COMMISSION DECISION

of 14 November 1994

establishing the ecological criteria for the award of the Community eco-label to kitchen rolls

(94/925/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Regulation (EEC) No 880/92 of 23 March 1992 on a Community eco-label award scheme [1], and in particular the second subparagraph of Article 5(1) thereof,

Whereas the first subparagraph of Article 5(1) of Regulation (EEC) No 880/92 provides that the conditions for the award of the Community eco-label shall be defined by product group;

Whereas Article 10 (2) of Regulation (EEC) No 880/92 states that the environmental performance of a product shall be assessed by reference to the specific criteria for product groups;

Whereas in accordance with Article 6 of Regulation (EEC) No 880/92 the Commission has consulted the principal interest groups within a consultation forum;

Whereas the measures set out in this Decision are in accordance with the opinion of the committee set up under Article 7 of Regulation (EEC) No 880/92,

HAS ADOPTED THIS DECISION:

Article 1

The product group 'kitchen rolls' shall mean:

'Rolls of paper intended for use in households. The paper is suitable for absorption of liquids and cleaning of soiled surfaces. It normally consists of creped or embossed paper in one or several plies. Related products based on soft paper, such as napkins and wipes, are excluded from the product group.'

Article 2

The environmental performance of the product group as defined in Article 1 shall be assessed by reference to the specific ecological criteria set out in the Annex.

Article 3

The product group definition and the specific ecological criteria for the product group shall be valid for a period of three years from the date on which this Decision takes effect.

Article 4

For administrative purposes, the code number assigned to the product group shall be '005'.

Article 5

This Decision is addressed to the Member States.

Done at Brussels, 14 November 1994

For the Commission

Yannis PALEOKRASSAS

Member of the Commission

[1] OJ No L 99, 11. 4. 1992, p. 1.

ANNEX

ECO-LABEL CRITERIA FOR KITCHEN ROLLS

Environmental Criteria

(i) The fibrous raw material for the paper production shall be virgin pulp, or pulp made from waste paper (*), or mixtures thereof. All virgin wood shall originate from regions where forest management (*) is applied.

(ii) The environmental impact of a product shall be assessed in relation to the following parameters:

(a) consumption of renewable resources (*);

(b) consumption of non-renewable resources (*);

(c) emission of carbon dioxide;

(d) emission of sulphur/sulphur dioxide;

(e) emission of organics to water (COD);

(f) emission of chlorinated organics (to water) (AOX);

(g) emission of waste (*).

Its performance against each parameter shall be expressed in terms of a load point, in accordance with the system of values and related load points specified in the table of this document. If the load point for its performance against parameters (c), (d), (e), (f), or (g) is in excess of the values described as 'hurdle' in the system specified in the table of this document, the product shall not qualify for the eco-label.

(*) The appendix to this Annex contains definitions of the terms marked with an asterisk.

Table

Parameters, Values and Related Load Points

Aspect	Basic load point	
Renewable Resources, RR (tonne wood/tonne tissue)	t wood/t < 0,1 = 0 0,1 ≤ t wood/t < 0,7 = 0,3 0,7 ≤ t wood/t < 1,3 = 0,6 1,3 ≤ t wood/t < 1,9 = 0,9 1,9 ≤ t wood/t < 2,5 = 1,2 2,5 ≤ t wood/t < 3,5 = 1,5 3,5 ≤ t wood/t = 2	Y_1
Non-Renewable Resources, NRR (TORE/tonne tissue)	TORE/t < 0,1 = 0 0,1 ≤ TORE/t < 0,2 = 0,3 0,2 ≤ TORE/t < 0,3 = 0,6 0,3 ≤ TORE/t < 0,4 = 0,9 0,4 ≤ TORE/t < 0,5 = 1,2 0,5 ≤ TORE/t = 2,4	Y_2
Carbon dioxide, CO_2 (t CO_2/tonne tissue)	t CO_2/t < 0,6 = 0 0,6 ≤ t CO_2/t < 1,2 = 1 1,2 ≤ t CO_2/t < 1,8 = 2 1,8 ≤ t CO_2/t < 2,4 = 3 2,4 ≤ t CO_2/t < 3,0 = 4 3,0 ≤ t CO_2/t = Hurdle	Y_3

