NUTRITION INFORMATION ON LABELS
# Nutrition Information on Labels

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Dedicated to the persons who influenced my living in the past four years, especially for my mum, whom made this all possible for me.
I hereby declare that this is a dissertation of my own work under the supervision of Ms. Maria Ellul.
Introduction to nutrition information
Introduction to nutrition information

The purpose of the label

Today's fast developing world has opened infinite horizons for the food market, unlike in the past centuries when choice of food was limited and restricted. The need of identification of food has then arisen. Labeling has also been developed as a result of the expansion of the food industry. The label acts as a protection for the consumer as it provides identification. Identification of food has been provided by the presence of a label affixed to the food. In the past information on labels was limited, basically only the product name was included. Other information was not listed, as this was not required by law. Although labels helped to chose and promote the food, and to inform the consumer, these were also used to deceive the consumer in some cases as labels tend to be designed for more promotional purposes. This could be easily achieved, such as by the use of special food characteristics statements or pictures on the label. The manufacturer creates logos and designs on labels, in order to establish the brand e.g. by the use of bright colors on the label. Other manufacturers tend to copy already established product labels in order to confuse the consumer. This suggested that product name was not enough.
The objectives of nutritional information

By the presence of the name of the product and other basic information, such as ingredients the consumer may still be deceived. Health promoting campaigns are continually organized and the public has been educated how to consume healthy foods and how to recognize these foods, where possible. However from simple label information, the public may still be mislead. Even when ingredients maybe listed, this may not be enough for the consumer as food processing may alter the nutritional values, e.g. such as deep-frying. For this purpose, food has been subjected to analysis. From such analysis, results were then obtained, which were being included in some labels and were categorized as nutritional information.

This information enables the consumer to make more informed choices regarding the nutrition content. The nutrition information has to be understood by the consumer in order to clarify any queries about the nutritive values of the food.

With the inclusion of recommended daily allowances, it is easy for the consumer to make comparisons. The consumer can compare one product with another one from a different brand. It is then easy to judge which is the healthiest product to consume.
If a product bears a special claim, this can be verified by comparing this product with the same type of product without any special claim. Difference in energetical/nutrient values should be evident.

The consumer sometimes gives up his/her favorite food, upon knowing energetic/nutrient values of that food. These type of foods can still be consumed if Recommended daily allowance is stated. The consumer is then able to balance with other food products. Such example is when a person consumes high fat food, then it should balance by other low in fat food, to help to keep such values below 100% that recommended.
Is it legally required?
Is it legally required?

Nutrition information is not compulsory by law, unless a special characteristic (nutritional claim) of the food is stated on the label. In the case a nutritional claim is stated, the manufacturer must adhere with the regulations of Legal Notice 247 of 1998, even if nutritional information is voluntarily. A food label cannot by law state nutritional claims, which are not of its genre. The nutritional values should sustain the nutritional claim if any is made.

Ordinary foods

According to both local law and Eu regulations, nutritional labeling is not compulsory, for these types of foods (Council Directive 90/496/EEC). On foods bearing no nutritional claim, nutritional information is on a voluntary basis.

Labels should, by law: (where included on labels)
- Be legible/clear,
- Unalterable,
- Be written in Maltese, English or Italian (locally)
- not be misleading or avoid confusion
not claim that any foodstuffs prevent, treat or cure disease.

**Labels on non-packaged food**

Only the name of the type of product should be displayed on the label or a notice nearby.

These types of food include:

- Unpackaged foods such as bread (unpacked) or vegetables
- Foods pre-packaged by the retailer for sale on its own premises

**Labels on pre-packaged foods**

Labels on pre-packaged food must display the:

- Name of the food
- Net quantity in metric units
- A "best before" date or, for highly perishable foodstuffs, a "use by" date
- List of ingredients
- Special storage instructions
- Name and address of manufacturer or packager, or in its absence, the name and address of the seller in the EU
- Country of origin if its absence could mislead. For example, Brie cheese is usually associated with France, if produced elsewhere, it should be stated, e.g., Italian Brie.
When the product was manufactured

Instructions for use

Alcoholic strength for beverages with more than 1.2% alcohol by volume

If it is irradiated

If it is packaged in a modified atmosphere (use of packaging gas to prolong shelf-life).

In certain circumstances, e.g., if the manufacturer emphasises the presence of a particular ingredient in the product, e.g., strawberries in strawberry yoghurt, the quantity of that ingredient must be shown in percentage terms.

Labels on foods with special claims

Foods which bear a special health claim or benefit, are obliged by law to include a nutritional information table. Such nutritional information gives the consumer the possibility to compare such foods with ordinary items and verify such claims.

It is obvious that claims must neither mislead nor be false. Claims although related to health cannot to be medicinal, that is claims should not give the impression that the food is able to treat, prevent or cure diseases, since it is a food and not a medicine.

Rules have been established, to control the nutritional requirements of certain type of individuals such as people with digestive disorders or diabetes.
The consumer is assisted in choosing, by these claims, for this purpose such claims must consider the consumer’s perception. Marketing imagery is often used to mislead the consumer; omitting or emphasizing on such values instead usually creates this misinterpretation.

In order to state a special claim, the manufacturer has to prove this claim by evidence and documentation, and such evidence should outweigh any doubts.

**Examples of claims:**
Such special claims most commonly used are:

'Free from...'

This may not mean that the food is purely free from what is claimed

'Fresh', 'Pure' and' Natural'

The exact meaning of such terms is not defined by law, The manufacturers for this reason use these phrases widely, on the other hand the consumers can be confused or mislead

'Gluten Free'

People who suffer from celiac disease have to pay attention due to requiring a gluten free diet, and thus is of vital importance for such people
'Lite' / 'light'

Lite/light may not refer to the content of the product but may refer to the physical properties of the product such as texture. This statement is also not clearly defined by law and manufacturers tend to use these terms for their convenience.

'Low fat' and 'fat-free'

Such statements should show a reduction in that particular ingredient but may not be accurate, such as 90% fat free margarine.

'May contain nut traces'

These statements are used by the manufacturer in order to relief from the responsibility of consequences of ingestion of such food, e.g. choking. This is important for neonates and young children. Although there may not be any of such traces, such statements may promote the product, because the consumer may think that the product is made up of natural constituents.

'No added sugar' / 'unsweetened'

This term is occasionally misinterpreted, as the consumer upon reading may think that the product does not contain any sugar, this is not so, such labels mean that no other sugar has been added during the processing of the food.
'Organic'

All food sold as 'organic' must be produced according to European laws on organic production.

'Produce of...'

These labels are required when food which is typical of a country is produced in another country, such as olives, which are typical of Spain or corned beef typical of Argentina, also as in the case of some fruits and vegetables.

'Reduced lactose'/lactose free'

These statements are important for persons who are unable to digest lactose sugar properly, this is found in milk. Persons who are unable to digest Lactose may feel sick or bloated upon digestion of such sugars. Products showing these statements should have a reduced lactose content or be free from Lactose.

'Reduced salt/sodium'

High salt intakes are not beneficial, and consumers look for such foods. Foods bearing such statements should therefore have a reduced salt content.

'Use by', 'best before' and other date marks
Such dates should be properly understood and distinguished. Use by dates are used on fast going off foods such as milk, best before are for longer shelf lives.

Other types of food

Foods for Particular Nutritional use

These types of foods must be provided with nutrition information, such foods include diabetic foods and gluten free foods. Information on the special nutrient properties of such foods must be declared.

Apart from this information, these types of product may include additional information for health professionals (e.g. doctors and dieticians).

It is legal to claim food as diabetic, as long as it is so. However dieticians rarely suggest such food, instead preference to a normal well balanced diet is given, as this is believed to be the best diet.

