chicken egg - white - raw	Eiwit kippenei rauw
10	<b>Fat</b>		
1000	<b>Unclassified</b>		
	601	Olive oil	Olie olijf-
	1526	Frying fat solid (averaged)	Frituurvet vast gemiddeld
	2063	Margarine 80% fat >24 g saturated fatty acids	Margarine 80% vet >24 g verzadigde vetzuren
	2066	Cooking liquid 97% fat <17g saturated fatty acids	Bak- en braadvet vloeib 97% vet <17g verz. vetz
	2068	Frying liquid <24 g saturated fatty acids	Frituurvet vloeibaar <24 g verzadigde vetzuren
1001	<b>Vegetable oils</b>		
	308	Peanut oil	Olie arachide-
	312	Corn oil	Olie mais-
	313	Soy oil	Olie soja-
	317	Sunflower seed oil	Olie zonnebloem-
	601	Olive oil	Olie olijf-
	606	Becel oil	Olie Becel-
	608	Corn seed oil	Olie maiskiem-
1002	<b>Butter</b>		
	310	Unsalted butter	Boter ongezoeten
	879	Salted butter	Boter gezouten
	1472	Butter cream	Crème au beurre
	1530	Butter product low-fat	Boterproduct halfvolle
	2295	Butter product 25% fat	Boterproduct 25% vet
1003	<b>Margarines</b>		
	1956	Low-fat margarine product Becel pro.activ	Halvarineproduct Becel pro.activ
	1961	Low-fat margarine product Blue Band Goede Start	Halvarineproduct Blue Band Goede Start
	2059	Low-fat margarine 40% fat <17 g saturated fatty acids	Halvarine 40% vet <17 g verzadigde vetzuren
	2060	Low-fat margarine product 35% fat <10 g saturated fatty acids	Halvarineproduct 35% vet <10 g verzadigde vetz
	2061	Low-fat margarine product 20-25% fat <10 g saturated fatty acids	Halvarineproduct 20-25% vet <10 g verzadigde vetz
	2062	Margarine 80% fat 17-24 g saturated fatty acids	Margarine 80% vet 17-24 g verzadigde vetzuren
	2063	Margarine 80% fat >24 g saturated fatty acids	Margarine 80% vet >24 g verzadigde vetzuren
	2064	Margarine product 70% fat <17 g saturated fatty acids	Margarineproduct 70% vet <17 g verzadigde vetz
	2065	Margarine product 70% fat >17 g saturated fatty acids	Margarineproduct 70% vet >17 g verzadigde vetz
	2066	Cooking liquid 97% fat <17 g saturated	Bak- en braadvet vloeib 97% vet <17g verzadigde

	fatty acids	vetz
2067	Cooking solid 97% fat >17 g saturated fatty acids	Bak- en braadvet vast 97% vet >17 g verzadigde vetz
2072	Margarine product 60% fat <17 g saturated fatty acids	Margarineproduct 60% vet <17 g verzadigde vetz
2073	Cooking solid 80% fat >17 g saturated fatty acids	Bak- en braadvet vast 70-80% vet >17 g verzadigde vetz
2077	Margarine liquid 80% fat <17 g saturated fatty acids	Margarine vloeibaar 80% vet <17 g verzadigde vetz
2294	Twenty-four Ultralight Low-fat spread	Halvarineproduct Twenty four Ultralight
6056	Cooking liquid 90% fat	Bak en braad vloeibaar 90% vet
6084	Blue Band Idee!	Blue Band Idee!
6085	Becel omega3plus for bread	Becel omega3plus voor op brood
1004	<b>Deep frying fats</b>	
313	Soy oil	Olie soja-
2068	Frying liquid <17 g saturated fatty acids	Frituurvet vloeibaar <24 g verzadigde vetzuren
2069	Frying solid >20 g saturated <10 g trans fatty acids	Frituurvet vast >24 g verzadigde vetz <10 g transvetz
1006	<b>Other animal fat</b>	
314	Pork lard - from the meat	Vet varkens- uitgesmolten
315	Beef fat – from the meat	Vet rund- uitgesmolten
11	<b>Sugar and confectionery</b>	
1100	<b>Unclassified</b>	
440	Ginger in syrup - canned	Gember op siroop blik/glas
1101	<b>Sugar, honey, jam</b>	
374	Soft brown sugar	Suiker basterd- bruine
375	Soft white sugar	Suiker basterd- witte
377	White sugar	Suiker kristal-
443	Honey	Honing
445	Jam - household quality	Jam huishoud-
457	Rose hip jam	Jam rozenbottel-
484	Jam - low sugar	Jam halfzoet
807	Jam - no added sugar	Jam z suiker
1065	Glucose powder Dextro-M	Glucosepoeder Dextro-M
1599	Fructose powder	Fructosepoeder
6046	Nesquik plus with fruit flavour	Nesquik plus vruchtensmaak
6255	Gelatine pudding	Pudding gelatine
1102	<b>Chocolate, candy bars, paste, confetti/flocks</b>	
430	Cocoa powder	Cacaopoeder
431	Chocolate bar - milk	Chocolade melk-
432	Chocolate bar - plain	Chocolade puur
436	Chocolate hazelnut spread	Pasta chocolade- hazelnoot
444	Chocolate spread - plain	Pasta chocolade- puur
487	Mars candy bar	Mars
524	M&M's chocolate	M&M's chocolade
525	Milky Way candy bar	Milky Way
526	Bounty candy bar	Bounty
528	Snickers candy bar	Snickers
535	Benco cocoa powder, sweetened	Cacaopoeder gezoet Benco
570	Nuts candy bar	Nuts
621	M&M's chocolate with peanuts	M&M's chocolade m pinda's
717	Chocolate bar milk with nuts	Chocolade melk- m noten
845	Twix candy bar	Twix
929	Chocolate bar - milk without sugar	Chocolade melk- z suiker
1311	Chocolate sprinkles (averaged)	Hagelslag chocolade- gemiddeld
1450	Chocolate bar – plain without sugar	Chocolade puur z suiker
1471	Chocolate biscuit	Biscuit chocolade-
1508	Chocolate praline	Bonbon
1509	Muesli bar with chocolate	Mueslireep m chocolade
1962	Chocolate sprinkles - milk	Hagelslag chocolade- melk
1963	Chocolate sprinkles - plain	Hagelslag chocolade- puur

