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DIOXINS AND DIOXIN-LIKE PCBs IN INFANT FORMULAE

Key Facts

- The Food Standards Agency, Health Departments and the World Health Organization encourage breastfeeding (exclusively for the first 6 months) on the basis of convincing evidence of its benefits to the overall health and development of the infant.
- Dioxins and PCBs have been measured in retail samples of milk and soya-based infant formulae purchased in 1998, 2001 and 2003. The results show a significant fall in levels over the five years.
- *Upper bound* concentrations (theoretical maximum concentrations) of dioxins and dioxin-like PCBs in the infant formulae purchased in 2003 were in the range 0.2 - 0.4 ng WHO-TEQ/kg fat compared with 0.5 - 3.1 ng WHO-TEQ/kg fat for the 1998 samples.
- The concentrations of dioxins and dioxin-like PCBs in two of the products bought in 1998 were significantly higher than the remainder. Further samples of these two products were purchased and tested in 2001 and the concentrations were found to be much lower.
- The concentrations of dioxins in all of the milk-based products sampled were generally well within the EU limit for milk and milk products (3 ng WHO-TEQ/kg fat). There is no EU limit applicable to soya-based products, but the concentrations of dioxins in the soya-based formulae are also well within the limit for milk and are within the limit of 0.75 ng WHO-TEQ/kg fat applicable to vegetable oils.

- Based on these results, estimated intakes have also fallen. *Upper bound* intakes by infants fed on milk-based formula samples purchased in 2003 were within the UK safety guideline (Tolerable Daily Intake – TDI) set in November 2001 by the Government’s independent advisory committee, the Committee on Toxicity of Chemicals in Food Consumer Products and the Environment (COT). The TDI is 2 pg WHO-TEQ/kg bodyweight/day. The estimated *upper bound* intakes at birth and at six months slightly exceeded the UK TDI in the case of one product. Dioxins and PCBs build up in the body

over many years, and it is long term exposure that is of concern, rather than small variations over a few months. A temporary slight increase in intake during infancy would not have an immediate effect and would not be expected to alter the build up in the body over the longer term.

- It is not necessary for mothers who choose to feed their infants formula milk, or who are unable to breast feed, to change the feeding regimes of their infants or to switch brands on the basis of the results of this survey. In such circumstances, cows' milk formulae are the preferred sources of nutrition for infants unless parents have been advised by their doctor or health professional to feed their baby soya-based infant formulae.

Background

Dioxins and PCBs are chemicals that do not easily break down and so are widespread in the environment. They are generally present at low concentrations in foods, especially fat-containing foods such as milk and meat. Dioxins are unintentionally produced in small amounts during most combustion processes, both industrial and domestic, and may be formed as unwanted by-products in the manufacture of certain chemicals. Unlike dioxins, PCBs were manufactured and found in a wide range of applications from the early 1930s, but they are no longer produced in the UK and have no significant uses. Further background information on dioxins and PCBs can be found in Food Surveillance Information Sheet No. 38/03.¹

All of the analytical results and dietary intake estimates for dioxins and PCBs in this report are expressed in terms of World Health Organisation Toxic Equivalents (WHO-TEQs).² The use of Toxic Equivalents allows an assessment of the toxicological significance of the complex mixtures of dioxin and dioxin-like PCB congeners found in foods. The concept of Toxic Equivalents is explained in detail in Food Survey Information Sheet No. 38/03.¹

Surveys for dioxins and PCBs in food have previously been carried out by the former Ministry of Agriculture, Fisheries and Food since 1989 and by the Food Standards Agency since 1 April 2000. These surveys have covered foods eaten by people of most age groups. They have included surveys of the whole diet, in which samples of composite food groups from 1982, 1992, 1997 and 2001 Total Diet Studies (TDS) were analysed. These showed that the estimated dietary intakes by adults, schoolchildren and toddlers of dioxins and dioxin-like PCBs have

declined by around 85 per cent over this period.¹ The Agency reaffirmed its advice, issued when the COT recommended the new UK TDI in November 2001, that consumers should continue to eat a balanced healthy diet.³

Methodology

The current study involved the analysis of retail samples of infant formulae. The results have been used to estimate the dietary intakes of dioxins and dioxin-like PCBs by formula-fed babies from this source.

For the 1998 survey, a total of 39 retail samples of infant formulae (35 dry powders and 4 ready-to-feed liquids), representing 14 different products, were purchased in May/June 1998. These samples were originally obtained for a follow-up survey for phthalates.⁴ The sampling plan was drawn up to reflect market shares, and the products sampled accounted for more than 95 per cent of the overall market at that time. It comprised both casein- (19 samples) and whey-dominant (14 samples) cows' milk-based products, and soya-based products (6 samples). All of the products sampled were recommended for infants up to one year old. The samples were purchased in either London or Norwich. The survey did not specifically investigate the possibility of variation in levels with location, since the samples obtained in London and Norwich were not locally produced and would have been from batches on sale throughout the UK. Each sample of the various products was from a different batch. This was the first official survey for dioxins and PCBs in infant formulae to be carried out in the UK.

Since the estimated dietary intakes from two of the products (S2 and W2) were relatively high compared to those from the other products, further samples of these two products were analysed. Five samples each of products S2 and W2 were obtained during the period December 2000 - February 2001. Those of product W2 were all from different production batches, but only four different production batches of product S2 were available.

Work on the 2001 samples was delayed due to the need to prioritise the analysis of foods produced close to pyres during the 2001 foot and mouth disease outbreak. As a result, it was not possible to report the results for the 1998 and 2001 samples before most had passed their 'best before' dates. Accordingly, it was decided to carry out a further survey so that any advice would

be based on infant formulae currently on sale. The results from the earlier surveys are included in this report for completeness.

A total of 96 samples were purchased during April and May 2003 from supermarkets, chemists and small shops located in Leatherhead, Greenford, Sutton Coldfield, Aberdeen, Banff and Monmouth. These locations were selected for the convenience of those buying the samples. However, as a national distribution chain applies to infant formulae, the same products would have been on sale throughout the UK. The sampling plan was drawn up and the samples purchased by Leatherhead Food International on behalf of the Food Standards Agency.⁵ In all, samples were collected of 32 infant formula products. The number of samples of each product varied from one to 16 according to current market share. As in 1998, a range of milk-based (casein- and whey-dominant) and soya-based products was purchased, again on the basis of market share. However, in contrast to 1998, the sampling plan included follow-on infant formulae (i.e. those intended for infants aged 6-24 months) and organic products. In addition, to provide data on trends in concentrations with time, those products sampled in 1998 that are still on sale were included, regardless of current market share. Three products (C6, S2 and W5) were found to have been discontinued.

A complete list of samples, purchased in 1998, 2001 and 2003, including full brand names, is given in Annex 1. The absence of a particular product means only that the product was not included in the survey and no inference should be drawn from its absence from the survey.⁶

The analytical methodology for determining dioxin and PCB concentrations in food has been reported previously.^{1,7} The 17 dioxin congeners of toxicological significance were analysed in the samples from all three years, together with the following PCB congeners: PCBs 77, 81, 126 and 169 (non-*ortho* PCBs, all dioxin-like); and 18, 28, 31, 47, 49, 51, 52, 99, 101, 105, 114, 118, 123, 128, 138, 153, 156, 157, 167, 180 and 189 (*ortho*-PCBs – those underlined are dioxin-like PCBs). All dioxin and PCB congeners to which a WHO-TEF has been assigned were included. The Toxic Equivalency Factor (TEF) is a weighting factor which reflects the toxicity of the individual chemicals relative to that of the most toxic dioxin.

The samples purchased in 1998 and 2001 were analysed by high resolution gas chromatography (HRGC) coupled with high or low resolution (HR or LR) mass spectrometry (GC-MS) at the

Central Science Laboratory (CSL) in York. The laboratory has participated in inter-laboratory trials for the measurement of dioxins and PCBs in human milk and human blood organised by the WHO, the Folkehelse Inter-laboratory comparison for food, Norway, and in the Food Analysis Performance Assessment Scheme (FAPAS). It has recognised expertise in the analysis of foods for dioxins and PCBs. The reporting limit for *ortho*-PCBs was set at 0.10 microgram/kg fat. Analytical difficulties led to variation in the limits of determination (LODs) for dioxins and non-*ortho*-PCBs reported on a fat basis. In these cases the reporting limit was the LOD that prevailed in each instance.

The samples purchased in 2003 were analysed by Eurofins / GfA mbH in Münster, Germany. This laboratory has taken part in a number of national and international proficiency testing schemes, including Folkehelse Inter-laboratory comparison for food, Norway, and FAPAS. The samples were analysed for dioxins using the EN ISO 17025 accredited methods GfA QMA 191/203/205 and for PCBs using the EN ISO 17025 accredited methods QMA 504-191/203/251.⁸ These methods comply with the requirement for HRGC/HRMS confirmatory analysis of food for dioxins and PCBs as laid down by EU Directive 2002/69. The reporting limit for *ortho*-PCBs was set to a standard value for all the congeners in a given sample. This value varied from 0.04 to 0.06 microgram/kg fat. For two samples, both of ready-to-feed products, the standard value was not achieved for all congeners. For dioxins and non-*ortho*-PCBs the reporting limit was the LOD achieved in that instance. Measurement uncertainties associated with the concentrations found in the 2003 samples only were estimated on the basis of the *Guide to the expression of uncertainty in measurement*⁹ and the Eurachem/CITAC *Guide 'Quantifying uncertainty in analytical measurement (QUAM)*.¹⁰

Certified reference materials were used by both CSL and Eurofins / GfA mbH. In the case of some non-dioxin-like PCB congeners that Eurofins / GfA mbH does not routinely measure, a validation exercise was undertaken prior to the infant formulae samples being analysed.

Analytical data from 1998 and 2001 were assessed for compliance with published acceptance criteria.¹¹ The Eurofins / GfA laboratory, Münster is accredited according to DIN EN ISO/IEC 17025:2000^{8,12-14} and its quality management system complies with the requirements of the DIN EN ISO 9002:1994.¹⁵

Both *upper* and *lower bound* concentrations (and dietary intakes estimated from them) are reported for these surveys. *Upper bound* concentrations assume that all individual dioxins and PCBs that are present at concentrations below the reporting limit are present at the reporting limit, and therefore could be an overestimate of the true concentrations. *Lower bound* concentrations assume that all individual dioxins and PCBs that are present at concentrations below the reporting limit are absent, and will therefore be an underestimate of the true concentrations. The true concentrations will lie somewhere between the *upper* and *lower bound* values. In assessing whether there is any risk to human health, it is the *upper bound* estimated dietary intakes that are compared against safety guidelines as these intakes provide a worse case scenario.

Over a long period of time, the coefficients of variation obtained by CSL, from analyses of reference materials are approximately 10 per cent for dioxins and non-*ortho*-PCBs and 5 per cent for *ortho*-PCBs. The coefficients of variation for the analysis of the infant formulae samples purchased in 1998 and 2001 are likely to be of a similar order. The coefficients of variation obtained by Eurofins from analyses of reference materials were 2.5-8.9 per cent for dioxins congeners and 5-14 per cent for PCB congeners.

Results

This report presents the results for the measurement of dioxins and dioxin-like PCBs in samples of infant formulae, expressed as WHO-TEQs, obtained during the period 1998-2003. The *upper* and *lower bound* concentrations of dioxins and dioxin-like PCBs found in each of the samples are presented in Annex 1. A summary of the average *upper* and *lower bound* concentrations, by product, is provided in Table 1. Full congener specific data for the current survey are available in the contractors' final reports of the surveys.¹⁶⁻¹⁸

In all three surveys a large number of congeners were below the limit of determination. This was especially the case for the 2003 samples, for which the lower bound WHO-TEQ concentrations for dioxin-like PCBs were, with one exception, zero. This accounts for the large difference between the *lower* and *upper bound* concentrations in many of the samples.

The concentrations found in the samples from all three years are broadly within the ranges found in surveys in other countries.¹⁹⁻²¹ However, these surveys showed that the concentrations of both dioxins and dioxin-like PCBs in infant formulae can vary widely.

a) 1998 survey

There were no significant differences between either the *upper* or the *lower bound* concentrations of dioxins and/or dioxin-like PCBs in the casein- and whey-dominant and the soya-based products. However there were two statistically anomalous results. One of the two samples of product S2 contained elevated concentrations of dioxins (both *upper* and *lower bound*) compared to the other five soya-based samples analysed, although the concentrations of dioxin-like PCBs in this sample were very similar to those in the other five. Secondly, the concentrations of both dioxins and dioxin-like PCBs (again, both *upper* and *lower bound*) in one of the two samples of product W2 analysed were elevated compared to those in the other milk-based samples, including the second sample of product W2. The reasons for the elevated concentrations in these two samples are not clear. In any event, it is not possible to draw any conclusion from the results of just two samples of each product. The concentrations found should be regarded as no more than a 'snapshot'.

b) 2001 samples

For each of the two products sampled in 2001, both the *upper* and *lower bound* concentrations were below those found in the same products in 1998.

c) 2003 survey

The concentrations of dioxins and dioxin-like PCBs found in the 2003 samples were lower than those found in the 1998 samples. This fall is in line with the results of other surveys for these chemicals in foods.^{1, 22} Statistical analysis of the results shows that, using a non-parametric approach (because of the low number of soya based products), there were no significant differences in the concentrations of either non-*ortho* PCBs or *ortho* PCBs between the three types of products (casein-and whey-dominant and soya-based) ($p > 0.05$). Concentrations of dioxins were significantly higher in casein-dominant than in whey-dominant infant formulae ($p < 0.01$). Concentrations of *ortho* PCBs only were significantly higher in follow-on products than those intended for infants from birth ($p < 0.01$). Follow-on formulae have a higher cows' milk protein content than formulae intended for younger infants.