Food supplements

Food supplements are exempted from nutrition information. If a supplement is claimed to be high in vitamin/ mineral content, then percentage RDA per portion is to be indicated, together with the number of portions that a package contains.

As with the other type of foods, information on food supplements must be true and not confusing. Generally the same labelling provisions are applied for accepting the information and guiding the consumer.

E.g. vitamins and minerals should be listed in the same order with the quantity and percentage RDA, also same units should be used: mg/µg. Substances which
are to be consumed in small quantities should also be accompanied by 'per 100g/100ml information'.

**Water**

Labelling of water is exempted from this type of nutrition information, other regulations are applied for labelling waters. Information regarding minerals and vitamins can be represented in the same format however, i.e. quantity and preceded by the percentage RDA.

**Alcohol**

Claims of alcohol are not classified as nutritional claims as alcohol is not defined as a nutrient by the law. Alcohol is not law obliged, to include nutrition information, but is subjected to other regulations.

Also if a cake contains alcohol, this cannot be declared, as it is not defined as a nutrient by the regulations of Legal Notice 247 of 1998.
The format of the nutrition information
The format of the nutrition information

An example of a nutritional table:

<table>
<thead>
<tr>
<th></th>
<th>Single Serving</th>
<th>%RDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving Size</td>
<td>1 cup (228g)</td>
<td></td>
</tr>
<tr>
<td>Calories</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Calories from Fat</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Total Fat</td>
<td>12g</td>
<td>18%</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>3g</td>
<td>15%</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>30mg</td>
<td>10%</td>
</tr>
<tr>
<td>Sodium</td>
<td>470mg</td>
<td>20%</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>31g</td>
<td>10%</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Sugars</td>
<td>5g</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>5g</td>
<td></td>
</tr>
<tr>
<td>Vitamin A</td>
<td></td>
<td>4%</td>
</tr>
<tr>
<td>Vitamin C</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Iron</td>
<td></td>
<td>4%</td>
</tr>
</tbody>
</table>

The units

The units generally used are kilojoules or kilocalories for energetical values, and grams for quantification by weight of the constituents. Percentages are used to express nutrients as how much is supplied by a serving according to the recommended daily allowances.
The type - group 1/ group 2

Two formats for nutritional labeling exists, the type to be used depends upon the nutrient claim that is made on the label. These formats are named as group 1 and group 2. Nutrient values are stated either per 100g or per 100ml, depending on the state of matter of the product. Optionally it maybe given as per serving or packet weight, given the packet weight is stated.

Nutrition information regarding nutrient content is stated for the product as contained prior to cooking or processing, that is, if a cake is in the powder form in a packet, the nutritional information is for that powder and not for the cake, unless accurate preparation method is given and is clearly stated that the nutritional information is for the final product, when prepared according to the instructions stated.

The nutrition information has to be presented in tabular form, unless space on the label does not permit so, it may then be presented in linear form. Numbers must be aligned, i.e. represented in a column when using tabular form, to avoid confusion. This information should be headed by either “nutrition information” or “typical values per 100g". When a nutrient or an element is present in quantities of less than .01 per 100g/100ml, it may be declared to have 0g, or interpreted by the terms:

Trace

Or

Nil
Or

Negligible.

The formats:

Group 1 format (all figures must be expressed numerically in both formats):

Energetic values given in kilojoules (kJ) or kilocalories (kcal)
Proteins in g
Carbohydrates in g
Fat in g

Group 2 format:

Energetic values given in kilojoules (kJ) or kilocalories (kcal)
Proteins in g
Carbohydrates in g
Sugars in g
Fat in g
Saturates in g
Fibre in g
Sodium in g
Apart from this information, one may opt to include other information regarding one or more of the following:

Starch
Polyols
Monounsaturates
Polyunsaturates
Cholesterol
Vitamins and minerals.

Although in the above mentioned case, it is not obligatory to include such information, it is compulsory whenever a nutritional claim is stated. In such cases the claimed nutrient must be included in the nutritional information. If the claimed nutrient is a mineral or vitamin, apart from the declared quantity of numerical values, the relative percentage expression, of the recommended daily allowance (RDA), when consuming such serving, should be included. At least 15% of the RDA has to be present in 100grs/100ml.

The order of listing

The following order of listing has to be observed for group 1

Energy value;
The amounts of protein, carbohydrate and fat.

The following order of listing has to be observed for group 2:
(a) Energy value;

(b) The amounts of protein, carbohydrate, sugars, fat, saturates, fibre and sodium.

How is it made?

As already stated, Nutrition information is not obligatory by law unless a special claim is stated. However when a label is to include such information, these values have to be obtained from chemical analysis of the food. Different techniques are used to obtain nutritive values. Amongst these techniques are combustion of food sample for energetic values and chromatography methods.

Derivation of Nutrition Information.

Nutrition information is derived from:

- Manufacturer’s analysis
- Calculations from known or actual average values of ingredients
- Calculation from established and accepted data locally (which is included in Legal Notice 247 of 1998)

Conversion factors

The given energy factors are used to declare the energy of the analysis:
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>KJ</th>
<th>kcal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbohydrates (exc. Polyols)</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Polyols</td>
<td>10</td>
<td>2.4</td>
</tr>
<tr>
<td>Protein</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Fat</td>
<td>37</td>
<td>9</td>
</tr>
<tr>
<td>Ethanol</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>Organic Acid</td>
<td>13</td>
<td>3</td>
</tr>
</tbody>
</table>

**Protein calculation**
Proteins are defined by the:
"Kjeldahl nitrogen total * 6.25"

**Fat calculation**
When stating 'total fat content', this must include trans fatty acids, and the other saturates. When stating 'total saturates' trans fatty acids must not be included with the saturates, which are mono saturates and poly saturates.

**Vitamin calculation**

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Calculated as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A</td>
<td>Retinol or retinol equivalent on the basis of 6µg of β-carotene or 12µg of other biologically active carotenoids equal 1µg of retinol equivalent</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>Ergociferol (vitamin D2) or cholecalciferol (vitamin D3)</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>D-α tocopherol equivalent on the basis that 3.3 mg α tocotrienol or 10 mg γ</td>
</tr>
</tbody>
</table>
tocol are equivalent to 1mg D-α tocopherol

<table>
<thead>
<tr>
<th>Vitamin C</th>
<th>L-ascorbic acid and L-dehydroascorbic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiamin</td>
<td>Thiamin</td>
</tr>
<tr>
<td>Riboflavin</td>
<td>Riboflavin</td>
</tr>
<tr>
<td>Niacin</td>
<td>Nicotinic acid or nicotinamide or niacin</td>
</tr>
<tr>
<td></td>
<td>equivalent on the basis that 60mg of</td>
</tr>
<tr>
<td></td>
<td>tryptophan equal 1mg of niacin</td>
</tr>
<tr>
<td>Vitamin B6</td>
<td>Pyridoxine</td>
</tr>
<tr>
<td>Folic acid</td>
<td>Total folates</td>
</tr>
<tr>
<td>Vitamin B12</td>
<td>Cobalaminies</td>
</tr>
<tr>
<td>Biotin</td>
<td>Biotin</td>
</tr>
<tr>
<td>Panthothenic acid</td>
<td>D-panthothenic acid</td>
</tr>
</tbody>
</table>

Two types of claims exist in stating mineral or vitamin claim:

- **Unnamed claim**—"Rich in 3 vitamins", vitamins are not named.
- **Named claim**—"Rich in Calcium", the mineral is named.

If a nutrient/mineral is not listed in the established list of Legal Notice 247 of 1998, it cannot be listed in the nutrition information.