	1964	Chocolate spread - milk	Pasta chocolade- melk
	2234	Hero B'tween cereal bar	Graanreep Hero B'tween
	2235	Hero B'tween free cereal bar	Graanreep Hero B'tween free
	2266	Chocolate bar - white	Chocolade witte
	5479	Chocolate bar – milk/butterscotch	Chocolade melk butterscotch
	5488	Raisins in milk chocolate wrap	Rozijnen met melkchocolade omhuld
	5489	Chocolate filled with fruit	Chocolade gevuld met vruchten
	5491	Chocolate bar plain with nuts	Chocolade puur met noten
	5494	Chocolate frogs/mice	Chocolade kikkers/muizen
	6094	St John's bread paste	Carobepasta
	6256	Chocolate paste coconut	Chocoladepasta cocos
1103		<b>Confectionery, non-chocolate</b>	
	377	White sugar	Suiker kristal-
	442	Coloured sprinkles	Hagelslag vruchten-
	446	Chewing gum	Kauwgom
	447	Chewing gum, no sugar	Kauwgom z suiker
	449	Coconut slices sweetened	Kokosbrood
	450	Acid drop	Zuurtjes
	453	Peppermint	Pepermunt
	461	Toffees	Toffee
	482	Foam sweets	Spekkie
	520	Liquorice Dutch-style - salted	Drop zoute
	522	Liquorice Dutch-style sweet	Drop zoete
	523	Stophoest cough drops	Stophoest
	750	Marshmallows	Marshmallows
	751	Liquorice English-style	Drop Engelse
	866	Fruit sweets, flavoured	Vruchtenkoekjes
	1256	Marzipan	Marsepein
	1389	Liquorice Dutch-style (averaged)	Drop gemiddeld
	1509	Muesli bar with chocolate	Mueslireep m chocolade
	2234	Hero B'tween cereal bar	Graanreep Hero B'tween
	2237	Kellogg's cereal bar	Graanreep Kelloggs
	2239	Muesli bar	Mueslireep
	2292	Boiled sweets, no added sugar	Zuurtjes suikervrij
	5495	Toffee with chocolate	Toffee met chocolade
	5496	Nougat	Nougat
	5498	Sweet liquorice lollipop	Salmiak lolly/kogel
	5499	Liquorice with peppermint	Drop met pepermunt
	6047	Nestlé fruit bars	Nestlé fruitreepje
	6064	Wine gums (revised nevo 2006)	Winegums (herziening nevo2006)
	6095	Wine gums, light	Winegums light
	6239	Sweet popcorn	Popcorn zoet
1104		<b>Syrup</b>	
	376	Golden syrup	Stroop huishoud-
	381	Sugar syrup	Stroop suiker-
	427	Apple syrup	Stroop appel-
	436	Chocolate hazelnut paste	Pasta chocolade- hazelnoot
	463	Fruit drink concentrate - bottled	Siroop vruchtenlimonade- fles
	497	Roosvicee rose hip syrup, various flavours	Siroop rozenbottel- Roosvicee div smaken
	498	Roosvicee rose hip syrup ferro	Siroop rozenbottel- Roosvicee ferro
	500	Roosvicee rose hip syrup laxo	Siroop rozenbottel- Roosvicee laxo
	535	Benco cocoa powder sweetened	Cacaopoeder gezoet Benco
	738	Roosvicee diet rose hip syrup	Siroop rozenbottel- Roosvicee dieet
	1467	Syrup from canned/bottled fruit	Vocht van vruchtenconserven blik/glas
	1655	Fruit juice - concentrated	Diksap geconcentreerd
	1662	Spontin lemon/orange syrup - can	Siroop vruchtenlimonade- citroen/sin blik Spontin
	1807	Spontin syrup other flavours - can	Siroop vruchtenlimonade-overige smaken blik Spontin
	1810	Karvan Cévitam fruit syrup - can	Siroop vruchtenlimonade- blik Karvan Cévitam
	1880	Roosvicee rose hip syrup calcium orange/mango	Siroop Roosvicee Calcium sin/mango

1881	Roosvicee rosehip syrup Multivit wild fruit/peaches	Siroop Roosvicee Multivit bosvr/perzik
1882	Roosvicee Lessini light	Siroop Roosvicee Lessini light
2287	Fruit syrup, sugar & sweetener	Siroop vruchtenlimonade- m suiker en zoetstof
2288	Fruit syrup, sugar & sweetener, added vitamin C	Siroop vruchtenlimonade- m suiker&zoetst m vit C
2289	Fruit syrup - light	Siroop vruchtenlimonade- light
2291	Fruit juice concentrate - added vitamin C	Diksap m vit C geconcentreerd
6007	C1000 fruit syrup 10-15 mg vitamin C	Vruchtenlimonadesiroop 10-15 mg vit C (C1000)
6008	Albert Hijn/Kruidvat fruit syrup 25-30 mg vitamin C	Vruchtenlimonadesiroop 25-30 mg vit C (AH, Kruidvat)
6009	Super/Fruitfris cassis fruit syrup 15-20 mg vitamin C	Vruchtenlimonadesiroop 15-20 mg vit C (Super, Fruitfriscass)
6010	Raak/First Quality syrup, sugar & sweetener	Vruchtenlimonadesiroop suiker+zoetstof Raak/First Quality
6011	Fruit juice concentrate >65g CHO/100g	Diksap > 65 g Kh/100 g
6022	Albert Heijn syrup, sugar & sweetener	Vruchtenlimonadesiroop AH met suiker en zoetstof
6048	Frutesse banana syrup Optimaal	Frutesse bananenstroop Optimaal
1105	<b>Ice cream, water ice</b>	
110501	Ice cream	
303	Dairy ice cream - vanilla	IJs room/vanille
485	Dairy ice cream/vanilla cornet	IJs room/vanille cornet
1474	Water pop/lolly	IJs water
2250	Ice Festini	IJs Festini
2251	Chocolate-coated dairy ice cream	IJs room/vanille m chocoladecoating
6096	Ice Wicky fruit	Wicky fruit ijsje
6240	Ice with thin chocolate layer	IJs op stokje met dun chocoladelaagje
6241	Staciatella ice	IJs straciatella
6242	Ice on stick with fruit layer	IJs op stokje met vruchtenlaagje
110502	Sorbet	
303	Dairy ice cream/vanilla	IJs room/vanille
1474	water pop/lolly	IJs water
110503	Ice	
1474	Water pop/lolly	IJs water
2250	Ice Festini	IJs Festini
6096	Ice Wicky fruit	Wicky fruit ijsje
6229	Syrup 2289 diluted	Siroop 2289 verdund
12	<b>Cakes</b>	
1201	<b>Cakes, pies, pastries, etc</b>	
232	Iced buns	Broodje koffie
240	Dutch spiced honey cake	Koek ontbijt
250	Almond paste filled pastry	Broodje amandel
251	Dutch apple pie	Taart appel- van zandtaartdeeg
253	Plain cake	Cake eenvoudige
255	Gateau with whipped cream	Taart slagroom-
256	Gateau with butter-cream filling	Taart crème au beurre
257	Almond paste filled tarts	Koek gevulde
258	Biscuits (averaged)	Koekje gemiddeld
467	Pancake - ready to serve	Pannenkoek
468	Cream puff pastry mille-feuille	Tompouce
474	Dutch-style doughnut	Oliebol
486	Fruit flan	Vlaai vruchten-
489	Flan filled with rice pudding	Vlaai rijste-
789	Butter cake	Koek boter-
833	Apple in puff pastry	Appelcarré
835	Sponge cake with cottage cheese filling	Taart kwark-
854	Puff pastry fruit tart with whipped cream	Taart vruchten- van biscuitdeeg m slagroom
878	Croissants	Croissants
925	Dutch spiced honey cake - wholemeal	Koek ontbijt- volkoren
1460	Dutch spiced honey cake - ginger filling	Koek ontbijt- gember
1470	Berliner pastry	Berliner bol
1473	Plain doughnuts	Donuts ongevuld