Aspect	Basic load point	
Sulphur dioxide, SO_2 (kg S/tonne tissue)	kg/ S/t < 0,5 = 0 0,5 ≤ kg S/t < 2,0 = 1 2,0 ≤ kg S/t < 4,0 = 2 4,0 ≤ kg S/t < 7,0 = 3 7,0 ≤ kg S/t < 10,0 = 4 10,0 ≤ kg S/t = Hurdle	Y_4
Organics to water, COD (kg COD/tonne tissue)	kg COD/t < 6 = 0 6 ≤ kg COD/t < 15 = 1 15 ≤ kg COD/t < 40 = 2 40 ≤ kg COD/t < 60 = 3 60 ≤ kg COD/t < 80 = 4 80 ≤ kg COD/t = Hurdle	Y_5
Chlorinated organics, AOX (kg AOX/tonne tissue)	kg AOX/t < 0,1 = 0 0,1 ≤ kg AOX/t < 0,3 = 0,6 0,3 ≤ kg AOX/t < 0,5 = 1,2 0,5 ≤ kg AOX/t = Hurdle	Y_6
Waste (tonne waste/tonne tissue)	t waste/t < −0,8 = 0 −0,8 ≤ t waste/t < 0,3 = 1 −0,3 ≤ t waste/t < 0,02 = 2 0,02 ≤ t waste/t < 0,2 = 3 0,2 ≤ t waste/t < 0,4 = 4 0,4 ≤ t waste/t = Hurdle	Y_7
	Total load points	ΣY

The Appendix to this Annex shall guide the calculation and testing of a product's performance against these parameters.

(iii) To obtain the label the adjusted total load point sum for the product defined as 'total load point sum' × Multiplier must not exceed 6,5 points.

'Total load point sum' shall be calculated in accordance with the table.

Multiplier shall be calculated in accordance with the enclosure to this Annex.

(iv) The applicant must not exceed the numbers set as hurdles. This applies to the parameters for CO_2, SO_2, COD, AOX and waste.

Performance criterion

The product shall be suitable for use.

Enclosure to the Annex to the Decision on the eco-labelling of kitchen rolls

Strength

1. In practice no product is inadequate on a dry strength basis and because of this the wet strength properties dominate this variable. A recognized measure of strength is known as the geometric mean tensile (GMT) and is calculated using the formula:

$$GMT = \frac{\overline{WET\ MD \times WET\ CD}}{gms}$$

where: WET MD is the wet strength in the machine direction (*),

WET CD is the wet strength in the cross machine direction (*),

gms is the weight of product (grammes) per square metre.

Absorption Capacity

2. Absorption capacity is measured by determining the specific absorbency (*), namely amount of water (grammes) absorbed per gramme of product. This therefore links absorption capacity to the amount of the product used.

3. In combining the two variables both GMT and absorption capacity have been demonstrated by independent sources and by different test methods to be mutually independent except for a few extreme cases. By this it is meant they are not linked. For example, high tensile strength does not equate to high or low absorbency. Moreover, they show sufficient variation to allow a point scoring system to be applied.

4. A number of actual products representing the extremes of the market place, have been tested and their strength and absorbency set out as follows. For all practical purposes the range of GMT would be represented on a normal distribution having scale extreme values ≤ 2 and ≥ 6 with a mean of 4. Absorbency may be represented with extreme values $\leq 3{,}5$ and ≥ 5 with a mean value of 4. In each case the high extreme is allocated 1 point while the low extreme is allocated 5 points with the intermediate scores appropriately proportioned.

5. The range goes from 1 = Good to 5 = Bad. Thus, a good product on strength combined with bad rating on absorbency would score 6 points. Other examples illustrate that a product judged good on both variables would score the minimum of 2 points while the bad extreme would aggregate 10 points.