There are no specific limits for dioxins in infant formulae. The concentrations of dioxins in all of the milk-based products sampled are all within the EU limit for milk and milk products.²³ There is no EU limit applicable to soya-based products.

Dietary intakes

From the mean concentrations found in each of the products, dietary intakes of dioxins and dioxin-like PCBs by formula-fed babies aged up to 12 months (6-18 months for follow-on products) were estimated using the manufacturers' recommended feeding instructions for each product at the different age groups and the infant bodyweights specified on the containers. For most of the products the scoop size was declared on the container and, where this was the case, the declared scoop size was used in the intake estimates. In the absence of a declared scoop size, the contents of a levelled off scoop were measured. In some cases the scoop size was found to vary for different samples of the same product and, in these cases, the scoop size applicable to the individual sample was used for the intake estimates. Because of the difficulty in levelling off a scoop, SMA now recommends dilution rates for its products in terms of grams of powder per litre of water. However, as the dilution rates were not specified on the samples purchased, they were not used in the intake estimates. The dilution rates are however included as footnotes in the feeding instructions in Annex 2. The manufacturers' feeding instructions for each of the products are given in Annex 2.

Above the age of 6 months, the recommended amount of formula remains constant for all the products as the infants' diets change. The estimated dietary intakes for older infants from formulae alone therefore decrease in proportion to the increase in bodyweight. Bodyweights were seldom specified on the product containers for infants aged over 6 months so, instead, standard bodyweights as used to calculate Dietary Reference Values for energy were used for infants of 9, 12 and 18 months. Although follow-on products are recommended for infants of up to 24 months, intakes have not been estimated for infants older than 18 months as the National Diet and Nutrition Survey (NDNS) of children aged 1½-4½ years covers their dietary habits.²⁴

Dietary intakes have been estimated from both *upper* and *lower bound* average concentrations. This methodology assumes that infant formulae are the only food an individual infant receives, that the same brand of infant formulae is consistently fed to the given infant, and that all of the prepared infant formulae is consumed on each occasion. In practice, an infant will be receiving

increasing amounts of solid from the age of four months. This, in combination with the increase in bodyweight as the infant grows, is why the estimated dietary intakes are lower at the age of six months than at birth, and continue to decrease thereafter. The estimated dietary intakes of dioxins and dioxin-like PCBs by formula-fed infants at birth and at the ages of 6 months, 9 months and 12 months are presented in Tables 2-5 respectively for each of the products sampled. In the case of infants fed follow-on formulae, the estimated dietary intakes of dioxins and dioxin-like PCBs at the ages of 6 months, 9 months, 12 months and 18 months are presented in Tables 6-9 respectively.

Throughout Tables 2-9, the intakes shown are those estimated from consumption of the formulae alone and they take no account of intakes of dioxins and dioxin-like PCBs from breast milk or baby foods other than infant formulae or the water used to make up the formulae.

For the majority of products purchased in 1998, the estimated *upper bound* combined dietary intakes of dioxins and dioxin-like PCBs were below 8 pg WHO-TEQ/kg bodyweight/day at birth and below 6 pg WHO-TEQ/kg bodyweight/day at the age of 6 months. Higher estimated dietary intakes (both *upper* and *lower bound*) resulted from the products S2 and W2, which contained elevated concentrations of these chemicals. When estimated from the follow-up samples taken during 2000-01, however, the *upper* and *lower bound* dietary intakes at all ages from these products were lower. For the samples of these products purchased in 2003, the estimated dietary intakes of dioxins and dioxin-like PCBs at birth were below 2 pg WHO-TEQ/kg bodyweight/day, with the exception of one soya-based product. When compared against the same product sampled in 1998, the estimated dietary intakes were all lower in 2003.

There have been few estimates of dietary intakes of dioxins and PCBs by formula-fed infants in other countries, but the results for these UK surveys are broadly similar to those reported abroad. The comparison shows that there is a wide variation in estimated dietary intakes by infants of dioxins and PCBs.¹⁹⁻²¹

Interpretation

For all the samples purchased in 1998 and both of the products purchased in 2001, the estimated dietary intakes were within the TDI that applied at the time but would have been above the new lower UK TDI of 2 pg WHO-TEQ/kg bodyweight/day endorsed by the COT in November 2001.²⁵ These elevated estimated dietary intakes were the result of elevated concentrations being found

in one of the two samples of the both of these products in 1998. As noted above, the high concentrations should be regarded only as a 'snapshot' for the particular batches sampled, rather than the typical concentrations in the two products.

In the case of the samples purchased in 2003, the estimated upper bound dietary intakes of dioxins and dioxin-like PCBs by formula-fed babies were, with one exception, all within the current UK TDI, both at birth and at the age of 6 months. The exception was for the soya-based product S1. The two samples of this product analysed contained concentrations at the upper end of the overall range for 2003 samples. The intake at birth was estimated at 145% of the TDI, although this fell to 105% by 6 months. By contrast, the single sample of the other soya-based product (S3) analysed contained a concentration at the lower end of the range. The concentrations in the two samples of product S1 sampled in 1998 were not at the upper end of the range. Dioxins and PCBs build up in the body over many years, and it is long term exposure that is of concern, rather than small variations over a few months. A temporary slight increase in intake during infancy would not have an immediate effect and would not be expected to alter the build up in the body over the longer term. By the age of 9 months, the estimated dietary intakes of dioxins and dioxin-like PCBs by formula-fed infants from Product S1 had fallen to the value of the TDI, and those at the age of 12 months were within the TDI.

The Food Standards Agency, Health Departments and the World Health Organization encourage breastfeeding (exclusively for the first 6 months) on the basis of the convincing evidence of its benefits to the overall health and development of the infant. Mothers who choose to feed formula milk to their infant or are unable to breast feed are not advised to change the feeding regimes of their infants or to switch brands on the basis of the results of this survey. In such circumstances, the Government's Committee on Medical Aspects of Food Policy has advised that cows' milk formulae are the preferred sources of nutrition for infants unless parents have been advised by their doctor or health professional to feed their baby soya-based infant formulae.²⁵

Comments from manufacturers

Comments were invited from all the manufacturers whose products had been analysed in these surveys. Comments were received from H. J. Heinz and SMA Nutrition, and these are included as Annex 3 of this report.

References

1. Food Standards Agency. (2003). Dioxins and polychlorinated biphenyls in the UK diet – 2001 Total Diet Study samples. *Food Surveillance Information Sheet*, **38/03**. Food Standards Agency, available at http://www.food.gov.uk/multimedia/pdfs/fsis38_2003.pdf.
2. Van den Berg, M. *et al.* (1998). Toxic equivalency factors (TEFs) for PCBs, PCDDs, PCDFs for humans and wildlife. *Environmental Health Perspectives*. **106**, 775-792.
3. Food Standards Agency. (2001). PCBs and dioxins – Food Standards Agency statement - 16 November 2001, available at www.food.gov.uk/news/pressreleases/pCBSanddioxins .
4. Ministry of Agriculture, Fisheries and Food. (1998). Phthalates in infant formulae – follow-up survey. *Food Surveillance Information Sheet*, **168**. MAFF, available at <http://archive.food.gov.uk/maff/archive/food/infsheet/1998/no168/168phtha.htm>.
5. Leatherhead Food International. (2003). Collection of samples for survey of infant formula for dioxins and PCBs. Leatherhead Food International, Leatherhead.
6. Ministry of Agriculture, Fisheries and Food/Department of Health. (1997). *Food Safety Information Bulletin*, **88**. MAFF.
7. Krokos, F. *et al.* (1997). Congener-specific method for the determination of ortho- and non-ortho polychlorinated biphenyls, polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans in foods by carbon-column fractionation and gas chromatography-isotope dilution mass spectrometry. *Fresenius Journal of Analytical Chemistry*. **357**, 732-742.
8. International Organization for Standardization. (2000). General Requirements for the Competence of Calibration and Testing Laboratories. **ISO/IEC/EN 17025**. International Organization for Standardization, Geneva, available at www.fasor.com/iso25 .
9. International Organization for Standardization. (1995). Guide to the expression of uncertainty in measurement. International Organization for Standardization, Geneva.
10. Ellison, S.L.R., Rosslein, M. and Williams, A. (Editors). (2000). Quantifying Uncertainty in Analytical Measurement. Eurachem/CITAC Guide, **CG 4. QUAM:2000.P1**. 2nd edition. Eurachem Laboratory of the Government Chemist, London, available at www.eurachem.ul.pt/guides/QUAM2000-1.pdf .
11. Ambidge, P.F. *et al.* (1990). Acceptance criteria for analytical data on polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans. *Chemosphere*. **21**, 999-1006.

12. International Organization for Standardization. (1994). Quality systems -- model for quality assurance in production, installation and servicing International Organization for Standardization, Geneva, available at www.iso.ch/iso/en/ISOOnline.frontpage .
13. European Commission. (2002). EC directive 2002/69 of July 26, 2002 laying down the sampling methods and methods of analysis for the official control of dioxins and the determination of dioxin-like PCBs in foodstuffs. European Commission, Brussels, available at . www.foodstandards.gov.uk/multimedia/pdfs/200269.pdf .
14. European Committee for Standardisation. (1996). Stationary source emissions: Determination of the mass concentration of PCDDs/PCDFs. **EN 1948**. European Committee for Standardisation, Brussels, available at http://www.soc.nii.ac.jp/jsac/analsci/ICAS2001/pdfs/0500/0551_1a02n.pdf .
15. Environmental Protection Agency. (1994). Analytical Methods. Method 1613 for analysis of dioxins and furans in wastewater. Environmental Protection Agency, Washington DC, available at www.epa.gov/waterscience/methods/1613.html .
16. Central Science Laboratory. (1999). PCDDs, PCDFs and PCBs in infant formulae. *CSL Report, FD98/122*. Central Science Laboratory.
17. Central Science Laboratory. (2002). Follow up work to the survey on PCDDs, PCDFs and PCBs in infant formulae. *CSL Report, FD00/65*. Central Science Laboratory.
18. Eurofins Scientific Ltd and Eurofins / GfA mbH (2003). Analysis of infant formulae samples for PCDDs, PCDFs and PCBs. **61340-017 B01**, Eurofins / GfA mbH, Münster.
19. Ramos, L. *et al.* (1998). Determination of polychlorinated biphenyls in soybean infant formulas by gas chromatography. *Journal of Chromatography A*. **823**, 365-372.
20. Schechter, A. *et al.* (1994). Congener-specific levels of dioxins and dibenzofurans in U.S. food and estimated daily dioxin toxic equivalent intake. *Environmental Health Perspectives*. **102**, 962-966.
21. Pöpke, O. and Tritscher, A. (2000). Determination of polychlorodibenzo-*p*-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) in milk powder and infant formula produced in Brazil in 1998. *Organohalogen Compounds*. **47**, 389-392.
22. Ministry of Agriculture, Fisheries and Food. (1997). Dioxins and PCBs in retail cows' milk in England. *Food Surveillance Information Sheet*, **136**. MAFF, available at <http://archive.food.gov.uk/maff/archive/food/infosheet/1997/no136/136diox.htm> .

23. European Commission. (2001). Council Regulation (EC) No 2375/2001 of 29 November 2001 amending Commission Regulation (EC) No 466/2001 setting maximum levels for certain contaminants in foodstuffs. *Official Journal of the European Communities*, L 321, 6 December 2001, 1-5.
24. Gregory, J. *et al.* (1995). National Diet and Nutrition Survey: children aged 1½ to 4½ years. Volume 1: report of the diet and nutrition survey. HMSO.
25. Department of Health. (2001). Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment. Statement on dietary exposure to dioxins and dioxin-like PCBs. Department of Health, available at <http://www.food.gov.uk/science/ouradvisors/toxicity/statements>.
26. Department of Health. (1994). Weaning and the weaning diet. Report of the Working Group on the Weaning Diet of the Committee on Medical Aspects of Food Policy. *Report on Health and Social Subjects*, 45. HMSO.
27. Department of Health. (2001). Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment. Statement on the Tolerable Daily Intake for dioxins and dioxin-like polychlorinated biphenyls, available at <http://www.food.gov.uk/science/ouradvisors/toxicity/statements>.

Further Information

Units

kg	a kilogram (kg) is one thousand grams (g).
ng	a nanogram (ng) is one thousand millionth of a gram (g).
ng WHO-TEQ/kg	nanograms of WHO Toxic Equivalents per kilogram; equivalent to parts per million million (parts per trillion) by weight
pg	a picogram (pg) is one million millionth of a gram (g).
pg WHO-TEQ/kg	picograms of WHO Toxic Equivalents per kilogram; equivalent to parts per thousand million million (parts per quadrillion) by weight.

Further information on this survey can be obtained from:

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Copies of the full COT statement on the results of this survey can be obtained from:

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or at the Food Standards Agency's web site at:

<http://www.foodstandards.gov.uk/committees/cot/summary.htm>

A copy of the full report of this survey has been placed in the Library, Aviation House, 125 Kingsway, London, WC2B 6NH Tel. No. + 44 (0) 20 7276 8181/8282. If you wish to consult it please contact the library for an appointment giving at least 24 hours notice or alternatively copies can be obtained from the library: a charge will be made to cover photocopying and postage.