1475	Éclair with whipped cream filling	Soes slagroom-
1476	Meringue with butter-cream	Taart schuim- m crème au beurre
1477	Sugar-free biscuits	Koekje suikervrij
1478	Flan with shortbread crumbs	Vlaai kruimel-
1479	Mon Chou sponge cake	Taart Mon Chou-
1480	Pimm's orange cake	Cake Pim's orange
1945	Roll with pudding	Broodje pudding-
1969	Butter cake	Cake roomboter-
2010	Fruit-pie made of cake dough	Taart vruchten- van cakedeeg
2222	Happers spiced honey cake bar	Ontbijtkoekreep Happers
2224	Kapitein Koek spiced honey cake bar	Ontbijtkoekreep Kapitein Koek
2232	Biscuit fruit	Biscuit fruit-
2233	Dutch spiced honey cake with raisins	Koek ontbijt- m rozijnen
5505	Marble cake with chocolate	Cake marmer met chocolade
5506	Butter marble cake with chocolate	Cake marmer roomboter met chocol.
5507	Apple cake	Cake appel
5508	Raisin cake	Cake met rozijnen
5510	Banana choux pastry	Soes bananen
5511	Chocolate éclair with whipped cream filling	Bossche bol
5512	Chocolate cake	Gebak chocolade
5515	Fruit cake	Vruchtengebakje
5516	Apple pie made with butter	Taart appel met roomboter
5518	Apple flap	Flap appel
5519	Standard pancake (liquid margarine)	Pannenkoek normaal (culinesse)
5520	Standard pancake (cooking solid)	Pannenkoek normaal (bak-braad)
5521	Standard pancake (sunflower oil)	Pannenkoek normaal (zonnebloemolie)
5522	Standard pancake (olive oil)	Pannenkoek normaal (olijfolie)
5525	Almond paste filled butter pastry	Banketstaaf roomboter
5527	Dutch spiced honey cake with candy	Koek ontbijt met kandij
5528	Pancake with apple	Pannenkoek met appel
5529	Pancake with raisins	Pannenkoek met rozijnen
5533	Indonesia cake	Koek indisch
5537	Jam/fruit filled tart	Koek gevulde jam/vruchten
5538	Wholemeal pancake (liquid margarine)	Pannenkoek volkoren (culinesse)
5539	Wholemeal pancake (Becel)	Pannenkoek volkoren (becel)
5542	Wholemeal pancake (sunflower oil)	Pannenkoek volkoren (zonnebloemolie)
5543	Pancake (milk-water)	Pannenkoek (melk-water)
5544	Wholemeal pancake	Pannenkoek volkoren
5545	Nut tart/butter cake with nuts	Taart noten/koek boter met noten
5558	Galette waffle	Wafel galette
5673	Macaroon cake	Cake bitterkoekjes
6028	Kapitein Koek spiced honey cake bar (fortified)	Ontbijtkoekreep Kapitein Koek (verrijkt)
6074	Winnie the Pooh waffles	Winnie the Pooh wafels
6075	Bammetje sunflower pits	Bammetje zonnebloempitten
6213	Chocolate croissant	Chocoladecroissant
6225	Wholemeal pancake (2066 cooking liquid)	Pannenkoek volkoren (2066 bbr vlbaar)
6234	Standard pancake (lard)	Pannenkoek normaal (reuzel)
6235	Wholemeal pancake (olive oil)	Pannenkoek volkoren (olijfolie)
6236	Butter cake with margarine (2063)	Boterkoek van margarine (2063)
6260	Butter cake with apple	Cake roomboter met appel
6261	Standard pancake (whole milk + butter)	Pannenkoek normaal (volle melk en roomboter)
1202	<b>Dry cakes, biscuits</b>	
234	Tweede Stap Liga rusk	Voedingsbiscuit Liga Tweede Stap
235	Groot&Sterk Liga rusk multigrain	Voedingsbiscuit Liga Groot&Sterk meergranen
240	Dutch spiced honey cake	Koek ontbijt-
252	Biscuit sweet (averaged)	Biscuit
254	Sponge cake	Koek eier-
258	Biscuits (averaged)	Koekje gemiddeld
259	Coconut cakes	Kokosmakronen
260	Sugar-coated long egg biscuits	Lange vingers
261	Spice biscuit/Speculaas	Speculaas