Vitamins and minerals cannot be declared unless these are present in significant amounts as stated in the law. This amount must be 15% or more per 100g or 100ml of the recommended daily allowances.

**Who makes it?**

Manufacturers carry these analytical tests at their own expenses. These tests are performed by private laboratories. Results are then presented in tabular form for
easier application by the manufacturer. Local laboratories perform such tests but certain tests, are carried out in other countries.
The basic nutrients and their health effect
The basic nutrients and their health effect

Proteins

Deriving from the Greek word ‘protos’, meaning first/primary. This means that it has been considered an essential nutrient for a long while. Proteins are essential for proper growth, functioning and repair of body organs, including muscles, hair nails, skin. Proteins are broken down into their smaller components, amino acids by the body. These are then rebuilt according to when and where needed. Meat is generally considered to be a source of protein, and many believe that meat can satisfy their daily requirements, however this is not so, meat may be a rich source of protein but may lack in other nutrients such as vitamins. Meat may create problems such as kidney stones, this is caused by frequent consumption of meat, it may also overstress the liver. Also meat has a high fat content and leads to problems such as obesity, heart disease and diabetes. For this reason the consumer must be taught of what is a good source of protein. Such healthy sources of protein are tuna, soybean products, and some other categories of beans and grains.

Carbohydrates

Energy is mainly derived from carbohydrates, such sources are food plants and fruits. This is so because carbohydrates are produced by the sun’s radiation energy which reach the plant. Other sources of energy include fat, but
Carbohydrates are the healthiest way to keep the system fit and are important also for the brain and other nervous components.

Carbohydrates are divided into two classes, simple and complex. Sugars are simple carbohydrates, and are found in a wide variety of foods, such as soft drinks and pastries.

The other category of complex carbohydrates are found in pasta, rice noodles, potatoes and other such foods. Such complex carbohydrates are starch and fibre. Simple carbohydrates are only able to supply energy for short periods and have no nutrients. This makes simple carbohydrates generally unhealthy. Obesity and high blood pressure are generally the result of a diet rich in such carbohydrates. Tooth decay is also a result of this type of diet. High simple carbohydrates intake affects negatively also the immune system by lowering the system’s ability to fight infection and to destroy bacteria. This thus shows that the subject, consuming such large amounts of simple sugars, is unable to fight disease as should be by the immune system.

These factors show the importance of consuming sugars which are found in fruits, example. A difference exists between the natural sugars found in fruits and the refined sugars found in sweets example. The sugars found in fruits can be considered to be a package, which includes not just sugar but water, minerals and vitamins. Examples of refined sugar include honey, which is constituted of sugar only.
Simple carbohydrates provide only sugar, whilst on the other hand complex carbohydrates include more benefits. Complex carbohydrates are the best way to acquiring energy in a healthy manner. Such example is fibre, which apart from being an energy source, is also capable of preventing constipation, haemorrhoids and other benefits to the gastrointestinal tracts. The best sources of complex carbohydrates are plants; a healthy diet should include such sources. Flavonoid makes the difference from other sources. Flavonoids have been shown that are vital to fight diseases, which cause degeneration. Without doubt this also shows that the best sources are derived from natural sources.

Fats

Fat carries the image of being unhealthy, many people consider this statement as true. However it is not so, fat is important for cells, the quantity is what makes the difference. As happens with carbohydrates fat is also an energy source. Also fats makes the difference in taste, it makes food tastes good. Apart from taste, fat contains certain nutrients, and insulates bones and nerves.

Fat is not really unhealthy but as already has been said, the quantity and the type of fat are important in controlling it. Some fats (saturated fats) when taken in high quantities increase possibilities of cardiovascular diseases and cancer.

Saturated fats should be avoided if possible as these cause the above-mentioned diseases. Such sources are found in animal foods.
On the other hand, monosaturated fats and polyunsaturated fats are much more beneficial, these include oils. An example of monosaturated fat is olive oil, and of polyunsaturated, fish oils and vegetable oils.

Difference between unsaturated and saturated can be easily kept in mind by this statement, the more the liquid the fat is, the healthier it is. Vice versa, the more solid it is the unhealthier it is. This means that fats from plants (which are liquid) such as from vegetables are mainly saturated and healthier, whilst animal fats (solid) such as lard are unhealthier and are saturated.

Lowering the temperature of the oil, can help determine visually how saturated/unsaturated it is. This can be achieved by storing the oil in a clear bottle in a refrigerator. The cloudier it becomes, the more it is saturated. High intakes of such fats are the main problem.

Generally the consumer is unaware of that particular intake as it may be hidden or may have been involved in processing the food. This emphasizes the importance of the nutritional values to be observed and keeping in mind the differentiation between saturated and unsaturated fats.

A large quantity of the food we consume contains fat of which high percentages of that are generally saturated, an example of ‘hidden’ fat: a hamburger may have as much as 60grms of fat and of which around 30grms may be saturated fat.
Although fat may be already present prior to cooking, as already said fat may have been introduced during cooking, e.g. a baked potato may have only 1grm of fat, fried potato ‘French style’ may acquire as much as 14grms more apart from the 1grm already present.

When mentioning fats, one also has to mention, hydrogenated fats and margarine. These are added to foods to preserve them, by reducing the spoilage rate of the unsaturated fats, and consequently make them harder. Unsaturated fats can be converted into saturated by the addition of a hydrogen atom. This process is used to obtain margarine from unsaturated sources such as plants.

The human body is ‘deceived’ by the addition of the hydrogen atom. This happens because by the addition of the hydrogen atom the unsaturated fat may change shape and the human body is unable to recognize it. Upon so the human body stores this fat. This leads to a number of health problems. This kind of fat is termed as trans fatty acid (because of the transformation it has undergone).

The problem with fats is that these cannot be avoided in a healthy diet, but small quantities are essential for the human body.
Food additives
Food additives

Additives have long been used to accomplish better preservation. In the Middle Ages saltpetre was used as a preservative for meats. Presently nitrite is used for this purpose, but it is a constituent of saltpetre. Nitrite prevents meats from becoming contaminated by the organism, which causes botulism.

The types

The main categories of food additives are the following and are grouped according to their function.

- Preservatives
- Flavorings
- Emulsifiers, stabilizers, gelling agents and thickeners
- Colors
- Antioxidants
- Sweeteners

What are E numbers?

An arrangement has been setup by the EU to be able to recognize the food additives. This has been obtained by numbering each food additive and it is then preceded by the letter E. A complete list has been created which includes all known permitted preservatives inside the Eu. The letter E shows that the
additive has been tested. If it has not been tested it is illegal to be put in the food in the European Union. If a food additive is included in the food it has to be stated either by the E number or by its name. The idea behind all this was to make the consumer more aware of the additives in that particular product, and also upon seeing the letter E, the consumer is assured by the EU. Once an additive has gained the letter E, this means that it has undergone safety tests and been approved by the EU.
Irradiation, how does it affect the food and its nutritional values?
Irradiation, how does it affect the food and it’s nutritional values?

Irradiated foods.

In the last few years, a new technique was developed in food treating. This technique consisted of treating food with ionisation radiation. This idea is accepted by a major part of manufacturers and producers, due to it’s effects. Germs and pesticides are terminated by this treatment and thus shelf life is improved.

Although manufacturers are considering this type of treatment as their future, critical issues developed.

A journal from a Japanese site emphasized on such topics. The Japan Offspring Fund (JOF) issued comments regarding the American Department of Agriculture.

In these comments JOF showed it’s disapproval, on allowing fruits and vegetables to be irradiated. Also JOF believes that treated food cannot be labelled as fresh. This Japanese organization wrote that such treatment, should be utilized when further research and safe results are obtained. The Japanese government does not import any irradiated food products except potatoes, which are treated by a small amount.

