

## **Non-Standard Infant Formulae – LISTING 2010**

In the absence of evidence for claims this list is provided for information purposes, and is not to be seen as an endorsement.

As infant formulae are not necessary for most babies beyond 12 months this list does not cover those marketed for older children – the so-called ‘toddler milks’

## Non-Standard Infant Formulae and Follow-on Formulae

Brand Name	Use	How the formula has been modified
<p><b>Off-the-shelf Specialist Formulae</b></p> <p>This section refers to new formulae which have been introduced recently that are slightly modified for babies with minor digestive problems. They contain partially hydrolysed protein, modified fat and thickeners.</p> <p>The evidence for their use is based on limited research studies of small numbers of infants: some parents report positive results.</p>		
Aptamil Comfort	Aimed at babies with colic and constipation.	100% whey based formula; lactose is reduced to 40% with the other 60% being from glucose; partially hydrolysed proteins; modified fat blend intended to produce less solid stools; added thickeners. Interestingly it prefers to be made up with hotter water, so the manufacturers recommend that water is left for no more than 15 minutes after boiling before mixing with the powdered formula.
Cow and Gate Comfort	Aimed at babies with colic, mild reflux, constipation and gassy episodes.	100% whey based formula; reduced (to 40% of sugars) lactose formula; partially hydrolysed Cow & Gate recommend this is not used in conjunction with other milks, and that it is tried for at least 2 weeks consistently to see any effect. The 100% whey basis means baby will most likely produce softer stools on this type of formula than on a whey dominant or indeed casein dominant formula, and its vegetable fat blend, which is intended to mimic the fats in breastmilk, may, say Cow and Gate, lead to green stools. It comes in an infant formula form, (labelled as 'First') and a follow-on milk form.
Heinz Nurture Gentle	Aimed at babies suffering from colic, constipation, and other common feeding disorders.	Partially hydrolysed (they describe it as 'acidified') formula made with 50% whey and 50% casein It has a fat blend which may give softer stools. It comes in an infant formula form, ('Newborn') and a follow-on milk form ('Follow-On').

## Formulae for Temporary Lactose Intolerance

Parents may try these formulas for babies with colic, but they are most useful for infants with temporary lactose intolerance following a gastrointestinal infection. A baby which has a short term lactose intolerance could be given a clinically lactose free milk like SMA LF or others, which are not thought to be nutritionally complete and their manufacturers state that they are not to be used for long periods of time: the recommendation is 6 weeks or so - and in fact should continue to be breastfed if they are currently breastfed.

SMA LF	For babies with temporary lactose issues	Available on prescription, or in the pharmacy Casein based but partly broken down - partially hydrolysed
Enfamil –O-Lac	For babies with proven lactose intolerance	Mead Johnson's lactose-free offering - not suitable for babies with cows' milk protein intolerance

## Thickened Formulae

Thickeners can be added to standard formulas for infants with Gastro-Oesophageal Reflux, or GORD. However, two formulas have added constituents that thicken them on reaching the stomach. Formulae specifically designed for those with GORD, include:

SMA Staydown	For babies with significant reflux	Available at the pharmacy and on prescription, is a nutritionally complete infant formula which has been thickened with an easily digestible pre-cooked corn starch that thickens on contact with stomach acid. This allows the feed to flow smoothly through a normal teat.
Enfamil AR	For babies with reflux	Available on prescription only, for babies who suffer from reflux and possetting (AR stands for Anti Reflux), which Mead Johnson say tends to be a transient thing which will go after 4-6 weeks, and so this therapy isn't necessary long term. They advocate staying on the formula no longer than 6 weeks before returning to the child's previous formula. It uses rice starch as a thickener which means that it needs cooler water to be made up effectively, as too-hot water will mean the rice starch thickens in the bottle rather than baby's tummy - this means that the <b><u>guidelines for safe preparation of formula</u></b> cannot be followed with this formula

### High energy

Regular infant formula varies from 67 to 70 kcal per 100ml and mature breastmilk is usually found within that range as well.

SMA High Energy	For babies with faltering growth	Prescription only, high calorie, nutrient-dense formula. 91 kcal / 100ml
Infatrini, made by Nutricia	For babies with faltering growth	Prescription only, high calorie, nutrient-dense formula. 100 kcal / 100ml

### Formulae for long term lactose sensitivity and cows' milk protein sensitivity

These are based on modified cows' milk, but the lactose has been replaced with glucose.

Temporary lactose intolerance following a bout of illness can be dealt with the formulae for lactose intolerance above. However, a baby with galactosemia, which is an extremely rare condition in which the baby does not make lactase, the enzyme require to digest lactose, or primary lactose intolerance, would need a longer term, nutritionally-complete milk like those below.

Aptamil Pepti (was Cow & Gate Pepti)	For babies diagnosed with cows' milk protein allergy	Reduced lactose and modified protein
Cow and Gate Pepti Junior	For babies with severe food intolerance, short bowel syndrome, cystic fibrosis, inflammatory bowel disease and severe protein-energy malnutrition	Hypoallergenic nutritionally complete infant formula. Fat source is 50% vegetable oil and 50% MCT (multitriglyceride) oil - which is there to help babies with malabsorption issues.
Nutramigen 1 (Mead Johnson)	For babies with cow's milk sensitivity	Hydrolysed hypoallergenic nutritionally complete infant formula.
Pregestamil	For babies with cows' milk protein and /or lactose sensitivity, malabsorption,	Is a little like Nutramigen but with added medium chain fatty acids. It is made from extensively hydrolysed casein and 55 % of its fat is MCT (Multi-triglyceride) which is said to

(Mead Johnson)	and short bowel syndrome.	help with malabsorption issues.
Nutramigen 2 (Mead Johnson)	suitable from 6 months	Similar to Nutrimigen 1 but not suitable from birth as it has added fructose to mask the bitter taste of the casein hydrolysate. Available on prescription only.