Table 1a: Lower and upper bound average concentrations of dioxins and dioxin-like PCBs in infant formulae
a) Casein-dominant formulae (ng WHO-TEQ/kg fat basis as sold)

Product code	No of samples	Year	Concentrations (ng WHO-TEQ/kg fat basis)					
			Lower bound			Upper bound		
			Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Casein-dominant:</i>								
C1*	4	1998	0.1	0.1	0.2	0.5	0.3	0.7
C1*	1	2003	0.05 ± <0.01	0 ± -	0.05 ± <0.01	0.2 ± 0.03	0.1 ± 0.02	0.4 ± 0.04
C2	4	1998	0.3	0.1	0.4	0.5	0.3	0.8
C2	5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.01	0.2 ± 0.03
C3	2	1998	0.4	0.1	0.5	0.5	0.3	0.7
C3	1	2003	0.04 ± <0.01	0 ± -	0.04 ± <0.01	0.2 ± 0.02	0.1 ± 0.02	0.3 ± 0.03
C4	5	1998	0.1	0.09	0.2	0.3	0.3	0.6
C4	15	2003	0.04 ± <0.01	0 ± -	0.04 ± <0.01	0.2 ± 0.02	0.1 ± 0.01	0.3 ± 0.03
C5	2	1998	0.2	0.1	0.3	0.6	0.3	0.9
C5	3	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.02	0.2 ± 0.03
C6	2	1998	0.06	0.07	0.1	0.4	0.3	0.7
C7	2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.02	0.3 ± 0.03
C8	1	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.2 ± 0.02	0.1 ± 0.02	0.3 ± 0.03
C9	3	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.02	0.2 ± 0.03

Notes: Combined concentrations of dioxins and dioxin-like PCBs may not equal the sum of the separate concentrations due to rounding.

* This product is a ready-to-feed liquid.. The other products are dry formulation products.

**Table 1b: Lower and upper bound average concentrations of dioxins and dioxin-like PCBs in infant formulae
b) Whey-dominant formulae (ng WHO-TEQ/kg fat basis as sold)**

Product code	No of samples	Year	Concentrations (ng WHO-TEQ/kg fat basis)					
			Lower bound			Upper bound		
			Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Whey-dominant:</i>								
W1	4	1998	0.4	0.06	0.5	0.6	0.2	0.8
W1	5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.01	0.2 ± 0.03
W2	2	1998	1.0	0.8	1.9	1.2	1.0	2.1
W2	5	2001	0.05	0.3	0.33	0.6	0.5	1.1
W2	2	2003	0.01 ± <0.01	0 ± -	0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.02	0.2 ± 0.03
W3	4	1998	0.2	0.05	0.2	0.8	0.2	1.0
W3	16	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.01	0.2 ± 0.02
W4	2	1998	0.1	0.05	0.2	0.3	0.2	0.5
W4	3	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.01	0.1 ± 0.01	0.2 ± 0.02
W5	2	1998	0.2	0.3	0.5	0.4	0.3	0.7
W6*	1	2003	0 ± -	0 ± -	0 ± -	0.1 ± 0.01	0.1 ± 0.01	0.2 ± 0.02
W7*	1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.02	0.3 ± 0.03
W8	4	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.02	0.3 ± 0.03
W9	5	2003	<0.01 ± <0.01	<0.01 ± <0.01	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.02	0.3 ± 0.03
W10	5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.1 ± 0.02	0.1 ± 0.02	0.2 ± 0.03
W11*	1	2003	0.05 ± <0.01	0 ± -	0.05 ± <0.01	0.2 ± 0.02	0.1 ± 0.02	0.3 ± 0.03

Notes: Combined concentrations of dioxins and dioxin-like PCBs may not equal the sum of the separate concentrations due to rounding.

* These products are ready-to-feed liquids. The other products are dry formulation products.

**Table 1c: Lower and upper bound average concentrations of dioxins and dioxin-like PCBs in infant formulae
c) soya-based and follow-on formulae (ng WHO-TEQ/kg fat basis as sold)**

Product code	No of samples	Year	Concentrations (ng WHO-TEQ/kg fat basis)											
			Lower bound						Upper bound					
			Dioxins		PCBs		Dioxins+PCBs		Dioxins		PCBs		Dioxins+PCBs	
<i>Soya-based:</i>														
S1	2	1998	0.06		0		0.09		0.3		0.2		0.6	
S1	2	2003	0.1	± 0.01	0	± -	0.1	± 0.01	0.3	± 0.03	0.1	± 0.02	0.4	± 0.05
S2	2	1998	0.6		0		0.6		0.8		0.2		1.0	
S2	5	2001	<0.01		0.01		0.01		0.6		0.2		0.8	
S3	2	1998	0.1		0		0.2		0.4		0.2		0.6	
S3	1	2003	0.01	± <0.01	0	± -	0.01	± <0.01	0.1	± 0.01	0.1	± 0.01	0.2	± 0.02
Follow on products														
<i>Casein-dominant:</i>														
CF1	2	2003	<0.01	± <0.01	0	± -	<0.01	± <0.01	0.1	± 0.02	0.1	± 0.02	0.3	± 0.03
CF2	2	2003	<0.01	± <0.01	0	± -	<0.01	± <0.01	0.2	± 0.02	0.1	± 0.02	0.3	± 0.03
CF3	1	2003	<0.01	± <0.01	0	± -	0.01	± <0.01	0.2	± 0.02	0.1	± 0.02	0.3	± 0.03
CF4	9	2003	0.03	± <0.01	0	± -	0.03	± <0.01	0.2	± 0.02	0.1	± 0.02	0.3	± 0.03
CF5	1	2003	<0.01	± <0.01	0	± -	<0.01	± <0.01	0.2	± 0.02	0.1	± 0.02	0.3	± 0.03
CF6	1	2003	0.03	± <0.01	0	± -	0.03	± <0.01	0.2	± 0.02	0.1	± 0.02	0.3	± 0.03
<i>Whey-dominant:</i>														
WF1	1	2003	<0.01	± <0.01	0	± -	<0.01	± <0.01	0.1	± 0.02	0.1	± 0.02	0.3	± 0.03
WF2	1	2003	<0.01	± <0.01	0	± -	<0.01	± <0.01	0.1	± 0.02	0.1	± 0.02	0.3	± 0.03
WF3	1	2003	0	± -	0	± -	0	± -	0.1	± 0.02	0.1	± 0.02	0.3	± 0.03

Notes: Combined concentrations of dioxins and dioxin-like PCBs may not equal the sum of the separate concentrations due to rounding.

* This product is a ready-to-feed liquid.. The other products are dry formulation products.

Table 2a: Lower and upper bound dietary intakes by formula-fed infants at birth of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
a) Casein-dominant formulae (ng WHO-TEQ/kg fat basis as sold)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at birth					
		Lower bound			Upper bound		
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Casein-dominant:</i>							
C1	1998	0.7	0.7	1.4	2.7	1.7	3.4
C1	2003	0.4 ± 0.04	0 ± -	0.4 ± 0.04	1.5 ± 0.2	0.8 ± 0.1	1.9 ± 0.2
C2	1998	2.0	0.7	2.5	3.2	1.6	4.8
C2	2003	0.05 ± <0.01	0 ± -	0.05 ± <0.01	0.9 ± 0.09	0.7 ± 0.09	1.6 ± 0.2
C3	1998	2.1	0.5	2.6	2.6	1.4	4.0
C3	2003	0.3 ± 0.02	0 ± -	0.3 ± 0.02	1.1 ± 0.1	0.7 ± 0.09	1.8 ± 0.2
C4	1998	0.8	0.8	1.5	2.6	2.1	4.6
C4	2003	0.2 ± 0.03	0 ± -	0.2 ± 0.03	1.1 ± 0.1	0.7 ± 0.09	1.8 ± 0.2
C5	1998	1.3	0.4	1.6	3.4	1.6	5.0
C5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.9 ± 0.1	0.8 ± 0.1	1.6 ± 0.2
C6	1998	0.6	0.6	1.3	3.9	2.6	6.2
C7	2003	0.05 ± <0.01	0 ± -	0.05 ± <0.01	0.7 ± 0.4	0.7 ± 0.4	1.4 ± 0.6
C8	2003	0.07 ± 0.01	0 ± -	0.07 ± 0.01	1.0 ± 0.1	0.7 ± 0.1	1.7 ± 0.2
C9	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.9 ± 0.09	0.7 ± 0.09	1.6 ± 0.2

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at birth. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk.

Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 2b: Lower and upper bound dietary intakes by formula-fed infants at birth of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
b) Soya-based (ng WHO-TEQ/kg fat basis as sold)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at birth					
		Lower bound			Upper bound		
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Soya-based:</i>							
S1	1998	0.5	0.3	0.8	2.8	1.7	4.5
S1	2003	0.7 ± 0.09	0 ± -	0.8 ± 0.09	1.8 ± 0.2	1.1 ± 0.1	2.9 ± 0.3
S2	1998	4.8	0.3	5.0	6.3	2.1	8.2
S2	2001	0.01	0.05	0.07	3.4	1.3	5.0
S3	1998	0.8	0.4	1.1	2.4	1.5	4.0
S3	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.6 ± 0.09	0.6 ± 0.06	1.3 ± 0.1

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at birth. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk.
 Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 2c: Lower and upper bound dietary intakes by formula-fed infants at birth of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
c) Whey-dominant formulae (ng WHO-TEQ/kg fat basis as sold)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at birth						
		Lower bound			Upper bound			
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs	
<i>Whey-dominant:</i>								
W1	1998	2.5	0.3	2.9	3.6	1.4	5.0	
W1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.9 ± 0.09	0.7 ± 0.11	1.6 ± 0.20	
W2	1998	6.0	4.9	11	6.9	5.7	12	
W2	2001	0.2	1.7	2.0	3.3	2.7	6.0	
W2	2003	0.04 ± <0.01	0 ± -	0.04 ± <0.01	0.9 ± 0.4	0.7 ± 0.3	1.3 ± 0.7	
W3	1998	1.3	0.3	1.5	5.9	1.8	7.7	
W3	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.9 ± 0.1	0.7 ± 0.1	1.4 ± 0.2	
W4	1998	1.0	0.3	1.2	2.0	1.7	3.7	
W4	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.7 ± 0.1	0.7 ± 0.1	1.5 ± 0.2	
W5	1998	2.4	2.4	4.5	3.8	3.1	6.9	
W6	2003	0 ± -	0 ± -	0 ± -	0.6 ± 0.0	0.6 ± 0.1	1.2 ± 0.1	
W7	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.7 ± 0.0	0.7 ± 0.2	1.4 ± 0.2	
W8	2003	0.05 ± <0.01	0 ± -	0.05 ± <0.01	0.7 ± 0.09	0.7 ± 0.12	1.4 ± 0.1	
W9	2003	0.03 ± <0.01	<0.01 ± <0.01	0.03 ± <0.01	0.8 ± 0.1	0.8 ± 0.08	1.5 ± 0.2	
W10	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.9 ± 0.1	0.7 ± 0.09	1.5 ± 0.2	
W11	2003	0.3 ± 0.03	0 ± -	0.3 ± 0.03	0.9 ± 0.2	0.6 ± 0.1	1.5 ± 0.2	

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at birth. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk.
 Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 3a: Lower and upper bound dietary intakes by formula-fed infants at 6 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
a) Casein-dominant and soya-based formulae (ng WHO-TEQ/kg fat basis as sold)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at six months						
		Lower bound			Upper bound			
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs	Dioxins+PCBs
<i>Casein-dominant:</i>								
C1	1998	0.5	0.5	1.0	1.9	1.2	2.4	
C1	2003	0.3 ± 0.03	0 ± -	0.3 ± 0.03	1.1 ± 0.1	0.5 ± 0.08	1.3 ± 0.2	
C2	1998	1.5	0.5	1.8	2.3	1.1	3.4	
C2	2003	0.04 ± <0.01	0 ± -	0.04 ± <0.01	0.8 ± 0.08	0.6 ± 0.08	1.3 ± 0.1	
C3	1998	1.9	0.4	2.3	2.3	1.3	3.6	
C3	2003	0.2 ± 0.02	0 ± -	0.2 ± 0.02	1.0 ± 0.1	0.6 ± 0.08	1.6 ± 0.2	
C4	1998	0.6	0.6	1.1	1.8	1.5	3.3	
C4	2003	0.2 ± 0.02	0 ± -	0.2 ± 0.02	0.9 ± 0.10	0.6 ± 0.07	1.5 ± 0.15	
C5	1998	1.2	0.4	1.4	3.1	1.4	4.5	
C5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.6 ± 0.07	0.5 ± 0.07	1.1 ± 0.1	
C6	1998	0.4	0.4	0.7	2.2	1.4	3.4	
C7	2003	0.04 ± <0.01	0 ± -	0.04 ± <0.01	0.6 ± 0.4	0.6 ± 0.3	1.3 ± 0.6	
C8	2003	0.06 ± <0.01	0 ± -	0.06 ± <0.01	0.9 ± 0.1	0.6 ± 0.09	1.5 ± 0.2	
C9	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.8 ± 0.08	0.6 ± 0.08	1.3 ± 0.1	

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 6 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.
 Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 3b: Lower and upper bound dietary intakes by formula-fed infants at 6 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
b) Soya-based formulae (ng WHO-TEQ/kg fat basis as sold)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at six months					
		Lower bound			Upper bound		
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Soya-based:</i>							
S1	1998	0.3	0.2	0.6	2.0	1.2	3.2
S1	2003	0.5 ± 0.06	0 ± -	0.6 ± 0.06	1.3 ± 0.2	0.8 ± 0.09	2.1 ± 0.2
S2	1998	4.2	0.3	4.5	5.6	1.9	7.3
S2	2001	0.01	0.05	0.1	3.1	1.2	4.5
S3	1998	0.6	0.3	0.8	1.8	1.1	2.9
S3	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.5 ± 0.07	0.5 ± 0.05	1.1 ± 0.1

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 6 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.

Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

**Table 3c: Lower and upper bound dietary intakes by formula-fed infants at 6 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
c) Whey-dominant formulae (ng WHO-TEQ/kg fat basis as sold)**

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at six months						
		Lower bound			Upper bound			
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs	
<i>Whey-dominant:</i>								
W1	1998	1.8	0.2	2.1	2.6	1.0	3.6	
W1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.8 ± 0.08	0.6 ± 0.09	1.3 ± 0.17	
W2	1998	5.3	4.4	9.7	6.1	5.1	11.1	
W2	2001	0.20	1.5	1.8	3.0	2.4	5.3	
W2	2003	0.04 ± <0.01	0 ± -	0.04 ± <0.01	0.8 ± 0.3	0.6 ± 0.3	1.2 ± 0.6	
W3	1998	0.9	0.2	1.1	4.2	1.3	5.5	
W3	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.7 ± 0.1	0.6 ± 0.1	1.2 ± 0.1	
W4	1998	0.9	0.3	1.1	1.7	1.5	3.3	
W4	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.5 ± 0.1	0.5 ± 0.0	1.0 ± 0.1	
W5	1998	1.3	1.3	2.5	2.1	1.7	3.8	
W6	2003	0 ± -	0 ± -	0 ± -	0.5 ± 0.00	0.5 ± 0.1	1.1 ± 0.1	
W7	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.5 ± 0.00	0.5 ± 0.1	1.0 ± 0.1	
W8	2003	0.03 ± <0.01	0 ± -	0.03 ± <0.01	0.5 ± 0.07	0.5 ± 0.08	1.0 ± 0.1	
W9	2003	0.02 ± <0.01	<0.01 ± <0.01	0.02 ± <0.01	0.6 ± 0.09	0.6 ± 0.06	1.3 ± 0.1	
W10	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.7 ± 0.09	0.6 ± 0.07	1.3 ± 0.1	
W11	2003	0.3 ± 0.03	0 ± -	0.3 ± 0.03	0.8 ± 0.13	0.5 ± 0.1	1.3 ± 0.1	

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 6 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.

Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 4a: Lower and upper bound dietary intakes by formula-fed infants at 9 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
a) Casein-dominant formulae (ng WHO-TEQ/kg fat basis as sold)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 9 months					
		Lower bound			Upper bound		
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Casein-dominant:</i>							
C1	1998	0.3	0.3	0.6	1.2	0.8	1.5
C1	2003	0.2 ± 0.02	0 ± -	0.2 ± 0.02	0.7 ± 0.08	0.3 ± 0.05	0.8 ± 0.1
C2	1998	0.9	0.3	1.1	1.5	0.7	2.2
C2	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.7 ± 0.07
C3	1998	1.0	0.2	1.2	1.2	0.7	1.8
C3	2003	0.1 ± 0.01	0 ± -	0.1 ± 0.01	0.5 ± 0.06	0.3 ± 0.04	0.8 ± 0.08
C4	1998	0.3	0.3	0.7	1.2	0.9	2.1
C4	2003	0.1 ± 0.01	0 ± -	0.1 ± 0.01	0.5 ± 0.06	0.3 ± 0.04	0.8 ± 0.08
C5	1998	0.8	0.3	0.9	2.1	0.9	3.0
C5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.04	0.6 ± 0.07
C6	1998	0.3	0.3	0.6	1.9	1.3	3.1
C7	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.3 ± 0.2	0.3 ± 0.2	0.7 ± 0.3
C8	2003	0.03 ± <0.01	0 ± -	0.03 ± <0.01	0.4 ± 0.06	0.3 ± 0.04	0.8 ± 0.08
C9	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.7 ± 0.07

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 9 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.
 Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

**Table 4b: Lower and upper bound dietary intakes by formula-fed infants at 9 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
b) Soya-based formulae (ng WHO-TEQ/kg fat basis as sold)**

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 9 months					
		Lower bound			Upper bound		
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Soya based:</i>							
S1	1998	0.2	0.1	0.4	1.3	0.8	2.0
S1	2003	0.3 ± 0.04	0 ± -	0.4 ± 0.04	0.8 ± 0.09	0.5 ± 0.06	1.3 ± 0.1
S2	1998	2.8	0.2	3.0	3.8	1.3	4.9
S2	2001	0.01	0.03	0.04	2.1	0.8	3.0
S3	1998	0.36	0.17	0.51	1.1	0.7	1.8
S3	2003	0.01 ± <0.01	0 ± -	0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.03	0.6 ± 0.06

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 9 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.
Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

**Table 4c: Lower and upper bound dietary intakes by formula-fed infants at 9 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
c) Whey-dominant formulae (ng WHO-TEQ/kg fat basis as sold)**

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 9 months					
		Lower bound			Upper bound		
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Whey-dominant:</i>							
W1	1998	1.1	0.2	1.3	1.7	0.6	2.3
W1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.05	0.7 ± 0.09
W2	1998	2.7	2.2	5.0	3.1	2.6	5.7
W2	2001	0.1	0.8	0.9	1.5	1.2	2.7
W2	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.4 ± 0.2	0.3 ± 0.2	0.6 ± 0.3
W3	1998	0.6	0.2	0.7	2.7	0.8	3.5
W3	2003	0.01 ± <0.01	0 ± -	0.01 ± <0.01	0.4 ± 0.0	0.3 ± 0.0	0.7 ± 0.1
W4	1998	0.6	0.2	0.7	1.2	1.0	2.2
W4	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.0	0.3 ± 0.0	0.6 ± 0.1
W5	1998	1.2	1.2	2.2	1.9	1.6	3.5
W6	2003	0 ± -	0 ± -	0 ± -	0.3 ± 0.00	0.3 ± 0.1	0.5 ± 0.1
W7	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.00	0.3 ± 0.1	0.6 ± 0.1
W8	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.3 ± 0.04	0.3 ± 0.05	0.6 ± 0.06
W9	2003	0.01 ± <0.01	<0.01 ± <0.01	0.01 ± <0.01	0.4 ± 0.05	0.4 ± 0.04	0.7 ± 0.07
W10	2003	0.01 ± <0.01	0 ± -	0.01 ± <0.01	0.4 ± 0.05	0.3 ± 0.04	0.7 ± 0.07
W11	2003	0.1 ± 0.01	0 ± -	0.1 ± 0.01	0.4 ± 0.07	0.3 ± 0.1	0.7 ± 0.1

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 9 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.
Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 5a: Lower and upper bound dietary intakes by formula-fed infants at 12 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
a) Casein-dominant formulae (ng WHO-TEQ/kg fat basis as sold)

Product code		Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 12 months					
			Lower bound			Upper bound		
			Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Casein-dominant:</i>								
C1	0.00943	1998	0.3	0.3	0.6	1.1	0.7	1.4
C1		2003	0.2 ± 0.02	0 ± -	0.2 ± 0.02	0.6 ± 0.08	0.3 ± 0.05	0.8 ± 0.1
C2		1998	0.8	0.3	1.0	1.3	0.7	2.0
C2		2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.7 ± 0.07
C3		1998	0.9	0.2	1.1	1.1	0.6	1.7
C3		2003	0.1 ± <0.01	0 ± -	0.1 ± <0.01	0.5 ± 0.06	0.3 ± 0.04	0.7 ± 0.07
C4		1998	0.3	0.3	0.6	1.1	0.8	1.9
C4		2003	0.09 ± <0.01	0 ± -	0.09 ± <0.01	0.5 ± 0.05	0.3 ± 0.04	0.7 ± 0.07
C5		1998	0.7	0.2	0.9	1.9	0.9	2.7
C5		2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.04	0.6 ± 0.07
C6		1998	0.3	0.3	0.6	1.8	1.2	2.8
C7		2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.3 ± 0.2	0.3 ± 0.2	0.6 ± 0.3
C8		2003	0.03 ± <0.01	0 ± -	0.03 ± <0.01	0.4 ± 0.05	0.3 ± 0.04	0.7 ± 0.07
C9		2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.7 ± 0.07

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 12 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.
 Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 5b: Lower and upper bound dietary intakes by formula-fed infants at 12 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
b) Soya-based formulae (ng WHO-TEQ/kg fat basis as sold)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 12 months						
		Lower bound			Upper bound			
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs	
<i>Soya-based:</i>								
S1	1998	0.2	0.1	0.3	1.2	0.7	1.8	
S1	2003	0.3 ± 0.04	0 ± -	0.3 ± 0.04	0.8 ± 0.09	0.4 ± 0.05	1.2 ± 0.1	
S2	1998	2.6	0.2	2.7	3.4	1.1	4.5	
S2	2001	<0.01	0.03	0.04	1.9	0.7	2.7	
S3	1998	0.3	0.2	0.5	1.0	0.6	1.7	
S3	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.03	0.5 ± 0.05	

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 12 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.
 Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 5c: Lower and upper bound dietary intakes by formula-fed infants at 12 months of dioxins and dioxin-like PCBs (pg WHO-TEQ/kg bodyweight/day)
c) Whey-dominant and soya-based formulae (ng WHO-TEQ/kg fat basis as sold)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 12 months						
		Lower bound			Upper bound			
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs	
<i>Whey-dominant:</i>								
W1	1998	1.0	0.1	1.2	1.5	0.6	2.1	
W1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.05	0.7 ± 0.08	
W2	1998	2.5	2.0	4.5	2.9	2.4	5.2	
W2	2001	0.09	0.7	0.8	1.4	1.1	2.5	
W2	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.4 ± 0.1	0.3 ± 0.1	0.6 ± 0.3	
W3	1998	0.53	0.1	0.6	2.4	0.7	3.2	
W3	2003	0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.6 ± 0.1	
W4	1998	0.5	0.2	0.7	1.1	0.9	2.0	
W4	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.0	0.3 ± 0.0	0.5 ± 0.1	
W5	1998	1.1	1.1	2.0	1.7	1.4	3.1	
W6	2003	0 ± -	0 ± -	0 ± -	0.2 ± 0.00	0.2 ± 0.1	0.5 ± 0.1	
W7	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.00	0.3 ± 0.1	0.6 ± 0.1	
W8	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.3 ± 0.04	0.3 ± 0.05	0.6 ± 0.06	
W9	2003	0.01 ± <0.01	<0.01 ± <0.01	0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.03	0.6 ± 0.06	
W10	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.05	0.3 ± 0.04	0.6 ± 0.06	
W11	2003	0.1 ± 0.01	0 ± -	0.1 ± 0.01	0.4 ± 0.06	0.3 ± 0.0	0.6 ± 0.1	

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 12 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.
 Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 6: Lower and upper bound dietary intakes by formula-fed infants at 6 months of dioxins and dioxin-like PCBs from follow on formulae (pg WHO-TEQ/kg bodyweight/day)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 6 months						
		Lower bound			Upper bound			
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs	
<i>Casein-dominant:</i>								
CF1	2003	0.02 ± <0.01	0 ± -	0.02 ± <0.01	0.8 ± 0.08	0.6 ± 0.08	1.2 ± 0.1	
CF2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.5 ± 0.05	0.4 ± 0.05	0.8 ± 0.08	
CF3	2003	0.05 ± <0.01	0 ± -	0.05 ± <0.01	0.7 ± 0.09	0.7 ± 0.09	1.4 ± 0.1	
CF4	2003	0.06 ± 0.01	0 ± -	0.06 ± 0.01	0.4 ± 0.05	0.4 ± 0.04	0.8 ± 0.09	
CF5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.7 ± 0.09	0.7 ± 0.09	1.3 ± 0.1	
CF6	2003	0.16 ± 0.02	0 ± -	0.2 ± 0.02	0.8 ± 0.10	0.6 ± 0.06	1.4 ± 0.1	
<i>Whey-dominant:</i>								
WF1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.03	0.7 ± 0.07	
WF2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.05	0.4 ± 0.05	0.8 ± 0.08	
WF3	2003	0 ± -	0 ± -	0 ± -	0.7 ± 0.09	0.7 ± 0.09	1.4 ± 0.1	

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 6 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.
 Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 7: Lower and upper bound dietary intakes by formula-fed infants at 9 months of dioxins and dioxin-like PCBs from follow on formulae (pg WHO-TEQ/kg bodyweight/day)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 9 months					
		Lower bound			Upper bound		
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs
<i>Casein-dominant:</i>							
CF1	2003	0.01 ± <0.01	0 ± -	0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.7 ± 0.07
CF2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.7 ± 0.07
CF3	2003	0.05 ± <0.01	0 ± -	0.03 ± <0.01	0.4 ± 0.05	0.4 ± 0.05	0.8 ± 0.08
CF4	2003	0.05 ± <0.01	0 ± -	0.05 ± <0.01	0.4 ± 0.05	0.3 ± 0.04	0.7 ± 0.07
CF5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.04	0.5 ± 0.05
CF6	2003	0.09 ± 0.01	0 ± -	0.09 ± 0.01	0.4 ± 0.06	0.3 ± 0.03	0.8 ± 0.08
<i>Whey-dominant:</i>							
WF1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.03	0.6 ± 0.03
WF2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.04	0.6 ± 0.06
WF3	2003	0 ± -	0 ± -	0 ± -	0.4 ± 0.05	0.4 ± 0.05	0.8 ± 0.08

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 9 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.

Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 8: Lower and upper bound dietary intakes by formula-fed infants at 12 months of dioxins and dioxin-like PCBs from follow on formulae (pg WHO-TEQ/kg bodyweight/day)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 12 months						
		Lower bound			Upper bound			
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs	
<i>Casein-dominant:</i>								
CF1	2003	0.01 ± <0.01	0 ± -	0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.6 ± 0.06	
CF2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.6 ± 0.06	
CF3	2003	0.05 ± <0.01	0 ± -	0.02 ± <0.01	0.3 ± 0.05	0.3 ± 0.05	0.7 ± 0.07	
CF4	2003	0.05 ± <0.01	0 ± -	0.05 ± <0.01	0.3 ± 0.04	0.3 ± 0.03	0.6 ± 0.07	
CF5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.2 ± 0.03	0.2 ± 0.03	0.5 ± 0.05	
CF6	2003	0.08 ± 0.01	0 ± -	0.08 ± 0.01	0.4 ± 0.05	0.3 ± 0.03	0.7 ± 0.07	
<i>Whey-dominant:</i>								
WF1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.03	0.5 ± 0.03	
WF2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.04	0.3 ± 0.04	0.6 ± 0.06	
WF3	2003	0 ± -	0 ± -	0 ± -	0.3 ± 0.05	0.3 ± 0.05	0.7 ± 0.07	

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 12 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.

Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

Table 9: Lower and upper bound dietary intakes by formula-fed infants at 18 months of dioxins and dioxin-like PCBs from follow on formulae (pg WHO-TEQ/kg bodyweight/day)

Product code	Year	Dietary intakes (pg WHO-TEQ/kg bodyweight/day) at 18 months						
		Lower bound			Upper bound			
		Dioxins	PCBs	Dioxins+PCBs	Dioxins	PCBs	Dioxins+PCBs	Dioxins+PCBs
<i>Casein-dominant:</i>								
CF1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.3 ± 0.03	0.3 ± 0.03	0.5 ± 0.05	
CF2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.4 ± 0.04	0.3 ± 0.04	0.5 ± 0.05	
CF3	2003	0.05 ± <0.01	0 ± -	0.02 ± <0.01	0.3 ± 0.04	0.3 ± 0.04	0.6 ± 0.06	
CF4	2003	0.04 ± <0.01	0 ± -	0.04 ± <0.01	0.3 ± 0.04	0.3 ± 0.03	0.6 ± 0.06	
CF5	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.2 ± 0.03	0.2 ± 0.03	0.4 ± 0.04	
CF6	2003	0.07 ± <0.01	0 ± -	0.07 ± <0.01	0.3 ± <0.01	0.3 ± 0.03	0.6 ± 0.06	
<i>Whey-dominant:</i>								
WF1	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.2 ± 0.03	0.2 ± 0.02	0.5 ± 0.02	
WF2	2003	<0.01 ± <0.01	0 ± -	<0.01 ± <0.01	0.2 ± 0.03	0.2 ± 0.03	0.5 ± 0.05	
WF3	2003	0 ± -	0 ± -	0 ± -	0.3 ± 0.04	0.3 ± 0.04	0.6 ± 0.06	

Notes: Dietary intakes have been estimated by multiplying the average fresh weight concentrations found in the various products by the manufacturers' recommended feeding quantities at the age of 18 months. The intakes do not take account of exposure to dioxins and dioxin-like PCBs from breast milk or from baby foods.

Combined dietary intakes of dioxins and dioxin-like PCBs may not equal the sum of the separate exposures due to rounding.

**Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples
Infant formulae purchased in 1998**

Annex 1a

Sample No	Product code	casein/ whey/ soya	Description	Manu- facture r	Brand	Batch Information	Purchas e Date	Size (g)	Best before date	Retailer	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased					
											Upper bound			Lower bound		
											Dioxins	PCBs	DX+PCBs	Dioxins	PCBs	DX+PCBs
3053	C1	c	RTF liquid	SMA	White	05004H; 19:22 42305 01F	28/5/98	1 litre	30/9/99	Tesco, Harford Bridge, Norwich	0.37	0.25	0.62	0.10	0.06	0.16
3054	C1	c	RTF liquid	SMA	White	05008H14; 42305	28/5/98	250 ml	24/2/99	Tesco, Harford Bridge, Norwich	0.34	0.26	0.60	0.07	0.09	0.16
3055	C1	c	RTF liquid	SMA	White	05006H18; 42305	28/5/98	250 ml	4/2/99	Tesco, Harford Bridge, Norwich	0.85	0.35	1.2	0.15	0.22	0.37
3056	C1	c	RTF liquid	SMA	White	05005H; 23:17	4/6/98	1litre	6/2/99	Boots the Chemists Ltd., Chingford Road, Walthamstow, London E4	0.26	0.26	0.52	0.11	0.12	0.23
3057	W1	w	Powder	Cow & Gate	Premium	W-8731- 027(1)01:38; 000799	28/5/98	450	27/1/00	Tesco, Harford Bridge, Norwich	0.67	0.24	0.91	0.58	0.07	0.65
3058	W1	w	Powder	Cow & Gate	Premium	W- 101(2)0206; 116132	28/5/98	450	11/4/00	Boots the Chemists Ltd., London Street, Norwich	0.43	0.23	0.66	0.17	0.04	0.21
3059	W1	w	Powder	Cow & Gate	Premium	W- 100(1)15:55; 094895	28/5/98	450	10/4/00	Boots the Chemists Ltd., Castle Mall, Norwich	0.81	0.23	1.0	0.79	0.05	0.84
3060	C2	c	Powder	Cow & Gate	Plus	W- 089(1)19:52; 011001	28/5/98	450	30/3/00	Tesco, Harford Bridge, Norwich	0.77	0.33	1.1	0.76	0.16	0.92
3061	W1	w	Powder	Cow & Gate	Premium	W 099(1)15:43; 031970	28/5/98	450	9/4/00	J Sainsbury, Brazen Gate, Norwich	0.53	0.24	0.77	0.16	0.07	0.23
3062	C3	c	Powder	Milupa	Milumil	W- 064(1)03:29; 004820	28/5/98	450	5/3/00	Moss Chemists, Colman Road, Norwich	0.44	0.22	0.66	0.44	0.04	0.48
3063	C2	c	Powder	Cow & Gate	Plus	W- 098(1)22:52;	28/5/98	450	8/4/00	Boots the Chemists Ltd.,	0.42	0.25	0.67	0.19	0.08	0.27

						004155				London Street, Norwich						
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**Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples
Infant formulae purchased in 1998**

Annex 1a (continued)

Sample No	Product code	casein/ whey/ soya	Description	Manu- facture r	Brand	Batch Information	Purchas e Date	Size (g)	Best before date	Retailer	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased					
											Upper bound			Lower bound		
											Dioxins	PCBs	DX+PCBs	Dioxins	PCBs	DX+PCBs
3064	C2	c	Powder	Cow & Gate	Plus	W- 084(1)07:59; 018137	28/5/98	450	25/3/00	Boots the Chemists Ltd., Castle Mall, Norwich	0.42	0.30	0.72	0.21	0.11	0.32
3065	W2	w	Powder	Milupa	Aptamil	L:3101330C	28/5/98	450	6/5/99	Boots the Chemists Ltd., Castle Mall, Norwich	1.9	1.2	3.1	1.9	0.98	2.9
3066	W2	w	Powder	Milupa	Aptamil	L:2390732C	28/5/98	450	276/2/99	Moss Chemists, Colman Road, Norwich	0.41	0.79	1.2	0.17	0.67	0.84
3067	C3	c	Powder	Milupa	Milumil	W- 118(1)02:23; 007566	28/5/98	450	28/4/00	Boots the Chemists Ltd., Castle Mall, Norwich	0.54	0.29	0.83	0.36	0.15	0.51
3068	W3	w	Powder	SMA	Gold	D8A072 F;65842 00:29	28/5/98	450	28/1/01	J Sainsbury, Brazen Gate, Norwich	0.92	0.26	1.2	<0.01	0.07	0.07
3069	W3	w	Powder	SMA	Gold	D8A062 K;213033 13:01	28/5/98	450	28/1/01	Superdrug, Castle Mall, Norwich	1.5	0.24	1.8	0.26	0.05	0.31
3070	W3	w	Powder	SMA	Gold	H8C264 X;02434 08:23	5/6/98	900	28/3/01	Londis, De Beauvoir Road, Hackney, London N1	0.33	0.22	0.55	0.22	0.03	0.25
3071	W3	w	Powder	SMA	Gold	H8C254 X;25346 13:29	28/5/98	900	28/3/01	AAH Retail Pharmacy Ltd., Colman Road, Norwich	0.34	0.22	0.56	0.14	0.03	0.17
3072	W4	w	Powder	Farley	First Milk	821A 20:32	8/6/98	900	18/5/00	Boots the Chemists Ltd., Anglia Square, Norwich	0.27	0.22	0.49	0.11	0.03	0.14

3073	W4	w	Powder	Farley	First Milk	813C 00:12	28/5/98	450	25/3/00	Boots the Chemists Ltd., Castle Mall, Norwich	0.29	0.23	0.52	0.13	0.06	0.19
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**Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples
Infant formulae purchased in 1998**

Annex 1a (continued)

Sample No	Product code	casein/whey/soya	Description	Manufacturer	Brand	Batch Information	Purchase Date	Size (g)	Best before date	Retailer	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased					
											Upper bound			Lower bound		
											Dioxins	PCBs	DX+PCBs	Dioxins	PCBs	DX+PCBs
3074	C4	c	Powder	SMA	White	L8C194; 48269 15:40	28/5/98	900	28/3/01	Boots the Chemists Ltd., London Street, Norwich	0.29	0.32	0.61	0.02	0.13	0.15
3075	C4	c	Powder	SMA	White	J8A142 K;49676 19:16	28/5/98	450	28/1/01	Boots the Chemists Ltd., Castle Mall, Norwich	0.34	0.24	0.58	0.12	0.06	0.18
3076	C4	c	Powder	SMA	White	J8A132 F;50308 19:16	5/6/98	450	28/1/01	Springfield Chemists, Hoxton Road, Hackney London	0.36	0.33	0.69	0.13	0.16	0.29
3077	C4	c	Powder	SMA	White	J8C032 E;47534 20:44	28/5/98	450	28/3/01	J Sainsbury, Brazen Gate, Norwich	0.40	0.22	0.62	0.14	0.05	0.19
3078	C4	c	Powder	SMA	White	J8A142 F;65284 22:23	28/5/98	450	28/1/01	J Sainsbury, Brazen Gate, Norwich	0.32	0.22	0.54	0.08	0.03	0.11
3079	C5	c	Powder	Farley	Second Milk	813C 11:36	28/5/98	450	25/12/99	Boots the Chemists Ltd., Castle Mall, Norwich	0.63	0.28	0.91	0.22	0.12	0.34
3080	C5	c	Powder	Farley	Second Milk	817C 15:09	8/6/98	900	22/1/00	J Sainsbury, Brazen Gate, Norwich	0.61	0.26	0.87	0.17	0.07	0.24
3081	C2	c	Powder	Cow & Gate	Plus	W- 071(2)18:04; 038907	28/5/98	450	12/3/00	Boots the Chemists Ltd., Castle Mall, Norwich	0.45	0.24	0.69	0.16	0.06	0.22
3082	W5	w	Powder	Boots	Formula 1	LOT 09 HU3 000723; 11:55:13	28/5/98	300	31/3/99	Boots the Chemists Ltd., Castle Mall, Norwich	0.38	0.32	0.70	0.35	0.20	0.55

3083	W5	w	Powder	Boots	Formula 1	LOT 005 APP 014625; 14:46:49	28/5/98	300	30/6/98	Boots the Chemists Ltd., London Street, Norwich	0.38	0.37	0.75	0.12	0.30	0.42
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**Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples
Infant formulae purchased in 1998**

Annex 1a (continued)

Sample No	Product code	casein/whey/soya	Description	Manufacturer	Brand	Batch Information	Purchase Date	Size (g)	Best before date	Retailer	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased					
											Upper bound			Lower bound		
											Dioxins	PCBs	DX+PCBs	Dioxins	PCBs	DX+PCBs
3084	C6	c	Powder	Boots	Formula 2	LOT 008 HFP 015292; 07:35:24	28/5/98	900	28/2/99	Boots the Chemists Ltd., London Street, Norwich	0.59	0.25	0.84	0.01	0.07	0.08
3085	C6	c	Powder	Boots	Formula 2	LOT 006 APD 009106; 11:07:08	28/5/98	300	30/6/98	Boots the Chemists Ltd., Castle Mall, Norwich	0.28	0.26	0.54	0.12	0.07	0.19
3086	S1	s	Powder	SMA	Wysoy	N7H124 W; 15:20 66451	5/6/98	430	28/8/00	Boots the Chemists Ltd, Bethnal Green Road, Bethnal Green, London E2	0.30	0.21	0.51	0.11	0.03	0.14
3087	S1	s	Powder	SMA	Wysoy	V8B 254 W; 14:07 45729	28/5/98	860	28/2/01	Boots the Chemists Ltd., Castle Mall, Norwich	0.38	0.22	0.60	0.01	0.03	0.04
3088	S2	s	Powder	Farley	Soya Formula	738DX 13:36	10/6/98	900	18/9/99	Boots the Chemists Ltd., Castle Mall, Norwich	0.29	0.24	0.53	0.10	0.05	0.15
3089	S2	s	Powder	Farley	Soya Formula	813 AXR 10:41	28/5/98	900	23/3/00	Boots the Chemists Ltd., Castle Mall, Norwich	1.3	0.22	1.6	1.1	0.03	1.1
3090	S3	s	Powder	Cow & Gate	Infasoy	41 2650; 010112	28/5/98	900	5/3/00	Boots the Chemists Ltd., Castle Mall, Norwich	0.41	0.23	0.64	0.18	0.04	0.22
3091	S3	s	Powder	Cow & Gate	Infasoy	41 2801; 008638	28/5/98	900	25/3/00	Tesco, Harford Bridge, Norwich	0.34	0.25	0.59	0.08	0.08	0.16