It is considered that such treatments may make alterations in the nutritive values, without any hint to the consumer, as spoilage may not occur. Therefore
colour changes and odour changes do not occur but other processes such as drying may occur with minimal changes.

Apart from such changes, it is believed that this type of radiation diminishes nutrients and vitamins, whilst it may produce hazardous chemicals in the treated product.

At the moment the subject is still doubtful, due to this the consumer is by far the most confused. The majority of the consumers prefer the traditional methods instead.
What the consumer should understand?
What the consumer should understand?
How should the table be interpreted?

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Serving Size 1 cup (228g)</th>
<th>Serving Per Container 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amount Per Serving</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Calories</strong> 250</td>
<td>Calories from Fat 110</td>
</tr>
<tr>
<td>% Daily Value*</td>
<td></td>
</tr>
<tr>
<td><strong>Total Fat</strong> 12g</td>
<td>18%</td>
</tr>
<tr>
<td>Saturated Fat 3g</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Cholesterol</strong> 30mg</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Sodium</strong> 470mg</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Total Carbohydrate</strong> 31g</td>
<td>10%</td>
</tr>
<tr>
<td>Dietary Fiber 0g</td>
<td>0%</td>
</tr>
<tr>
<td>Sugars 5g</td>
<td></td>
</tr>
<tr>
<td><strong>Protein</strong> 5g</td>
<td></td>
</tr>
<tr>
<td>Vitamin A</td>
<td>4%</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>2%</td>
</tr>
<tr>
<td>Calcium</td>
<td>20%</td>
</tr>
<tr>
<td>Iron</td>
<td>4%</td>
</tr>
</tbody>
</table>

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

<table>
<thead>
<tr>
<th>Calories: 2,000</th>
<th>Calories: 2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>Less than 65g</td>
</tr>
<tr>
<td>Sat Fat</td>
<td>Less than 20g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Less than 300mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>Less than 2,400mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>300g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>26g</td>
</tr>
</tbody>
</table>

Serving Size 1 cup (228g)  
Serving Per Container 2
The amount/size of the portion

As already stated the information maybe as stated either as per 100grs /100ml or per serving. When this information is presented as per portion, it is generally presented in friendly units such as per bottle, cup, bowl etc. These are calculated generally on the amounts that are regularly consumed. This makes it easier for the consumer to compare due to more realistic values. The consumer, although is supplied with realistic portions, he/she must compare these values to the actual portion intake. For example: The figures supplied on the above product are given per serving, however if the entire packet is consumed instead all figures must be doubled, as the packet contains 2 portions.

Calorific values

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>Calories 250</th>
<th>Calories from Fat 110</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Daily Value*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As already mentioned, calories can be derived from both carbohydrates and fats. The calorific values give how much energy is obtained from that particular product at that stated portion. In this label calories from fat is also stated, in this particular case the consumer can notice that around half of the calories is obtained from fat. Once again if the entire product is consumed, the amount of fat should be doubled and the result would be 220grs the.

Nutritional Values

<table>
<thead>
<tr>
<th>Total Fat 12g</th>
<th>18%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturated Fat 3g</td>
<td>15%</td>
</tr>
<tr>
<td>Cholesterol 30mg</td>
<td>10%</td>
</tr>
<tr>
<td>Sodium 470mg</td>
<td>20%</td>
</tr>
</tbody>
</table>
The nutritional part in this label is divided into two parts mainly; this shows that a difference exists between the two parts. The table is divided into these two parts:

- The yellow part collects the quantities that the consumer should reduce, that is a limit must be setup by the consumer. Such nutrients which are included in this part are disease causing, when highly consumed. Consuming high quantities of fat or sodium, increases the chance of chronic diseases such heart diseases, high blood pressure problems and even cancer. On the other large quantities of energy creates problems such as obesity and overweight.

- The other part, shaded in lilac, is composed of the nutrients which are generally needed in higher quantities for a healthy diet. The consumer often lacks these nutrients in his diet. Such examples are vitamins, minerals and fibers. These nutrients are needed to prevent diseases.
and improve health conditions. Such examples are iron for the blood and calcium for proper bone formation.

The idea of dividing the nutritional table into these two parts, suggests that nutritional information can be used:

- To decrease some nutrients which create problems,
- To increase others which are beneficial.

Recommended daily allowances (RDA)(Daily values).

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>RDA 2,000</th>
<th>RDA 2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>Less than</td>
<td>65g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>Less than</td>
<td>20g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Less than</td>
<td>300mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>Less than</td>
<td>2,400mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>300g</td>
<td>375g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>25g</td>
<td>30g</td>
</tr>
</tbody>
</table>

The nutrient listed in this part by the aid of the RDA values, the consumer can calculate if by the serving he/she has satisfied his/her RDA or if more is needed. This type of table uses a 2000 calorie diet. That is these RDA are calculated for 2000 calories, and maybe lower or higher according to the calorific intake. Although the consumer may have a higher or lower calorific intake, the RDA values may still be used as a guideline in calculating such values.
RDA are simple to follow, the consumer must keep in mind that he/she has to keep these values either lower than 100% for the nutrients in the yellow part or at around 100% for those in the lilac part.

<table>
<thead>
<tr>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat 12g</td>
</tr>
<tr>
<td>Saturated Fat 3g</td>
</tr>
<tr>
<td>Cholesterol 30mg</td>
</tr>
<tr>
<td>Sodium 470mg</td>
</tr>
</tbody>
</table>

If RDA’s are not given the consumer has to calculate the percentage that he/she has consumed.

% Daily Value*  
Total Fat 12g ?
Saturated Fat 3g ?
Cholesterol 30mg ?
Sodium 470mg ?

However if RDA percentages are given, it is not necessary to calculate RDA’s, as the percentages are expressed and put on the same scale; even units are not used to make things simpler. This presentation, acts as a ruler.
The above diagram helps to understand the percentage RDA. In this case the percentage of fat is considered. If the consumer intakes a portion of this product (in this case 228g), 12 g of fat are eaten, which is 18% of his recommended daily intake. Thus the consumer has a remainder of 82% of fat left to consume on that day.

i.e.: \[12 \text{ g} \times 82\% / 18\% = 54.66 \text{ g}\] fat left to consume on that day.

However if the serving is doubled, i.e. the whole pack is consumed, the % RDA is doubled and only 64% is left for other products.

i.e.: \[12 \times 2 \text{ g} \times 64\% / 36\% = 42.66 \text{ g}\] of are now left to be consumed.
Sugars and Proteins.

Sugars: Recommended daily allowances of sugars are not given. This information is not provided, as it has not been clearly established as what is this daily-required value. It must be kept in mind that sugars include natural sugars such as that of fruits and also those 'artificial' such as sweeteners.

Proteins: RDA regarding protein are generally also not given, as intake depends on bodyweight normally. However if a claim such as 'high in protein' is stated, an estimated RDA must be stated.

What do claims mean?

Calorie Free - Less than 5 calories per serving

Cholesterol Free - Less than 2 milligrams of cholesterol and less than 2 grams of saturated fat per serving.

Fat Free - Less than 0.5 grams of fat per serving

Good Source of Fiber - 2.5 grams to 4.9 grams per serving

High Fiber - 5 grams or more per serving. Foods making the high fiber claims must meet the definition for low fat, or the level of total fat must appear next to the high fiber claim.

Low Calorie - 3 grams or less per 100 gram serving.

Low Cholesterol - Less than 20 milligrams of cholesterol and less than 2 grams of saturated fat per 100 gram serving.
Low Fat-40 calories or less per 100 gram serving.