### Hypoallergenic Formulae

Proteins completely broken down into amino acids

Neocate	For babies with cow's milk protein allergy	
Nutramigen AA	For babies with severe cow's milk protein allergy or multiple food allergies	Amino acid-based formula for babies who may not tolerate an extensively hydrolysed formula.

### Soy Formulae

"The Chief Medical Officer is reiterating advice that soya-based infant formulas should not be used as the first choice for the management of infants with proven cow's milk sensitivity, lactose intolerance, galactokinase deficiency and galactosaemia.

Soya-based formulas have a high phytoestrogen content, which could pose a risk to the long-term reproductive health of infants, according to a 2003 report from the Committee on Toxicity (COT), an independent scientific committee that advises the Department of Health and other government agencies. Furthermore, the Scientific Advisory Committee on Nutrition (SACN), another independent advisory body, has advised that there is no particular health benefit associated with the consumption of soya-based infant formula by infants who are healthy (no clinically diagnosed conditions). SACN also advised there is no unique clinical condition that particularly requires the use of soya-based infant formulas.

As an alternative to soya-based products, more appropriate hydrolysed protein formulas are available and can be prescribed.

Soya-based formulas should only be used in exceptional circumstances to ensure adequate nutrition. For example, they may be given to infants of vegan parents who are not breast-feeding or infants who find alternatives unacceptable."

They are all marketed as nutritionally complete, and suitable for babies who are intolerant to cows' milk proteins, lactose, galactose and sucrose.

Cow & Gate InfaSoy \* SMA Wysoy \* Heinz Nurture Soya \* Abbot Nutrition Isomil \* Mead Johnson Enfamil ProSobee

### **Prescription Only Partially hydrolysed formulas**

The protein in these formulas is 100 per cent whey protein that has been hydrolysed or broken down into smaller particles and peptide chains.

The formulas are promoted for allergy prevention but extensively hydrolysed formulas (see below) may be more suitable, particularly for babies whose mothers have eczema. Infants at risk of allergic disease are those with an atopic family history, that is, a mother, father or sibling with asthma, eczema, hayfever or food allergy. They are not suitable for babies with allergy or intolerance to cows' milk protein as the partially hydrolysed protein could cause an allergic reaction. They are:

- Nan HA1 – Nestle
- Nan HA2 (from six months) – Nestle

### **Formulas for Premature and low birth weight babies**

Specialist formulas for very low weight preterm babies in hospital are not available outside the hospital. This formula is formulated for pre-term babies and contains higher levels of some nutrients than the standard whey or casein dominant formulas. In particular it is higher in iron and vitamin D to meet the higher requirements of pre-term babies. They include:

- Nutricia Aptamil Preterm
- Cow & Gate Nutriprem 1
- Nestle Pre-Nan
- SMA Nutrition Gold Prem

Before discharge pre-term babies will be changed to post-discharge formula:

- Cow & Gate Nutriprem 2
- SMA Nutrition Gold Prem 2

## Goats Milk Formula

The UK Department of Health **does not recommend the use of Goats Milk Formula** for infants (under 1 year of age) The composition of infant formula and follow-on formula is governed by **European legislation**. The current legislation specifically states the criteria for infant formulas and follow-on formulas to be based on cows' milk protein, hydrolysed protein or soya protein. In 2005, the European Commission asked the European Food Safety Authority (EFSA) to review its assessment of the suitability of the use of goats' milk protein in infant formulas, as further information had been made available by a manufacturer. EFSA reviewed the dossier of additional information and concluded that the available scientific data was insufficient to establish the nutritional adequacy and nutritional safety of goats' milk protein as a protein source in infant and follow-on formula. This was due to flaws in the methodology, including insufficient sample size, restriction to anthropometric parameters only, absence of a breast-fed reference group and non-adherence to the study's protocol. EFSA also concluded that there was no convincing data, either in the literature or submitted, to support the belief that the incidence of allergic reactions is lower when feeding goats' milk based formula compared to cows' milk based formula. The Department recommends the use infant formula and follow-on formula based on cows' milk protein or hydrolysed protein or soya protein on the advice of health professionals. In light of EFSA's opinion, health professionals are advised not to recommend the use of infant milks based on goats' milk protein. Some parents may believe that infant milk based on goats' milk protein is a suitable alternative for babies who they perceive as being **intolerant or allergic to cows' milk formula**. However, the protein in goats' milk is very similar to that found in cows' milk and most babies who react to cows' milk protein will also react to goats' milk protein. Goats' milk protein can induce allergic reactions and is not a suitable milk source for a cows' milk allergic infant as there is the potential for cross allergenicity. Infants with proven cows' milk protein intolerance can be prescribed an extensively hydrolysed infant formula. Formula derived from goats' milk is also unsuitable for babies who are **lactose intolerant** as it contains similar levels of

lactose to cows' milk based infant formulas. Also see this warning: [http://www.babyfriendly.org.uk/items/item\\_detail.asp?item=13](http://www.babyfriendly.org.uk/items/item_detail.asp?item=13)