

Twelfth Session of the Leather and
Leather Products Industry Panel

Tehran, Iran, 27-31 August 1995

**PROSPECTS AND PROBLEMS
OF ESTABLISHING AN INTERNATIONAL ECO-LABEL FOR THE
LEATHER AND LEATHER PRODUCTS INDUSTRIES**

Prepared by

Willy Frendrup
UNIDO Consultant

TABLE OF CONTENTS

I. INTRODUCTION	5
II. ECO-LABELLING AND RELATED TOPICS	6
Principles and practice	6
Initiatives	7
Directive-related initiatives	8
New initiatives	11
Statements on eco-labelling	14
III. ISSUES AND PITFALLS FOR THE LEATHER INDUSTRY	16
Selection of criteria	16
Weighing of criteria	16
Hides as a renewable resource and a byproduct	16
Delimitation of product groups	16
Importance of the trading sector	17
Mass-media	17
Chemical suppliers	17
The importance of local conditions	17
The verification problem	17
VI. BASIC PRINCIPLES OF THE INTERNATIONAL ECO-LABELLING SCHEME	18
Background	18
Product or process based schemes	18
Certification schemes and certifying agents	19
A. Monitoring and/or self-certification	19
B. Certifying agents and their accreditation	20
C. Financing of an eco-labelling scheme	21
Practical considerations by the introduction of an international eco-labelling scheme	21
A. Scientific foundation and relation to national regulations of an international eco-labelling scheme	22
B. Framing of a system and selection of parameters and limit values	22
C. Future up-dating of the international eco-labelling scheme	24
Coordination with relevant groups	24
Practical measures for implementation of an international eco-labelling scheme	25
VI. CONCLUSIONS AND RECOMMENDATIONS	27
REFERENCES	28

ANNEXES

1. Matrix for selecting criteria for an eco-labelling system
2. Council Regulation (EEC) No. 880/92 of 23 March 1992 on a Community eco-label award scheme.
3. Commission Information on Eco-Labelling. Procedural Guidelines for the establishment of product groups and ecological criteria. June 1994.
4. Commission Decision of 28 June 1993 establishing the ecological criteria for the award of the Community eco-label to washing machines (93/430/EEC)
5. Draft of a certification scheme for footwear, according to the CEA-TNO Report, Jan. 1994.
6. German SG Criteria Catalogue for testing Leather, Fur and Leatherboard.
7. *M. Aloy, W. Frendrup et al.*: 1993 IUE Recommendations on Clean Technologies for Leather Production. XXII. IULTCS Congress, Porto Alegre (Brazil) 16-20 Nov. 1993
8. Trade, Environment and Development. Note prepared jointly by the secretariats of UNCTAD and UNEP for the Second Meeting of the Commission on Sustainable Development. Geneva, 9 May 1994.
9. Eco-Labelling Schemes in the European Union and their impacts on Brazilian Exports. P. da Motta Veiga et al. Paper, UNCTAD Workshop on Eco-labelling and International Trade, Geneva, 28-29 June 1994.
10. Thailand and Eco-Labelling. (First Draft). S. Wigzell. Paper, UNCTAD Workshop on Eco-labelling and International Trade, Geneva, 28-29 June 1994 XII. World Trade Organization. Agreement on Technical Barriers to Trade. 1994
11. GATT, Report of the Group on Environmental Measures and International Trade, to the 49th Session of the Contracting Parties, Geneva 25-27/1 1994.
12. COTANCE, General Assembly, Lyon 10/6 1994, minutes (in part)
13. *G. Gonzalez-Quijano*: Eco Label. Considerations for the perspective of the European Leather Industry. 4/7 1994.
14. Eco-labelling of footwear. Letter from SATRA 8/7 1994
15. The Position of the Industry. Leather Industries of America. Statement on the industry's commitment to the environment 29/10 1993.
16. Final Proposal for European Eco-label for Footwear. Version of 31 December 1994
17. Öko-Tex Standard 116. Leather and leather clothing, without baby clothing.
18. Westdeutsche Gerberschule Reutlingen. Documents concerning "green certificates" for leather (May 1995)
19. State institutions to implement environmentally sound purchasing
20. UNIDO Expert Group Meeting on Eco-Labelling of Leather, Footwear and Leather Products, Vienna 3-4 October 1994. Conclusions and Recommendations
21. Proposal of membership in the International Eco-Label Committee (IELC)
22. Preliminary Outline of Terms of Reference for the International Eco-Label Committee (IELC)
23. Preliminary proposal for technical specifications of eco-labelling of leather and leather products

I. INTRODUCTION

The ecological impact, public health and waste management of leather industry products such as footwear, leather garments and various other leather goods, has recently received an unusual amount of public interest. This has partly been caused by some sensationalistic mass media publication but also by legitimate worries of the general public and the industry and trade itself concerned with the sound ecological development of the branch.

Voices have been raised by tanners and leather products manufacturers from industrialized countries that it is increasingly difficult to meet unfair competition from countries which allow tannery operations without regulating and enforcing sound environmental legislation. This situation is, rightly or wrongly, claimed to cause the economic ruin of the branch in countries where ecological factors in leather production are to be taken into strict consideration.

Several discussions have taken place lately at different levels to design and define an "ECO-LABEL" that could be issued for products which can be called environmentally-friendly. Such a label should be developed, with the help of trade, as an incentive to apply ecologically sound production methods and waste management practices.

There is no doubt that today environmental considerations constitute one of the most important development problems of the leather and leather products branch. This may, therefore, be considered one of the major issues to be taken up during *UNIDO Leather Industry Consultations*. It is felt that UNIDO should be involved as an advisory body in the development of a world-wide control and monitoring system for ecologically sound production of a consumer product manufactured from a renewable raw material source of vital importance to the developing countries.

The above subject was discussed during the *11th UNIDO Leather Panel* meeting held in Nairobi in December 1993. It was felt by the members that UNIDO should establish a small expert group to further study this matter and elaborate on appropriate criteria and guidelines.

This background paper the present situation concerning the eco-labelling issue from the point of view of the various interested parties is described.

II. ECO-LABELLING AND RELATED TOPICS

The increasing concern of many customers about potential health hazards from products as well as the environmental consequences of their production has given rise to a multitude of ecological declarations from individual producers. Such declarations may focus on one single property (e.g. "this product does not contain pentachlorophenol") or be totally inane (e.g. "this product is environmentally advantageous").

In order to get this chaos in order and to obtain a more objective and comparative labelling, standardized eco-labelling systems have been established on a national or international basis. The first environmental label system, the "Blue Angel", was introduced in Germany (West) in 1977 and the "award criteria" for the first six product groups adopted at the end of 1978.

Principles and practice

No "absolutely ecologically sound" product exists and every product has some negative environmental impact during its lifetime. This implies that all eco-labelling systems will be relative in the sense that they highlight products which are considered to be less harmful than some other products in the same product group.

Before an eco-labelling system can be established, the following problems must be solved:

- (i) A set of criteria must be selected which will be essential for the decision of giving a license to use the eco-label. These criteria must be defined in such a way that are measurable by standardized methods.
- (ii) Reasonable limits for the selected criteria must be set. Fundamentally, the setting up of limits is a political question. Often, this is handled in such a way that about 20 per cent of the articles (deemed the "environmentally soundest") within a given product group can obtain the eco-label.
- (iii) The product group to be labelled must be defined in such a way that it is clear which products belong to the group and which do not. The products should be competitive and basically fulfil the same purpose. The practical implication of fulfilling the same purpose will, in practice, have to be given a more or less pragmatic meaning relating to the goals of the labelling.
- (iv) From some quarters it has been proposed to establish a grading system or a system of scores to sum up the assessment of the product according to the various criteria. This implies weighing the selected criteria against each other and the relevance of such systems must be considered doubtful (e.g. how to weigh the chromium content of a sludge against an energy consumption?).

The choice of criteria must be done through a cradle-to-grave approach. A matrix is established showing every possible type of environmental influence during each step from the winning of the raw material to the final disposal of the discarded articles (an example of a matrix of this kind is shown as *Annex 1*). When the matrix has been filled in, factors of substantial importance for the evaluation of the products can be pinpointed.

Factors which do not appear from the matrix but, nevertheless, must be taken into consideration by the evaluation of a product, are the durability, repairability and recyclability of the product.

It is further relevant to decide how far to go back (implications of hides being a by-product are discussed later in this paper; but should the starting point be the hides from the abattoir, the living animals or grass and fertilizers?) and how to imply individual conditions (does the electricity consumed derive from hydroelectric power, nuclear power or burning of coal?).

The cradle-to-grave evaluation of products, made necessary by the eco-labelling, is carried out by means of LCA's, where LCA may mean either Life Cycle Analysis or Life Cycle Assessment. A Life Cycle Analysis is an inventory of all material and energy, which flows during the complete cycle of the product. The second stage, the Life Cycle Assessment, consists of making an evaluation of the information collected. This requires interpretation of the data and value judgements. Various organizations have edited handbooks on LCA methodology. [2]-[7]

A complete LCA is a large-scale enterprise, and because of the subjectivity involved in the weighing of the data, it is not a scientifically exact method. The standard commentary to this is that criteria for an eco-labelling are only fixed for a few years (in the EU 3 years).

The difference between a life cycle analysis and an environmental audit should be clearly perceived. The environmental audit is site-specific, shows typical consumptions or discharges over ton rawhide, and can be used for an economical and ecological optimization of the tannery; whereas the LCA and the eco-labelling systems are product-specific and primarily aimed at the consumer and hence directly related to the final products (leather shoes or furniture). In this case, the relevant units will be consumptions or discharges per pair of shoes etc. However data collected during environmental audits can be used when applying for an eco-label.

A less complicated, more direct approach than the complete LCA consists in concentrating on the risks or health damages resulting from products in close contact with the body e.g. shoes or garments ("human ecology approach") and leaving out the origin and disposal of the product. These properties can be certified through direct testing of the components of the product, and consequently it will be possible for the tanner to obtain a certificate for his leather according to a system of this type. [8] - [10].

Initiatives

A detailed survey of the Eco-Labelling and Eco-Auditing legislation of the EUROPEAN UNION is found in [11].

Because of the growing confusion among consumers with regard to so-called "green" products, and because of the interest expressed by some member states in setting up national labelling schemes similar to those already operating in Germany, a regulation establishing a *European Union Eco-Label Award Scheme* was introduced on 23 March 1992 (see *Annex 2*). The European Scheme involves the establishing a uniform criteria to be applied throughout the Union. In June 1994, the EUROPEAN COMMISSION edited "Procedural Guidelines for the establishment of product groups and ecological criteria" (see *Annex 3*).

Two further documents: "Policy Principles for the European Union Eco-labelling Scheme" and "A framework establishing Methodological Principles on LCA in the context of the European Union Eco-Labelling Scheme" are expected to appear in the near future.

Each member state has designated one or more competent bodies to carry out the tasks provided for in the regulation. The national, competent bodies may be environment protection agencies, agencies for statistics or other bodies.

When it is decided to investigate the establishment of ecological criteria for a product group, a lead competent body is appointed to establish an ad hoc working group for this purpose. Life cycles assessment is to be used for establishing the appropriate criteria. When criteria for a product group are agreed upon and adopted by the EUROPEAN COMMISSION, they are published in the EU Official Journal.

As of April 1994, criteria have been approved for 5 product groups (an example is found in *Annex 3*). Criteria for approximately 20 further groups are under preparation, among those shoes and leather garments (see section D).

Any set of criteria will be reviewed every 3 years to ensure that manufacturers will have to continue to set high targets. Also eco-label awards must be reviewed every 3 years.

According to the *Council Regulation* "products imported into the COMMUNITY, for which the award of an eco-label in accordance with this Regulation has been requested, must at least meet the same strict criteria as products manufactured in the Community"

Another Council Regulation on a COMMUNITY eco-management and audit scheme [12] should be seen in connection with the Regulation concerning eco-labelling. The regulation on eco-management enters into force on 1 April 1995.

Even before establishing the European Eco-Labelling Scheme, the German "Blue Angel" system gave inspiration to similar systems in Canada and Japan. Canada launched an *Environmental Choice Program (ECP)* in 1988, and Japan its *Eco-mark Scheme* in 1989.

In the USA, no official eco-labelling scheme exists. However, two private schemes, The *Green Cross Programme* and the *Green Seal*, compete very actively in the LCA field.

SETAC (SOCIETY OF ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY) is an organization seeking to standardize the methodology and reporting procedure for LCA's. Its members are industry and university scientists. Originally USA-based, it has established an independent branch, SETAC-Europe. SPOLD (Society for the Promotion of Life Cycle Development) has large industrial companies as its members. The two societies organize the exchange of information on LCA, edit books, congress papers, manuals etc. [2]-[6].

Directive-related initiatives

As part of the European Union Eco-labelling scheme, The Netherlands are preparing, by 1995, the criteria for the footwear eco-label, and Spain is doing the same for leather garments.

A draft study report on eco-labelling of footwear has been prepared by CEA (COMMUNICATION AND CONSULTING AGENCY ON ENERGY AND ENVIRONMENT) in collaboration with the TNO CENTRE FOR LEATHER AND SHOES [13]. The first draft of a certification scheme for footwear is found as *Annex 5*.

Concerning leather components, the scheme contains upper limits for emissions of chromium and COD with the waste water and of volatile organic compounds in the air and an upper limit for the PCP content besides demands for an adequate disposal of chrome-contaminated solid wastes "unless it can be demonstrated that the chrome-contaminated waste is not regarded as chemical waste in its land of origin".

Furthermore, a number of functional requirements have to be certified for the various types of leather components.

According to the *EC Council Directive on Safety of Toys* the maximum permissible level for extractable chromium in leather to be used for toys is 60 mg Cr/kg dry substance (extraction with HCl at pH 1.5 and 37°C). [14],[15]

Three German organizations, PRÜF- UND FORSCHUNGsinstitut in Pirmasens, INSTITUT FRESenius GRUPPE (Tausenstein), and TÜV RHEINLAND SICHERHEIT UND UMWELTSCHUTZ in Cologne, have set up a common criteria catalogue for testing shoe components for their content of harmful substances. The system, which has been patented, concerns the "human ecology" aspect only and does not refer to effects of the production or final disposal. [8]-[10], [16].

Products that satisfy the requirements may be marked with the *SG Test Mark* ("Schadstoffgeprüft", i.e. "Tested for harmful substances"). The criteria for leather, fur and leatherboard are found in *Annex 6*. An SG label might be used as a preliminary step towards a general eco-label.

In December 1989, the German environmental authorities prohibited all manufacturing, distribution and use of products containing more than 5 ppm pentachlorophenol [17]. The validity of the prohibition is still a controversial issue within the EU, which has put up a limit of 1000 ppm, valid for the whole UNION. Nevertheless, the German limit has had strong repercussions among the leather and leather products exporters to Germany (see e.g. [18]).