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae purchased in 2001

Annex 1b

Sample No	Product code	Formula type	Description	Brand	Brand	Batch Information	Purchase Date	Size (g)	Best before date	Retailer	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased					
											Upper bound			Lower bound		
											Dioxins	PCBs	DX+PCBs	Dioxins	PCBs	DX+PCBs
6046	W2	w	Powder	Milupa	Aptimil First with milupan	L:2701907c		450	26/3/02	Sainsburys, Monks cross, York	0.57	0.25	0.82	<0.01	0.06	0.063
6047	W2	w	Powder	Milupa	Aptimil First with milupan	L:2700839c		450	26/3/02	Sainsburys, New Costessey, Norwich	0.57	0.22	0.79	<0.01	<0.01	<0.01
6048	W2	w	Powder	Milupa	Aptimil First with milupan	L: 2830808c		450	9/4/02	Hull	0.57	0.22	0.79	<0.01	<0.01	<0.01
6049	W2	w	Powder	Milupa	Aptimil First with milupan	L:2161541c		450	3/2/02	Mothercare, Clifton moor, York	0.57	0.22	0.79	<0.01	<0.01	<0.01
6050	W2	w	Powder	Milupa	Aptimil First with milupan	L: 3011510c		450	27/4/02	Tesco, Clifton moor, York	0.57	0.22	0.79	<0.01	<0.01	<0.01
6131	S2	s	Powder	Farley	Soya Formula	939E 07:33		900	1/10/00	Local Chemist, Strensall, York	0.59	0.47	1.1	0.03	0.29	0.32
6132	S2	s	Powder	Farley	Soya Formula	932D 13:29		900	12/8/01	Local Chemist, Strensall, York	0.58	0.45	1.0	0.06	0.27	0.33
6133	S2	s	Powder	Farley	Soya Formula	044B 22:09		900	31/10/02	Boots, Monks cross, York	0.59	0.48	1.1	0.07	0.3	0.37
6044	S2	s	Powder	Farley	Soya Formula	932D 13:29		900	12/8/01	Local Chemist, Strensall, York	0.59	0.45	1.0	0.07	0.27	0.34
6045	S2	s	Powder	Farley	Soya Formula	044B 22:38		900	31/10/02	Boots, Monks cross, York	0.58	0.47	1.1	0.01	0.29	0.3

Notes: RFT Ready to feed; c Casein-dominant; s Soya-based; w Whey-dominant

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae

Annex 1c

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
301933	W3	w	SMA	Gold	SE33	1	H3C244 U 15.15 083213	21/4/03	900g	28/2/05	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301934	C4	c	SMA	White	SE34	1	L3C214 H 18:25 097491	21/4/03	900g	28/2/06	0.12	±	0.01	0.11	±	0.02	0.23	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301935	W1	w	Cow & Gate	Premium 1	SE37	1	W-045-03 (2) 12.50 097011 and 097010	21/4/03	900g	14/2/05	0.14	±	0.02	0.11	±	0.02	0.25	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
301936	C2	c	Cow & Gate	Plus 1	SE38	1	W-064-03 (1) 11.36 043863 and 043864	21/4/03	900g	5/3/05	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301937	W9	w	Cow & Gate	Omneo Comfort 1	SE39	1	PO NR 242233 Prod date 23/02/03 03.53 13286 and 13285	21/4/03	900g	23/8/04	0.13	±	0.02	0.12	±	0.02	0.25	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301938	C9	c,o	Cow & Gate	Organic second milk	SE40	1	W-274-02 (2) 12:24 000624 and 000617	21/4/03	900 g	1/10/04	0.14	±	0.02	0.12	±	0.02	0.26	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301939	CF4	c	SMA	Progress	SE41	1	Q3D104 N 18.27 119829	21/4/03	900g	28/3/06	0.15	±	0.02	0.13	±	0.02	0.28	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000

301940	CF2	c	Milupa	Aptamil Forward 2	SE42	1	W-069-03 (1) 14.41 029691an d 029692	21/4/03	900g	9/9/04	0.18	±	0.02	0.14	±	0.02	0.32	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
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Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae

Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins		PCBs		DX+PCBs		Dioxins		PCBs		DX+PCBs							
301941	W3	w	SMA	Gold	NE1	2	H3C034 N 00.38 000383	21/4/03	900g	28/2/05	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301942	C4	c	SMA	White	NE2	2	L3C214 N 13.19 064242	21/4/03	900g	28/2/05	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301943	W1	w	Cow & Gate	Premium 1	NE3	2	W-072-03 (1) 14.01 055202 and 055200	21/4/03	900g	13/3/05	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301944	C2	c	Cow & Gate	Plus 1	NE4	2	W-063-03 (1) 05.28 027114 and 027115	21/4/03	900g	4/3/05	0.14	±	0.02	0.1	±	0.01	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301945	W9	w	Cow & Gate	Omneo Comfort 1	NE5	2	PO NR 242217 Prod date 13/02/03 10.02 15660 and 15661	21/4/03	900g	13/8/04	0.14	±	0.02	0.16	±	0.02	0.30	±	0.03	<0.01	±	0.001	<0.01	±	0.001	<0.01	±	0.000
301946	W10	w,o	Cow & Gate	Organic first milk	NE6	2	W-315-02 (2) 16.35 011767 and 011766	21/4/03	900g	11/11/04	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301947	C9	c,o	Cow & Gate	Organic second milk	NE7	2	W-315-02 (2) 23.06 011055 and 011056	21/4/03	900g	11/11/04	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301948	W8	w,o	HiPP	Infant	NE8	2	L2340	21/4/03	900g	11/12/03	0.14	±	0.02	0.16	±	0.02	0.30	±	0.03	0.02	±	0.002	0	±	-	0.02	±	0.002

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae
Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
301950	W3	w	SMA	Gold	NE10	3	H3C194 Y 23.22 123072	21/4/03	900g	28/2/05	0.14	±	0.02	0.10	±	0.01	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301951	C4	c	SMA	White	NE11	3	L3C214 D 02.58 014690	21/4/03	900g	28/2/06	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
301952	CF4	c	SMA	Progress	NE12	3	Q2S184 D 23.52 003234	21/4/03	900g	28/10/05	0.3	±	0.04	0.13	±	0.02	0.43	±	0.05	0.17	±	0.021	0	±	-	0.17	±	0.021
301953	W3	w	SMA	Gold	NE13	4	H2T264 U 13.06 064961	18/4/03	900g	28/11/04	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.001	0	±	-	<0.01	±	0.001
301954	C4	c	SMA	White	NE14	4	L3A214 Y 07.27 050399	18/4/03	900g	28/1/06	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	0.01	±	0.001	0	±	-	0.01	±	0.001
301994	W3	w	SMA	Gold	Sc15	5	H3C194 Z 01.45 013277	22/4/03	900g	28/2/05	0.14	±	0.02	0.10	±	0.01	0.24	±	0.03	0.014 2	±	0.002	0	±	-	0.014 2	±	0.002
301995	C4	c	SMA	White	Sc16	5	L3A234 Y 05.25 037289	22/4/03	900g	28/1/06	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.001	0	±	-	<0.01	±	0.001
301996	CF4	c	SMA	Progress	Sc17	5	Q3A134 Z 16.23 078468	22/4/03	900g	28/1/06	0.15	±	0.02	0.13	±	0.02	0.28	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
301997	W3	w	SMA	Gold	Sc18	6	H2T084 Z 15.29 039782	23/4/03	900 g	28/11/04	0.17	±	0.02	0.10	±	0.01	0.27	±	0.03	0.06	±	0.007	0	±	-	0.06	±	0.007
301998	C4	c	SMA	White	Sc19	6	J2A175 X 18.56 042566 and X 18.55 042539	23/4/03	2 x 450 g	28/1/05	0.21	±	0.03	0.10	±	0.01	0.31	±	0.03	0.10	±	0.012	0	±	-	0.10	±	0.012

302036	W3	w	SMA	Gold	Sc1	7	H3C244 X 02.49 007509	24/4/03	900 g	28/2/05	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302037	C4	c	SMA	White	Sc2	7	L3D054 U 22.29 079573	24/4/03	900 g	28/3/06	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae
Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
302038	W1	w	Cow & Gate	Premium 1	Sc3	7	W-065-03 (2) 12.14 020151 and 020152	24/4/03	900 g	6/3/05	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302039	C2	c	Cow & Gate	Plus	Sc4	7	W-052-03 (1) 07.56 097529 and 097530	24/4/03	900 g	21/2/05	0.14	±	0.02	0.11	±	0.02	0.25	±	0.03	0.02	±	0.002	0	±	-	0.02	±	0.002
302040	W9	w	Cow & Gate	Omneo Comfort 1	Sc5	7	PO NR 242217 Prod date: 13/02/03 02.33 20462 and 20463	24/4/03	900g	13/8/04	0.13	±	0.02	0.12	±	0.02	0.25	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302041	W10	w,o	Cow & Gate	Organic first milk	Sc6	7	W-315-02 (2) 13.48 006065 and 006064	24/4/03	900 g	11/11/04	0.13	±	0.02	0.12	±	0.02	0.25	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302042	C9	c,o	Cow & Gate	Organic second milk	Sc7	7	W-315-02 (1) 21.54 006538 and 006537	24/4/03	900 g	11/11/04	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302043	W2	w	Milupa	Aptamil first 1	Sc8	7	L:0481823 c	24/4/03	900 g	17/8/04	0.15	±	0.02	0.11	±	0.02	0.26	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302044	C7	c	Milupa	Aptamil Extra 1	Sc9	7	L:3502231 c	24/4/03	900 g	16/6/04	0.14	±	0.02	0.11	±	0.02	0.25	±	0.03	0.01	±	0.001	0	±	-	0.01	±	0.001
302045	C3	c	Milupa	Milumil	Sc10	7	W-035-03 (1) 02.24 027759	24/4/03	900 g	4/2/05	0.19	±	0.02	0.11	±	0.02	0.30	±	0.03	0.044	±	0.005	0	±	-	0.044	±	0.005

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae
Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins		PCBs		DX+PCBs		Dioxins		PCBs		DX+PCBs							
302048	W8	w,o	HIPP	Infant milk	Sc13	7	L 3069	24/4/03	900 g	19/3/04	0.14	±	0.02	0.15	±	0.02	0.29	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302049	CF4	c	SMA	Progress	Sc14	7	Q3D104 N 18.09 117685	24/4/03	900 g	28/3/06	0.14	±	0.02	0.12	±	0.02	0.26	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302050	W3	w	SMA	Gold	W12	8	H2H244 D13.01 095680	23/4/03	900 g	28/5/04	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302051	C4	c	SMA	White	W13	8	L3A234 UU 13.56 093580	23/4/03	900 g	28/1/06	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302052	CF4	c	SMA	Progress	W14	8	Q3D104 H 03.10 013298	23/4/03	900 g	28/3/06	0.14	±	0.02	0.13	±	0.02	0.27	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302053	W3	w	SMA	Gold	W15	9	H3A294 D 21.01 154003	23/4/03	900 g	28/1/05	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302054	C4	c	SMA	White	W16	9	L2C134 L02.04 012939	23/4/03	900 g	28/2/05	0.19	±	0.02	0.10	±	0.01	0.29	±	0.03	0.06	±	0.007	0	±	-	0.06	±	0.007
302055	C4	c	SMA	White	W2	10	L2T274 U 11.07 072780	23/4/03	900 g	28/11/05	0.14	±	0.02	0.10	±	0.01	0.24	±	0.03	0.02	±	0.002	0	±	-	0.02	±	0.002
302056	W1	w	Cow & Gate	Premium 1	W3	10	W-050-03 (1) 09.18 009491 and 009490	23/4/03	900 g	19/2/05	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302057	C2	c	Cow & Gate	Plus 1	W4	10	W-064-03 (2) 07.58 032169 and 032170	23/4/03	900 g	5/3/05	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302058	W4	w	Farley's	First Milk	W8	10	206B	23/4/03	900 g	1/2/04	0.11	±	0.01	0.10	±	0.01	0.21	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae

Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
302060	CF4	c	SMA	Progress	W11	10	Q3A134 U00.58002046	23/4/03	900 g	28/1/06	0.15	±	0.02	0.13	±	0.02	0.28	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302111	W3	w	SMA	Gold	SE1	11	H3C244 T12.07068860	29/4/03	900 g	28/2/05	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	0	±	0.000	0	±	-	0	±	0
302112	C4	c	SMA	White	SE2	11	L2T284 DD06.08045287	29/4/03	900 g	28/11/05	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	0.01	±	0.001	0	±	-	0.01	±	0.001
302113	W1	w	Cow & Gate	Premium 1	SE5	11	W-080-03 (1) 23.40047761 and 047762	29/4/03	900 g	21/3/05	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302114	C2	c	Cow & Gate	Plus 1	SE6	11	W-031-03 (1) 05.27035751 and 035752	29/4/03	900 g	31/1/05	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	0.012	±	0.001	0	±	-	0.012	±	0.001
302115	W9	w	Cow & Gate	Omneo Comfort 1	SE7	11	PO NR 241703 Prod date: 06/05/02 11.06 24264 and 24265	29/4/03	900 g	6/11/03	0.14	±	0.02	0.13	±	0.02	0.27	±	0.03	0	±	0.000	0	±	-	0	±	0
302116	W2	w	Milupa	Aptamil First 1	SE11	11	L:0711831c	29/4/03	900 g	12/9/04	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302117	C7	c	Milupa	Aptamil Extra 1	SE12	11	L:0641614c	29/4/03	900 g	5/9/04	0.14	±	0.02	0.12	±	0.02	0.26	±	0.03	0.01	±	0.001	0	±	-	0.01	±	0.001
302118	C8	c	Milupa	Milumil 1	SE13	11	W-142-02 (2) 08.22004613 and	29/4/03	900 g	22/5/04	0.17	±	0.02	0.14	±	0.02	0.31	±	0.03	0.02	±	0.002	0	±	-	0.02	±	0.002

