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| ICEA | DTR 07 | ECO-BIO CLEANERS STANDARD | Ed.01 Rev.00 of 30.04.09 |
|------|--------|---------------------------|--------------------------|

INTRODUCTION

A consumerist society has strong impact on the environment. The extent of this impact depends on the choices consumers make in satisfying their own needs.

A decisive choice may be the purchase of products which have as high a level of environmental sustainability as possible.

Consumer demands for environment-friendly products are a great stimulus for companies, compelling them to consider ways to make their products more compatible with the environment, intensify their efforts in matters regarding the environment and improve the performance and service of their products during their entire life cycle.

In order to select products that have reduced environmental impact, consumers require easy access to comprehensible and reliable information on the environmental characteristics of products.

Another important issue is the safety and healthiness of products which create significant indirect social costs under some circumstances.

This Standard is the result of a series of debates and ideas shared among all the parties involved: producers, consumers, authoritative advocates of the academic and scientific worlds, and control organizations (ICEA).

1. Scope of the document

1.1 This Standard aims to define the characteristics of and prerequisites for detergents and other products falling under the fields of application in point 3 of this Standard, that can have the label showing the “Eco Bio Cleaners ICEA” statement, to which the use of this specific logo is granted.

The objectives of this Standard are specified as follows.

- To favor, for house and community cleaning, the use of products obtained from raw material, production processes and packaging characterized by low environmental impact.
- To obtain products that show regard for the health of consumers and do not have allergenic elements and irritants.
- To promote the use of natural raw materials, originating from organic agriculture, not GMO, and which have not been subjected to ionizing radiations.

2. Reference norms

- Law 136 of 26/04/83
- Law 7/83
- Law 8 of 07/86
- Regulation (EEC) no. 45/99 and Italian counterpart Law 65/2003
- Regulation (EEC) no. 542/89
- EEC Regulations on Eco-label, in particular regarding calculation of critical dilution volume (VCDtox)
- Regulation (EEC) no. 834/07 and Regulation (EEC) no. 889/08 as amended

| | | | |
|------|--------|---------------------------|--------------------------|
| ICEA | DTR 07 | ECO-BIO CLEANERS STANDARD | Ed.01 Rev.00 of 30.04.09 |
|------|--------|---------------------------|--------------------------|

3. Fields of application

The following products comply with the fields of application for this Standard:

- a) All the detergents used for handwashing and in dishwashing **equipment and other tools and kitchen appliances**, simple products and natural substances that may be used during the wash cycles or which fall under the formulation of cleaning products aimed at conferring specific functions to these products (fragrances, softeners, polishers, interceptors, pH stabilizing tampons, etc.);
- b) Detergents for the cleaning of **floors, walls, ceilings, and other hard surfaces such as work counters, furniture, equipment and facilities, etc.**, simple products and natural substances that may be used during the wash cycles or which fall under the formulation of cleaning products aimed at conferring specific functions to these products (fragrances softeners, polishers, interceptors, pH stabilizing tampons, etc.);
- c) Laundry detergent in powder or liquid form, or in any other forms used **in the washing of fabrics by hand or in washing machines**, simple products and natural substances that may be used during the wash cycles or which fall under the formulation of cleaning products aimed at conferring specific functions to these products (fragrance elements, softeners, polishers, interceptors, pH stabilizing tampons, etc.);
- d) Cleaning products for cleaning operations and **removal of dirt in artisan, industrial and agricultural plants**, canteens, community offices, offices, factories, hotels, agri-tourism facilities, warehouses, stables, etc. and in all enclosed places dedicated to production with the continual presence of human activities, simple products and natural substances that may be used during the wash cycles or which fall under the formulation of cleaning products aimed at conferring specific functions to these products (fragrances, softeners, polishers, sequestrants, pH stabilizing tampons, etc.)
- e) Adjuvants, ingredients, raw material, chemical inputs, simple products and natural substances or of inorganic origin or **products authorized by Regulation (EEC) no. 2092/91 as amended, annex II, part E*** that may be used during the wash cycle, even if occurring in sanitary operating theaters or that may fall under the classification of washing products aimed at conferring particular features to these products (softeners, polishers, sequestrants, pH stabilizing tampons, etc.).

4. Raw material

The "Eco Bio Cleaners ICEA" products may include in its list of components, the following raw materials:

1. Products of plant origin;
2. Products of animal origin;
3. Products of inorganic origin;
4. Products from chemical synthesis;
5. Water.

Each group of raw material must conform to the characteristics listed below and comply with the composition percentages specified in point 6 of this Standard.

* the products authorized for the cleaning and the disinfection of stables and plants (for instance, equipment and tools) in farms using the organic method pursuant to EC Regulation 834/07 and EC Regulation 889/08 as amended, must be composed only and exclusively of raw material specified in Annex VII of EC Regulation 889/08 as amended.