Low Saturated Fat- 1 gram or less saturated fat per serving.

Low Sodium-140 milligrams or less per 100 gram serving.

More or Added Fiber- At least 2.5 grams more per serving than the food to which it is being compared.

No Sugar Added- No sugar or ingredient that contains sugar is added during processing or packing.

Reduced or Less Cholesterol - At least 25% less cholesterol than the food to which it is being compared.

Reduced or Less Fat/Saturated Fat- At least 25% less fat or saturated fat than the food to which it is being compared.

Reduced or Less Sodium- At least 25% less per serving than the food to which it is being compared.

Reduced Sugar- At least 25% less sugar than the food to which it is being compared.

Saturated Fat Free- Less than 0.5 grams of fat per serving and less than 0.5 grams of trans fatty acid per serving.

Sodium Free- Less than 5 milligrams per serving.

Very Low Sodium-35 milligrams or less per 100 gram serving.
Conclusions
Conclusions

Is the consumer educated in interpreting nutrition information?

Although nutrition information is simple to understand, only few consumers consider this information prior to consume food products. These consumers are generally those who want to keep in shape, such as gymnasts and athletes. Other consumers may not even note any nutritional claim. Mainly taste is the property most consumers look for.

Terms like carbohydrates and proteins make it difficult for some to understand. This implies that education is to be considered for these consumers. It is however a known fact that the older the consumer, the more difficult to make him/her change his/her habit. For this purpose to achieve a more effective goal, education must be targeted at the younger generation. This type of target is easier to educate and once educated, they tend to educate their parents.

Educating media for this target must be adequate to their imagination and creativity, such media may include cartoon characters and puzzles. Absorption is facilitated by this type of media.

Is the law being enforced?

Locally, no nutrition claim surveillance team exists yet. It is in the future plans of the Health department however to create a team for this purpose. This was
stated by the Manager Health Inspector John Attard Kingswell during a meeting held at the Food Safety Unit. The problem normally regards local food products, as imported foods mainly undergo surveillance in their country of origin. Local surveillance is needed to regulate/verify claims on foods produced locally. Locally claims and nutrition information of food products are only analyzed upon request or in doubt by the consumer mainly. No routine analysis exists on such products. These limitations hinder the enforcement of law to a certain extent. Upon formation of a surveillance team for monitoring of such food products, the law can then be applied without limitations.
Glossary of terms
## Glossary of terms

<table>
<thead>
<tr>
<th><strong>Chromatography</strong></th>
<th>a technique for separating complex mixtures of chemicals or proteins into their various constituents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flavorings</strong></td>
<td>an additive used to enhance flavour of product</td>
</tr>
<tr>
<td><strong>Irradiation</strong></td>
<td>a process involving use of low levels of radiation to reduce the presence of pathogens during the preparation of food products</td>
</tr>
<tr>
<td><strong>Information</strong></td>
<td>termed data</td>
</tr>
<tr>
<td><strong>Nutrient</strong></td>
<td>a substance required for health</td>
</tr>
<tr>
<td><strong>Portion</strong></td>
<td>is usually a division or part such as half.</td>
</tr>
<tr>
<td><strong>Preservative</strong></td>
<td>an additive which enhances preservative properties</td>
</tr>
<tr>
<td><strong>Sweeteners</strong></td>
<td>a substance used to alter food taste to sweeter</td>
</tr>
<tr>
<td><strong>Portion</strong></td>
<td>is usually quantified such as 100grs</td>
</tr>
<tr>
<td><strong>Trace</strong></td>
<td>a negligible quantity</td>
</tr>
</tbody>
</table>
References

http://www.consumereducation.org.uk
http://www.foodlaw.rdg.ac.uk
http://indigo.ie
http://www.foe.co.uk
http://www.foodstandards.gov.uk
http://www.erna.net
http://europa.eu.int
http://www.mmjp.or.jp
http://www.ahallen.co.uk
http://www.medical-library.net
http://cpmcnet.columbia.edu
http://www.justice.gov.mt/
http://fit4free.org
http://www.eclipsescientific.co.uk
Appendix
Appendix

Local Nutrition Regulations

European Union Directives of Nutrition Labelling

Nutritional Labelling Fact Sheets
1. The title of these Regulations is Nutrition Labelling for Foodstuffs Regulations.

2. (1) These regulations concern nutrition labelling of foodstuffs to be delivered as such to the ultimate consumer. They shall also apply to foodstuffs intended for supply to restaurants, hospitals, canteens and other similar mass caterers (hereinafter referred to as "mass caterers").

(2) These regulations shall not apply to -

(a) natural mineral waters or other waters intended for human consumption;

(b) diet integrators and, or food supplements.

(3) These regulations shall apply without prejudice to labelling provisions of other regulations relating to foodstuffs intended for particular nutritional uses.

(4) Subject to sub-regulation (5), nutrition labelling shall be optional.

(5) Where a nutrition claim appears on labelling, in presentation or in advertising, with the exclusion of generic advertising, nutrition labelling shall be compulsory.

(6) These regulations shall not apply in the case of non-pre-packaged foodstuffs put up for sale to the ultimate consumer or to mass caterers, and of foodstuffs packed at the point of sale at the request of the purchaser or pre-packaged with a view to immediate sale.

3. In these regulations, unless the context otherwise requires:

"average value" means such value as best represents the amount of the nutrient which a given food contains, and reflects allowances for seasonal variability, patterns of consumption and other factors which may cause the actual value to vary;

"carbohydrates" means any carbohydrate which is metabolised in man, and includes polyols;

"fat" means total lipids, and includes phospholipids;

"mono-unsaturates" means fatty acids with one cis double bond;

"nutrition claim" means any representation or advertising message which states, suggests or implies that a foodstuff has particular nutrition properties due to the energy (calorific value) which it -

- provides,
Permitted nutrition claims.

4. The only nutrition claims permitted shall be those relating to energy, to the nutrients listed in paragraph (ii) of the definition "nutrition labelling" in regulation 3, and to substances which belong to or which are components of a category of those nutrients.

5. (1) Where nutrition labelling is provided, the information to be given shall consist of either Group 1 or Group 2 in the following order:

Group 1
(a) energy value;
(b) the amounts of protein, carbohydrate and fat;
Group 2
(a) energy value;
(b) the amounts of protein, carbohydrate, sugars, fat, saturates, fibre and sodium.

(2) Where a nutrition claim is made for sugars, saturates, fibre or sodium, the information to be given shall consist of Group 2.
(3) Nutrition labelling may also include the amounts of one or more of the following:
- starch,
- polyols,
- mono-unsaturates,
- polyunsaturates,
- cholesterol,
- any of the minerals or vitamins listed in the Schedule and present in significant amounts as defined in that Schedule.

(4) The declaration of substances which belong to or are components of one of the categories of nutrients referred to in sub-regulations (1) and (3) shall be compulsory where a nutrition claim is made.

(5) Whenever the amount of polyunsaturates and, or monounsaturates and, or the cholesterol rate is given, the amount of saturates shall also be given, so however that the declaration of saturates shall not constitute in this case a nutrition claim within the meaning of sub-regulation (2).

6. The energy value to be declared shall be calculated using the following conversion factors:
- carbohydrate (except polyols) 4.0 kcal/g  17kJ/g
- polyols  2.4 kcal/g  10kJ/g
- protein  4.0 kcal/g  17kJ/g
- fat  9.0 kcal/g  37kJ/g
- alcohol (ethanol)  7.0 kcal/g  29kJ/g
- organic acid  3.0 kcal/g  13kJ/g.