262	Dutch short biscuit	Spritsstukken
263	Wholemeal biscuit	Biscuit volkoren-
480	Chocoprince chocolate-coated biscuit	Prince Chocoprince
481	Bastogne shortbread biscuits	Koek Bastogne
633	Meringue cakes bokkenpootje	Bokkenpootje
634	Coconut flavoured cookies	Koek kokos- klapper
635	Cracknel	Krakeling
636	Muesli cookie	Koek muesli-
713	Treacle waffle	Wafel stroop-
836	Shortbread	Zandtaartjes
855	Spice biscuit, almond paste filled	Speculaas gevulde
873	Liga Evergreen biscuits with currants	Voedingsbiscuit Liga Evergreen krenten
1321	Liga Fruitkick fruit biscuit	Voedingsbiscuit Liga FruitKick
1339	Bambix children's biscuits	Koekjes dieren- Bambix
1353	Glutafin gluten-free biscuit	Biscuit glutenvrij Glutafin
1356	Liga Evergreen biscuits - several flavours	Voedingsbiscuit Liga Evergreen ov smaken
1471	Chocolate biscuit	Biscuit chocolade-
1477	Biscuits sugar-free	Koekje suikervrij
1480	Cake Pimm's orange	Cake Pim's orange
1767	Bambix children's biscuits	Koekjes beesten- Bambix
1965	Liga Milkbreak nutritive biscuit	Voedingsbiscuit Liga Milkbreak
1967	Liga Groot&Sterk biscuits extra calcium	Voedingsbiscuit Liga Groot&Sterk Extra Calcium
1972	Assorted biscuits with butter	Koekje roomboter- gemiddeld
2162	Cafe Noir biscuit	Cafe noir
2221	Nijntje baby/toddler's biscuit	Biscuit baby- en dreumes- Nijntje
2222	Happers Dutch spiced honey cake bar	Ontbijtkoekreep Happers
2225	Liga Fruitkick Extra fruit biscuit	Voedingsbiscuit Liga Fruitkick Extra
2227	Prince biscuit filled	Prince gevulde biscuit
2228	Scholiertje biscuit with chocolate layer	Koekje Scholiertje
2232	Fruit biscuit	Biscuit fruit-
2234	Hero B'tween cereal bar	Graanreep Hero B'tween
5029	Children's biscuits (averaged)	Kinderkoekjes/-biscuits gemiddeld
5049	Plop childrne's biscuits	Kinderkoeken biscuits Plop
5333	Liga continue choclate and grain	Liga continue choc & granen
5514	Gingernut with chocolate milk	kruidnoten met chocolade melk
5548	Spiced biscuit filled, butter	Speculaas gevuld, roomboter
5549	Shortbread chocolate	Sprits chocolade
5550	Marshmellow&biscuit wrapped in chocolate	Negerzoen
5553	Gingersnap	Kletskop
5554	Cake wrapped in marzipan & chocolate	Mergpijpje
5555	Peanut biscuit	Koek pinda
5557	Nut and choc/choc chip	koek met noten en choc/choc chips
5558	Galette waffle	Wafel galette
5560	Orange biscuit	Koek oranje
5561	Shortbread with chocolate	Zandkoekje met chocolade
6006	Winnie de Pooh children's biscuit (Ca+)	Kinderkoekje Speculoos Winnie de Pooh (Ca+)
6012	Hellema Smoeltjes Spook children's biscuit (Ca+)	Kinderkoekjes Hellema smoeltjes Spook (Ca+)
6014	Bolletje schuddebuikjes (sweet filling based on spiced biscuits)	Bolletje schuddebuikjes
6016	Monky boy children's biscuits (fortified)	Kinderkoekjes Monky boy (verrijkt)
6057	Provita milk biscuit (Van Delft)	Provita melkbiscuit (Van Delft)
6076	Efteling cookies	Efteling cookies
6077	Prince start	Prince start
6078	Bridge milk biscuit	Bridge melkbiscuit
6079	Bridge fruit & grain	Bridge fruit en granen
6080	Fred&Ed Fun stone cookies milky	Fred&Ed Fun stones cookies milky
6081	Knoppers waffle	Knoppers wafel
6252	Meringue	Schuimbaton
6253	Glacé biscuit	Koek glacé
13	<b>Non alcoholic beverages</b>	
1300	<b>Unclassified</b>	

	2290	Coconut milk	Kokosmelk
	6033	Rice Dream rice drink protein (Ca+)	Rice Dream rijstedrank proteïne (Ca+)
1301		<b>Fruit and vegetable juices</b>	
	383	Apple juice	Sap appel-
	385	Fruit drink redberry	Vruchtendrank rode bessen
	388	Redcurrant juice	Sap bessen-
	396	Grape juice	Sap druiven-
	400	Soft drink without caffeine	Frisdrank
	410	Juice orange	Sap sinaasappel-
	413	Tomato juice	Sap tomaten-
	417	Lemon squash	Limonade vruchten-
	923	Pear juice	Sap peren-
	1127	Fresh lemon juice	Citroensap vers
	1132	Tomato/vegetable juice	Sap tomatengroenten-
	1294	Taksi whey drink	Weidrank Taksi
	1462	Pineapple juice	Sap ananas-
	1463	Fruit drink/two or more fruits	Vruchtendrank 2 of meer vruchten
	1521	Lemon squash light	Limonade vruchten- light
	1656	Carrot juice	Sap wortel-
	1878	Roosvicee Multivit fruit drink	Vruchtendrank Roosvicee Multivit
	1932	Orange juice with pulp	Sap sinaasappel- m vruchtvlees
	2079	Hero Fruitontbijt breakfast drink p 100 ml	Drinkontbijt Hero FruitOntbijt p 100 ml
	2134	Dubbelfriss lemon squash	Limonade vruchten- Dubbelfriss
	2135	Vruchtenfris/Tintelfruit lemon squash	Limonade vruchten- Vruchtenfris/Tintelfruit
	2136	Dubbelfriss lemon squash - light	Limonade vruchten- Dubbelfriss light
	2137	Vrfris/Tintelfruit lemon squash -light	Limonade vruchten- Vruchtenfris/Tintelfruit light
	2143	Appelsientje orange juice with calcium	Sap sinaasappel- m calcium Appelsientje
	2144	Apple juice with vitamin C	Sap appel- m vit C
	2145	Appelsientje Vitamientje orange fruits	Sap vruchten- Appelsientje Vitamientje oranje vr
	2146	Appelsientje Vitamientje red/wild fruits	Sap vruchten- Appelsientje Vitamientje rode-/bosvr
	2148	Appelsientje Groeifruit apple juice	Sap appel- Appelsientje Groeifruit appel
	2149	Appelsientje Groeifruit orange juice	Sap sinaasappel- Appelsientje Groeifruit sin.appel
	2150	Coolbest Vitaday tropical fruit juice	Sap vruchten- Coolbest Vitaday tropical
	2151	Coolbest Vitaday original fruit juice	Sap vruchten- Coolbest Vitaday original
	2154	Edah/Super multi-fruit juice with vitamins	Sap vruchten- multivr.sap m vit Edah/Super
	5047	Lagona (Aldi) multi-vitamin 12 fruit nectar	Multivitaminen 12-vruchtennectar van Lagona (Aldi)
	5052	Albert Heijn multivitamin fruit juice	AH multivitaminen vruchtensap
	5318	Solevita multivit fruit juice	Multivit vruchtensap solevita
	5319	Fruit King tropical fruit juice	Fruit King tropical fruit juice
	5321	ACE vitamin drink (averaged)	ACE vitamine drink gem
	5323	Roosvicee multivit drink + sweetener	Multidrank Roosvicee+zoetstof
	5324	Solevita multivit drink + sweetener	Multivit drink Solevita+zoetstof
	5325	Dr. Siemer multivit light + sweetener	Multivit light+zoetst Dr. Siemer
	5327	Sisi Fruitmania	Fruitmania Sisi
	6002	Wicky fruitzacht red fruit with vitamin BCE	Wicky fruitzacht rood fruit met vit BCE
	6019	Wicky fruit drink	Wicky vruchtendrank
	6020	Wicky fruit drink light	Wicky vruchtendrank light
	6021	Knorr Vie (averaged)	Knorr Vie gemiddeld
	6024	Roosvicee Stralendfris	Roosvicee Stralendfris
	6026	Multi fruit juice - not fortified	Sap multivruchten niet verrijkt
	6030	Solevita multi vitamin light nectar	Solevita multivitamin light nectar
	6031	Sisi Fruitmania peach or lemon (vit C+)	Sisi Fruitmania peach of lemon (vitC+)
	6032	Roosvicee Spongebob	Roosvicee Spongebob
	6039	Appelsientje Groeifruit strawberry	Appelsientje Groeifruit aardbei
	6040	Coolbest light Vitaday original fruit drink	Vruchtendrank Coolbest light Vitaday original
	6041	Fruixano en Goldhorn Multivitamin 12 fruit nectar light	Multivitaminen 12 vruchtennectar light (Fruixano en Goldhorn)
	6043	Fruit drink light not fortified approx 7g CHO	Vruchtendrank light niet verrijkt ca. 7 g Kh
	6060	Wicky fruitzacht peache vitamin ACE	Wicky fruitzacht perzik met vit ACE
	6063	Surango multi vitamin nectar light	Surango multivitaminennectar (light)
	6097	Robinsons fruit shoot drink	Robinsons fruit shoot vruchtendrank