The INTERNATIONAL UNION OF LEATHER TECHNICIANS' AND CHEMISTS' SOCIETIES (IULTCS) has standardized a series of test methods for physical and chemical properties of leather as well as for the fastness properties of leather and leather finishes. These methods, which to a considerable extent have been approved as ISO and/or CEN methods, can with advantage be used for testing in conjunction with Eco-labelling or "tox-proofing". [19]

The *IULTCS Environmental Commission (IUE)* has set up Recommendations on Clean Technologies for Leather Production, which were approved by the Union at its Congress in Porto Alegre, Brazil in November 1993 (see *Annex 7*). During its 1994 meeting, the IUE Commission set up recommended data for tannery elements before waste water treatment and recommended data on tannery waste water treatment efficiency for approval by the Union at the congress in Friedrichshafen, 1995. Other surveys of achievable results through implementation of cleaner technologies in tanneries have been issued by UNEP/IEO in cooperation with UNIDO [20] and by the NORDIC COUNCIL OF MINISTERS [21].

The leather-consuming industries will be decisive for the future of eco-labelling of leather, as demand will come from the consumers through the manufacturers of leather products. A thorough survey of "environment friendly shoemaking" is found in [22]. Every material used in shoe production is evaluated ecologically. It seems that by far the greatest environmental problem connected with shoe production is the VOC emission. SATRA has launched an *Eco Club* for its members to provide information and carry out research on environmental topics [22]-[23]. Nickolaus outlines the possibilities of reducing the amounts of leather waste from the manufacture of leather articles [24]; Reichardt and Oertel have developed a method for also using finished leather waste for the production of leatherboard [25].

It is an adage that as regards waste, avoidance is better than re-use, re-use is better than processing, and processing better than disposal. In Germany, horror stories in the yellow press conclude that old shoes and leather garments should be treated as hazardous wastes [34]. This has no scientific foundation whatsoever, but nevertheless it can be foreseen that sooner or later the trade will have to provide for removal of the discarded leather articles [35].

Collection systems for old shoes have been organized in Germany [36]-[38] and the UK [39]. The usable shoes (e.g. outmoded shoes or childrens' shoes which are too small) are sold in developing countries (helping to finance the collection systems); the rest which cannot be used is a problem being collected in one place. In Germany, about 3 per cent of the total amount of discarded shoes are collected and about 50 per cent of the collected shoes can be re-used [36].

A working group for developing an economic use of the not re-usable shoes has been set up by DGW (*Der Grüne Weg*), DEUTSCHE GESELLSCHAFT FÜR RECYCLING GMBH, Hannover, TECHNOLOGISCHE ENTWICKLUNGSGRUPPE Stuttgart and the FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG, and FILK, Freiberg. [36], [37]

It is not economically feasible to separate shoes into their original compounds, but it should be possible to use the collected material for the production of noise or heat insulating plates. The time horizon for the project is 3-5 years.

A different concept of environment friendly shoes is chosen by a USA company Deja Shoes, which produces shoes on the basis of domestic refuse (without leather). [43], [44]

In 1991 a company in Duns, Berwickshire, U.K. started a recycling of leather garments. Old garments are bought from charities, cut up, and the leather sorted, refinished and made into new garments. [40]

Discarded leather furniture and car seats yield relatively large leather pieces. The pieces can be used for the production of patchwork in some developing countries [37]. A large US producer of automobile leather is working actively on methods for recycling the leather from shredded cars.

A German company made a product called "*Recycling-leather*" marketed as "recovered nature". The product was described as "90 per cent biologically degraded leather fibres, 8 per cent vegetable binders and 2 per cent dyestuffs". However, a court of law found that is not permissible to call the product "leather". [41]

Many tanners have marketed some kind of "eco-leather" [29-[32]. Typically, the term indicates a leather tanned without chromium or other metals, with a water-based finish or with no finish at all and naturally coloured or dyed with natural dyestuffs. In the Amazonas State, Brazil, caoutchouc absorbed in textile, a traditional product there, is being sold nowadays as "vegetarian, ecological leather" for bags, wallets etc. [33]

Püntener and Gschwind describe the possibility of composting aldehyde- or vegetable tanned leather. [42]

Several of the chemicals suppliers of the leather industry (e.g. Bayer, Henkel or Novo Nordisk) regularly issue environmental reports on the companies. Novo Nordisk is implementing a LCA methodology for their products expecting it to be put into regular use as from January 1995. If the LCA can be used for the tannery chemicals of the company, its results can be shared with the customers.

Ramasami and Raghavan [26] describe the environmental effects of the production of some leather chemicals. The use in the tannery of benzidine dyes, azo dyes in the basis of certain other arylamines, pentachlorophenol, formaldehyde, and cadmium and lead chromate pigments have more or less ceased, at least in Europe. [26], [27]

Individual tanneries in several countries have merited ecological awards. This has also been the case for a leather institute (SENAI in Brazil). A German tanner finds some kind of "green seal" desirable to be given to tanneries with an environmentally friendly production. [28]

New initiatives

Of the eco-labelling schemes for leather goods, described above, the proposal for an European Union Eco-labelling scheme for footwear includes also the environmental aspects of leather production, whereas the *German Criteria Catalogue* for testing shoe components (SG Test mark) (2) regards only contents of supposed harmful substances in the leather. [49]

The Netherlands proposal for the criteria for the European Eco-label for footwear has now appeared as a final proposal (version per 31 December 1994). This version is found in *Annex 16* of the present report. In relation to the former version, the criteria for leather have undergone some simplifications.

Both versions contain criteria and limits, but no control procedures. If the validity of the input data can be reasonably doubted the matter must be brought to the courts.

The EUROPEAN COMMISSION has received many comments to this version, so a final promulgation is not imminent (probably not within this year).

The SHOE AND ALLIED TRADES RESEARCH ASSOCIATION (SATRA) has introduced a *SATRA Freedom from Harmful Substances (FHS) Certificate*. This scheme is consumer-orientated and is similar to the German SG scheme. [50]

The INTERNATIONAL ASSOCIATION FOR RESEARCH AND TESTING in the field of Textile Ecology has prepared the *Öko-Tex Standard 116* for leather and leather clothing, without baby clothing. This standard (Edition 01/95 of 30 November 1994) is found in *Annex 17*.

It is clear from the document that the parameters and limit values have not been developed by leather experts, e.g. a pH value between 4.8 and 7.5 is not relevant for leather, and it is very doubtful that any chrome leather can comply with the maximum limit of 2 ppm extractable chromium. Although of a compulsory and not of a voluntary nature, some developments in government regulations of the content of various substances in leather may be mentioned here:

According to a draft French decree, any manufacture or importation of leather containing more than 0.5 ppm pentachlorophenol will be prohibited. This limit, which reflects the detection limit, is only one tenth of the German legislative limit.

A number of azo dyestuffs which can split off one of 20 hazardous aromatic amines are going to be banned in Germany. This legislation has been postponed, and at present it seems that the prohibition will enter into force over a period from 31 March 1996 until 31 December 1999. Similar legislation is being prepared in France.

Recently, WESTDEUTSCHE GERBERSCHULE REUTLINGEN has created a scheme for issuing "green certificates", not only for the content of harmful substances in the leather, but also for the ecological quality of leather processing (see *Annex 18*). This scheme which was presented during the IULTCS Conference in Friedrichshafen, May 1995, is the first one which makes it possible to directly grant a tannery with a "green" certificate.

Two separate certificates can be applied for. One is a Declaration of Freedom from Harmful Substances, similar to but simpler and more relevant than the SG or Öko-Tex labels. The limit values to be complied with are orientated towards the German legislation. The leather is to be tested by the WGR.

The other certificate is production-orientated; the environmental load from the leather production being evaluated according to the legislation of the home country of the tannery. A satisfactory environmental auditing report and safety data sheets for all chemicals remaining in the leather must be presented for evaluation. Due to the practical difficulties of carrying out the necessary monitoring over long distances, for the time being, this part of the certificate can only be applied for by Western European tanneries.

The certificates can be applied for by tanneries, leather merchants and producers of leather products. Merchants or leather consuming industries must get the information relating to the leather production from the leather producer in a juridically binding form, but in this case only the merchant or leathergoods producer is entitled to use the certificate, not the tannery itself.

A recent German investigation of the many private schemes existing [51] summarized the results of a survey of 60 companies in the German leather sector which market their products under names with "bio-", "eco-", "nature-" or the like. Among the companies were leathergoods and shoe producers, shoemakers dealing in custom-made footwear, mail order businesses, leather merchants and dealers in tanning agents along with tanneries using traditional technologies. The most important criterion used for declaring the products as ecological was that the leather is vegetable tanned and does not contain any harmful substances. Also the type of dyeing and fat liquoring were regarded to be of some importance. Furthermore, the durability and repairability, especially of shoes, were judged to be important.

On the other hand, the possibilities for recycling and final disposal did only interest very few. Most of the people questioned were not able to give any information on the origin of the raw hides or the production and transportation of the leather. The transparency between the different branches of the leather trade was felt to be too low.

As no "absolutely ecologically sound" product exists, all eco-labelling schemes will be relative in the sense that they highlight products considered to be less harmful than some other products in the same product group. An important aspect of all eco-labelling systems is that the criteria for obtaining the eco-label must be stricter than the minima given by corresponding national environmental standards.

Fundamentally, the setting up of limits is a political question. Often, as e.g. for the EU schemes, this is handled in such a way that about 20 per cent of the articles within a given product group on the market can obtain the eco-label.

However, yet another kind of regulation is gaining ground, at least in Central and Northern Europe, namely a "green" purchase policy for state, regions and municipalities. [51]

Activities in this field are going on in Germany and the Nordic Countries. For establishing criteria LCA's are used, or the criteria from an existing eco-labelling scheme are used directly. According to a Danish Circular of February 1995 (see *Annex 19*), all State Institutions and Government owned or controlled companies are obliged by any purchase to take "environmental properties" of the product into consideration, "environmental properties" being defined as "the complete environmental load during the cycles from raw materials to final disposal of the product". For selected product groups, environmental handbooks will be made to be used for future purchases.

Leather or leather products have not yet been selected for purchase schemes of this kind, as the priority will be given according to both the environmental effect and the annual purchase volume.

During its 1994 Congress, the INTERNATIONAL COUNCIL OF TANNERS (ICT), agreed to establish a Technical Panel with the following terms of reference: "The Panel would seek to examine all the technical implications of an Eco-Label. The 1995 Conference of the ICT would receive the Panel's findings so those attending may discuss all the implications". [53], [54].

The Panel agreed to move rapidly towards an ICT Certification. BLC, The LEATHER TECHNOLOGY CENTRE, is currently co-operating with ICT to develop a scheme intended to be put into use within 1995. The provisional scheme has the following scope:

1. Self declaration by tannery

Part a) Product based Declaration of compliance with national legislation/agreed norms (within limits for PCP, aromatic amines, formaldehyde, CrVI, etc.) based on chemical usage and analysis.

Part b) Process based Declaration of compliance with national environmental legislation based on tannery procedures, records, environmental treatment systems and analysis.

2. Validation

Any of above analyses can be conducted by tannery or designated ICT Accredited laboratory/test house. Certification is by ICT Accredited laboratory/test house of completed documentation.

Customers of tannery can request independent validation by test or audit of Certificate by ICT Approved laboratory/test house (e.g. BLC for UK and International Members).

<i>Parameter</i>	<i>Limit [ppm]</i>
Pentachlorophenol	5 ¹
Aromatic amines ²	50
Chromium VI	3 ³
Formaldehyde	200 ⁴

¹ German limit

² The 20 amines controlled by German legislation

³ Approximate limit of detection

⁴ From Öko-Tex scheme

The INTERNATIONAL STANDARDS ORGANIZATION (ISO) is preparing international guidelines for eco-labelling. Drafting of "Goals and principles of all environmental labelling" is under way in ISO TC/207/SC3/WG3.

The IULTCS Environmental Commission (IUE) has continued its issuing of environmental recommendations. After the first Recommendations on Cleaner Technologies, also Recommendations of Tannery Solid By-Products Management and a surveys of Typical Performance for Tannery Waste Water Treatment and Typical Values for Discharges with Tannery Waste Water have been drawn up.

Statements on eco-labelling

UNCTAD-UNEP joint document on Trade, Environment and Development. Geneva, 9 May 1994 (*Annex 8*). See especially items 38-44.

The different environmental conditions and prerequisites in developed and developing countries must be taken into account.

UNCTAD organized a workshop on Eco-labelling and International Trade, held on 28-29 June 1994 in Geneva. Two papers from this workshop concerning eco-labelling as seen from Brazil and Thailand, respectively, are found in Annexes X-XI of the present report. Both countries have a large leather sector and a large leather and shoe export. The importance of eco-labelling systems in the exporting countries for the tanneries and the shoe export is discussed in both papers. Both countries plan to introduce their own eco-labelling scheme.

Both reports compare the actual conditions with the criteria in the TNO scheme with the result that it is found difficult to comply with them all. A UNIDO study of the Brazilian tanneries (1993) is quoted saying that "although tanneries have effluent and wastes treatment installations, it is estimated that they are not used in an efficient manner -- low pollution processes are being adapted very slowly". Also in Thailand cleaner technologies are implemented too slowly. The Thai shoe industry is prepared to use eco-labelling actively in its marketing. However, it would appear that there had been little consideration of the costs of compliance.

The WTO *Agreement on Technical Barriers to Trade* is found in *Annex 9*. The GATT Group on Environmental Measures and International Trade reported to the 49th Session of the Contracting Parties 25-27 January 1994 in Geneva. The commentaries of the report on eco-labelling especially from the point of view of the developing countries are found in *Annex 11*.

It is pointed out that the selection of criteria is the most critical aspect and that a LCA inevitably involve value judgements. Consequently, the report points to a need of transparency during the preparation of the eco-labelling schemes and the interest of foreign suppliers in gaining access at the preparation stage.

Another point is that a diversity of eco-labelling schemes in different markets create difficulties for the producers.

The INTERNATIONAL COUNCIL OF TANNERS (ICT) plans a meeting on eco-labelling for interested members during this year's Semaine du Cuir. Conclusions should be available for the Vienna meeting in October.

COTANCE, CONFEDERATION OF NATIONAL ASSOCIATIONS OF TANNERS AND DRESSERS OF THE EUROPEAN COMMUNITY agreed at its General Assembly, Lyon 10 June 1994 to support a feasibility study into eco-labelling of leather (the relevant part of the minutes from the meeting are found in *Annex 12*). The secretary of COTANCE, Mr. Gonzalez-Ouijano, has put forward his points of view in the memorandum, found in *Annex 13*. This may be summarized as follows:

1. Voluntary schemes such as eco-labelling may allow the industry to agree upon environmental measures which are technically feasible.
2. Marketing advantages deriving from an eco-label may allow a company some return of its compulsory environmental investments.
3. Eco-labelling does not protect but serves to improve the environment, and anybody who complies with the standards may apply for it.