7. (1) The declaration of the energy value and of the proportion of nutrients or their components shall be numerical. The units to be used are the following:
- energy kJ and kcal
- protein grams (g)
- carbohydrate grams (g)
- fat grams (g)
- fibre grams (g)
- sodium grams (g)
- cholesterol milligrams (mg)
- vitamins and minerals the units specified in the Schedule.

(2) Information shall be expressed per 100g or per 100ml In addition, this information may be given per serving as quantified on the label or per portion available, provided that the number of portions contained in the package is stated.

(3) The amounts mentioned shall be those of the food as sold.
Where appropriate, this information may relate to the foodstuff after preparation, provided that sufficiently detailed preparation instructions are given and the information relates to the food as prepared for consumption.

(4) Information on vitamins and minerals shall also be expressed as a percentage of the recommended daily allowance (RDA) given in the Schedule for the amounts as specified in sub-regulation (2). The percentage of the recommended daily allowance (RDA) for vitamins and minerals may be given in graphical form.

(5) Where sugars and, or polyols and, or starch are declared, such declaration shall immediately follow the declaration of the carbohydrate content in the following manner:

- carbohydrate of which: g
- sugars: g
- polyols: g
- starch: g.

(6) Where the amount and, or type of fatty acid and, or the cholesterol rate is declared, such declaration shall immediately follow the declaration of total fats in the following manner:

- fat of which: g
- saturates: g
- mono-unsaturates: g
- polyunsaturates: g
- cholesterol: mg.

(7) The declared values shall, according to the individual case, be average values based on:

(a) the manufacturer’s analysis of the food;
(b) a calculation from the known or actual average values of the ingredients used;
(c) a calculation from generally established and accepted data.

(8) The information covered by these regulations must be presented together in one place in tabular form, with the numbers aligned if space permits. Where space does not permit, the information shall be presented in linear form. It shall be printed in legible and indelible characters in a conspicuous place.

(9) The information covered by these regulations shall appear in at least one or more of the following languages:

- Maltese
- English
- Italian.

This provision shall not prevent such information from being additionally indicated in other languages.
**SCHEDULE**

(Regulation 3)

Vitamins and Minerals which may be declared and their Recommended Daily Allowances (RDAs)

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>RDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A, µg</td>
<td>800</td>
</tr>
<tr>
<td>Vitamin D, µg</td>
<td>5</td>
</tr>
<tr>
<td>Vitamin E, mg</td>
<td>10</td>
</tr>
<tr>
<td>Vitamin C, mg</td>
<td>60</td>
</tr>
<tr>
<td>Thiamine, mg</td>
<td>1.4</td>
</tr>
<tr>
<td>Riboflavin, mg</td>
<td>1.6</td>
</tr>
<tr>
<td>Niacin, mg</td>
<td>18</td>
</tr>
<tr>
<td>Vitamin B6, mg</td>
<td>2</td>
</tr>
<tr>
<td>Folacin, µg</td>
<td>200</td>
</tr>
<tr>
<td>Vitamin B12, µg</td>
<td>1</td>
</tr>
<tr>
<td>Biotin, mg</td>
<td>0.15</td>
</tr>
<tr>
<td>Pantothenic acid, mg</td>
<td>6</td>
</tr>
<tr>
<td>Calcium, mg</td>
<td>800</td>
</tr>
<tr>
<td>Phosphorus, mg</td>
<td>800</td>
</tr>
<tr>
<td>Iron, mg</td>
<td>14</td>
</tr>
<tr>
<td>Magnesium, mg</td>
<td>300</td>
</tr>
<tr>
<td>Zinc, mg</td>
<td>15</td>
</tr>
<tr>
<td>Iodine, µg</td>
<td>150</td>
</tr>
</tbody>
</table>

As a rule, 15% of the recommended daily allowance specified in this Schedule supplied by 100g or 100ml or per package if the package contains only a single portion, should be the percentage taken into consideration in deciding what constitutes a significant amount.
COUNCIL DIRECTIVE
of 24 September 1990
on nutrition labelling for foodstuffs
(90/496/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100a thereof,
Having regard to the proposal from the Commission (1),
In cooperation with the European Parliament (2),
Having regard to the opinion of the Economic and Social Committee (3),

Whereas it is important that measures should be adopted with a view to the progressive establishment of the internal market by 31 December 1992; whereas the internal market is an area without internal frontiers in which freedom of movement is ensured for goods, persons, services and capital;
Whereas there is growing public interest in the relationship between diet and health and in the choice of an appropriate diet to suit individual needs;
Whereas the Council and the Representatives of the Governments of the Member States meeting within the Council, in their resolution of 7 July 1986 on the European programme against cancer, considered the improvement of nutrition to be a priority;
Whereas knowledge of the basic principles of nutrition and appropriate nutrition labelling of foodstuffs would contribute significantly towards enabling the consumer to make this choice;
Whereas the provision of nutrition labelling should assist action in the area of nutrition education for the public;
Whereas, for the benefit of the consumer on the one hand, and to avoid any possible technical barriers to trade on the other, nutrition labelling should be presented in a standardized form applying throughout the Community;
Whereas foodstuffs bearing nutrition labelling should conform to the rules laid down in this Directive;
Whereas all other forms of nutrition labelling should be prohibited but foodstuffs bearing no nutrition labelling should be able to circulate freely;
Whereas, to appeal to the average consumer and to serve the purpose for which it is introduced, and given the current low level of knowledge on the subject of nutrition, the information provided should be simple and easily understood;
Whereas application of this Directive for a certain length of time will enable valuable experience on the subject to be gained and consumer reaction to the way in which nutrition information is presented to be evaluated thus enabling the Commission to review the rules and propose any appropriate amendments;
Whereas in order to encourage interested parties, especially small and medium-sized undertakings, to provide nutrition labelling for as many products as possible, measures to make information more complete and more balanced should be introduced gradually;
Whereas the rules laid down in this Directive should also take into account the Codex Alimentarius guidelines on nutrition labelling;
1978 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs for sale to the ultimate consumer (4), as last amended by Directive 89/395/EEC (5); whereas this Directive can therefore be confined to those provisions pertaining to nutrition labelling,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive concerns nutrition labelling of foodstuffs to be delivered as such to the ultimate consumer. It shall also apply to foodstuffs intended for supply to restaurants, hospitals, canteens and other similar mass caterers (hereinafter referred to as 'mass caterers').

2. This Directive shall not apply to:
   - natural mineral waters or other waters intended for human consumption,
   - diet integrators/food supplements.


4. For the purposes of this Directive:
   (a) 'nutrition labelling' means any information appearing on labelling and relating to:
      (i) energy value;
      (ii) the following nutrients:
         - protein,
         - carbohydrate,
- fat,
- fibre,
- sodium,
- vitamins and minerals listed in the Annex and present in significant amounts as defined in that Annex.
Changes to the list of vitamins, minerals and their recommended daily allowances shall be adopted in accordance with the procedure laid down in Article 10;
(b) 'nutrition claim' means any representation and any advertising message which states, suggests or implies that a foodstuff has particular nutrition properties due to the energy (calorific value) it provides,
- provides at a reduced or increased rate or
- does not provide,
and/or due to the nutrients it contains,
- contains in reduced or increased proportions or
- does not contain.
A reference to qualities or quantities of a nutrient does not constitute a nutrition claim in so far as it is required by legislation.
In accordance with the procedure laid down in Article 10, it may be decided in certain cases whether the conditions described in this point are satisfied;
(c) 'protein' means the protein content calculated using the formula: protein = total Kjeldahl nitrogen × 6,25;
(d) 'carbohydrate' means any carbohydrate which is metabolized in man, and includes polyols;
(e) 'sugars' means all monosaccharides and disaccharides
present in food, but excludes polyols;
(f) 'fat' means total lipids, and includes phospholipids;
(g) 'saturates' means fatty acids without double bond;
(h) 'mono-unsaturates' means fatty acids with one cis double bond;
(i) 'polyunsaturates' means fatty acids with cis, cis-methylene interrupted double bonds;
(j) 'fibre' means the material to be defined in accordance with the procedure laid down in Article 10 and measured by the method of analysis to be determined in accordance with that procedure;
(k) 'average value' means the value which best represents the amount of the nutrient which a given food contains, and reflects allowances for seasonal variability, patterns of consumption and other factors which may cause the actual value to vary.