	6098	Friso fruit drink with red fruit	Friso fruitdrink rode vruchten
	6099	Aldi ACE vitamin drink	ACE vitaminedrink Aldi
	6216	Fruit juice concentrate 6011 diluted	Diksap 6011 verdund
	6227	Fruit juice concentrate 1655 diluted	Diksap 1655 verdund
1302		<b>Carbonated/soft/isotonic drinks, diluted</b>	
	395	Cola soft drink with caffeine	Frisdrank cola
	400	Soft drink without caffeine	Frisdrank
	414	Tonic soft drink	Frisdrank tonic
	417	Lemon squash	Limonade vruchten-
	425	Rivella whey drink - light	Weidrank Rivella light
	747	Carbonated mineral water (averaged)	Bronwater gemiddeld
	1521	Lemon squash, light	Limonade vruchten- light
	1522	Soft drink, light without caffeine	Frisdrank light z cafeïne
	1523	Cola light, soft drink with caffeine	Frisdrank light m cafeïne
	2041	AA Isotone sports drink	Sportdrank AA-Drink Isotone
	2042	AA High Energy, sports drink	Sportdrank AA-Drink High Energy
	2086	Ice tea	IJsthee
	2087	Ice tea light	IJsthee light
	2088	Ice tea with sugar and sweetener	IJsthee m suiker en zoetstof
	2134	Dubbelfriss lemon squash	Limonade vruchten- Dubbelfriss
	2135	Vruchtenfris/Tintelfruit, lemon squash	Limonade vruchten- Vruchtenfris/Tintelfruit
	2136	Dubbelfriss lemon squash, light	Limonade vruchten- Dubbelfriss light
	2137	Vrfris/Tintelfruit lemon squash, light	Limonade vruchten- Vruchtenfris/Tintelfruit light
	2138	Spa&Fruit lemon squash	Limonade vruchten- Spa&Fruit
	2139	Spa&Fruit lemon squash, light	Limonade vruchten- Spa&Fruit light
	2140	Sap&Fruit Vitamins lemon squash	Limonade vruchten- Spa&Fruit Vitamine
	2141	Spa&Fruit light clear water with sweeteners	Bronwater m zoetstof Spa&Fruit light clear
	2218	Extran Energy sports drink	Sportdrank Extran Energy
	2219	Extran Refresh sports drink	Sportdrank Extran Refresh
	6015	Frisdrank sugar+sweetener 5-<7 g CHO/100g (not fortified)	Frisdrank suiker+zoetstof 5-<7 g Kh/100 g (niet verrijkt)
	6029	Frisdrank sugar+sweetener 2-<5g CHO/100 g (not fortified)	Frisdrank suiker+zoetstof 2-<5 g Kh/100 g (niet verrijkt)
	6100	Caprisonne multivitamin	Caprisonne multivitamine
	6101	Appelsientje Frisfruit	Appelsientje Frisfruit
	6102	Spa &Tea fruit flavoured	Spa&Tea vruchtensmaak
	6103	Solevita tea & fruit	Solevita tea&fruit
	6104	Wicky ice tea	Wicky icetea
	6105	River Power drink	River Powerdrink
	6204	Syrup 2288 diluted	Siroop 2288 verdund
	6205	Syrup 1882 diluted	Siroop 1882 verdund
	6206	Syrup 2287 diluted	Siroop 2287 verdund
	6207	Syrup 6022 diluted	Siroop 6022 verdund
	6214	Syrup 6010 diluted	Siroop 6010 verdund
	6215	Syrup 6007 diluted	Siroop 6007 verdund
	6220	Syrup 463 diluted 1 on 4	Siroop 463 verdund 1 op 4
	6221	Syrup 463 diluted 1 on 7	Siroop 463 verdund 1 op 7
	6222	Syrup 463 diluted (averaged)	Siroop 463 verdund gemiddeld
	6223	Syrup 497 diluted	Siroop 497 verdund
	6224	Karvan Cevitam syrup 1810 diluted	Siroop Karvan Cevitam 1810 verdund
	6228	Syrup 6008 diluted	Siroop 6008 verdund
	6229	Syrup 2249 diluted	Siroop 2289 verdund
	6230	Multivit syrup 1881 diluted	Siroop multivit 1881 verdund
	6248	Syrup 6009 diluted	Siroop 6009 verdund
1303		<b>Coffee, tea and herbal teas</b>	
130301		Coffee	
	644	Coffee, ready to drink	Koffie bereid
	5570	Cappuccino, instant (ready to drink)	Cappuccino oplos bereid
130302		Tea	
	645	Tea, ready to drink	Thee bereid
130303		Herbal tea	