4. The geographic scope of an eco-labelling scheme can profitably be a regional market unit as e.g. Europe or the USA. A proliferation of national labels is counterproductive, and on the other hand no true "international market" exists.
5. An eco-label must refer to products sold directly to the consumer, e.g. manufactured leather products. However, leather manufacturing and properties are decisive for the setting up of criteria for a labelling. Consequently, a close cooperation with tanners during establishing of any eco-labelling system for leather products is necessary.

The FEDERATION OF GERMAN LEATHER PRODUCERS (VDL) looks generally positively upon the German SG Test for leather, finds however its low limit for PCP content, 1 ppm, totally unacceptable [45].

The BRITISH LEATHER CONFEDERATION (BLC) points out in a letter that "the concept (of eco-labelling) seems to be a marketing matter with the scientific evaluation being dependent on subjective criteria. One merit for undertaking such a policy would be to avoid other sectors defining unsuitable standards for our sector. The comparison between leather and other materials would depend on the selection of the criteria and the weight given to different aspects".

In comments on its draft scheme the TNO CENTRE FOR LEATHER AND SHOE RESEARCH says: "The shoe industry in the Netherlands shows a growing interest as they see a possibility to distinct themselves from their competitors and consumers and consumer organizations lay an increasing value on "environmentally-friendly" products. Cradle-to-grave comparisons are difficult or almost impossible for the moment because insufficient quantitative data is available"

The points of view of another shoe institute, SATRA, are found in *Annex 14*.

As already mentioned earlier, no official eco-label scheme exist in the USA, and the eco-labelling question has not become acute for the U.S. tanners. However, the LEATHER INDUSTRIES OF AMERICA (LIA) has given out a statement of its position on its commitment to the environment (*Annex 15* and [47]). Moynihan asks the pertinent question: "how is environmentally friendly leather to be defined?" [46]

III ISSUES AND PITFALLS FOR THE LEATHER INDUSTRY

Selection of criteria

Especially when discussing international eco-labelling, it is important that criteria selected and limit values set up must be related to a scientifically documented evaluation of environmental effects and as far as possible be kept free from individual or local prejudices or idiosyncrasies.

Discharge of chromium from the leather production could be taken as an illustrative example. No documentation for harmful effects from chromium discharge from tanneries exist. This situation is tackled in fundamentally different ways in e.g. the USA as opposed to many European countries. Can a very strict limit for chromium discharge in a EU eco-labelling be conceived as a technical barrier of trade in the WTO/GATT sense?

On one hand, a US tanner might expect some kind of documentation why his leather is deemed "ecologically unsound" because of a chromium discharge. On the other hand, a EU tanner who has had to live with extremely strict requirements to e.g. chromium elimination might with just as much reason expect fair competition conditions in relation to tanners outside the EU.

It goes without saying that the objective of an eco-labelling system, that about 20 per cent of the products on the market are able to comply with the limits fixed, should be fulfilled.

Weighing of criteria

The weighing of e.g. a noise level against a COD discharge is in the last resort a purely political question; the question of which type of environment load the committee preparing the eco-label scheme and the authority approving it find must urgent to eliminate.

The weighing of criteria is of the utmost importance with regard to the outspoken aims of an eco-labelling scheme and also to what will be achieved in practice. To stay with the chromium example used above, any tanning agent react with proteins, incl. with human tissue. A weighing of criteria discriminating against chromium will inadvertently lead to a preference for vegetable tanning agents or organic tanning agents with a high vapour pressure (aldehydes, isocyanates), which almost certainly is environmentally counterproductive (e.g. [48]).

Hides as a renewable resource and a byproduct

Raw hides and skins are themselves a byproduct from the meat production and represent, if not utilized, a major source of pollution. Leather production is normally the most advantageous utilization. This is an important aspect if a LCA-comparison with synthetic materials is carried out.

Another aspect is whether leather from exotic species may be able to obtain an eco-label. In the case of endangered species, the answer clearly must be no, but the case of farmed animals where both the hide and the flesh is used (e.g. crocodiles) raises a delimitation problem.

Delimitation of product groups

The product group "shoe" may be taken as including dress shoes of leather, athlete's shoes and rubber boots, but these categories are not interchangeable. Similar considerations refer to furniture.

Importance of the trading sector

Active participation of the trading sector is decisive for the success of an eco-labelling scheme. The wholesalers might often be interested in importing and marketing also articles which cannot obtain an eco-label. For retailers, "ecologic reliability" may be a good sales argument, however, it is possible that very big retailers could establish their own labelling systems.

Footwear or garment producers must also consider fashion whereas long life products generally are ecologically advantageous. This might prevent eco-labelling of fashion articles as their lifetime is dictated by the vagaries of fashion.

Mass-media

It should be borne in mind that labelling is very much related to the mass-media and is liable to media misunderstandings. It is necessary to be prepared for this situation beforehand.

Chemical suppliers

In a LCA of a leather product, the chemical suppliers of the tannery play an important part, and the question of ecologic production at the chemical manufacturers gains importance.

One may doubt that the tanners are strong enough as a group to exert the necessary pressure on the suppliers when they are under pressure themselves from an eco-labelling scheme.

The author of the present report has experienced in a developing country where the use of PCP was banned that PCP was sold to tanners under another name.

The importance of local conditions

It is doubtful whether a global selection and weighing of areas is meaningful as local conditions to a great extent determine the environmental effects of leather production.

The salt discharge is no problem for a tannery situated at an ocean shore but a heavy problem for tanneries in inland districts in a hot, dry climate.

The energy consumption in a humid tropical climate is about half the consumption in Northern Europe or USA.

In many developing countries all solid tannery byproducts are utilized.

The verification problem

An important question, especially but not exclusively in developing countries, is the verification and certification of environmental conditions. Problems may be due to suboptimal testing procedures, to over-optimistic certificates or to both. It seems that some kind of international verifying body will be necessary.

VL BASIC PRINCIPLES OF THE INTERNATIONAL ECO-LABELLING SCHEME

Background

During its meeting in Vienna 3-4 October 1994, the *UNIDO Expert Group on Eco-Labelling of Leather and Leather Products* expressed the opinion that "an international Eco-Label would help counter the proliferation of inconsistent or misleading initiatives and that the technical criteria for such an ecological certification should be drafted by UNIDO in cooperation with the interested bodies such as ISO, UNCTAD and the non-governmental agencies working in the leather field such as ICT, IULTCS, UITIC, and research institutions from industrialized and developing countries" (*Annex 20*).

Whether the leather industry desires it or not, the eco-labelling discussion is gaining momentum and a great number of regional, national or private eco-labelling schemes have appeared within a short time. If the leather industry does not act rapidly, it will after all probably be confronted with a *fait accompli* from outside.

The impression the ordinary consumer gets of the material leather is of the utmost importance. The leather industry has to gain acceptance for the view that leather products are safe to the user and environmentally sound (i.e., their production and entire life cycle being environmentally sustainable).

The conditions for this are good, as raw hides are a natural and renewable resource and leather constitutes a highly refined material produced from a byproduct of the meat industry.

The consideration of ensuring the compatibility of eco-labelling with a free world trade accentuates the need for an international Eco-Labelling Scheme for leather and leather products.

Product or process based schemes

The first thing to be considered is whether an exclusively product based scheme (a customer protection scheme) or rather a scheme also including environmental consequences of the leather production itself is to be preferred. (No scheme, which does not also include parameters relating to product properties, i.e. "human ecology aspects", can be expected to gain acceptance from the consumer.)

An exclusively product based scheme is cheaper and easier to establish and handle, and all necessary testing of the leather can be carried out in the consumer country.

On the other hand, only a scheme which also includes the environmental consequences of the leather production itself will act as an incentive towards an ecologically sustainable leather production through helping to enforce existing, usually reasonably strict, environmental legislation and through protecting tanneries which have carried out necessary environmental measures against unfair competition ("environmental dumping"). A certificate according to a scheme of this type may be given directly to tanneries, which then may be able to use it as marketing asset and in this way gain some payback from environmental investments undertaken.

The two approaches of eco-labelling may be characterized as follows:

1. Consumer Protection Label

- a) aiming towards consumer products 0 (e.g. leather goods);
- b) content of supposed harmful substances;
- c) other properties of the product;
- d) label can be granted according to test of the product directly;
- e) label is not given to tanneries directly;
- f) schemes for leather products do exist.

2. Environmental Certificate

- a) based upon a (normally rudimentary) Life Cycle Assessment (LCA), i.e. regarding also raw materials (hides, water, chemicals, energy), waste emission from the production, and final disposal of the product itself;
- b) certificate can be given to tannery directly;
- c) first scheme for tanneries has been introduced recently.
- d) *problems:*
 - a complete LCA is (prohibitively) expensive,
 - various factors cannot be balanced against each other,
 - certification problem (geography; reliability).

The first approach, which regards only product properties, is strictly speaking not to be considered an eco-label as ecology is not within its scope at all. Consequently, in the figure it is named *Consumer Protection Label*.

The second approach, considering also the processing, takes also the ecological consequences of the production into account.

Certification schemes and certifying agents

A. Monitoring and/or self-certification

To procure the necessary information for applying for a process-related environmental certificate, two main approaches exist: self-declaration by the company or monitoring by some exterior, independent agent; normally the certifying agent.

The main arguments for a self-declaration are that the system is cheaper, making use of the monitoring already being carried out by the company itself and not necessitating the involvement of exterior institutions. The expenses are automatically borne by the company directly. Cases of incorrect declarations could - and should - be proved by the courts. It is presupposed that the negative consequences for a company of being caught presenting deliberately misleading information will be a deterrent strong enough to guarantee the viability of the system.

On the other hand, a system based on self-declaration exclusively is hardly to gain the confidence of the consumers (and without the confidence of the consumers, any eco-labelling system is worthless). Further arguments for a system based on a network of independent certifying and monitoring agents are that such agents are able to develop more experience and expertise than the individual company whose technical expertise is naturally centered in the production of leather, and that for an international system, the exclusive reliance on the national courts as the correcting factor may function too heavily and erratic.

However, some element of self-declaration will be found in any environmental monitoring or audit. The respective roles of exterior monitoring and self-declaration of the company must be defined in the rules of an eco-labelling scheme.

B. Certifying agents and their accreditation

Certifying and monitoring agents or institutions must be reliable, that is competent, objective and independent. Furthermore, they must be able to gain the confidence of the companies and to handle professional secrets to which they gain access through the monitoring work, with the necessary discretion.

In order to ensure that also producers in developing countries are able to gain admittance to "ecological" markets in consumer countries, it is necessary to establish an international network of accredited certifying agents, acting as a connecting link between producers and consumers.

The accredited certifying agents will naturally but not necessarily be found among existing leather laboratories. In countries where no suitable leather laboratories are available, other agents as e.g. governmental environmental laboratories or private test houses might have the possibility of applying for accreditation if they have the qualifications requested.

Attention should be drawn to an existing network of approximately 20 leather laboratories "designated" by the IULTCS. From the Brochure and Statistics of the IULTCS (1983 edition) may be quoted: "The laboratories listed in this section have indicated their willingness to undertake the analysis and testing of leather, tannery chemicals and associated products for arbitration and other purposes. Although the Union can in no way be responsible for the work undertaken many of the laboratories are subject to external accreditation by the relevant national authority. All enquiries should be addressed to the Director of the Institute and NOT to the IULTCS Secretariat "

The organization which has to monitor and accredit the certifying agents should fulfil two main requirements:

1. The organization must be truly international and independent of any national interest.
2. The organization must be able to draw upon the necessary expertise within the leather and environment fields. Three organizations might be taken into consideration:
 - (i) International Union of Leather Technicians' and Chemists' Societies (IULTCS). Within the framework of its existing structure, IULTCS will hardly be able to fulfil the demands on an international accrediting and monitoring organization. The old IULTCS network of leather institutions described above is a kind of registration solely without any accreditation or monitoring and it is said directly that "the Union can be in no way responsible for the work undertaken". If monitoring and accreditation are to be handled on a regular basis, a new body for this purpose must be created, responsible to the Executive Committee of the IULTCS, and it is doubtful whether IULTCS is able to procure the resources necessary for this. Besides, the representation of the leather consuming industries in the IULTCS may be deemed insufficient.
 - (ii) International Council of Tanners (ICT) has already formulated draft proposals for an international eco-labelling, based on self-declaration of the companies to the greatest possible extent. The question of self-certification versus monitoring has been discussed above. If ICT is to take upon itself the role

of the accrediting and monitoring organization for an international eco-labelling system, some questions must be discussed:

- Is the structure of ICT permanent enough to carry out this work without having in practice to delegate it to one individual leather institute; this being open to assertions of bias towards a single nation or towards developed countries as such?
- Are the leather consuming industries sufficiently represented within the framework of ICT?

It must, however, be emphasized that the work already carried out by the ICT render obvious the participation of ICT in any international eco-labelling scheme.

- (iii) UNIDO Leather Unit within the Industrial Sectors and Environmental Division, Agro-based Industries Branch (ISED/AGRO) has good opportunities to combine the interests of developing and developed countries as well as of leather producing and leather consuming industries, and the guidance and active support of the UNIDO Leather Panel would make the Leather Unit a suitable choice for the accrediting and monitoring organization. Also in this case some questions have to be answered, however: is it practically possible, and can it be guaranteed, that a task and an organization of this kind can permanently or at least for a number of years find its place within UNIDO's existing structure and alongside with its many other tasks?

In any case, it is strongly recommended that the closest possible degree of cooperation between the institutions and organizations within the leather branch active in this field be aimed at and any duplicating work avoided. The future accrediting organization will form a natural nodal point for this cooperation. Also, the best possible cooperation with relevant institutions and organizations outside the leather branch is of advantage.

C. Financing of an eco-labelling scheme

After an initial phase of a duration of some years, the eco-labelling scheme is presumed to be financially self-supporting. The applicant for a certificate has to pay a fee to the certifying agent (e.g. a leather institute) intended to cover the expenses of the laboratory (monitoring and administration costs plus accreditation costs of the certifying agent). In the same way, the accrediting organization should obtain the financing necessary to carry out its work (administration and monitoring, but also e.g. developing costs) through fees from the certifying agents applying for or renewing their accreditation.

The price level of laboratory services is strongly different in different parts of the world. The consequences of this could be that the cost of obtaining an eco-label tends to be much lower at institutes in low-wage countries. In the case of process-based certificates, however, the inclination to applying to an institute in another part of the world for a certificate will only be limited.