Article 2
1. Subject to paragraph 2, nutrition labelling shall be optional.
2. Where a nutrition claim appears on labelling, in presentation or in advertising, with the exclusion of generic advertising, nutrition labelling shall be compulsory.

Article 3
The only nutrition claims permitted shall be those relating to energy, to the nutrients listed in Article 1 (4) (a) (ii) and to substances which belong to or which are components of a category of those nutrients. Provisions restricting or prohibiting nutrition claims within the meaning of this Article may be adopted by the procedure laid down in Article 10.
Article 4

1. Where nutrition labelling is provided, the information to be given shall consist of either group 1 or group 2 in the following order:

Group 1
(a) energy value;
(b) the amounts of protein, carbohydrate and fat.

Group 2
(a) energy value;
(b) the amounts of protein, carbohydrate, sugars, fat, saturates, fibre and sodium.

2. Where a nutrition claim is made for sugars, saturates, fibre or sodium, the information to be given shall consist of group 2.

3. Nutrition labelling may also include the amounts of one or more of the following:
   - starch,
   - polyols,
   - mono-unsaturates,
   - polyunsaturates,
   - cholesterol,
   - any of the minerals or vitamins listed in the Annex and present in significant amounts as defined in that Annex.

4. The declaration of substances which belong to or are components of one of the categories of nutrients referred to in paragraphs 1 and 3 shall be compulsory where a nutrition claim is made.

   In addition, where the amount of polyunsaturates and/or mono-unsaturates and/or the cholesterol rate is given, the amount of saturates shall also be given, the declaration of the latter not constituting - in this case - a nutrition claim within the meaning
Article 5
1. The energy value to be declared shall be calculated using the following conversion factors:
   - carbohydrate (except polyols) 4 kcal/g - 17 kJ/g
   - polyols 2.4 kcal/g - 10 kJ/g
   - protein 4 kcal/g - 17 kJ/g
   - fat 9 kcal/g - 37 kJ/g
   - alcohol (ethanol) 7 kcal/g - 29 kJ/g
   - organic acid 3 kcal/g - 13 kJ/g
2. Provisions concerning the following points shall be adopted in accordance with the procedure laid down in Article 10:
   - amendments to the conversion factors mentioned in paragraph 1,
   - the addition to the list in paragraph 1 of substances which belong to or are components of one of the categories of nutrients referred to in that paragraph and their conversion factors in order to calculate more precisely the energy value of foodstuffs.

Article 6
1. The declaration of the energy value and of the proportion of nutrients or their components shall be numerical. The units to be used are the following:
   - energy - kJ and kcal
   - protein
   - carbohydrate
   - fat grams (g)
   - fibre
   - sodium
   - cholesterol
   - milligrams (mg)
   - vitamins and minerals
   - the units specified in the Annex
2. Information shall be expressed per 100 g or per 100 ml. In
addition, this information may be given per serving as quantified on the label or per portion, provided that the number of portions contained in the package is stated.

3. In accordance with the procedure laid down in Article 10 it may be decided that the information in paragraphs 1 and 2 may also be given in graphical form according to formats to be determined.

4. The amounts mentioned shall be those of the food as sold. Where appropriate, this information may relate to the foodstuff after preparation, provided that sufficiently detailed preparation instructions are given and the information relates to the food as prepared for consumption.

5. (a) Information on vitamins and minerals must also be expressed as a percentage of the recommended daily allowance (RDA) given in the Annex for the amounts as specified in paragraph 2.

(b) The percentage of the recommended daily allowance (RDA) for vitamins and minerals may also be given in graphical form. Rules for implementing this subparagraph may be adopted in accordance with the procedure laid down in Article 10.

6. Where sugars and/or polyols and/or starch are declared, this declaration shall immediately follow the declaration of the carbohydrate content in the following manner:

1.2 // - carbohydrate // g // of which: // // - sugars // g // - polyols // g // - starch // g

7. Where the amount and/or type of fatty acid and/or the cholesterol rate is declared, this declaration shall immediately follow the declaration of total fats in the following manner:

1.2 // - fat // g // of which: // // - saturates // g // - monounsaturates // g // - polyunsaturates // g // - cholesterol // mg
8. The declared values shall, according to the individual case, be average values based on:
(a) the manufacturer's analysis of the food;
(b) a calculation from the known or actual average values of the ingredients used; (c) a calculation from generally established and accepted data.

The rules for implementing the first paragraph with regard in particular to the differences between the declared values and those established in the course of official checks shall be decided upon in accordance with the procedure laid down in Article 10.

Article 7
1. The information covered by this Directive must be presented together in one place in tabular form, with the numbers aligned if space permits. Where space does not permit, the information shall be presented in linear form.

It shall be printed in legible and indelible characters in a conspicuous place.

2. Member States shall ensure that the information covered by this Directive appears in a language easily understood by purchasers, unless other measures have been taken to ensure that the purchaser is informed. This provision shall not prevent such information from being indicated in more than one language.

3. Member States shall refrain from laying down requirements more detailed than those already contained in this Directive concerning nutrition labelling.

Article 8
In the case of non-prepackaged foodstuffs put up for sale to the ultimate consumer or to mass caterers and foodstuffs packed at the point of sale at the request of the purchaser or prepackaged with a view to immediate sale, the extent of the information referred to in Article 4 and the manner of its communication may be determined by national provisions until the eventual adoption of Community measures in accordance with the procedure laid down in Article 10.

Article 9
Any measures likely to have an effect on public health shall be adopted after consultation of the Scientific Committee for Food set up by Decision 74/234/EEC (1).

Article 10
1. Where the procedure laid down in this Article is to be followed, the matter shall be referred to the Standing Committee for Foodstuffs set up by Decision 69/414/EEC (2) (hereinafter referred to as 'the Committee') by its chairman, either on his own initiative or at the request of the representative of a Member State.
2. The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 148 (2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the Committee shall be weighted in the manner
set out in that Article. The chairman shall not vote.

3. (a) The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the Committee.
(b) Where the measures envisaged are not in accordance with the opinion of the Committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken. The Council shall act by a qualified majority.
(c) If, on expiry of a period of three months from the date of referral to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 11

1. Member States shall take the measures necessary to comply with this Directive and shall forthwith inform the Commission thereof. Those measures shall be applied in such a way as to:
- permit trade in products complying with this Directive by 1 April 1992,
- prohibit trade in products which do not comply with this Directive with effect from 1 October 1993.

2. Until . . . (five years following notification of this Directive), the declaration in nutrition labelling, either on a voluntary basis or following a nutrition claim, of one or more of the following nutrients; sugars, saturates, fibre, sodium, shall not trigger the obligation set out in Article 4 (1) and (2) to declare all these nutrients.

3. The Commission shall, by . . . (eight years after notification of this Directive), submit to the European Parliament and the Council a report on the application of this Directive. At the same time, it shall submit to the Council
any appropriate proposals for amendment.