5572	Herbal tea, sweetened (ready to drink)	Thee kruiden bereid gezoet
130304	Chicory, substitutes	
1304	<b>Waters</b>	
398	Evian carbonated mineral water	Bronwater Evian
411	Spa carbonated mineral water	Bronwater Spa
747	Mineral water carbonated (averaged)	Bronwater gemiddeld
1885	Water (averaged)	Water gemiddeld
2074	Bar le Duc carbonated mineral water	Bronwater Bar le Duc
14	<b>Alcoholic beverages</b>	
1401	<b>Wine</b>	
422	Red wine	Wijn rode
423	Dry white wine	Wijn witte droge
1402	<b>Fortified wines (sherry, port, vermouth,</b>	
409	Sherry	Sherry
15	<b>Condiments and sauces</b>	
1501	<b>Sauces</b>	
150100	Unclassified and other sauces	
437	Cocktail sauce 25% oil	Saus cocktail- 25% olie
451	Mayonnaise 80% oil	Mayonaise
454	Piccalilly	Piccalilly
462	Tomato ketchup	Ketchup tomaten-
465	Salad cream 25% oil	Saus frites- 25% olie
466	Salad cream 35% oil	Saus frites- 35% olie
616	Peanut sauce - ready to serve	Saus saté- op basis potje bereid
1213	Soy sauce - salty	Ketjap zout
1215	Soy sauce - sweet	Ketjap zoet
1492	Gravy medium fat (averaged)	Jus gemiddeld vet
1500	Mixed herb cube	Kruidenmix blok
1515	Sauce based on roux - ready to eat	Saus op basis roux bereid
1517	Packet sauce <3% fat prepared	Saus op basis pakje <3% vet bereid
1518	Packet sauce >3% fat prepared	Saus op basis pakje >3% vet bereid
1524	Tomato sauce, ready to eat - bottled	Saus tomaten- kant-en-klaar glas
1803	Oriental sauce, ready to eat - bottled	Saus oosterse kant-en-klaar glas
1913	Peanut sauce/sate sauce, home-made	Saus saté- huishoudelijk bereid
1938	Peanut sauce, packet (prepared)	Saus saté- op basis pakje bereid
2178	Pesto	Pesto
5577	Sauce low-fat milk, no fat	Saus hfv melk geen vet
5578	Warm cheese sauce	Saus kaas warm
5580	Warm game/stroganoff sauce	Saus jacht warm/saus stroganoff
5581	Vegetable sauce - water-based, no fat	Saus groente basis water geen vet
5582	Sate sauce - low-fat milk, no fat	Saus sate basis hfv melk, geen vet
5583	Sate sauce - low-fat milk-water, no fat	Saus sate basis hfv melk-water, z. vet
5584	Sate sauce – water-based, no fat	Saus sate basis water, geen vet
5585	Gravy 50% fat – not thickened	Jus 50% vet ongebonden
5586	Gravy 75% fat – not thickened	Jus 75% vet ongebonden
5587	Corn starch sauce/milk+fat for vegetables	Saus maizena/melk + vet voor groenten
5588	Corn starch sauce/no-fat milk	Saus maizena/melk mager
5589	Corn starch sauce/full cream milk	Saus maizena/melk vol
5590	Gravy 25% fat - thickened	Jus 25% vet gebonden
5591	Gravy 50% fat - thickened	Jus 50% vet gebonden
5592	Thin gravy 75% fat - thickened	Jus 75% vet gebonden
5593	Sauce Aardappel anders bacon/onion (for potatoes)	Aardappelen anders bacon/ui
5594	Gravy 5% fat - thickened	Jus 5% vet gebonden
5595	Chicken Tonight sauce	Saus chicken tonight
5604	Sauce with full cream milk & fat (2063)	Saus ns vmelk+vet (2063)
5605	Sauce full cream milk+fat (2078)	Saus ns vmelk+vet (2078)
5606	Gravy 25% fat not thickend (olive oil)	Jus ns/25% vet ongeb (olijfolie)
5608	Gravy 25% fat - not thickened (fat 2067)	Jus ns/25% vet ongeb (vet 2067)
5609	Gravy 25% fat - not thickened (fat 2077)	Jus ns/25% vet ongeb (vet 2077)
5610	Gravy 25% fat - not thickened (fat 2066)	Jus ns/25% vet ongeb (vet 2066)