6. On this basis the real products tested achieved the following point scores:

Product Variable	Towel A		Towel B		Towel C		Towel D	
	Result	Score	Result	Score	Result	Score	Result	Score
GMT	2,08	5	3,8	4	4,84	3	6,13	1
ABS	3,33	5	5,4	1	2,81	5	3,03	5
Total Score	—	10	—	5	—	8	—	6

(*) Measured by a recognized industry standard method.

7. In relating these scores to the general methodology it is clear that they should be applied as a multiplying effect. This is because the performance criterion relates to the amount of product that is used — a poorer product requiring more for the task thereby multiplying the environmental impact. This reflects the quite clear industry consensus that the extremes of the market place are not in the proportion 2 to 10 but rather more in the ratio 0,75 to 1,0. In other words, the ratio of sheet usage from best to worst products is around 0,75. It is therefore proposed that the point score in the range 2 to 10 be linearly converted to the range 0,75 to 1,0. Thus for the test examples given, the multiplying effects are as follows:

	Towel A	Towel B	Towel C	Towel D
Points score	10	5	8	6
Multiplier	1,000	0,844	0,938	0,875

Application

8. The application of the detailed criteria allows for the aggregation of points from the various environmental issues to a total of 6,5. The multiplying effect for a towel achieving a score of 6,5 basic load points would, at the extremes of performance, convert this 4,9 (6,5 × 0,75). For a good towel, this reflects the improved performance from better use of the product (i.e., a tonne of product goes further), leading to lower environmental impact. In contrast a poorer towel would not be penalized further (multiplier = 1,0) thereby allowing it still to be awarded a label.

APPENDIX

Calculation and testing method for each parameter

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1. Definition, calculation and testing of the parameters

In this appendix each of the parameters from Table 1 in the criteria document is defined and the relevant test methods are mentioned.

1.1. *Renewable Resources:*

Definition of forest management:

Within the context of this Decision forest management will be defined as outlined in Resolution H1 — General Guidelines for the Sustainable Management of Forest in Europe — as adopted by the Ministerial Conference on the Protection of Forest in Europe, Helsinki, June 1993:

> The stewardship and use of forests and forest land in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and this potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national and global levels and that does not cause damage to other ecosystems.

For States who have not adopted the Helsinki Resolution, forestry management will be defined as outlined in the document: 'Non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests' — as adopted at the United Nations Conference on Environment and Development, Rio de Janeiro, June 1992.

At the end of a three-year period this Decision will be revised in the light of developments concerning operational guidelines and policies for forest management elaborated in international fora.

Definition of consumption of renewable resources:

The raw materials are the vegetable fibres used in the production of tissue/paper, i.e. mainly wood, but other resources, like bamboo, elephant grass and other parts of annual plants grown for the purpose of getting raw materials for tissue/paper production must be included when they are used. If vegetable fibres are used for energy production within the mill, this amount must be included as well.

Excluded from the calculations are materials like

— waste paper (as defined in part 1.7);

— wood from thinnings for the purpose of making space for the growing of neighbouring trees or to remove sick or damaged trees;

— wood coming from windfalls, windbroken and broken under the weight of snow;

— wood waste, saw dust and trimmings from saw mills and bark;

— agricultural waste (bagasse, straw etc.). Straw is not agricultural waste if it is grown for the purpose of getting raw materials for paper production.

Calculation of Renewable Resources:

The parameter must be looked upon as a part of the mass balance for production of tissue/paper. The period for the mass balance must be based on one year. One has to measure how much wood or the like is used per tonne of produced tissue/paper product. If the paper mill imports pulp for the production of tissue/paper the supplier has to supply the paper mill with the necessary documentation.

1.2 *Non-renewable resources:*

Definition of consumption of Non-renewable resources:

Only the consumption of fossil fuels related to the manufacturing stages of the life cycle is considered. This includes the consumption of fossil fuels in the production of electricity within the public grid. Three sources of energy are considered: coal, oil and gas.