Until the point has been reached when the scheme becomes self-sustaining, funding from outside will indeed be necessary.

Practical considerations by the introduction of an international eco-labelling scheme

Testing the performance of a product, a material or a process according to standardized testing methods can normally be done in a reasonably objective way, but the selection of parameters and limit

values for an eco-labelling scheme is to a great extent subjective and in some cases politically determined.

A. Scientific foundation and relation to national regulations of an international eco-labelling scheme

In order to guarantee the objectivity necessary for any international system to gain acceptance from potential users and to prevent undue distortion of the competition between tanners in different countries, it must be reasonably founded in scientific (ecological, toxicological etc.) data.

This prerequisite has its inherent problems. First, who is to define "scientific statements" (e.g. are vegetable tannins really more "ecological" than chrome and, if so, according to which criteria)? Secondly: no fixed international system can compensate for different local conditions (examples: salt does no harm when discharged into the open sea, represents however a serious environmental threat in dry inland countries. Or the specific energy consumption of a tannery in a tropical country is only about the half of what is the case in a temperate climate).

In a national context, any national official regulations must indeed be complied with and the qualifications for obtaining an eco-label might typically be so strict that about 20 per cent of the products on the market can obtain an eco-label (EU system).

The most simple approach to the coordination between an international eco-label and national regulations would be to insert into the conditions for obtaining the international eco-label that "any national regulations must be complied with". This solution is not without problems of its own, however:

Discharge of chromium from the leather production is an illustrative example: No documentation for harmful effects from chromium discharge from tanneries exist. This situation is tackled in fundamentally different ways in e.g. the USA as opposed to many European countries. Can a very strict limit for chromium discharge in a EU eco-labelling be conceived as a technical barrier of trade in the WTO/GATT sense?

On one hand a US tanner might expect some kind of documentation why his leather is deemed "ecologically unsound" because of a chromium discharge. On the other hand, a EU tanner who has had to live with extremely strict requirements to e.g. chromium elimination might with just as much reason expect fair competition in relations to tanners outside the EU.

Another example: tanners have raised the question whether the purpose of a scheme would be to put forward an even stricter limit for the PCP content of leather than is found in the German legislation and which by many is deemed unnecessarily strict (a limit of 1ppm in the leather does actually exist in an eco-labelling system!). Or, still more problematic: in some countries national regulations exist, e.g. for the content of neutral salts in tannery waste water discharge, which simply cannot be complied with by tanneries. Regulations of this kind seem to render a general proviso: "any national regulations must be complied with" impracticable.

B. Framing of a system and selection of parameters and limit values

In order to be qualified "ecological" a product must be safe to the consumer and produced according to the environmentally best possible technology. These two demands

would sensibly refer to the consuming and producing countries, respectively. The same consideration may be made concerning compliance with national regulations.

As the processes involved in leather manufacturing are complex, any comprehensive ecolabelling scheme must necessarily be to some degree superficial.

The parameters chosen must be sufficiently easy to monitor, and for economical and practical reasons the number of parameters ought to be kept at the minimum necessary.

An eco-labelling scheme ought to include two different certificates, one product-based and one process-based, which may be applied for independently by tanneries. The conditions for application from tanneries as well as from similar types of companies (e.g. leather merchants, leather consuming industries) must be laid down in the scheme.

Concerning the product based certificate, it is important that criteria and limit values be selected on the basis of a thorough knowledge of leather and its properties and not e.g. directly adapted from the textile industry. This ought to be a matter of course but in practice a pressure may be exerted from consumers' organizations or department stores, preferring for the sake of simplicity to use the same criteria for leather as for textiles.

Furthermore, if possible, it must be ensured that criteria applied do not later on prevent beneficial new developments. Recently, a tanning method using zinc salts and vegetable tannins was presented. Without discussing the merits of the method, it is pertinent to point out that e.g. the *Öko-Tex System* would prevent that a leather without chromium produced in this way could obtain an eco-label.

Although leather properties or durability and repairability of the product are not strictly "ecological" properties, they are nevertheless relevant for a product based certificate, as labels ought not to be given to low quality products.

The IULTCS standard test methods should be used for the testing whenever available. Also in other cases, test methods to be used must be exactly specified.

Proposals for process based eco-labelling tend to be based almost exclusively on the waste water treatment. The quality of the waste water treatment given can be expressed through the type of treatment given (a biological treatment being demanded as a minimum), through limit values for specific outputs of selected parameters (e.g. COD) discharged into the recipient, or through combinations of both.

Obviously, it is easier to check the types of waste water treatment present than to monitor raw hide input, water consumption and average waste water analysis values over a period of, say, one year. On the other hand, it does not suffice to establish that the plant present has been constructed as a biological treatment plant without also establishing with a reasonable certainty its degree of efficiency.

The relevant point for monitoring is the discharge into the recipient. Thus, it is not relevant for an eco-labelling whether a biological waste water treatment takes place within the tannery or in a municipal treatment plant. However, possibilities of damage to a municipal sewer system or odour generation during waste water treatment must be taken into account, too.

Besides the specific water consumption, the most important parameters would be COD, suspended solids, chromium and sulphide. (COD is to be preferred to BOD, as it is easier reproducible). The discharges should be expressed as e.g. kg/t rawhide and not as concentration figures in mg/l, thus eliminating the influence of the specific water consumption. Waste water analysis should preferentially be carried out according to the "Standard Methods"

As suggested above, it may be doubted whether it is sensible to consider the discharge independently of the recipient in question. However, it seems hardly possible to establish a process-based eco-labelling without using fixed guidelines.

It should be discussed whether the emission of organic solvents from the finishing department or the solid byproducts management should be included in the criteria when applying for an eco-label. A direct monitoring of the solvent emission would be too complicated and monitoring would have to be carried out by means of the chemicals consumed. In this case~ all chemicals with a solvent content must be monitored.

Other criteria which may become relevant in the future are:

- occupational health considerations;
- specific energy consumption;
- final disposal and recyclability of the leather or leather products.

It is questionable whether allergenic properties, if not very pronounced, should be taken into account. Allergenic properties may render a material as e.g. chrome leather or even in very special cases leather as such partially or totally inapplicable to certain, well defined groups of customers but this should not preclude granting an eco-label to the product concerned (contents of individual allergenic substances such as formaldehyde or hexavalent chromium ought to be included in a product based label).

It must be remembered that in any case it is in the last resort the consumer's choice which decides the purchase of "ecological" products.

Monitoring and certification for a process based eco-label should to the greatest possible extent be carried out in accordance with the existing systems for environmental auditing, namely:

- British Standard BS 7750 (1992). Specification for environmental management systems,
- European Union *EMAS (Environmental Management and Audit System)*, effective from April 1995.
- ISO CD 14001 (existing as a provisional draft only).

C. Future up-dating of the international eco-labelling scheme

The international eco-labelling scheme must, like any other eco-labelling scheme, be updated regularly with regard to parameters and limit values. It has to be decided how this is going to be carried out and who is going to be responsible for this work.

Coordination with relevant groups

Among groups with which regular cooperation must be sought, the ICT Working Group on Eco-Labelling should first and foremost be named in order to ensure mutual harmonization of the work being carried out.

Cooperation with the IULTCS should be sought. Especially it is to be considered advantageous to utilize the expertise on cleaner technology and pollution abatement found within the *IULTCS Environmental Commission (IUE)* in the selection of criteria and limit values.

Coordination must also be sought with leather institutes active in the eco-labelling field.

Outside the leather sector, cooperation should be sought with the ISO Technical Committee 207 which develops the ISO environmental management standards, and with the body responsible for the EMAS regulation.

Because of the necessary attention to international trade aspects, contacts to organizations such as WTO and UNCTAD must be maintained.

A question to be considered is at what stage of the work non-governmental consumers' organizations are most advantageously to be involved. As any scheme must relate specifically to leather properties or leather processing, at least a preparatory version of a scheme must result from the work of persons with leather experience. However, in order to gain acceptance of consumers of the resultant scheme it might be useful to involve consumer NGO's at a relatively early stage, nothing being gained by secrecy. Incidentally the influence of consumer NGO's upon legislation should not be underestimated.

Practical measures for implementation of an international eco-labelling scheme

The expert group meeting in Vienna 3rd and 4th of October 1994 recommended that UNIDO should assume a catalytic and coordinating role and prepare the first technical draft for the international eco-label (see *Annex 20*).

This first draft should also include "a proposal for the establishment of an International ECO-LABEL Committee (IELC) which should be formed with members from appropriate international, regional and national institutions such as ICT, IULTCS, research institutes from industrialized and developing countries and UNIDO, in cooperation with ISO and UNCTAD. The terms of reference of this committee should include, inter alia, the following:

- to formulate the Eco-label technical specifications,
- to formulate the Eco-label requirements and format,
- to recommend certifying institutes.

Accredited R&D establishments are seen as the most appropriate institutions for monitoring, testing/verifying an Eco-label".

The procedure for the practical implementation of the scheme is circumscribed in these recommendations.

A proposal for members of the International Eco-Label Committee (IELC) is found in Annex 21. Provisional terms of reference for the said Committee are found in Annex 22. A preliminary proposal for the selection of criteria for an eco-labelling scheme is found in Annex 23.

An important question to be considered is the necessary funding. As mentioned above (section IIIC), the scheme is supposed to be self-sustaining when it has become fully operational, the activities of the certifying agents being financed by fees from companies applying for labels and the accrediting function being financed by fees from the accredited institutions.

During the implementation however, funding from a suitable donor has to be found in order to finance the activities of the IELC and the accreditation of necessary certifying agents until the sufficient income from fees comes in.

A special situation to be considered is represented by institutions earning their fees in nonconvertible currencies. UNIDO might be able to overcome this problem, disposing of accounts in many non-convertible currencies.

VL CONCLUSIONS AND RECOMMENDATIONS

1. Eco-labelling schemes are going to gain extension irrespective of the attitude of the leather industries.
2. It must be deliberated what may be obtained and what may be risked by seeking an active participation in future eco-labelling schemes, especially as regards to the selection and weighing of criteria and the setting up of limits.
3. Examples like the chromium or PCP limits in various proposals demonstrate the practical importance of limit values to the tanneries.
4. A SG ("tox proof") declaration may be a sensible intermediary step before the introduction of a LCA-based eco-labelling, but may also be a solution in its own right to be used by the tanner.
5. Environmental action in due time creates confidence whereas procrastination and obstruction lead to distrust and undue restraints.
6. Eco-labelling may be an important parameter in the marketing for tanneries having had heavy environmental investments. Furthermore, a LCA can be a valuable tool for the environmental management of the companies.

REFERENCES

1. Umweltzeichen. The Environmental Label Introduces Itself. Umweltbundesamt, ZAD, Berlin 1990.
2. The LCA Source book. An European Business Guide to Life-Cycle Assessment. Sustainability, SPOLD. Business in the Environment, 1993.
3. J. A. Fava et al. (ed.): A Technical Framework for Life-Cycle Assessments. SETAC 1991
4. Workshop report. Life Cycle Assessment. SETAC-Europe, 1992.
5. J. A. Fava et al (ed.): A Conceptual Framework for Life-Cycle Impact Assessment. SETAC, 1993.
6. F. Consoli et al (ed.): Guidelines for Life-Cycle Assessment: A Code of Practice. SETAC, 1993.
7. Nordic Council of Ministers: Product Life Cycle Assessment - Principles and Methodology. Nord. 1992:9.
8. G. Nickolaus: Eco-label for Leather Articles - Development in Germany and the EEC. Das Leder 44, 179-81 (1993)
9. G. Nickolaus: Hanging an Eco label on shoes. World Leather. 6, No. 7 (Dec. 1993/Jan. 1994).
10. K. Sander, G. Nickolaus: Always play safe with leather that has the SG Mark. Leder- und Häutemarkt. 46, No. 13 (1/7 1994), p. 3.
11. Environmental Management in the EC. A guide to Eco-Auditing and Eco-labelling. Club de Bruxelles (ed. Andy Stern). Bruxelles 1993.
12. Council Regulation (EEC) No. 1836/93 of 29 June 1993 allowing voluntary participation by companies in the industrial sector in a Community eco-managements and audit scheme.
13. E. W. Perdijk, J. Luijten: An Eco-Label for Footwear. Draft of a Study. CEA, communication and consultancy on environment and energy. Centrum TNO Leather and Shoes. Rotterdam, January 1994.
14. EC Council, Directive on Safety of Toys 88/378 (3/5 1988). EC Off. J. L. 187, p. 1 (16/7 1988).
15. European Standard EN 71-3. 1988-E. Safety of toys. Part 3: Migration of certain elements.
16. SG-Test Mark. Leder- und Häutemarkt. 46, No. 12, 10 (17/6 1994).
17. W. Fischer, G. Nickolaus: The pentachlorophenol ban - its consequences for the leather market. Das Leder 41, 174 (1990).