5611	Gravy 25% fat - not thickened (fat 2063)	Jus ns/25% vet ongeb (vet 2063)
5612	Gravy 25% fat - not thickened (fat 2062)	Jus ns/25% vet ongeb (vet 2062)
5614	Gravy 50% fa - not thickened (fat 2067)	Jus 50% vet ongeb (vet 2067)
5615	Gravy 50% fat - not thickened (fat 2066)	Jus 50% vet ongeb (vet 2066)
5616	Gravy 50% fat - not thickened (salted butter)	Jus 50% vet ongeb (boter gez)
5618	Gravy 50% fat - not thickened (fat 2077)	Jus 50% vet ongeb (vet 2077)
5619	Gravy 50% fat - not thickened (olive oil)	Jus 50% vet ongeb (olijfolie)
5622	Gravy 50% fat - not thickened (fat 2063)	Jus 50% vet ongeb (vet 2063)
5624	Gravy 75% fa - not thickened (fat 2066)	Jus 75% vet ongeb (vet 2066)
5626	Gravy 75% fat - not thickened (fat 2063)	Jus 75% vet ongeb (vet 2063)
5627	Gravy 75% fat - not thickened (fat 2067)	Jus 75% vet ongeb (vet 2067)
5628	Gravy 75% fat - not thickened (fat 2077)	Jus 75% vet ongeb (vet 2077)
5629	Gravy 75% fat - not thickened (butter)	Jus 75% vet ongeb (boter)
5630	Gravy 25% fat - thickened (fat 2067)	Jus 25% vet geb (vet 2067)
5632	Gravy 25% fat - thickened (butter)	Jus 25% vet geb (boter)
5633	Gravy 25% fat - thickened (fat 2063)	Jus 25% vet geb (vet 2063)
5634	Gravy 25% fat - thickened (fat 2077)	Jus 25% vet geb (vet 2077)
5635	Gravy 25% fat - thickened (fat 2066)	Jus 25% vet geb (vet 2066)
5637	Gravy 25% fat - thickened (olive oil)	Jus 25% vet geb (olijfolie)
5638	Gravy 50% fat - thickened (fat 2063)	Jus 50% vet geb (vet 2063)
5640	Gravy 50% fat - thickened (fat 2066)	Jus 50% vet geb (vet 2066)
5641	Gravy 50% fat - thickened (fat 2077)	Jus 50% vet geb (vet 2077)
5642	Gravy 5% fat - not thickened	Jus 5% vet ongebonden
5668	Warm butter sauce	Saus boter warm
6017	Warm sauce liquid ready to serve <12% fat	Warme saus vloeibaar kkl < 12% vet
6023	Warm sauce liquid ready to serve >=12% fat	Warme saus vloeibaar kkl >= 12% vet
6025	Packet sauce dry approx. 10% fat (<3g fat prepared)	Saus pakje droog ca. 10 g V (< 3 g vet bereid)
6044	Packet sauce dry approx. 10% fat (<3g fat prepared)	Saus pakje droog ca. 30 g V (> 3 g vet bereid)
6066	Garlic sauce 20% oil	Knoflooksaus 20% olie
6200	Gravy from gravy powder and water	Jus van juspoeder met water
6201	Gravy 25% fat ns with gravy powder	Jus 25% vet ns met juspoeder
6202	Gravy 50% fat ns with gravy powder	Jus 50% vet ns met juspoeder
6203	Gravy 25% fat ns with gravy powder	Jus gebonden 25% vet ns met juspoeder
6208	Warm sauce with low-fat milk & margarine (2063/2063)	Warme saus met hv melk en marg (2063/2062)
6209	Warm sauce with low-fat milk and liquid fat (2077/2066)	Warme saus met hv melk en vloeibaar vet (2077/2066)
6210	Warm sauce with low-fat milk & margarine (2063/2063)	Warme saus met hv melk en marg (2063/2062)
6218	Thickened gravy 50% fat ns with gravy powder	Jus gebonden 50% vet ns met juspoeder
6226	Thickened gravy 25% fat (2047) –gravy powder	Jus geb 25% vet (2067) met juspoeder
6231	Gravy 75% fat n.s. with gravy powder	Jus 75% vet ns met juspoeder
6237	Thickened gravy 25% fat (2063) with gravy powder	Jus geb 25% vet (2063) met juspoeder
6238	Thickened gravy 25% fat (2077) with gravy powder	Jus geb 25% vet (2077) met juspoeder
6251	Worcester sauce	Saus worcester
6262	Vegetable sauce with margarine (2063)	Groente deksaus met margarine (2063)
6263	Thickened gravy 25% fat (2066) with gravy powder	Jus geb 25% vet (2066) met juspoeder
6264	Thickened gravy 50% fat (2066) with gravy powder	Jus geb 50% vet (2066) met juspoeder
6266	Warm sauce with soy milk&margarine(2063/2062)	Warme saus met sojamelk en marg (2063/2062)
150101	Tomato sauces	
428	Barbecue sauce	Saus barbecue-
462	Tomato ketchup	Ketchup tomaten-
548	Schaschlik sauce	Saus schaschlik-
584	Curry ketchup	Ketchup curry-

1517	Packet sauce <3% fat prepared	Saus op basis pakje <3% vet bereid
1518	Packet sauce >3% fat prepared	Saus op basis pakje >3% vet bereid
1524	Tomato sauce - ready to eat, bottled	Saus tomaten- kant-en-klaar glas
1803	Oriental sauce - ready to eat, bottled	Saus oosterse kant-en-klaar glas
2178	Pesto	Pesto
6025	Packet sauce dry approx. 10g fat (<3 g fat prepared)	Saus pakje droog ca. 10 g V (< 3 g vet bereid)
150102	Dressing sauces	
451	Mayonnaise 80% oil	Mayonaise
458	Dressing French 25% oil	Saus sla- 25% olie
465	Salad cream 25% oil	Saus frites- 25% olie
466	Salad cream 35% oil	Saus frites- 35% olie
549	Sauce curry 25% oil	Saus kerrie- 25% olie
729	Dressing French 40% oil	Halvanaise
844	Salad dressing natural without oil	Dressing naturel z olie Slafris
1260	Yoghurt-based dressing 25% oil	Yoghonaise
5597	Oil & vinegar dressing/vinaigrette	Olie-azijn dressing/vinaigrette
5598	Oil & vinegar dressing / olive oil	Olie-azijn dressing olijfolie
5599	Salad dressing Yofresh	Sladressing yofresh/saus yoghonaise
6018	Honey & mustard dressing	Honing-mosterd dressing
6049	Remia frites lijn (5% oil)	Remia frites lijn (fritessaus 5% olie)
6067	Dressing 13% fat	Fritessaus/slasaus/dressing ca. 13% vet
6211	Oil/vinegar dressing sunflower oil	Olie-azijn dressing zonnebloemolie
150103	Mayonnaises	
437	Cocktail sauce 25% oil	Saus cocktail- 25% olie
451	Mayonnaise 80% oil	Mayonaise
458	French dressing 25% oil	Saus sla- 25% olie
466	Salad cream 35% oil	Saus frites- 35% olie
549	Curry sauce 25% oil	Saus kerrie- 25% olie
575	Sandwich spread - natural	Spread sandwich- naturel
729	French dressing 40% oil	Halvanaise
1260	Yoghurt-based dressing 25% oil	Yoghonaise
2083	Mayonnaise with olive oil	Mayonaiseproduct m olijfolie
6050	Mayonnaise light 35% oil	Mayonaise light ca. 35% olie
150104	Dessert sauces	
539	Fruit sauce for pudding	Dessertsaus vruchten-
540	Chocolate sauce for pudding	Dessertsaus chocolade
1957	Whipping cream custard	Vla slagroom-
1502	<b>Yeast</b>	
441	Marmite yeast paste	Gistextract Marmite
1504	<b>Condiments</b>	
704	Shrimp paste trassie	Garnalenpasta trassie
824	Yellow mustard	Mosterd gele
1232	Hot red pepper paste	Sambal oelek
1500	Herb mix cube	Kruidenmix blok
1501	Herb and vegetable mix sachet	Kruidenmix m groente zakje
1885	Water (averaged)	Water gemiddeld
16	<b>Soups, bouillon</b>	
1601	<b>Soups</b>	
757	Soup clear with vegetables and noodles	Soep heldere m vermicelli en groente
758	Soup clear with meat	Soep heldere m vlees
759	Soup clear with vegetable	Soep heldere m groente
760	Soup clear with meat and noodles	Soep heldere m vermicelli en vlees
761	Soup clear with meat and vegetables	Soep heldere m vlees en groente
762	Soup clear with meat, vegetables and noodles	Soep heldere m vlees/vermicelli/groente
763	Soup creamed with vegetables	Soep gebonden m groente
764	Soup creamed with meat	Soep gebonden m vlees
765	Soup with legumes without meat	Soep m peulvruchten z vlees
766	Soup with legumes and meat	Soep maaltijd- m peulvruchten en vlees
791	Soup clear with noodles	Soep heldere m vermicelli
792	Soup creamed with meat and vegetables	Soep gebonden m vlees en groente