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae
Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
302120	CF4	c	SMA	Progress	SE16	11	Q3D124 L 06.47 052457	29/4/03	900 g	28/3/06	0.15	±	0.02	0.13	±	0.02	0.28	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302121	CF6	c	Cow & Gate	Step up 2	SE18	11	W-057-03 (2) 22.37 008995 and 008996	29/4/03	900 g	26/2/05	0.16	±	0.02	0.11	±	0.02	0.27	±	0.03	<0.01	±	0.004	0	±	-	<0.01	±	0.004
302122	CF2	c	Milupa	Aptamil Forward 2	SE22	11	W-067-03 (2) 00.46 004150 and 004151	29/4/03	900 g	7/9/04	0.15	±	0.02	0.14	±	0.02	0.29	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302123	WF1	w	Farley's	Follow on milk	SE24	11	307CP 12.13.13	29/4/03	900 g	1/2/05	0.14	±	0.02	0.12	±	0.02	0.26	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302124	W3	w	SMA	Gold	SE26	11	06003P06	29/4/03	1 litre	15/1/04	0.13	±	0.02	0.14	±	0.02	0.27	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302125	C1	c	SMA	White Ready-to-use	SE27	11 and 12	05058T 18T5 and 05065T03	29/4/03 and 30/4/03	1 litre x 2	21/11/03 and 18/12/03	0.23	±	0.03	0.12	±	0.02	0.35	±	0.04	0.05	±	0.006	0	±	-	0.05	±	0.006
302126	S1	s	SMA	Wysoy	SE31	11	V2N103 S 22.58 038674	29/4/03	860 g	28/9/05	0.27	±	0.03	0.14	±	0.02	0.41	±	0.04	0.10	±	0.012	0	±	-	0.10	±	0.012
302129	W3	w	SMA	Gold	SE3	12	H3D264 W 19.39 062670	30/4/03	900 g	28/3/05	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302130	C4	c	SMA	White	SE4	12	L3D074 W 06.47 053200	30/4/03	900 g	28/3/06	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302131	W10	w,o	Cow & Gate	Organic first milk	SE8	12	W-315-02 (2) 14.54 007978 and	30/4/03	900 g	11/11/04	0.13	±	0.02	0.12	±	0.02	0.25	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae
Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
302133	CF5	c	SMA	Progress Powder sachets	SE17	12	(1) 2S174S22 20.40 (2) 03498 (2) 2D264D26 21.29 10669	30/4/03	416 g x 2	(1) 28/04/04 (2) 28/09/03	0.15	±	0.02	0.13	±	0.02	0.28	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302135	WF3	w	Cow & Gate	Omneo Comfort 2	SE19	12	PO NR 241993 Prod date 09.10.02 13979 11.26 and 13980	30/4/03	900 g	9/4/04	0.13	±	0.02	0.13	±	0.02	0.26	±	0.03	0	±	0.000	0	±	-	0	±	0
302136	CF3	c	Cow & Gate	Next steps 3	SE20	12	W-028-03 (2) 23.50 015439 and 015440	30/4/03	900 g	28/1/05	0.15	±	0.02	0.14	±	0.02	0.29	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302137	CF1	c,o	Cow & Gate	Organic follow on milk	SE21	12	W-071-03 (2) 01.54 000570 and 000571	30/4/03	900 g	12/3/05	0.14	±	0.02	0.12	±	0.02	0.26	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302143	W11	w	Cow & Gate	Premium 1 Ready made	SE29	12	3 with no batch code. 1 with: 14.36.46 D	30/4/03	500 ml x 4	12/1/03 040803 4/12/03 170703	0.20	±	0.02	0.11	±	0.02	0.31	±	0.03	0.054	±	0.007	0	±	-	0.054	±	0.007

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae
Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins		PCBs		DX+PCBs		Dioxins		PCBs		DX+PCBs							
302147	W6	w	Milupa	Aptamil First Ready to use	SE30	12	(1) 17.24.17 3A (2) 17.24.18 3A (3) 08.15.05 4B (4) 17.24.00 3A (5) 17.24.22 3A (6) 17.24.08 3A (7) 17.24.13 3A (8) 08.15.05 4B	30/4/03	200 ml x 8	18/12/03	0.11	±	0.01	0.10	±	0.01	0.21	±	0.02	0	±	0.000	0	±	-	0	±	0
302155	S3	s	Cow & Gate	InfraSoy	SE32	12	41 215090 012187	30/4/03	900 g	23/1/05	0.11	±	0.01	0.10	±	0.01	0.21	±	0.02	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302156	W9	w	Cow & Gate	Omneo Comfort 1	W5	12	PO NR 242217 Prod Date: 13.02.03 21.34 3211 and 3212	30/4/03	900 g	13/8/04	0.16	±	0.02	0.14	±	0.02	0.30	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302157	W10	w,o	Cow & Gate	Organic first milk	W6	12	W-315-02 (2) 14.59 008211 and 008212	30/4/03	900 g	11/11/04	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.001	0	±	-	<0.01	±	0.001
302183	WF2	w,o	HiPP	Organic follow on milk	SE25	11	L3031	29/4/03	900 g	16/2/04	0.13	±	0.02	0.12	±	0.02	0.25	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000

302262	W3	w	SMA	Gold	W1	15	H3A314 D01.35 010765	4/5/03	900 g	28/1/05	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302263	W8	w,o	HiPP	Infant milk	W10	15	L3067	4/5/03	900 g	17/3/04	0.14	±	0.02	0.13	±	0.02	0.27	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000

Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae
Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound						Lower bound											
											Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
302264	CF1	c,o	Cow & Gate	Organic follow on milk	W7	15	W-316-02 (2) 04.05 003593 and 003594	4/5/03	900 g	12/11/04	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302265	W3	w	SMA	Gold	SE44	14	H3C174 W 17.14 024107	3/5/03	900 g	28/2/05	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302266	C4	c	SMA	White	SE45	14	LS293 E 09.43 004262	3/5/03	900 g	28/10/05	0.23	±	0.03	0.10	±	0.01	0.33	±	0.03	0.12	±	0.014	0	±	-	0.12	±	0.014
302267	W3	w	SMA	Gold	SE46	14	H3A294 N 09.02 082109	3/5/03	900 g	28/1/05	0.12	±	0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302268	C4	c	SMA	White	SE47	14	L2S293 E 09.44 004286	3/5/03	900 g	28/10/05	0.23	±	0.03	0.10	±	0.01	0.33	±	0.03	0.12	±	0.014	0	±	-	0.12	±	0.014
302269	W3	w	SMA	Gold	SE35	13	H3D274 Y 09.55 065290	4/5/03	900 g	28/3/05	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	0.01	±	0.002	0	±	-	0.01	±	0.002
302270	C4	c	SMA	White	SE36	13	L3D064 X 11.14 047145	4/5/03	900 g	28/3/06	0.13	±	0.02	0.10	±	0.01	0.23	±	0.02	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302271	S1	s	SMA	Wysoy	SE43	13	V2N103 R 20.08 027662	4/5/03	860 g	28/9/05	0.30	±	0.04	0.15	±	0.02	0.45	±	0.05	0.11	±	0.013	0	±	-	0.11	±	0.013
302272	W10	w,o	Cow & Gate	Organic first milk	SE9	15	W-273-02 (1) 14.04 002692 and 002903	4/5/03	900 g	30/9/04	0.13	±	0.02	0.11	±	0.02	0.24	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
302273	W8	w,o	HIPP	Infant milk	SE10	15	L3067	4/5/03	900 g	17/3/04	0.14	±	0.02	0.13	±	0.02	0.27	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000

302274	CF4	c	SMA	Progress	SE23	15	Q3D104 N 16.57 108049	4/5/03	900 g	28/3/06	0.17	±	0.02	0.14	±	0.02	0.31	±	0.03	<0.01	±	0.000	0	±	-	<0.01	±	0.000
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Upper and lower bound concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in individual retail samples of infant formulae
Annex 1c (continued)

Sample code	Product code	casein/whey/soya/organic	Manufacturer	Brand	Purchase code	Purchase location code	Batch code	Purchase Date	Pack size	Best before date	Concentration of dioxins and PCBs (ng WHO-TEQ/kg fat) in samples as purchased																	
											Upper bound			Lower bound			Dioxins			PCBs			DX+PCBs					
											Dioxins	PCBs	DX+PCBs	Dioxins	PCBs	DX+PCBs	Dioxins	PCBs	DX+PCBs	Dioxins	PCBs	DX+PCBs						
303017	W7	w	Farley's	First Milk ready-to-feed		13	(1) L308A 2 19.03.54 (2) L308A 1 19.25.34 (3) L308A 1 19.25.35 (4) L308A 2 19.03.55	12/6/03	500 ml x 4	1/12/03	0.14	±	0.00	0.12	±	0.00	0.26	±	0.00	<0.01	±	0.000	0	±	-	<0.01	±	0.000

Notes: c Casein-dominant; s Soya-based; w Whey-dominant; o Organic

See Annex 1d for full details of purchase location codes

Full details of purchase location codes

Purchase location code	Store type	Store name	Store address
1	Boots	Boots	12 Westway Cross Shopping Centre, Greenford Road, Greenford, Middlesex UB6 0UW
2	Supermarket	Asda	Walmley Ash Road, Minworth, Sutton Coldfield,B76 1XL
3	Boots	Boots	44-46 Parade, Gracechurch Shopping Centre,Sutton Coldfield, West Midlands B72 1PD
4	Chemist	Linthorns Ltd	15, Hollyfield Road South, Sutton Coldfield, West Midlands, B76 1NY
5	Boots	Boots	161 Union St Aberdeen AB1 1Q7
6	Chemist	George Ellis Ltd	59 High St, Banff, AB45 1AN
7	Supermarket	Tesco	Laurel Drive, Danestone, Aberdeen, AB22 8HB
8	Boots	Boots	60 Monnow Street, Monmouth, Gwent, NP5 3EN
9	Chemist	Howard and Palmer Ltd	Community Pharmacist, Monnow Street, Monmouth, Wales
10	Supermarket	Somerfield	Monnow Street, Monmouth, Gwent
11	Supermarket	Sainsburys	25 Swan Court Leatherhead Surrey
12	Supermarket	Tesco	Leatherhead
13	Boots	Boots	36 Ealing Broadway Centre, W5 5JY
14	Chemist	Watmans Pharmacy	82 Bilton Road, Perivale, Greenford, UB6 7DE
15	Supermarket	Waitrose	2 Alexandria Road, West Ealing, London W13 0NL

For all powder formulation products the scoop sizes indicated are those that were declared on the container or in the absence of declared information, were ascertained by measuring.

Product C1**SMA White Ready-to-use**

1 litre carton

Suggested feeding table: birth – 12 months (1998)

Approx age of baby	Weight of baby (kg)	Total quantity of feed (ml)	Feeds per 24 hr
Birth	3	85	6
2 weeks	4	115	6
2 months	5	170	5
4 months	6.5	200	5
6 months	7.5	225	4
7-12 months	-	225	3

Suggested feeding table: birth – 12 months (2003)

Approx age of baby	Weight of baby (kg)	Total quantity of feed (ml)	Feeds per 24 hr
Birth	3.5	95	6
2 weeks	4.0	130	6
2 months	5.0	190	5
4 months	6.5	220	5
6 months	7.5	250	4
7-12 months	-	250	3

Product C2
Cow and Gate Plus 1

1 Scoop = 4.4g

Suggested feeding table: birth – 12 months (1998)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24h
0-2 weeks	3.5	3	90	6
3-6 weeks	4	4	120	5
2 months	5	5	150	5
3-5 months	6\7	6	180	5
6 months	7.5	7	210	4
7-12 months	8.5-9	7	210	3

Suggested feeding table: birth – 12 months (2003)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24h
Birth	3.5	3	90	6
2 weeks	4	4	120	6
2 months	5	5	150	5
4 months	6.5	7	210	5
6 months	7.5	8	240	4
7-12 months	-	7	210	3

Product C3
Milupa Milumil

1 scoop = 4.6 g (1998); 4.4 g (2003)

Suggested feeding table: birth – 12 months (1998 and 2003)

Approx age of baby	Approx weight of baby (kg)	Levels scoops	water (ml)	Feeds per 24h
Up to 2 weeks	3.5	3	85	6
2-4 weeks	3.9	4	115	5
4-8 weeks	4.7	5	140	5
8-12 weeks	5.4	6	170	5
3-4 months	6.2	6	170	5
4-5 months	6.9	7	200	5
5-6 months	7.6	7	200	5
7-12 months	-	7	200	3

**Product C4
SMA White**

Scoop size 4.3 g (1998); 4.2 or 4.4 g (2003)

Samples 301934, 301942, 301951, 301954, 301995, 302037, 302051, 302130 and 302270 have scoop size 4.4 g.

Samples 301998, 302054, 302055, 302112, 302266 and 302268 have scoop size 4.2 g.

Suggested feeding table: birth – 12 months (1998)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hr
Birth	3	3	85	6
2 weeks	4	4	115	6
2 months	5	6	170	5
4 months	6.5	7	200	5
6 months	7.5	8	225	4
7-12 months	-	8	225	3

Suggested feeding table: birth – 12 months (2003)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hr
Birth	3.5	3	90	6
2 weeks	4.2	4	120	6
2 months	4.7	5	150	5
4 months	6.5	7	210	5
6 months	7.5	8	240	4
7-12 months	-	7	210	3

Note: SMA now recommends a dilution rate of 126.5 g powder / litre water.