18. In India the use of PCP has been prohibited. Leder- und Häutemarkt. 45, No. 22, 6 (6/8 1993).
19. *H. M. Wachsmann*: World-Wide Standardization of Leather Test Procedures - will the U.S. participate? JALCA 88, 47-56 (1993).
20. UNEP/IEO and UNIDO: Tanneries and the Environment. A Technical Guide. Technical Report Series No. 4, Paris 1991.
21. *S. Rydin, W. Frendrup*: Possibilities for a Reduction of the Pollution Load from Tanneries. Nordic Council of Ministers, Copenhagen 1993.
22. *S G Abbott*: Towards environment friendly shoemaking. World Footwear.
23. Eco Club by SATRA. Leder- und Häutemarkt 46, No. 31 (5/11 1993)
24. *G. Nickolaus*: Prevention - Utilisation - Disposal of Leather-cuttings from the Leather Processing Industry. Das Leder 44, 146-7 (1993).
25. *W. Reichardt, H. Oertel*: The Addition of finished Leather waste in the Manufacture of High Quality Leather-Fibre Products. Das Leder 44, 193-8 (1993).
26. *T. Ramasami, KV Raghavan*: Environment-Friendly Leather Chemicals. Leather. Mfr. Nov. 1993, p. 6-22
27. *H. Träubel*: Environmental and Health Aspects of Leather Production. Leder- und Häutemarkt 45, 128-139 (1993).
28. Vision for the future: A complete tannery in the green meadows. Das Leder 44, 16-18 (1993)
29. Discussion on Eco-labelling at the Bio Fach. Leder- und Häutemarkt. 45, No. 6 (26/2 1993)
30. Strong & Fisher: on Eco Course. Leder- und Häutemarkt. 45, No. 28,4 (1993)
31. Strong & Fisher: a team effort. Leather Nov. 1993
32. Earthy success for Pittard. Leather Nov. 1992, 33.
33. Leather from the rain forest Das Leder 44, No. 4 (1993)
34. Stern 29/4 1993
35. Model for self-help. Leder- und Häutemarkt 45, No. 16, 1 (4/6 1993)
36. Re-use of Shoe and Leather Waste. Leder- und Häutemarkt 45, No. 35, 1-7 (10/12 1993)
37. *G. Reich*: The Solid Waste Products and Residual Matter of the Leather Trade wherefrom, whereto? Das Leder 44, 161-71 (1993)
38. Collection of Old Shoes. Leder- und Häutemarkt 44, No. 24 (28/8 1992)

39. The Salvation Army. Warmer Bull. No. 41, 10 (May 1994)
40. Recycling Leather Garments. World Leather 5, No. 1 (Febr./March 1992), p. 54.
41. "Recycling" Leder. Leder- und Häutemarkt 45, No. 30 (30/10 1992)
42. A. Püntener, N. Gschwind: Composting of wet white shavings. Das Leder 45, 1823 (1994)
43. Shoes from Domestic Refuse. Leder- und Häutemarkt 45, No. 12 (23/4 1993)
44. Deja Shoes. Warmer Bulletin No. 41, 11 (May 1994)
45. "That's enough" Leder- und Häutemarkt 46, No. 8, 40-41 (22/4-1994)
46. J.J. Moynihan: Environmentally Friendly? Time to Define. Leather Manufacturer 1993, No. 7,1.
47. Environmental Responsibility. Position Statements from the LIA. Leather Manufacturer 1994, No. 2, 16-17, 27
48. W. Frendrup: Vegetable or chrome tanning. An ecological point of view. LGA Rundschau 1994, 20-23.
49. G. Nickolaus: Impact of national "eco-label" on the world-wide trade with leather and leather products. Paper, XXIII IULTCS Congress, Friedrichshafen 15-20/5 1995.
50. A. Wilford: The Satra Freedom from Harmful Substances Certificate. SATRA Bulletin May 1995
51. Ecological Marketing in the Leather Industries. Report, Firma Okopartner, Ökologische Unternehmensberatung, Eggerstedtstrasse 11, D-24103 Kiel, Germany (1995)
52. Environment friendly purchasing (Umweltfreundliche Beschaffung - Handbuch zur Berücksichtigung des Umweltschutzes in der öffentlichen Verwaltung und im Einkauf, 2. ed. Umweltbundesamt, Bauverlag, Berlin 1989.
53. Technical Implications of an ECO-LABEL for Leather. Report by the ICT Technical Panel on Eco-labelling for discussion at the 1995 ICT Conference.
54. K. Alexander: Developments in Clean Technology and Eco-labelling. Paper, International Cleaner Technology Seminar "Clean Tech 95", Birmingham 22-23/5 1995

**Proposal of membership of the
International Eco-Label Committee (IELC)**

International Council of Tanners (ICT)

International Union of Leather Technicians' and Chemists' Societies (IULTCS)

IULTCS Environment Committee (IUE)

UITIC

Relevant leather institutions (e.g. the institutions in Reutlingen, Northampton, Madras, Shanghai, Bulawayo, Buenos Aires and Cincinnati)

A representative of the chemicals suppliers

UNIDO Leather Panel

UNIDO Leather and Leather Products Unit

United Nations Environment Programme (UNEP)

International Standard Organization (ISO)

World Trade Organization (WTO)

United Nations Conference on Trade & Development (UNCTAD)

Representatives of institutions actually working on eco-labelling of leather and leather products can be invited as observers.

Preliminary Outline of Terms of Reference for the International Eco-Label Committee (IELC)

In order to establish a fully operative international eco-labelling scheme for leather and leather products the Committee, assisted by a secretariat, will provide the following services:

1. Selection and establishment of an accrediting organization for future certifying agents and the rules for accreditation, including the monitoring of potential certifying agents.
2. Formulation of policies concerning national and regional regulations and eco-labelling schemes in consumer and producer countries, international trade organizations, consumers' organizations standardizing organizations such as ISO or EU EMAS, other interested parties in general.
3. Formulation of technical specifications of product based and process based eco-labelling schemes. Parameters and limit values, test methods, performance of the monitoring.
4. Formulation of eco-label requirements and format (who can apply for a label; conditions for use of label; terms of validity; conditions for renewal etc.).
5. Formulation of rules for certification, recommendation of institutes suitable for accreditation as certifying agents, and establishment of an international network of accredited certifying agents.
6. Preparation of a preliminary economical survey of a self-sustaining eco-labelling scheme.
7. Establishment of a permanent updating function and of guidelines for the necessary regular updating of the eco-labelling scheme.
8. Inputs, Work Plan and Time Schedule.

Detailed Terms of Reference and Time Schedule will be prepared shortly after project approval.

Preliminary proposal for technical specifications of eco-labelling of leather and leather products

Product based:

Pentachlorophenol	max. 5ppm
Chromium VI	max. 3ppm
Formaldehyde	max. 200ppm
Aromatic amines ¹	max. 30ppm
Cadmium	³
Nickel	²
pH	≥ 3,5
Leather properties	³

Remarks:

- ¹ According to German official list
- ² In leather for watch straps
- ³ To be defined

These parameters can be monitored and certified by every accredited institution.

Process based:

Mechanical and biological waste water treatment	necessary
Water based finishing	necessary
Water consumption	max. 50 m ³ /t salted rawhide
Sulphides ⁴	absent
Total chromium ⁴	0,1 kg/t s.r.
COD ⁴	10 kg/t s.r.
Suspended solids ⁴	2 kg/t s.r.

Remark: ⁴ into recipient

Methods of analysis and monitoring to be specified.

33a

MATRIX DIAGRAM FOR EVALUATING ENVIRONMENTAL INFLUENCES

	Winning and production of raw materials (incl. energy production)	Production of product	Distribution of product	Waste treatment procedures (secondary waste)	Use of product	Discarding and final disposal of product
Raw materials consumption (incl. water and energy)						
Consumption of nature, area etc.						
Waste water						
Gaseous emissions						
Solid wastes and byproducts						
Noise						
Health and safety problems (workers'; users')						

(Acts whose publication is obligatory)

COUNCIL REGULATION (EEC) No 880/92

of 23 March 1992

on a Community eco-label award scheme

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 130s thereof,

Having regard to the proposal from the Commission ⁽¹⁾,

Having regard to the opinion of the European Parliament ⁽²⁾,

Having regard to the opinion of the Economic and Social Committee ⁽³⁾,

Whereas the objectives and principles of the Community's environment policy, as set out in the European Communities' action programme on the environment ⁽⁴⁾, aim, in particular, at preventing, reducing and as far as possible eliminating pollution, as a priority at source, and ensuring sound management of raw materials resources, on the basis also of the 'polluter pays' principle; whereas the Fourth European Community action programme on the environment (1987 to 1992) ⁽⁵⁾ highlights the importance of developing a policy towards clean products;

Whereas the Council resolution of 7 May 1990 ⁽⁶⁾, invited the Commission to submit as soon as possible a proposal for a Community-wide eco-labelling scheme covering the environmental impact during the entire life cycle of the product;

Whereas the European Parliament, in its resolution of 19 June 1987 on the waste disposal industry and old waste dumps ⁽⁷⁾, supported a European label for clean products;

Whereas there is increased public interest in information about products with reduced environmental impact; whereas some Member States have already an award scheme for such products and several other Member States are considering the setting up of such a scheme;

Whereas a system to award an eco-label for products with reduced environmental impact will highlight more benign alternatives and therefore provide consumers and users with guidance;

Whereas such guidance can best be achieved by establishing uniform criteria for the award scheme to apply throughout the Community;

Whereas, while existing or future independent award schemes can continue to exist, the aim of this Regulation is to create the conditions for ultimately establishing an effective single environmental label in the Community;

Whereas the award scheme should be based on voluntary application; whereas such an approach, in relying on market forces, will also contribute to research and the development, in particular, of clean technologies, and thereby lead to innovation;

Whereas uniform application of criteria and compliance with procedures should be ensured throughout the Community;

Whereas the award scheme for the eco-label will take into account the interests of the principal groups concerned and therefore should provide for appropriate involvement of these groups in the definition of product groups and specific ecological criteria for each product group;

Whereas consumers and undertakings should be informed by appropriate means about the eco-label award scheme;

Whereas this label should complement other existing or future Community labelling systems.

⁽¹⁾ OJ No C 75, 20. 3. 1991, p. 23, and OJ No C 12, 18. 1. 1992, p. 16.

⁽²⁾ OJ No C 13, 20. 1. 1992, p. 37.

⁽³⁾ OJ No C 339, 31. 12. 1991, p. 29.

⁽⁴⁾ OJ No C 112, 20. 12. 1973, p. 1; OJ No C 139, 13. 6. 1977, p. 1; OJ No C 46, 17. 2. 1983, p. 1; OJ No C 70, 18. 3. 1987, p. 3.

⁽⁵⁾ OJ No C 328, 7. 12. 1987, p. 1.

⁽⁶⁾ OJ No C 122, 18. 5. 1990, p. 2.

⁽⁷⁾ OJ No C 190, 20. 7. 1987, p. 154.

HAS ADOPTED THIS REGULATION:

*Article 1***Objectives**

This Regulation establishes a Community eco-label award scheme which is intended to:

- promote the design, production, marketing and use of products which have a reduced environmental impact during their entire life cycle,

and

- provide consumers with better information on the environmental impact of products,

without, however, compromising product or workers' safety or significantly affecting the properties which make a product fit for use.

*Article 2***Scope**

This Regulation shall not apply to food, drink or pharmaceuticals.

*Article 3***Definitions**

For the purpose of this Regulation:

- (a) 'substance' means chemical elements and their compounds as defined in Article 2 of Council Directive 67/548/EEC of 27 June 1967 on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances ⁽¹⁾;
- (b) 'preparation' means mixtures or solutions as defined in Article 2 of Council Directive 67/548/EEC;
- (c) 'product group' means products which serve similar purposes and which have equivalence of use;
- (d) 'cradle to grave' means the life cycle of a product from manufacturing, including the choice of raw materials, distribution, consumption and use to disposal after use.

*Article 4***General principles**

1. The eco-label can be awarded to products which meet the objectives set out in Article 1 and which are in conformity with Community health, safety and environmental requirements.

⁽¹⁾ OJ No L 196, 16. 8. 1967, p. 1. Directive as last amended by Directive 91/410/EEC (OJ No L 228, 17. 8. 1991, p. 67).

2. The eco-label shall in no case be awarded:

- (a) to products which are substances or preparations classified as dangerous in accordance with Directives 67/548/EEC and 88/379/EEC ⁽²⁾.

The label may be awarded to products containing a substance or preparation classified as dangerous in accordance with that Directive in so far as the products meet the objectives set out in Article 1;

- (b) to products manufactured by processes which are likely to harm significantly man and/or the environment.

3. Products imported into the Community, for which the award of an eco-label in accordance with this Regulation has been requested, must at least meet the same strict criteria as products manufactured in the Community.

*Article 5***Product groups and ecological criteria**

1. The conditions for awarding the label shall be defined by product groups.

Product groups, the specific ecological criteria for each group and their respective periods of validity shall be established in accordance with the procedure laid down in Article 7 following the consultation procedure provided for in Article 6.

2. The Commission shall begin these procedures at the request of the competent body or bodies referred to in Article 9, or on its own initiative. A competent body may act on its own initiative or at the request of any interested organization or individual; in the latter case it shall decide whether such a request is appropriate. Before submitting a request to the Commission the competent body shall conduct appropriate consultation of interest groups and inform the Commission of the results thereof.

3. Each product group shall be defined in such a way as to ensure that all competing products which serve similar purposes and which have equivalence of use are included in the same group.

4. The specific ecological criteria for each product group shall be established using a 'cradle-to-grave' approach based on the objectives set out in Article 1, the general principles set out in Article 4 and the parameters of the indicative assessment matrix shown in Annex I. The criteria must be precise, clear and objective so as to ensure uniformity of application by the competent bodies. They must ensure a high level of environmental protection, be based as far as

⁽²⁾ OJ No L 187, 16. 7. 1988, p. 14.

possible on the use of clean technology and, where appropriate, reflect the desirability of maximizing product life.

Should it prove necessary to adapt the indicative assessment matrix to technical progress, such adaptation shall be made in accordance with the procedure laid down in Article 7.

5. The period of validity of product groups shall be about three years. The period of validity of a criterion may not exceed the period of validity of the product groups to which it relates.

Article 6

Consultation of interest groups

1. With a view to the definition of the products groups and the specific ecological criteria referred to in Article 5 and before submitting a draft to the Committee referred to in Article 7, the Commission shall consult the principal interest groups who shall meet for this purpose within a consultation forum. In so doing, the Commission shall take account of the results of national consultations.

2. The forum should involve at least the Community-level representatives of the following interest groups:

- industry ⁽¹⁾,
- commerce ⁽¹⁾,
- consumer organizations,
- environmental organizations.

Each of them may be represented by having a maximum of three seats.

The participating interest groups should ensure appropriate representation according to the product groups concerned and having regard to the need to ensure continuity in the work of the consultation forum.

3. The rules of procedure of the forum shall be established by the Commission in accordance with the procedure laid down in Article 7.

4. The period allowed for the consultation of the forum may not exceed six weeks in any one case.

5. The Commission shall forward the outcome of the consultations to the committee referred to in Article 7 together with the draft measures to be adopted.

Article 7

Committee

1. The Commission shall be assisted by a committee composed of the representatives of the Member States and chaired by the representative of the Commission.

⁽¹⁾ Including trade unions as appropriate.

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. The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the committee.

4. If 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.

5. If the Council has not acted within three months from the date of referral to it, the proposed measures shall be adopted by the Commission.

Article 8

The eco-label

1. The eco-label shall bear the logo shown in Annex II.

2. Applications for the award of the label shall be made in accordance with the procedures laid down in Article 10.

3. The decision to award a label to individual products which fulfil the criteria referred to in Articles 4 and 5 shall be taken by the competent bodies referred to in Article 9 in accordance with the procedure laid down in Article 10.

4. In accordance with the procedure laid down in Article 7, the Commission shall decide on a case-by-case basis whether it is possible to state on the label the principal reasons for awarding the eco-label and establish rules for this purpose.

5. The label shall be awarded for a fixed production period which may in no circumstances exceed the period of validity of the criteria.

Where the criteria relating to products are extended without change, the validity of the label may be extended for the same period.

6. The eco-label shall under no circumstances be used before the conclusion of a contract covering the conditions of use as provided for in Article 12.