Article 12
This Directive is addressed to the Member States.
Done at Brussels, 24 September 1990.
For the Council
The President
V. SACCOMANDI

(4) OJ No L 33, 8. 2. 1979, p. 1.
(1) OJ No L 186, 30. 6. 1989, p. 27.

ANNEX
Vitamins and minerals which may be declared and their recommended daily allowances (RDAs)
Vitamin A µg 800
Vitamin D µg 5
Vitamin E mg 10
Vitamin C mg 60
Thiamin mg 1,4
Riboflavin mg 1,6
Niacin mg 18
Vitamin B6 mg 2
Folacin µg 200
Vitamin B12 µg 1
Biotin mg 0.15
Pantothenic acid mg 6
Calcium mg 800
Phosphorus mg 800
Iron mg 14
Magnesium mg 300
Zinc mg 15
Iodine µg 150

As a rule, 15 % of the recommended allowance specified in the Annex supplied by 100 g or 100 ml or per package if the package contains only a single portion should be taken into consideration in deciding what constitutes a significant amount.
What does the Fact sheet cover?

It summaries the law in relation to certain popular nutritional claims. All claims for food are subject to the general provisions of The Food Safety Act 1990, which makes it an offence to falsely describe a food or to mislead as to its nature, substance or quality. There are also specific provisions in the Food Labelling Regulations 1996 (FLR), as amended, covering claims made for foods for particular nutritional uses, for reduced and low energy foods, for protein, vitamins and minerals, and for cholesterol free foods. Manufacturers must comply with these provisions.

These guidelines cover the following nutrient content claims:

- Low
- No added
- Free/without
- Source
- Increased
- Reduced
- More/less
- High/rich

What definitions are needed to interpret the legislation?

The FLR, which implement the provisions of the EC Nutritional Labelling Directive (90/496/EEC), provide the following definitions:

*Nutritional claim* means any statement, suggestion or implication in any labelling, presentation or advertising of a food that that food has particular nutritional properties, but does not include a reference to any quality or quantity of nutrient where such reference is required by law;

*Sugars* means all monosaccharide and disaccharides but excludes polyols;

*Fat* means total lipids including phospholipid; and

*Saturates* means fatty acids without double bond.
Fibre is yet to be defined but we advise that fibre, for claims and nutritional labelling purposes, means dietary fibre as non starch polysaccharides. Claims relating to fibre should be based on this definition.

What are the criteria for making claims?
The criteria for making the nutrition claims covered by these guidelines are as follows:

Low: Claims for fat, saturates, sugar(s) and salt/sodium should conform to the conditions in Table 1. See FLR Schedule 6 part II for conditions for energy.

- Claims for foods naturally low in a nutrient should take the form *a low X food*.
- Information in the nutrition panel on sodium levels should be accompanied by an equivalent salt figure.
- Since dietary cholesterol is not a major factor in coronary heart disease and there is a danger of confusion with blood cholesterol levels, low cholesterol claims should not be made.

No added: Claims for sugar(s) and salt should conform to the conditions in Table 1.

X Free/without: Claims for fat, saturates, sugar(s), and salt/sodium should conform to the conditions in Table 1. The FLR schedule 6 part II lays down conditions for cholesterol free claims but, as for low cholesterol above, it is recommended that such claims are not made.

- Since X% fat free claims can be misunderstood, they should be avoided.
- Information in the nutrition panel on sodium levels should be accompanied by an equivalent salt figure.

Source: Claims for fibre should conform to the conditions in Table 1. See the FLR for conditions for protein, vitamins and minerals.

Increased: Claims for fibre should conform to the conditions in Table 1. Claims for other nutrients should only be made when there is a minimum 25% increase of the nutrient contained in the food by comparison with the normal product, i.e. the standard version of the product, for which no claim is made.

Reduced: Claims should only be made when there is a minimum 25% reduction of the nutrient contained in the food by comparison with the normal product, i.e. the standard version of the product, for which no claim is made*. See also FLR schedule 6 part II for conditions for energy and cholesterol. Again it is recommended that cholesterol claims are not made.
More/less: Claims made for foods with changes in nutrient content of less than 25% should take the form ‘contains Y% less/more X’.

High/rich: Claims for fibre should conform to the conditions in Table 1. See FLR Schedule 6 part II for conditions for protein, vitamins and minerals. Claims for foods naturally high in a nutrient should take the form ‘a high X food’.

Please Note:
For concentrated or dehydrated food which is intended to be reconstituted by the addition of water or any other substance, the claims conditions in these guidelines apply to the food after it has been reconstituted as directed.

* The use of the term ‘reduced sugar’ for jams and similar products which comply with the Jams and Similar Product Regulations 1981 and the Jam and Similar Products (Scotland) Regulations 1981 will not be considered a claim.

Q What happens if I fail to comply with these requirements - will I commit an offence?
A Yes. Failure to comply is a criminal offence and could result in a fine.

This leaflet has been prepared for the guidance of traders by Stockport M.B.C. It is not an authoritative document on the law and is only intended for guidance. Last updated 18/08/00. For further guidance please contact:-
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Tel. No.- 0161 474 4248 Fax No.- 0161 474 4199
trading.standards@stockport.gov.uk
Table 1

<table>
<thead>
<tr>
<th></th>
<th>LOW</th>
<th>NO ADDED</th>
<th>X FREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAT</td>
<td>No more than 3g per 100g for solids or per 100ml for liquids.*</td>
<td></td>
<td>No more than 0.15g per 100g or 100ml.</td>
</tr>
<tr>
<td></td>
<td><em>In the case of a food naturally low in fat the claim must be made in the form a low fat food</em>.</td>
<td></td>
<td>*% fat free claims should not be made.</td>
</tr>
<tr>
<td>SATURATES</td>
<td>No more than 1.5g per 100g for solids or per 100ml for liquids and should not make up more than 10% of the total energy of the product.*</td>
<td></td>
<td>No more than 0.1g per 100g or 100ml.</td>
</tr>
<tr>
<td></td>
<td><em>In the case of a food naturally low in saturates the claim must be made in the form a low saturates food</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUGAR(S)</td>
<td>No more than 5g per 100g or 100ml.</td>
<td>No sugars or foods composed mainly of sugars added to the food or to any of its ingredients.</td>
<td>No more than 0.2g per 100g or 100ml.</td>
</tr>
<tr>
<td></td>
<td><em>In the case of a food naturally low in sugar(s) the claim must be made in the form a low sugar(s) food</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SALT/SODIUM</td>
<td>No more than 40mg sodium per 100g or 100ml.</td>
<td>No salt or sodium shall have been added to the food or to any of its ingredients.</td>
<td>No more than 5mg sodium per 100g or 100ml.</td>
</tr>
<tr>
<td></td>
<td><em>In the case of a food naturally low in salt/sodium the claim must be made in the form a low salt/sodium food</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOURCE</td>
<td></td>
<td>INCREASED</td>
<td>HIGH</td>
</tr>
<tr>
<td>FIBRE</td>
<td>Either 3g per 100g or 100ml or at least 3g in the reasonable expected daily intake of the food.</td>
<td>At least 25% more than a similar food for which no claim is made and at least 3g in either the reasonable daily intake of a food for which this is lower than 100g or 100ml or in the 100g or 100ml.</td>
<td>Either at least 6g per 100g or 100ml or at least 6g in the reasonable expected daily intake of the foods</td>
</tr>
<tr>
<td></td>
<td><em>In the case of a food naturally high in fibre, the claim must take the form a high fibre food</em>.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* There are specific EU Regulations relating to spreadable fats. Please note that these guidelines do not relate to these products.
This claim includes the use of the term "unsweetened" except in accordance with the provision of the condensed Milk and Dried Milk Regulations (1977) (as amended)