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|------|--------|---------------------------|--------------------------|
| ICEA | DTR 07 | ECO-BIO CLEANERS STANDARD | Ed.01 Rev.00 of 30.04.09 |
|------|--------|---------------------------|--------------------------|

4.1. Products of plant origin

These must come from organic cultivations or spontaneous harvests. Considering the actual limited availability of such material, in the event the equivalent material of organic origin proves to be unavailable, the use of material from conventional agriculture shall be permitted up to 2009, provided that these are not GMOs or GMO-derived material (and certified as such, in case of "hazardous" products that are present in the market in GMO form, such as corn, soya, rape, etc.).

This derogation does not apply to the following products:

- Olives and its by-products;
- Oils from plant origin;
- Products derived from plants at risk of extinction.

As to the fragrance ingredients used in detergent formulas, only those obtained from organic agricultural cultivations can be used.

4.2 Products of animal origin

These must originate from organic farms. Considering the actual limited availability of these raw material, products derived from conventional farms shall be allowed until 2009, provided that these are not GMOs or GMO-derived products (and certified as such), should the material equivalent to organic material not be available.

Raw material of animal origin cannot be used when there are implications of the suppression of these animals.

This derogation does not apply to the following products:

- Honey and honeycomb products;
- milk and its by-products.

The wordings of the label specifying that products of animal origin are not used, may be expressed as, "Not containing products of animal origin."

4.3. Products of inorganic origin

In raw material of mineral origin, the acknowledged toxic metal content should first be evaluated (As, Pb, Cu, Ni, Cd, Zn, hexavalent Cr, and Sb) in order to check that there is no contamination and that only traces of these elements can be found. During the first years of the application of this Standard, the level of impurities in these raw materials will be monitored in order to define the maximum thresholds to be tolerated.

The use of basic acid reagents (hydrochloric acid, sulphuric acid, nitric acid, phosphoric acid, soda, potash, etc.) is allowed in the synthesis of raw material.

4.4. Products from chemical synthesis

a) Surfactants

For the purposes of the application of the succeeding point 6.5, documentation proving the vegetable origin of alkyl chains used in the process of synthesis is required.

b) Other Products

The products specified in Annex 1 are allowed, for which there are no valid alternatives available on the market with certified proof of their coming from natural origin and the characteristics of which are tested positively in terms of impact on the environment and on the skin. The Scientific Committee reserves the right to approve the probable use of other products on the basis of standards adopted for those allowed.

4.5. Water

Potable, demineralized or osmotized water may be used.

5. Processes to which raw material may be subjected

5.1 In extraction and purification phases, physical processes shall be preferred. Irradiation with gamma rays or x-rays for preservation purposes, is prohibited.

5.2 For raw material derived from processes using metallic catalyzers both in homogenous and heterogeneous phases, the relevant Test Results analyzing the presence of heavy metals will have to be presented in order to assess the impact these production processes have on the environment.

The company which drafts the formula will have to demonstrate correct statements relating to the disposal of possible solid residues produced during synthesis (no. of EWC Classification – European Waste Cadastre) in compliance with Tables A or C of the MERLI law for the discharge of backwash water and the license for air emissions.

6. Product's formulas

6.1 For each product there must be an exact formula, especially the precise chemical description of the ingredients (identified with their IUPAC glossary names, DCI, CAS NUMBER, FORMULA OF STRUCTURE) and percentage of impurities present, as specified on the security cards, all drafted with the aim of furnishing adequate evaluation tools for certification purposes.

6.2 The weight of the environmental impact (water toxicity) of the finished product will be evaluated with the VCDTOX value; the critical volume of dilution will be calculated with the following formula (taken from the latest EEC Eco-label Regulation "Decision of 14 February 2003 which establishes updated ecological standards for the assignment of the Community logo for ecological quality of laundry detergents and repeals the EC Decision 1999/476).

$$CDV_{\text{tox}}(\text{ingredient/s}) = ((\text{weight} / \text{number of washings} \times \text{load(s) factor}) / \text{long term effect}) \times 1000$$

For the following categories of deterging products the value obtained will not exceed:

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| Hand-washed plates | 3500 |
| Hard surfaces (floors, work counters, etc.) | 5000 |
| Liquids and powdered detergents for hand-washed and machine-washed laundry | 200000 |
| Powdered detergents for dishwashers | 20000 |
| Liquid detergents for dishwashers | 20000 |
| Glass | 1500 |
| Products for Toilets (WC) and other ready-for-use products | 10000 |
| Softeners | 3000 |

In calculating the overall CDV_{tox} the organic essential oils used will not be taken into account.