Article 9

Designation of competent bodies

1. Within six months from the entry into force of this Regulation each Member State shall designate the body or bodies, hereinafter referred to as the 'competent body (bodies)', responsible for carrying out the tasks provided for in this Regulation, particularly in Article 10, and shall inform the Commission thereof.

2. The Member States shall ensure that the composition of the competent bodies is such as to guarantee their independence and neutrality and that the competent bodies apply the provisions of this Regulation in a consistent manner.

Article 10

Applications for the award of an eco-label

1. Manufacturers or importers in the Community may apply for the award of an eco-label only to the competent body or bodies designated by the Member State in which the product is manufactured or first marketed or into which the product is imported from a third country.

2. Before proceeding to an assessment of applications, the competent body shall consult the registers referred to in paragraph 9. The competent body shall assess the environmental performance of the product by reference to the principles in Article 4 and the specific criteria for the product groups in Article 5. For this purpose, all required certification and documents (including the results of independent testing) shall be presented to the competent body.

3. After the product assessment, the competent body shall decide whether to award a label. If it decides that a label should be awarded, it shall notify the Commission of its decision and enclose the full results of the assessment together with a summary thereof. A standard summary form shall be established by the Commission in accordance with the procedure laid down in Article 7.

Within five days following notification the Commission shall forward to the competent bodies of the other Member States a copy of the aforesaid decision and summary as well as, at their request, a copy of the full results of the assessment.

4. After a period of 30 days following the dispatch of this notification to the Commission the competent body may implement the award unless the Commission has by that time informed the competent body of reasoned objections to the award. If such objections are raised and cannot be resolved by informal consultations, the Commission shall take a decision on the proposed award in accordance with the procedure laid down in Article 7.

5. If the competent body decides to award a label to a product already rejected by the competent body of another Member State, it shall draw the Commission's attention to this fact when notifying its decision under paragraph 3. The Commission shall in all such cases take a decision on the proposed award in accordance with the procedure laid down in Article 7.

6. In the cases referred to in paragraphs 4 and 5, the Commission shall, within 45 days after the receipt of the decision of the competent body to award a label, submit a draft of the measures to be taken to the committee referred to in Article 7.

7. If an application for the award of an eco-label is rejected, the competent body shall immediately inform the Commission and advise the applicant of the reasons for the rejection.

8. On receiving an application for a label, the competent body may conclude that the product does not fall within a product group for which criteria have already been agreed. In these cases, the competent body shall decide if a proposal for the establishment of a new product group should be forwarded to the Commission for adoption in line with the procedures laid down in Articles 6 and 7.

9. The Commission shall maintain separate registers of all applications received, all applications approved and all applications rejected. Those showing the received and rejected applications shall be accessible only to the competent bodies of Member States.

10. A manufacturer or importer who intends to withdraw an application for the award of a label or to cease to use a label shall notify the appropriate competent body.

Article 11

Costs and fees

1. Every application for the award of a label shall be subject to the payment of the costs of processing the application.

2. The conditions governing the use of the label shall include payment of a fee by the applicant for the use of the label.

3. The sums referred to in paragraphs 1 and 2 shall be fixed by the competent bodies referred to in Article 9 and may vary from Member State to Member State. Indicative guidelines for this purpose shall be established in accordance with the procedure laid down in Article 7.

Article 12

Terms of use

1. The competent body shall conclude a contract, covering the terms of use of the label, with each applicant. To

this end a standard contract shall be adopted in accordance with the procedure laid down in Article 7.

2. The terms of use shall also include provisions for withdrawing the authorization to use the label.

Article 13

Confidentiality

Competent bodies, the Commission and all other persons concerned may not disclose to third parties information to which they have gained access in the course of assessing a product with a view to the award of the label.

Once a decision has been taken to award the label, however, the following information may not in any circumstances be kept confidential:

- the name of the product,
- the manufacturer or importer of the product,
- the reasons and relevant information for awarding the label.

Article 14

Publication

The Commission shall publish in the *Official Journal of the European Communities*:

- (a) the product groups, the relevant specific ecological criteria and their respective periods of validity;
- (b) a list of products for which an eco-label has been awarded, the names of the relevant manufacturers or importers and the expiration dates of the labels. Such publication shall take place at least once a year.
- (c) the names and addresses of the competent bodies.

The Commission shall also publish from time to time for the information of consumers and undertakings a consolidated list of the products for which an eco-label has been awarded.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 23 March 1992.

Article 15

Information

Each Member State shall ensure that consumers and undertakings are informed by appropriate means of the following:

- (a) the objectives of the eco-label award scheme;
- (b) the product groups which have been selected;
- (c) the ecological criteria for each product group;
- (d) the procedures to be followed for applying for a label;
- (e) the competent body or bodies in the Member State.

Article 16

Advertising

1. References to the eco-label in advertising may not be made until a label has been awarded and then only in relation to the specific product for which it was awarded.

2. Any false or misleading advertising or the use of any label or logo which leads to confusion with the Community eco-label introduced by this Regulation is hereby prohibited.

Article 17

Implementation

Member States shall within six months of the entry into force of this Regulation inform the Commission of measures taken to ensure compliance with this Regulation.

Article 18

Review

1. Within five years of the entry into force of this Regulation the Commission shall review the scheme in the light of the experience gained during its operation.

2. The Commission shall propose any appropriate amendments to this Regulation.

For the Council
The President
Carlos BORREGO

INDICATIVE ASSESSMENT MATRIX

Environmental fields	Product life-cycle				
	Pre-production	Production	Distribution (including packaging)	Utilization	Disposal
Waste relevance					
Soil pollution and degradation					
Water contamination					
Air contamination					
Noise					
Consumption of energy					
Consumption of natural resources					
Effects on eco-systems					

LOGO



The logo shall be printed either:

- in two colours (Pantone 347 green and Pantone 279 blue), or
- in black on white, or
- in white on black.

SOURCE: O.J. N° L 99 - 11.4.1992

COMMISSION INFORMATION ON ECO-LABELLING

EUROPEAN
COMMISSION

Procedural Guidelines for the establishment of product groups and ecological criteria

As stated in issue No. 5 of the newsletter (dated March 1994), procedural guidelines were in the process of being drawn up. The aim of these guidelines is to facilitate the effective functioning of the EU Eco-label Award Scheme, and have now been finalised. The text is reproduced below:

I. INTRODUCTION

I.1 These Procedural Guidelines are addressed by the Commission Services to the Competent Bodies, the Consultation Forum and the relevant authorities of the Member States and are intended for application in a consistent and uniform manner as far as possible, in the process of establishing product groups and ecological criteria for the European Union Eco-Labeling Scheme.

I.2 These Guidelines therefore are not legally binding on those involved in the above mentioned process, and are without prejudice to the legal interpretation of Council Regulation 880/92 on an European Union Eco-Label Award Scheme. However, they represent the reference point for establishing product groups and ecological criteria. These Guidelines will be reviewed, if necessary, every two years, and revised as appropriate.

I.3 These Guidelines are to be read in conjunction with two further documents:

- Policy Principles for the European Union Eco-Labeling Scheme.
- A framework establishing Methodological Principles on LCA in the context of the European Union Eco-Labeling Scheme.

II. OBJECTIVES OF THESE GUIDELINES

II.1 These Guidelines are intended in particular to make explicit the points of reference assumed by Commission Services in fulfilling their responsibilities according to Regulation 880/92, related to the establishment of product groups and ecological criteria, and in particular in their task of systematically monitoring the work carried out by all the parties involved.

II.2 These Guidelines will also assist a Lead Competent Body (and associated Competent Bodies) by providing a framework to organise and conduct their activities with regard to the establishment of product groups and ecological criteria, through a systematic, transparent and objective approach, including the necessary consultation and consideration of all relevant issues.

III. SCOPE OF THE DOCUMENT

This document addresses the following:

- Procedural Steps;
- Procedural Requirements;
- Definitions;
- Timescale and Costs

IV. PROCEDURAL STEPS SEE PANELS ON P2 & P3



Issue No 6
June 1994

V. PROCEDURAL REQUIREMENTS

TRANSPARENCY

V1. Transparency is in practice the implementation of a whole range of organisational and procedural measures, which allow those parties involved in the process to find satisfactory replies to questions which they pose on the quality and reliability of studies (including aspects of the product group not examined), the ecological and economic impacts of the choices they make, and the development of the consultation process.

V2. Transparency is to be ensured in particular by effective interchange of information between all the parties involved.

V3. Transparency is also important for consumers and others not involved in the process and the final report on the study should contain information about the basis on which decisions have been taken and other relevant data.

PARTICIPATION

V4. The main parties in the process of establishing product groups and ecological criteria are the Competent Bodies, the Member States, the European Commission and the Consultation Forum. All parties must be given the opportunity to contribute to this process and should be encouraged to do so. Effective participation implies the continued presence of Member States, Competent Bodies and the Consultation Forum in discussions from the beginning.

V5. It is important that representatives of the Commission (DG XI and/or the other relevant Commission Services) attend certain key meetings in order to assist the ad hoc working group's deliberations. The relevant Commission Service should be asked to attend meetings where Community legislation is of particular relevance. The Consumer Policy Service, in particular, should be involved at an early stage.

V6. DG XI will ensure that the relevant authorities of Member States are fully informed of progress of work, where the internal arrangements of Member States do not provide for such information.

CONSULTATION

V7. The Lead Competent Body will maintain close contact throughout all the phases with DG XI, and through DG XI, with the relevant Commission Services.

V8. The necessary documentation flow, including the latest developments regarding issues still to be resolved, must be ensured by the Lead Competent Body. In particular, the procedures should ensure that third country producers have access through the Consultation Forum to the same information available to European Union producers and be able to submit their point of view. The Lead Competent Body should ensure that data and comments from the third countries producers are duly considered. To facilitate access by third country producers, the Commission will publish periodically a list of product groups for which work is about to begin, with the appropriate references. For further guidance on the international dimension, see the Policy Principles document.

V9. Interim reports will be submitted by the Lead Competent Body, in line with the work programme, to the Commission. These reports will then be discussed at a meeting of the Committee of Competent Bodies, with participation by the Consultation Forum and all relevant Commission Services. The objective of the meeting will be, in particular, to provide guidance as to whether to proceed with the work, postpone the establishment of a product group and ecological criteria until a later date or not to proceed to the next phase.

The Commission will ensure that there is sufficient agreement to continue the work. At the end of Phase Five, the Lead Competent Body will provide the Commission with the Final Report and Phase Six may commence.

VI. DEFINITIONS

VI.1 MANDATE (see procedural step IV)

The mandate will cover in particular:

- * provisional definition of the product group
- * the manner in which the ad hoc group is established:
 - Lead Competent Body (and associated Competent Bodies) experts (government, scientists, technical experts, in particular in the field of testing and verification, others)
 - experts designated by the other Competent Bodies
 - experts from the interest groups designated by the Consultation Forum
 - Commission Services

VI.2 WORK PROGRAMME (see procedural step IV)

The work programme will, in particular,

- * determine how Commission Services can contribute to the work
- * establish time scales and deadlines
- * set out a provisional budget for the work
- * establish requirements and a structure for consultation and reporting

COMMISSION INFORMATION ON ECO-LABELLING

IV - PROCEDURAL STEPS

I

DG XI after consultation with the Committee of Competent Bodies*, the Consultation Forum and all relevant Commission Services, identifies a list of priority product groups for possible preliminary consideration. This list is not restrictive and will be periodically reviewed.

II

DG XI identifies candidate Lead Competent Bodies willing to establish a product group and ecological criteria from amongst those on the listed product groups. DG XI informs the Committee of Competent Bodies, the Consultation Forum and all relevant Commission Services of the intention of Lead Competent Bodies to carry out preliminary work. After careful consultation, DG XI announces a product group(s) for preliminary consideration and Phase One is commissioned.

III

The results of Phase One are circulated to the Committee of Competent Bodies, all relevant Commission Services and the Consultation Forum. DG XI organises a meeting of the Committee of Competent Bodies, with the participation of the Consultation Forum and all relevant Commission Services. In the light of this meeting DG XI, after consultation with all relevant Commission Services, will decide:

- to proceed with the establishment of the product group and ecological criteria, and definition of the mandate for the Lead Competent Bodies (and perhaps associated Competent Bodies);

OR - to postpone the decision until a later date.

OR - not to proceed with the development of the product group.

IV

DG XI, after consultation with all relevant Commission Services and the Lead Competent Body, defines the mandate and work programme for the establishment of the product group and ecological criteria, and invites the Consultation Forum to nominate its representatives to the ad hoc working group which will be established by the Lead Competent Body.

V

The Lead Competent Body arranges meetings of the ad hoc working group to discuss progress, in particular at the end of Phase Two (Market Study), Phase Three (Inventory), Phase Four (Environmental Impact Assessment) and Phase Five (Setting the Criteria) and submits reports to the Committee of Competent Bodies, as agreed in all work programme.

Cont. p3 panel...

* N.B. The Committee of Competent Bodies is composed of representatives of the Competent Bodies and chaired by the European Commission. This Committee is not to be confused with the Regulatory Committee which is provided for under Article 7 of Regulation 880/92.

VI.3 PHASE ONE: PRELIMINARY PHASE (see procedural steps II & III)

The objective of Phase One is to allow the Commission, the Competent Bodies and the Consultation Forum to consider the feasibility of establishing the product group and ecological criteria, including an indication of what is available, the nature of the market, including industrial and economic interests and structures, the perceived environmental issues, what needs to be done, the advantages of the product group being labelled and some of the problem areas.

VI.4 PHASE TWO: THE MARKET STUDY (see procedural step V)

The purpose of this phase is to assemble information about the nature of the market, including industrial and economic interests and structures, for the product group, including the distribution of different types and sub-types of product, the market shares held by manufacturers and by main brands on an European Union and Member State basis. It should also provide information about imports to the Community.

This information should be presented in a way which will facilitate decisions about product group definition, fitness for use and visibility (the last in terms of market share and/or other relevant considerations.)

VI.5 PHASES THREE AND FOUR: INVENTORY; ENVIRONMENTAL IMPACT ASSESSMENT (see procedural step V)

The aim of these phases is to carry out an inventory and then an assessment of the impacts on the environment, using internationally recognised methods, in an objective, qualified and representative manner, on a "cradle-to-grave" basis. The current understanding for this approach is contained in the Framework of Methodological Principles on LCA in the context of the European Union Eco-Labeling Scheme.

VI.6 PHASE FIVE: SETTING OF CRITERIA (see procedural step V)

The main elements of this phase are to:

- * determine the most important environmental impacts, based on results of phases three and four, and identify the accessible areas of economic and technical development which are the most relevant to the environmental impacts;
- * determine the applicable criteria and define the level required for each criterion with reference to the Policy Principles document;
- * determine the necessary test methods and certification procedures and consider solutions for qualitative and other related issues.