	797	Soup vegetables-based dried packet (prepared)	Soep op groentebasis bereid pakje
	798	Soup meat-based dried packet (prepared)	Soep op vleesbasis bereid pakje
	800	Soup vegetable-based canned (prepared)	Soep op groentebasis bereid blik
	801	Soup meat-based - canned (prepared)	Soep op vleesbasis bereid blik
	802	Soup legume-based - canned (prepared)	Soep op peulvruchtenbasis bereid blik
	803	Soup main course - canned (prepared)	Soep maaltijd- bereid blik
	5643	Soup not specified canned	Soep ns blik/geb m vlees-groente blik
	5644	Soup not specified dried packet (prepared)	Soep ns pakje/geb m vlees-gr pakje
	5645	Soup clear with vegetables and olive oil	Soep helder m groenten en olijfolie
1602	<b>Bouillon</b>		
	1528	Stock cube (prepared)	Bouillon van blokje bereid
17	<b>Miscellaneous</b>		
1700	<b>Unclassified</b>		
	2031	Quorn pieces (not prepared)	Quorn stukjes onbereid
	2281	Valess not crumbed not minced (not prepared)	Valess ongepaneerde producten excl gehakt onbereid
	2282	Valess crumbed (not prepared)	Valess gepaneerde producten onbereid
	5670	boemboes herb pasta	Boemboes kruidenpasta
1701	<b>Soya products</b>		
	59	Mung bean sprouts - boiled	Taugé gekookt
	687	Tahoe soya curd	Tahoe
	1380	Alpro dessert soya	Dessert soja- Alpro
	1381	Alpro milk soy - natural fresh	Melk soja- Natural Fresh Alpro
	1510	Alpro milk soy Ca+	Melk soja- Nature Ca+ Alpro
	1511	Tivall vegetarian hamburger (not prepared)	Hamburger vegetarisch onbereid Tivall
	1512	Tivall vegetarian schnitzel (not prepared)	Schnitzel vegetarisch onbereid Tivall
	1602	Alpro milk soy - several flavours	Melk soja- diverse smaken Alpro
	1953	Alpro Yofu soja per 100 ml	Yofu soja Alpro
	2046	Tivall vegetarian balls (not prepared)	Balletjes vegetarisch onbereid Tivall
	2047	Tivall vegetarian fine mince (not prepared)	Gehakt fijn- vegetarisch onbereid Tivall
	2261	Alpro Groeidrink milk soy-	Melk soja- Groeidrink Alpro
	2281	Valess not crumbed not minced (not prepared)	Valess ongepaneerde producten excl gehakt onbereid
	2283	Valess minced mild herbs (not prepared)	Valess gehakt mild gekruid onbereid
	2286	Tivall vegetable burger (not prepared)	Groenteschijf vegetarisch onbereid Tivall
	5671	Vegetarian sandwich sausage	boterhamworst vegetarisch
	6069	Vegetarian paté	Vegetarische paté
	6070	Vegetarian filet American	Vegetarische filet americain
	6071	Vegetarian ham	Vegetarische ham
	6106	Provamel bio soya choco drink	Provamel bio soya drink choco
1702	<b>Dietetic products</b>		
170200	<b>Unclassified</b>		
	372	Infant meal 8 months	Babyvoeding maaltijd 8 mnd
	1279	Infant meal 15 months	Kindervoeding maaltijd 15 mnd
	5363	Herbalife powder	Herbalife poeder
	5364	Herbalife milkshake with low-fat milk	Herbalife milkshake + hv melk
	6072	Blédina baby meal	Blédina babymaaltijd
170201	<b>Artificial sweeteners</b>		
	1088	Natrena tablet	Zoetstof Natrena p tablet
	1089	Natrena liquid drop	Zoetstof Natrena p druppel
	1592	Saccharine tablet	Zoetstof op sacharinebasis p tablet
	1593	Aspartame/acesulfame tablet	Zoetstof aspartaam en acesulfaam p tablet
	1594	Saccharine/cyclamate tablet	Zoetstof sacharine en cyclamaat p tablet
	1596	Aspartame powder	Zoetstof op aspartaambasis p theelep
	1597	Aspartame/acesulfame powder	Zoetstof aspartaam en acesulfaam p theelep
1703	<b>Snacks</b>		
	266	Sausage rolls - puff pastry spiced	Broodje saucijzen-
	322	Frikandel (meat) roll deep-fried	Frikandel bereid
	326	Croquette (meat ragout) deep-fried	Kroket bereid
	369	Spring roll - fried	Loempia bereid
	901	Bread roll with sausage	Broodje worsten-
	1488	Pastry puff cheese soufflé (not prepared)	Kaassoufflé onbereid
	1643	Chicken nuggets - oven baked	Kipnuggets bereid in oven

5358	Croquette - excluding cooking fat/oil	Kroket bereid, excl bereidingsvet
5360	Nasi ball - excluding cooking fat/oil	Nasibal bereid, excl bereidingsvet
5361	Spring roll - excluding cooking fat/oil	Loempia bereid, excl bereidingsvet
5652	Cheese snack	Kaashapje
5653	Croissant with ham & cheese	Croissant met ham en kaas
5654	Croissant with cheese	Croissant met kaas
5656	Cheese bread roll	Broodje kaas- broodbasis
6073	Viandel Mora (not prepared)	Viandel Mora onbereid



**RIVM**

National Institute  
for Public Health  
and the Environment

Centre for  
Nutrition and Food

PO Box 1  
3720 BA Bilthoven  
The Netherlands

[www.rivm.nl](http://www.rivm.nl)