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|------|--------|---------------------------|--------------------------|
| ICEA | DTR 07 | ECO-BIO CLEANERS STANDARD | Ed.01 Rev.00 of 30.04.09 |
|------|--------|---------------------------|--------------------------|

These values will be updated in a more restricted sense subsequent to new wording possibilities given by technological scientific progress.

6.3 None of the wordings will contain ingredients at percentages greater than 0.1 in weight classified by phrases of risk such as: R40-R45-R46-R47-R49-R50-R53-R59-R60-R61-R62-R63-R64.

6.4 The ingredients likewise will not be classified as R 42 (may cause sensitization through inhalation). The substances classified as R 43 (may cause sensitization through skin contact) will not be present in percentages greater than 0.3%. Potentially bio-accumulative substances are not allowed. A substance will be considered bio-accumulative if it possesses a Bio-concentration Factor (BCF) > 100 or if its Breakdown coefficient octanol/water ($\log K_{ow}$) > 3.

The biodegradability of the raw material of organic origin will first have to be tested (Test OECD series 302 / series 301).

6.5 Without prejudice to the derogations of points 4.1 and 4.2, the finished product will have to contain at least 95% in weight, of the ingredients of vegetable and/or of animal origin obtained from organic agriculture (also including their water components). For surfactants and other products obtained from chemical synthesis, it will be necessary to prove the natural origin of the raw material that furnish the chain of carbon atoms that differentiates such molecules.

The vegetable origin of organic carbon used in the synthesis of surfactants present in the finished product, must be proven.

7. Treatment of the finished product

7.1 The finished product cannot be irradiated or subjected to other non-physical processes.

7.2 Products undergoing certification cannot be tested on animals.

8. Packaging

8.1 Only inert, recyclable containers that do not release monomers that are dangerous to human health and the environment, are allowed.

8.2 The use of PVC is prohibited.

8.3 It is recommended to reduce and possibly avoid the use of secondary packaging.

8.4 Notices to the consumer must emphasize the reuse of reloading containers that will have to be marketed together with the product itself, wherever applicable.

8.5 The use of containers with spray devices or mono-material dosers should be preferred.

For products with containers having spray pumps or multi-material dosers (e.g. containers for metallic elements) it is obligatory to:

- commercialize such articles also in the "reloading" versions;
- invite consumers, through visible statements on the label, to reuse the sprayer. The presence of metal, in fact, hinders correct recycling.

8.6 To promote correct recycling, it is obligatory to use labels of the same material as the bottle.

| | | | |
|------|--------|---------------------------|--------------------------|
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|------|--------|---------------------------|--------------------------|

9. Obligatory tests and analyses

9.1 All products, with the exclusion of those specified at points 3 e), will have to pass the washing test according to methods given by the official tests at the STATION FOR OIL AND GREASE EXPERIMENTATION OF MILAN or develop specific ones from a qualified laboratory, capable of verifying their effectiveness with respect to similar leading products in the market.

9.2 The products that are used in continual and regular contact with the skin (detergents for hand washing of plates and laundry) will have to be clinically tested through the Patch Test.

9.3 For simple products, half finished and raw material - see point 3 e) - the performance test and the other tests will have to be specifically prescribed each time by the evaluation Committee of the Certification Body during a preliminary assessment whenever made necessary for specific reasons.

The results of these tests will have to be specified on the label or the technical specification card, so that it can be read by the public.

The methods used will be made public.

10. Labeling

10.1 The label must also contain, besides the other lawful specifications:

- a) the instructions on dosages and the features of the product;
- b) information on the ingredients;
- c) the declaration of the ingredients themselves in decreasing order of percentage in weight and a summarized explanation for the consumer.

The label wordings declaring that the product is not derived from animal origin, will be accompanied by the phrase, "Not containing products of animal origin."

10.2 The control and certification body will publicize each certified product with their composition, at least through the internet site, in order to allow consumers to have the best information and be able to make better choices.

10.3 The label of the adjuvant elements will have to notify consumers on the natural products that are easily found in the market, and of the commonly used components (for e.g. *"some ingredients in this product, ethyl alcohol, citric acid and lemon essential oils, are commonly used substances easily found in the market"*).

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|------|--------|---------------------------|--------------------------|
| ICEA | DTR 07 | ECO-BIO CLEANERS STANDARD | Ed.01 Rev.00 of 30.04.09 |
|------|--------|---------------------------|--------------------------|

ANNEX 1

OTHER PRODUCTS ALLOWED (points 4.5. b)

Preservatives

benzoic acid and its by-products
phenoxyethanol
sorbic acid and its by-products
sodium dehydroacetate

Particular preservatives for closed environments with Ph higher than 9:

dichloric benzyl alcohol
phenethyl alcohol
thymol

Other substances:

TAED only for powders
urea
maleic acid