Calculation of Non-renewable Resources:

The non-renewable resources are considered to be a combination of relative amounts accessible and of different emissions from different sources. They are therefore calculated as TORE – tonne of oil resource equivalents.

The parameter must be looked upon as a part of the mass balance for production of tissue/paper. The period for the mass balance must be based on one year.

NRR (TORE/Tonne of paper [1]) = x tonnes of oil/tonnes of paper + 0.11 × y (tonnes of coal/tonne of paper) + 7.3×10^{-4} × z (m^3 of gas/tonnes of paper) + 5.0×10^{-5} × v (kWh/tonne of paper),

where

x = the number of tonnes of fuel oil used,

y = the number of tonnes of coal used,

z = the number m^3 of gas used at stp, and

v = the number of kWh used.

1.3 *Carbon dioxide, CO_2:*

Definition of emission of carbon dioxide, CO_2:

The emission of CO_2 from fossil fuels and production of electricity originating from the pulp and tissue/paper production must be taken into account, whereas the CO_2 emission from the use of renewable resources is not included. The amount of CO_2 emitted from pulp production as well as from tissue/paper production must be included.

Calculation of carbon dioxide emission, CO_2:

CO_2 emissions originate from the non-renewable resources and from the contribution to the CO_2 emissions from the production of electricity outside the plant.

[1] In the formulas the word 'paper' is used for tissue/paper.

The parameter must be looked upon as a part of the mass balance for production of tissue/paper. The period for the mass balance must be based on one year.

CO_2 (tonnes/tonne of paper) = 3.00 x × (tonnes of oil/tonne of paper) + 2.50 × y (tonnes of coal/tonne of paper) + 2.22 × 10^{-3} × z (m^3 of gas/tonne of paper) + 4.4 × 10^{-4} × v (kWh/tonne of paper)

where

× = the number of tonnes of fuel oil used,

y = the number of tonnes of coal used,

z = the number m^3 of gas used at stp, and

v = the number of kWh used.

Testing of carbon dioxide, CO_2:

CO_2 is calculated on the basis of a mass balance of the different energy sources used.

1.4 *Sulphur, S, sulphur dioxide, SO_2:*

Definition of emission of sulphur, S, sulphur dioxide, SO_2:

The amount of sulphur emitted from pulp production as well as from tissue/paper production must be included, and this figure must be based on measurements on the plants. The contribution from electricity produces outside the plant is the average SO_2 emission from production of the electricity needed. If clean up technology is used the calculation must be based on the emissions after the clean up.

Calculation of sulphur, S, sulphur dioxide emission, SO_2:

SO_2 emissions originate from the non-renewable resources and from chemicals. A part of the non-renewable energy is electricity, and when electricity is used the contribution to the SO_2 emissions from the production (of electricity) outside the plant must be taken into account. The formula for SO_2 emission set in the box below only takes the energy-related SO_2 into account.

The parameter must be looked upon as a part of the mass balance for production of tissue/paper. The period for the mass balance must be based on one year.

SO_2 (kg S/tonne of paper) = kg S/tonne of paper (measured) + 1.25 x 10^{-3} x v (kWh/tonne of paper)

when v = the number of kWh used.

Testing of Sulphur, S, sulphur dioxide, SO_2:

SO_2 is either calculated on the basis of a mass balance or measured from the chimney in accordance with VDI 2462.

1.5 *Organics to water, COD:*

Definition of organics to water, COD:

The parameter COD will be used to describe the pollution of water with organic matter.

Calculation of organics to water, COD:

COD is determined on an unfiltered sample. This means that the organic part of the suspended solids is included. The inorganic part is normally considered harmless and will only give rise to local effects depending on the nature of the filter and the recipient. The parameter 'Total Suspended Solids' will therefore not be included. If clean up technology is used the calculation must be based on the emissions after the clean up.

If a public sewage plant is used, the consumed energy as well as emissions originating from the energy must be taken into account in the calculation in the mass balance. The relative contribution in percentage must be used.