Consideration should also be given to how the visibility and effectiveness of the criteria can be evaluated.

VI.7 PHASE SIX: PRESENTATION OF DRAFT PROPOSAL FOR A COMMISSION DECISION (see procedural step VI to X)

The Lead Competent Body will present the final report to the Commission which will then engage the formal procedures required by the Regulation:

- internal Commission procedures;

presentation of the draft decision on the establishment of a product group and ecological criteria to the Consultation Forum and Regulatory Committee;

- formal procedure for a Commission Decision.

Consideration should be given to drafting a text to accompany the decision which will explain to the general public, in particular, the reasons why the product group was selected for development, the criteria set and the expected environmental benefits.

VII. TIMESCALE AND COSTS

VII.1 The Commission will provide Competent Bodies with an overall plan which will indicate the available resources for the development of product groups and ecological criteria. Consideration will be given to meeting the costs of participants, in particular from consumer and ecological groups in the ad hoc meetings.

VII.2 The work programme will contain targets for sending the final report to the Commission, for consultation with the Consultation Forum, and for the meeting of the Regulatory Committee to approve the criteria. It will also contain intermediate targets for completing key stages. Unless there is agreement by the main parties to set a different overall deadline, the aim should be to complete the work - commissioning Phase One to submitting the final report - within 14 months at the latest, and adoption and publication by the Commission within a further 4 months at the latest.

COMMISSION INFORMATION ON ECO-LABELLING

IV Procedural Steps-cont.from p2**VI**

The Lead Competent Body, in consultation with the ad hoc working group, DG XI and all relevant Commission Services, draws up a draft proposal for the establishment of the product group and ecological criteria, which is then sent by DG XI for comment to the Committee of Competent Bodies, the Consultation Forum and all relevant Commission Services. The proposal and comments received are submitted to a meeting of the Committee of Competent Bodies, with participation of the Consultation Forum and the relevant Commission Services.

VII

The draft proposal for the establishment of the product group and ecological criteria, as possibly revised following the outcome of step VI, is presented by DG XI to the Consultation Forum for a formal opinion as required by Article 6 of Regulation 880/92. The opinion received is then transmitted by DG XI to all Competent Bodies and all relevant Commission Services.

VIII

DG XI engages internal Commission consultations and procedures with a view to presenting a draft decision to the Regulatory Committee. If there is still serious disagreement at this stage then a working group composed of the Lead Competent Body, other interested Competent Bodies, DG XI and all relevant Commission Services is called to find a solution(s). Steps VI and VII are repeated if there are major amendments to the text.

IX

The Commission presents the draft decision to the Regulatory Committee following Article 7 of Regulation 880/92, in accordance with the rules of procedure for this Committee, which proceeds to vote its opinion on the draft decision for the establishment of the product group and ecological criteria.

X

The Commission engages the necessary internal procedures to establish a formal Commission decision with a view to adopting the decision voted on by the Regulatory Committee.



COMMISSION INFORMATION ON ECO-LABELLING

Competent Bodies/Organismes Competents/Zuständige Stellen

Denmark:
Mrs Aase Strymer
Ministry of the Environment
National Agency of Environmental Protection
Strandgade 29
DK - 1401 Copenhagen K
tel: (45-32) 66.01.00 fax: (45-32) 66.04.79

Germany:
Mr Henning Scholtz
RAL, Deutsches Institut für Gütesicherung und
Kennzeichnung
Siegburger Straße 39
D - 53757 Sankt Augustin
tel: (49-22-41) 16.05.23 fax: (49-22-41) 16.05.11

Germany:
Mr Rainer Butzkamm
Umweltbundesamt
Bismarckplatz 1
D - 14193 Berlin
tel: (49-30) 231.45.699
fax: (49-30) 299.30.96/231.56.38

Greece:
Mrs Amalia Katsoy
Ministry of Environment, Physical Planning and
Public Works
17 Amaliados Street
EL - Athens
tel: (30-1) 641.17.17/642.65.31 fax: (30-1) 645.67.58

Spain:
Mr José Luis Tejera
Asociación Española de Normalización y
Certificación (AENOR)
Fernandez de la Hoz 52
E - 28010 Madrid
tel: (34-1) 310.48.51 fax: (34-1) 310.49.76

Spain:
Mr Salvador Samitier i Martí
Dirección General de Calidad Ambiental
Departamento de Medio Ambiente
C/ Diagonal, 525
E - 08029 Barcelona
tel: (34-3) 419 30 85 fax: (34-3) 419 75 47

France:
Mrs Pascale Mienville
Association Française de Normalisation
(AFNOR)
Tour Europe Cedex 7
F - 92049 Paris La Défense
tel: (33-1) 42.91.59.16 fax: (33-1) 42.91.59.11

Luxembourg:
Mr Henri Haine
Ministère de l'Environnement
18 Montée de la Pétrusse
L - 2918 Luxembourg
tel: (352) 478.68.16 fax: (352) 40.04.10

Netherlands:
Mrs HGM Giezeman
Stichting Milieukeur
Eisenhowerlaan 150
NL - 2517 KP 's-Gravenhage
tel: (31-70) 358.63.00 fax: (31-70) 350.25.17

Portugal:
Mrs Delfina Serpa Pinto
Direcção-Geral da Indústria
Av. Conselheiro Fernando de Sousa, 11
P - 1000 Lisboa
tel: (351-1) 65.91.61 fax: (351-1) 69.10.42

United Kingdom:
Mrs Cara Cooper
UK Ecolabelling Board
7th Floor, Eastbury House
30-34 Albert Embankment
UK - London SE1 7TL
tel: (44-71) 820.11.99 fax: (44-71) 820.11.04

Contact Points In Other Member States/Points de Contact aux
autres Etats Membres/Anlaufstellen in anderen Mitgliedstaaten

Belgium:
Mr Lennart Patteet
Ministerie Volksgezondheid en
Leefmilieu
Rijksadministratief Centrum
Vesalius 2/3
Pachecolaan 19 bus 5
B - 1010 Brussel
tel: (32-2) 210.48.74 fax: (32-2) 210.48.73

Ireland:
Mr Brendan Linehan
Department of the Environment
Custom House
IRL - Dublin 1
tel: (353-1) 679.33.77 fax: (353-1) 874.24.23

Italy:
Mr Alberto Marzocchi
Il Ministro dell' Ambiente
Via della Ferratella in Laterano 33
I - 00185 Roma
tel: (39-6) 50.07.21.70 fax: (39-6) 50.07.20.48

EUROPE ENVIRONMENT



OUR JOINT FUTURE

DG XI FOR THE QUALITY OF LIFE

Further Information about the Community eco-label award scheme

This document has been prepared by Directorate-General XI (Environment, Nuclear Safety and Civil Protection) of the European Commission. Further information can be obtained from:

Mr Mark Moys
DG XI-A-2
European Commission
Rue de la Loi 200
B-1049 Brussels
tel: (32-2) 299.03.24 fax: (32-2) 295.56.84

On all proposals for the definition of product groups and ecological criteria, the Commission consults the principal interest groups, who meet in a Consultation Forum. To facilitate access by interest groups to the scheme, the contact point for the CF is given below:

Mrs Calamandrei
ECOSOC
Eco-Label Secretariat
Environment Section
Rue Ravenstein, 2
B - 1000 Brussels
Tel: (32 - 2) 519.96.57
Fax: (32 - 2) 513.48.93

The Forum includes Community-level representatives of:

- industry - Mr Kröger, UNIC
tel: (32 - 2) 237.65.50 fax: (32 - 2) 231.14.45
- retailers - Mrs Boelen, Eurocommerce
tel: (32 - 2) 230.66.89 fax: (32 - 2) 231.08.31
- environment - Mr Van Ermen, European Env. Bureau
tel: (32 - 2) 539.00.37 fax: (32 - 2) 539.09.21
- consumers - Mr Adumo, C.C.C.
tel: (32 - 2) 224.04.11 fax: (32 - 2) 224.04.54
- trade unions - Mr Coldrick, E.T.U.C.
tel: (32 - 2) 224.04.11 fax: (32 - 2) 224.04.54



COMMISSION DECISION

of 28 June 1993

establishing the ecological criteria for the award of the Community eco-label to washing machines

(93/430/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic 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 Article 5 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 the second subparagraph of Article 5 (1) of Regulation (EEC) No 880/92 provides further that product groups, the specific ecological criteria for each group and their respective periods of validity are to be established in accordance with the procedure laid down in Article 7 of that Regulation, following the consultation procedure provided for in Article 6 thereof;

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 provided for in this Decision are in accordance with the opinion of the Committee set up pursuant to Article 7 of Regulation (EEC) No 880/92,

HAS ADOPTED THIS DECISION:

Article 1

The product group to which this Decision relates is defined as:

front and top loading washing machines sold to the general public, excluding twin tubs and washer dryers, (hereinafter referred to as 'the product group').

Article 2

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

Article 3

The definition of the product group and the specific ecological criteria for the product group shall be valid until 30 June 1996.

Article 4

This Decision is addressed to the Member States.

Done at Brussels, 28 June 1993.

For the Commission

Yannis PALEOKRASSAS

Member of the Commission⁽¹⁾ OJ No L 99, 11. 4. 1992, p. 1.

ECO-LABEL CRITERIA FOR WASHING MACHINES

A. Key criteria

These criteria are based on the major environmental impacts as highlighted in the cradle-to-grave assessment. The threshold levels must all be achieved in order to qualify for an eco-label.

(i) *Energy consumption*

The machine must use less than or equal to 0,23 kWh of electrical energy per kg of washload in an IEC 456 test for a cotton wash without prewash at 60 °C using cold fill only.

The machine must use less than or equal to 0,11 kWh of electrical energy per kg of washload in an IEC 456 test for a cotton wash without prewash at 40 °C using cold fill only.

(ii) *Water consumption*

The machine must use less than or equal to 17 litres of water per kg of washload in an IEC 456 test for a cotton wash without prewash at either 60 or 40 °C.

(iii) *Detergent consumption*

The machine must use less than or equal to 5 % of detergent in an IEC 456 test with the detergent added via the detergent drawer.

B. Best practice criteria

Best practice criteria relate to features of a washing machine which make a smaller contribution to the overall environmental impact of the product. The qualifying levels for these criteria reflect best environmental practice. All of these criteria must be achieved in order to qualify for an eco-label.

(i) *User instructions*

1. The machine must have clear markings on it identifying the settings appropriate according to fabric type and laundry code.
2. The machine must have clear markings on it identifying energy and water saving programmes and options.
3. Clear instructions must be made available to the consumer providing :
 - advice to use a full load rather than part loads wherever possible,
 - advice about the best wash temperature to use according to the fabric type,
 - advice on varying the detergent dose according to water hardness, load size and the degree of soil,
 - advice on the machine installation which makes the most appropriate use of the hot and cold fill, if available on the machine, including advice based on the fuel used for home water heating,
 - advice on sorting fabrics appropriately,
 - advice on situations where a prewash, if available, is likely to be required,
 - information about the energy consumption and the water consumption of the machine for different temperature settings and for different load settings and according to whether hot and cold fill is an option,
 - advice about the machine being made of materials which are recyclable and that it should be disposed of accordingly.

(ii) *Encouragement to recycling*

Where they occur in components in quantities greater than 50 g the following polymeric materials must have a permanent marking identifying the material:

- polypropylene,
- polystyrene,
- PVC,
- HDPE,
- LDPE,
- ABS,
- polyamide,
- other.

The marking must use the symbols or abbreviated terms given in ISO 1043.

C. Performance criteria

(i) *Wash performance*

The machine must achieve at least a minimum of 20 % stain removal based on the carbon black soiled sample EMPA test cloth in an IEC 456 test at 60 °C.

The machine must achieve at least a minimum of 6 % stain removal based on the carbon black soiled sample EMPA test cloth in an IEC 456 test at 40 °C.

(ii) *Rinse efficiency*

The machine must achieve at least a minimum rinsing efficiency of 60 dilutions as defined in IEC 456.

SOURCE: O.J. N° L 198 - 7.8.1993

AN ECO-LABEL FOR FOOTWEAR

DRAFT OF A STUDY

E.W. Perdijk, M.Sc.
J. Luijten, B.Eng.

Report number: 39EP4165.rap

*CEA , communication and consultancy on environment and energy
Centrum TNO Leather and Shoes
Rotterdam, January, 1994*

CERTIFICATION SCHEME: FIRST DRAFT

1. Defining the product group

"All articles of clothing designed to protect or cover the foot, with a fixed outer sole which comes into contact with the ground."

A minimum of 90% of the material used for any shoe to which an eco-label can apply must consist of the following: leather, rubber, EVA, PUR, nylon, polyester, cotton. The requirements laid down in this scheme of certification apply if the materials listed above constitute more than 3% of the weight of the shoes or more than 10% of the surface of the shank material. Wood and cork are permitted if they constitute more than 3% of the shoe. Metal is permitted for more than 3% in safety shoes as described in guidelines EN 344/345/346 and/or 89/686/EC. The requirements are based on shoe size 40. If this "test model" fulfils the criteria, the whole series fulfils the criteria. For children's shoes the requirements for a size 32 apply.

Footwear as meant under an eco-label for shoes also includes the following:

- shoes with a flat or high heel for normal indoor or outdoor use;
- sandals of various types, slippers and suchlike;
- dance shoes;
- sports shoes without any special fitments;
- shoes made in one piece e.g. from rubber or plastic
- protective footwear covered by the EC guideline 89/686/EC.

Not included are shoes with special fitments for specific sports such as spikes, clips, skates, football boots, ski boots and suchlike.

These are excluded on the grounds that "outer sole which comes into contact with the ground" does not apply.

2. Defining the model

In the process of granting an eco-label, shoes which differ from one another in only a few components can be regarded as falling into the same category. This is conditional on the supplier giving a clear description of the variations in the eco-label application. The certifying organisation assesses whether the condition of similarity between types of shoe has been fulfilled and which aspects require further examination".

When a group of shoes is extended to include new models, a similar procedure must be followed. The concept of 'variation' also includes: a change in supplier, e.g. obtaining the leather from a different tanner.