Product C5

Farley's second milk

1 Scoop = 4.4g

Suggested feeding table: birth – 12 months (1998)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hr
0-1 weeks	3	3	85	6
1-4 weeks	3.5	4	115	5
1-2 months	4.5	5	140	5
3 months	5.5	6	170	5
4 months	6.5	7	200	5
5-6 months	7.8	8	225	5
6+ months	8+	8	225	4

Suggested feeding table: birth – 12 months (2003)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hr
0-1 week	3.0	3	85	6
1-4 weeks	3.5	4	115	5
1-2 months	4.5	5	140	5
3 months	5.5	6	170	5
4-5 months	6.5	7	200	5
6 months	8	8	225	4
7-12 months	-	7	200	3

Product C6 (1998 only)

Boots formula 2

1 scoop = 4.5 g

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-1 weeks	2.5	6	90	3
2-4 weeks	3.5	6	120	4
1-2 months	4.5	6	150	5
2-3 months	5.5	5	180	6
3-4 months	6.5	5	210	7
6+ months	8	4	240	8

Product C7 (2003 only)**Milupa Aptamil Extra**

1 scoop = 4.6 g

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
	kg		ml	
0-2 weeks	3.5	3	85	6
2-4 weeks	3.9	4	115	5
4-8 weeks	4.7	5	140	5
8-12 weeks	5.4	6	170	5
3-4 months	6.2	6	170	5
4-5 months	6.9	7	200	5
5-6 months	7.6	7	200	5
7-12 months	-	7	200	3

Product C8 (2003 only)**Milupa Milumil 1**

1 scoop = 4.7 g

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
	kg		ml	
0-2 weeks	3.5	3	85	6
2-4 weeks	3.9	4	115	5
4-8 weeks	4.7	5	140	5
8-12 weeks	5.4	6	170	5
3-4 months	6.2	6	170	5
4-5 months	6.9	7	200	5
5-6 months	7.6	7	200	5
7-12 months	-	7	200	3

Product C9 (2003 only)**Cow and Gate Organic Second Milk**

1 Scoop = 4.4g

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
Birth	3.5	3	90	6
2 weeks	4	4	120	6
2 months	5	5	150	5
4 months	6.5	7	210	5
6 months	7.5	8	240	4
7-12 months	-	7	210	3

Product CF1 (2003 only)**Cow and Gate Organic Follow-on Milk**

1 scoop = 4.7 g

Suggested feeding table: 6 months – 24 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
6 months	7.5	8	240	4
7-12 months	8.5+	7	210	3
		To prepare approx 600 ml		Use within 24 hours as required.
12+ months	10.0+	20	600	

Product CF2 (2003 only)**Milupa Aptamil Forward 2**

1 scoop = 5g

Suggested feeding table: 6 months – 24 months

level scoops	water (ml)	From 6 months onwards
		As a guide, most babies from 6 months onwards should have a total of around 1 pint or 560 ml of Forward throughout the day as a drink or in foods as part of a mixed diet.
5	140	
10	280	
20	560	

Product CF3 (2003 only)**Cow and Gate Next Steps 3**

1 scoop = 5.4 g

Suggested feeding table: 6 months – 24 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
6 months	7.5	8	240	4
7-12 months	8.5+	7	210	3
		To prepare approx 600 ml		Use within 24 hours as required.
12+ months	10.0+	20	600	

Product CF4 (2003 only)**SMA Progress**

Scoop size 4.6 g (samples 301952, 301996, 302060)

or

Scoop size 4.8 g (samples 301939, 301949, 302049, 302052, 302120, 302274)

Suggested feeding table: 6 months – 24 months

level scoops	water (ml)	From 6 months onwards
		From 6 months – 2 years babies should have a pint of PROGRESS a day, either as a drink, added to a cereal or mixed in foods.
6	180	
20	600	

Note: SMA now recommends a dilution rate of 136 g powder / litre water.

Product CF5 (2003 only)**SMA Progress Powder Sachets**

16 individual 6 oz feeds

16 x 26 g sachets

Suggested feeding table: 6 months – 24 months

No. of sachets	water (ml)	From 6 months onwards
		From 6 months – 2 years babies should have a pint of SMA Progress a day, either as a drink or added to cereal or mixed in foods.
1	170	
3	510	

Product CF6 (2003 only)
Cow and Gate Step up 2

1 scoop = 4.7 g

Suggested feeding table: 6 months – 24 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
6 months	7.5	8	240	4
7-12 months	8.5+	7	210	3
		To prepare approx 600 ml		Use within 24 hours as required.
12+ months	10.0+	20	600	

Product S1

SMA Wysoy

Scoop size 4.7 g (1998); 4.4 g (2003)

Suggested feeding table: birth – 12 months (1998 and 2003)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
Birth	3.0	3	85	6
2 weeks	4.0	4	115	6
2 months	5.0	6	170	5
4 months	6.5	7	200	5
6 months	7.5	8	225	4
7-12 months	-	8	225	3

Note: SMA now recommends a dilution rate of 132 g powder / litre water.

Product S2 (1998 and 2001 only)

Farley's Soya Formula

1 scoop = 4.3 g

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-1 weeks	3	3	85	6
1-4 weeks	3.5	4	115	5
1-2 months	4.5	5	140	5
3 months	5.5	6	170	5
4 months	6.5	7	200	5
5-6 months	7\8	8	225	5
6+ months	8+	8	225	4

Product S3

Cow and Gate Infasoy

1 scoop = 4.3 g (1998); 4.2 g (2003)

Suggested feeding table: birth – 12 months (1998)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-2 weeks	3.5	3	90	6
3-6 weeks	4	4	120	5
2 months	5	5	150	5
3-5 months	6\7	6	180	5
6 months	7.5	7	210	4
7-12 months	8.5-9	7	210	3

Suggested feeding table: birth – 12 months (2003)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
Birth	3.5	3	90	6
2 weeks	4	4	120	6
2 months	5	5	150	5
4 months	6.5	7	210	5
6 months	7.5	8	240	4
7-12 months	-	7	210	3

Product W1

Cow and Gate Premium 1

1 scoop = 4.4g

Suggested feeding table: birth – 12 months (1998)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-2 weeks	3.5	3	90	6
3-6 weeks	4	4	120	5
2 months	5	5	150	5
3-5 months	6\7	6	180	5
6 months	7.5	7	210	4
7-12 months	8.5-9	7	210	3

Suggested feeding table: birth – 12 months (2003)

Approx age of baby	Approx weight of baby (kg)	Level scoops	water (ml)	Feeds per 24 hours
Birth	3.5	3	90	6
2 weeks	4	4	120	6
2 months	5	5	150	5
4 months	6.5	7	210	5
6 months	7.5	8	240	4
7-12 months	-	7	210	3

Product W2

Milupa Aptamil 1

1 scoop = 4.3 g

Suggested feeding table: birth – 12 months (1998, 2001 and 2003)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-2 weeks	3.5	3	85	6
2-4 weeks	3.9	4	115	5
4-8 weeks	4.7	5	140	5
8-12 weeks	5.4	6	170	5
3-4 months	6.2	6	170	5
4-5 months	6.9	7	200	5
5-6 months	7.6	7	200	5
7-12 months	-	7	200	3

**Product W3
SMA Gold**

Scoop size 4.3 g (1998); 4.2 or 4.4 g (2003)

Samples 301933, 301941, 301950, 301994, 302036, 302053, 302111, 302129, 302262, 302265, 302267 and 302269 have scoop size 4.4 g

Samples 301953, 301997 and 302050 have scoop size 4.2 g

Suggested feeding table: birth-12 months (1998)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
Birth	3	3	85	6
2 weeks	4	4	115	6
2 months	5	6	170	5
4 months	6.5	7	200	5
6 months	7.5	8	225	4
7-12 months	-	8	225	3

Suggested feeding table: birth-12 months (2003)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
Birth	3.5	3	90	6
2 weeks	4.2	4	120	6
2 months	4.7	5	150	5
4 months	6.5	7	210	5
6 months	7.5	8	240	4
7-12 months	-	7	210	3

Note: SMA now recommends a dilution rate of 127 g powder / litre water.

**Product W4
Farley's First Milk**

1 Scoop = 4.1 g

Suggested feeding table: birth – 12 months (1998)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-1 week	3	3	85	6
1-4 weeks	3.5	4	115	5
1-2 months	4.5	5	140	5
3 months	5.5	6	170	5
4 months	6.5	7	200	5
5-6 months	7.8	8	225	5
6+ months	8+	8	225	4

Suggested feeding table: birth – 12 months (2003)

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-1 week	3.0	3	85	6
1-4 weeks	3.5	4	115	5
1-2 months	4.5	5	140	5
3 months	5.5	6	170	5
4-5 months	6.5	7	200	5
6 months	8	8	225	4
7-12 months	-	7	200	3

**Product W5 (1998 only)
Boots Formula 1**

Scoop weight not declared. Measured at 4.8g

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-1 weeks	2.5	3	90	6
2-4 weeks	3.5	4	120	6
1-2 months	4.5	5	150	6
2-3 months	5.5	6	180	5
3-4 months	6.5	7	210	5
6+ months	8	8	240	4

Product W6 (2003 only)

Aptamil First Ready To Use

200 ml carton

Suggested feeding table: birth – 12 months

Approx age of baby	Weight of baby (kg)	Total quantity of feed (ml)	Feeds per 24 hr
0-2 weeks	3.5	85	6
2-4 weeks	3.9	115	5
4-8 weeks	4.7	140	5
8-12 weeks	5.4	170	5
3-4 months	6.2	170	5
4-5 months	6.9	200	5
5-6 months	7.6	200	5
7-12 months	-	200	3

Product W7 (2003 only)

Farley's First Milk Ready-to-Feed

Suggested feeding table: birth – 12 months

Approx age of baby	Weight of baby (kg)	Total quantity of feed (ml)	Feeds per 24 hr
0-1 week	3.0	90	6
1-4 weeks	3.5	120	5
1-2 months	4.5	150	5
3 months	5.5	180	5
4-5 months	6.5	210	5
6 months	8	240	4
7-12 months	-	210-240	3

Product W8 (2003 only)**HiPP Organic Infant Milk**

One scoop = 4.5g

100 ml feed is made of 13.5 g HiPP Infant milk and 90 ml water

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
0-2 weeks	3.5	3	90	6
3-6 weeks	4	4	120	5
2 months	5	5	150	5
3-5 months	6-7	6	180	5
6 months	7.5	7	210	4
7-12 months	8.5-9	7	210	3

Product W9 (2003 only)**Cow and Gate Omneo Comfort 1**

1 scoop = 5g

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
Birth	3.5	3	90	6
2 weeks	4	4	120	6
2 months	5	5	150	5
4 months	6.5	7	210	5
6 months	7.5	8	240	4
7-12 months	-	7	210	3

Product W10 (2003 only)
Cow and Gate Organic First Milk

1 Scoop = 4.3g

Suggested feeding table: birth – 12 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
Birth	3.5	3	90	6
2 weeks	4	4	120	6
2 months	5	5	150	5
4 months	6.5	7	210	5
6 months	7.5	8	240	4
7-12 months	-	7	210	3

PRODUCT W11 (2003 ONLY)

Cow and Gate Premium 1 Ready Made

500 ml carton

Suggested feeding table: birth – 12 months

Approx age of baby	Weight of baby (kg)	Total quantity of feed (ml)	Feeds per 24 hr
Birth	3.5	90	6
2 weeks	4	120	6
2 months	5	150	5
4 months	6.5	210	5
6 months	7.5	240	4
7-12 months	-	210	3

Product WF1 (2003 only)

Farley's follow-on milk

1 Scoop = 4.4g

Suggested feeding table: 6 months – 24 months

level scoops	water (ml)	From 6 months onwards
		From 6 months, your baby will need about 560 ml of Farley's Follow-On milk per day as a drink or in foods. Talk to your health professional if you need more advice.
5	140	
10	280	
20	560	

Product WF2 (2003 only)

HiPP Organic Follow-on milk

100 ml feed is made of 13.5 g HiPP Follow on milk and 90 ml water.

One level scoop contains 4.5 g HiPP Follow on milk

Suggested feeding table: 6 months – 24 months

level scoops	water (ml)	From 6 months onwards
		Babies from 6 months onwards require approximately 600 ml of HiPP Follow-on Milk per day.
5	150	
20	600	

Product WF3 (2003 only)

Cow and Gate Omneo Comfort 2

1 scoop = 5.3 g

Suggested feeding table: 6 months – 24 months

Approx age of baby	Approx weight of baby (kg)	level scoops	water (ml)	Feeds per 24 hours
6 months	7.5	8	240	4
7-12 months	8.5+	7	210	3
		To prepare approx 600 ml		Use within 24 hours as required.
12+ months	10.0+	20	600	

COMMENTS RECEIVED FROM MANUFACTURERS

From H. J. Heinz

“As the UK’s leading manufacturer of baby foods Heinz takes its responsibilities to mothers and babies very seriously and we are committed to providing safe and wholesome foods for babies.

We welcome the Food Standards Agency’s surveys on environmental pollutants in foods and we are aware of the results of the programme covering dioxins and PCBs in the years 1998, 2001 and 2003. Recent results are very encouraging and show that levels are well below the recently introduced Tolerable Daily Intake and are similar to the average levels for all samples in the survey.

Comparing the 2003 results with those of previous years also shows a reassuring decrease in the levels of environmental pollutants such as dioxins and PCBs over the period of 5 years notwithstanding the fact that levels throughout this period have always been similar to the average levels found for the whole survey.

We have a rigorous testing and analysis programme and the results from the 2003 survey closely match our own data. This is reassuring as it gives independent verification of our own risk assessment and analysis programme.

We continue to go to great lengths to ensure we use only the highest quality ingredients that go beyond the standards normally applied to everyday foods.”

From SMA Nutrition

The manufacturing site has the following quality standards: ISO 9002 accreditation since 1992 and ISO 9001 since 1996. In order to minimise the levels of contaminants such as dioxins and dioxin-like PCBs in the product, the ingredients used are purchased to a strict specification. In addition all stages of manufacturing are subjected to a hazard analysis of critical control points (HACCP) to ensure that there is no risk of introducing contamination. As scientific knowledge has increased, so it has been possible to reduce the incidence of contamination. This is an on-going process. To support the manufacturing process and quality assurance of the product range, a good laboratory practise system is in place and the testing laboratories have I.S. EN 45001 status. The combination of these systems and practices, as well as an awareness of the latest research in the area of food contaminants, are designed to ensure that all products are suitable to be fed to infants.