The parameter must — as already mentioned — be looked upon as a part of the mass balance for production of tissue/paper. The period for the mass balance must be based on one year.

Testing of organics to water, COD:

COD is measured on unfiltered samples in accordance with ISO 6060.

1.6 *Chlorinated organics, AOX:*

Definition of chlorinated organics, AOX:

The AOX-parameter is considered as the amount of adsorbable organic halogens that are emitted from the plant. It is a sum that indicates the total amount of substances which adsorb on organic matter (in the method on active carbon), e.g. in waste water chlorinated substances that tend to be adsorbed to the sludge in the sewage works. Chlorinated organics are determined as kg AOX/tonne of tissue/paper.

Calculation of chlorinated organics:

If clean up technology is used the calculation must be based on the emissions after the clean up. If the emissions of polluted water go to a public cleaning up plant, the calculation must be based on the actual cleaning percentage at the specific plant.

The parameter must be looked upon as a part of the mass balance for production of tissue/paper. The period for the mass balance must be based on one year.

Testing of chlorinated organics, AOX:

AOX is measured in accordance with ISO 9562.

1.7 *Waste:*

Definition of waste (positive and negative):

Waste includes all solid waste that has to be disposed of. This means that sludge from waste water treatment and ash from combustion must be included. If waste water is treated at a public plant, the emissions from the public plant must be the emissions used in the calculations.

Calculation of waste:

The relative contribution from tissue/paper production must be calculated and on the basis of that result the amount of waste should be calculated.

If the public plant is an incineration station, the emissions to air must be taken into account as well. The relative amount of waste from the incineration plant, e. g. ash must be taken into account.

The use of recycled fibres is considered 'removal of waste'. Therefore, the amount of recycled fibres used for production of 1 tonne of tissue/paper must be subtracted from the amount of waste generated during production.

The parameter must be looked upon as a part of the mass balance for production of tissue/paper. The period for the mass balance must be based on one year.

Waste paper:

Used paper is that which was produced in a previous production process and has been used, or is assumed to have been used, for its intended purpose.

Where such paper is collected in an unseparated manner and then sorted for use as pulp, it may be referred to as 'recycled fibre', whilst that destined for energy generation or for disposal will be referred to as 'waste paper'.

2. Inspection and calculation

2.1 Choice of analytical laboratory

Analysis of chemicals and emissions shall be carried out by laboratories nominated by the Competent Body or which are accredited in accordance with the requirements in EN 45001 or its equivalent.

Alternatively, institutions which are registered in accordance with ISO 9001 or 9002 may be used.

2.2 Calculation of emission values

For each of the parameters the load point should be calculated according to the relevant paragraphs in this appendix and the relevant criteria document.

If the paper mill imports the pulp for production of tissue/paper the suppliers of the pulp must supply the tissue/paper producer with the relevant documentation giving relevant data for emissions and resource consumption for the pulp. Suppliers of pulp, even placed outside the EU, must be open for third party inspection. The total result shall be based on the calculated parameters for both the paper mill and if relevant from the pulp production. The total result will — by the use of Table I in the criteria Annex — give the total load points.

In the case of an importer applying for the eco-label the manufacturer as well as the supplier must provide the importer with the relevant documentation giving relevant data for emissions and resource consumption for the pulp. The results have to be compared in Table I in the criteria Annex and that will lead to the results in load points.

If the mill produces different products the total emissions from the mill for each of the parameters must be calculated according to the size of the specific production over the same periods as mentioned for calculation of mass balance for each of the parameters.

If the manufacturing or semi-manufacturing result in emissions or waste and use of resources to public plants, the emissions from the plants must be taken into account relating to the calculation.

2.3 Test periods and frequency

For samplings and measures the test frequency must be high enough so as to ensure that the product is in accordance with the criteria set up in the relevant criteria documents.

2.4 Forest management

In submitting an application, any applicant for a product which contains virgin pulp must provide a declaration that such pulp has been sourced from managed forests, in accordance with the definition contained in this Appendix.