3. Raw materials

Environmental aspect	Requirement	Method	reproducibility
Use of raw materials	<p>The total energy content of the shoe must not exceed 70 MJ/pair</p> <p>For a child's shoe this figure is a maximum of 45 MJ/pair.</p> <p>This requirement does not apply to safety shoes which are covered by EN/344,345,346 and/or 89/686/ EC</p>	$\Sigma(M_{(material)} \times E_{(material)})$ <p>$M_{(material)}$ = weight of material (kg)</p> <p>$E_{(material)} = E_{(material)} + E_{(unit)}$ (MJ/kg)</p> <p>For $E_{(material)}$ see Appendix I</p>	
Exclusion of materials and additives	<p>I</p> <ul style="list-style-type: none"> - dyes and pigments with an LD50 (rat oral) value lower than 2000 mg/kgbw - dyes and pigments with an LC50 (fish, 96h) of EC50 (daphnia, 48h), or an LC50 (algae 72h) lower than 100 mg/L. - carcinogenic dyes - dyes for which the LC50, EC50 or LD50 values are unknown <p>II</p> <ul style="list-style-type: none"> - heavy metals and/or compounds listed on the black list of substances: Hg, Cd, Cr (with the exception of chrome-tanned leather), Pb, As, Sn, Ag, Ti en Te. - Chlorinated phenols on the black list of substances may not be used in the materials. 	<p>I</p> <p>The toxicity values should be sought in at least the International Substances Information System (ISIS). This includes (among other things): "Registry of Toxic Effects of Chemical Substances (RTECS) drawn up by the NIOSH and the AQUIRE file from the EPA (USA)</p> <p>II</p> <p>Manufacturer's declaration</p>	

4. Leather (all types)

Environmental aspect	Requirement	Method	reproducibility
Cr emission	Chrome emission across the whole chain (including dyeing) must not exceed 120 mg/pair. Similarly with respect to all the processed leather no more than 0.33 g Cr/kg may be emitted during the entire tanning phase (this corresponds to a chrome emission level of 2 ppm when 40 m ³ of water is used per ton of hides).	Declarations from suppliers (Cr emission can be analyzed according to NEN 6444 of NEN 6448)	
PCP content	The leather (and any other material subject to rotting such as cotton, wool, wood and cork) may not contain more than 1000 ppm of PCP, unless the shoe is exported to countries where a stricter standard is maintained. In such a case the shoe must conform to the strictest valid standard.	PCP test design from the IUC International Union Chemical Testing	
VOC emission	The leather used in the manufacture of shoes may not be treated with finishes containing organic solvents unless the manufacturer can demonstrate that measures have been implemented whereby the VOC emissions during the finishing process are limited to less than 150 mg/m ³ . According to TA-Luft guidelines.	Declaration from manufacturer/tanner	
COD emission	COD emission linked to materials used in the manufacture of shoes, such as leather and cotton, may not exceed 200 g/pair. In the case of leather this refers to the COD emission occasioned during the tanning process with a maximum of 200 kg/ton of leather.	Supplier's declaration (a biological water purification should be carried out, eventual linked to a common biological purification plant whose level of efficiency is known). COD emissions can be tested via COD ISO 6060	

Environmental aspect	Requirement	Method	reproducibility
Chemical waste	The chrome-contaminated solid waste (sludge, snippets) should be processed by recycling (used for leatherboard), by being dumped in an appropriate waste disposal area or by incineration whereby the chrome is recovered. Unless it can be demonstrated that the chrome-contaminated waste is not regarded as chemical waste in its land of origin.	Declaration by manufacturer / suppliers	

5. Synthetic shank and lining materials.

Environmental aspect	Requirement	Method	reproducibility
VOC emission	The synthetic shank material used in the manufacture of shoes may not be treated with finishes containing organic solvents unless the manufacturer can demonstrate that measures have been implemented whereby the VOC emissions during the finishing process are limited to less than 150 mg/m ³ . According to TA-luft guidelines.	Manufacturer's declaration	

In addition, the requirements listed under 7 (plastic sole materials) also apply.

6. cotton

Environmental aspect	Requirement	Method	reproducibility
VOC emission	The cotton used in the manufacture of shoes) may not be treated with finishes containing organic solvents unless the manufacturer can demonstrate that measures have been implemented whereby the VOC emissions during the finishing process are limited to less than 150 mg/m ³ . According to TA-luft guidelines.	Manufacturer's declaration	
Bleaching	Cotton may not be bleached with chlorine-based bleaches.	Manufacturer's declaration	

Environmental aspect	Requirement	Method	reproducibility
COD emission	The COD emission associated with the materials contained in the shoe may not exceed the 200 g/year standard use. In the case of cotton, this refers to the refining process in which a maximum of 100 g/t may be emitted.		

7. Plastic sole materials and rubber

Environmental aspect	Requirement	Method	reproducibility
VOC emission	During the production of the rubber sole the total VOC emission may not exceed 150 g/m ³ according to TA-luft guidelines.	Declaration by manufacturer of sole	
Emission from PUR	No TDI may be used in the manufacture of PUR and the maximum emission of MDI during the production may not exceed 50 mg/ton and 20 mg/m ³ .	Declaration by manufacturer/supplier	
Emission of toxic substances	In the manufacture of foam from plastics no volatile organic substances (VOC) may be used (including chlorinated hydrocarbons). EDC emissions from an MVC plant may not exceed 5 g EDC/ton PVC. MVC emissions from a PVC plant may not exceed 40 g MVC/ton PVC.	Declaration by manufacturer/supplier	
Additives to rubber	No more than 2% of sulphur may be added to rubber soles as a vulcaniser. No nitrosodiphenylamine may be used as an additive.	Declaration by manufacturer/supplier	

8. Shoe manufacture

Environment al aspect	Requirement	Method	Reproducibility
VOC emission of adhesives	The adhesive used to assemble the shoe should be free of organic solvents, with the exception of the adhesives used to affix the sole. The sole adhesive should be toluene-free. The maximum VOC emission may not be greater than 150 mg/m ³ according to TA-luft guidelines	Declaration from manufacturer	
Chemical waste	The chrome-contaminated solid waste (sludge, snippets) should be processed by recycling (used for leatherboard), by being dumped in an appropriate waste disposal area or by incineration whereby the chrome is recovered. Unless it can be demonstrated that the chrome-contaminated waste is not regarded as chemical waste in its land of origin.	Declaration by manufacturer/supplier	

usage phase

see information requirements

9. Functional requirements

The requirements are indicated for each sort of material. Only the prescriptions mentioned under the materials used in the manufacture of the shoes apply. A condition is that at least 3% of the weight or (in the case of shank and lining material) 10% of the surface should be made of the material mentioned.

Upper leather

Characteristic	Method	Requirement	Remark															
Resistance to tearing	IUP/8	Child's shoe: min. 100 N Other shoes: min. 50 N																
Withstands sweat	CTL-F1	Material must not harden or become brittle. Deterioration of resistance to tearing: max 10 %	Not for full-chrome leather															
Waterproof - water absorption - water penetration	IUP/10	After 1/2 h: max. 30 % After 1/2 h: max. 0.5 g	Only for closed shoes															
Proof against scuffing	IUI/450 Veslic C4505	At most very limited damage (min. 4 according to CTL-F64): <table><tr><td><u>scuffings</u></td><td><u>felt</u></td><td><u>leather</u></td></tr><tr><td>50</td><td>dry</td><td>wet</td></tr><tr><td>50</td><td>wet</td><td>dry</td></tr><tr><td>30</td><td>rubber</td><td>dry</td></tr><tr><td>20</td><td>rubber</td><td>wet</td></tr></table>	<u>scuffings</u>	<u>felt</u>	<u>leather</u>	50	dry	wet	50	wet	dry	30	rubber	dry	20	rubber	wet	
<u>scuffings</u>	<u>felt</u>	<u>leather</u>																
50	dry	wet																
50	wet	dry																
30	rubber	dry																
20	rubber	wet																
Resistance to repeated bending, dry and wet	IUP/20	At most very limited damage (min. 4 according to CTL-F65): <table><tr><td><u>bendings</u></td><td><u>type of leather</u></td></tr><tr><td>- 50 000</td><td>split leather with top layer</td></tr><tr><td>- 15 000</td><td>patent leather</td></tr><tr><td>- 20 000</td><td>other types of leather</td></tr></table>	<u>bendings</u>	<u>type of leather</u>	- 50 000	split leather with top layer	- 15 000	patent leather	- 20 000	other types of leather								
<u>bendings</u>	<u>type of leather</u>																	
- 50 000	split leather with top layer																	
- 15 000	patent leather																	
- 20 000	other types of leather																	
Resistance to water vapour	IUP/15	at least 1.0 mg/(cm ² .h)	Only for closed shoes															

Synthetic shank material

Characteristic	Method	Requirement	Remark																											
Resistance to tearing - on the basis of membrane - on the basis of woven material	IUP/8 NEN 3361	min. 100 N min. 50 N																												
Waterproof - water absorption - water penetration	IUP/10	After 1/2 h: max. 30 % After 1/2 h: max. 0.5 g	Only for closed shoes																											
Resistance to repeated bending	IUP/20	After 100 000 bendings very limited damage (min 4-5 according to CTL-F65)																												
Resistance to scuffing - finish layer - entire top layer	IUP/450 EC-B2	At most only limited damage (min. 4 according to CTL-F64): <table><tr><td><u>scuffings</u></td><td><u>felt</u></td><td><u>material</u></td></tr><tr><td>50</td><td>dry</td><td>wet</td></tr><tr><td>50</td><td>wet</td><td>dry</td></tr><tr><td>30</td><td>rubber</td><td>dry</td></tr><tr><td>20</td><td>rubber</td><td>wet</td></tr></table> At most only limited damage (min. 4 according to CTL-F64): <table><tr><td><u>scuffings</u></td><td><u>cotton</u></td><td><u>material</u></td></tr><tr><td></td><td><u>weave</u></td><td></td></tr><tr><td>100</td><td>dry</td><td>wet</td></tr><tr><td>100</td><td>wet</td><td>dry</td></tr></table>	<u>scuffings</u>	<u>felt</u>	<u>material</u>	50	dry	wet	50	wet	dry	30	rubber	dry	20	rubber	wet	<u>scuffings</u>	<u>cotton</u>	<u>material</u>		<u>weave</u>		100	dry	wet	100	wet	dry	
<u>scuffings</u>	<u>felt</u>	<u>material</u>																												
50	dry	wet																												
50	wet	dry																												
30	rubber	dry																												
20	rubber	wet																												
<u>scuffings</u>	<u>cotton</u>	<u>material</u>																												
	<u>weave</u>																													
100	dry	wet																												
100	wet	dry																												
Resistance to water vapour	IUP/15	min. 1.0 mg/(cm ² .h)	Only for closed shoes																											

Textile shank material

Characteristic	Method	Requirement	Remark
Resistance to tearing	NEN 3361	min. 50 N	
Resistance to sweat	CTL-F1	Material should not become hard or brittle. Deterioration of resistance to tearing max. 10 %	

Lining leather

Characteristic	Method	Requirement	Remark												
Resistance to tearing	IUP/8	min. 30 N													
Resistance to sweat	CTL-FI	Material must not harden or become brittle Deterioration of resistance to tearing max.10 %													
Resistance to scuffing	IUP/450	At most only limited damage (min. 4 according to CTL-F64): <table><tr><td><u>scuffings</u></td><td><u>felt</u></td><td><u>leather</u></td></tr><tr><td>50</td><td>dry</td><td>wet</td></tr><tr><td>50</td><td>wet</td><td>dry</td></tr><tr><td>50</td><td>sweat</td><td>dry</td></tr></table>	<u>scuffings</u>	<u>felt</u>	<u>leather</u>	50	dry	wet	50	wet	dry	50	sweat	dry	
<u>scuffings</u>	<u>felt</u>	<u>leather</u>													
50	dry	wet													
50	wet	dry													
50	sweat	dry													
Penetration of water vapour	IUP/15	min. 1.0 mg/(cm ² .h)	Only for closed shoes												

Synthetic lining material (with top layer)

Characteristic	Method	Requirement	Remark
Resistance to tearing	IUP/8	min. 30 N	
Resistance to sweat	CTL-FI	Material must not become hard or brittle. Deterioration of resistance to tearing max 10 %	
Resistance to wear	PM 31	At most only slight damage after: - 40 000 revs dry - 20 000 revs wet	
Water vapour penetration	IUP/15	min. 1.0 mg/(cm ² .h)	Only for closed shoes

Textile lining

Characteristic	Method	Requirement	Remark
Resistance to tearing	NEN 3361	min. 20 N	
Resistance to sweat	CTL-F1	Material must not harden or become brittle. Deterioration of resistance to tearing max 10 %	
Resistance to wear	PM 31	At most only slight damage after: - 40 000 revs dry - 20 000 revs wet	

Inner sole leather

Characteristic	Method	Requirement	Remark
Stretch strength	DIN 53331	min. 65 N/mm	
Resistance to sweat	CTL-F1	Material must not harden or become brittle. Deterioration of stretch strength max 10 %	
Substances liable to wash out - total - salts - bitter salt (calculated on dry weight)	IUC/6 IUC/6 IUC/9	Max 15 % (with light coloured upper leather max 8%) max. 1.5 % max. 1.0 %	
Water absorption	EC-B1	After 8 h min. 50 %	

Non-leather inner sole materials

Characteristic	Method	Requirement	Remark
Stretch strength - dry - wet	DIN 53331	min. 50 N min. 30 N	
Resistance to sweat	CTL-F1	Material must not become hard or brittle. Deterioration stretch strength max 10 %	
Resistance to wear	EC-B2	After 1000 operations no visible damage	
Water absorption	EC-B1	min. 50 %	

Sole leather

Characteristic	Method	Requirement	Remark
Thickness	IUP4	min. 3.5 mm	
Resistance to wear	DIN 53516	Removal max. 300 mm ³	

Rubber and plastic sole materials

Characteristic	Method	Requirement	Remark																		
Thickness	IUP/4	min. 4 mm excluding profile																			
Resistance to wear	DIN 53516	Maximum removal in mm ³ towards material and application: <table><tr><td><u>Material</u></td><td><u>Child's</u></td><td><u>Other</u></td></tr><tr><td></td><td></td><td><u>shoes</u></td></tr><tr><td>Rubber</td><td>150</td><td>200</td></tr><tr><td>TR</td><td>180</td><td>180</td></tr><tr><td>PUR</td><td>100</td><td>200</td></tr><tr><td>Poro-type</td><td>200</td><td>300</td></tr></table>	<u>Material</u>	<u>Child's</u>	<u>Other</u>			<u>shoes</u>	Rubber	150	200	TR	180	180	PUR	100	200	Poro-type	200	300	Rubber and TR at 10N; PUR and poro-type materials at N5
<u>Material</u>	<u>Child's</u>	<u>Other</u>																			
		<u>shoes</u>																			
Rubber	150	200																			
TR	180	180																			
PUR	100	200																			
Poro-type	200	300																			
Resistance to repeated bending	DIN 53543	Maximum increase of incision: - child's shoe: 6 mm - other shoes: 8 mm																			
Resistance to hydrolysis	NEN 3420	The material treated must come up to the standards for repeated bending	Only for PUR																		

Construction of shoe

Characteristic	Method	Requirement	Remark
<p>Adhesion of sole to shank</p> <ul style="list-style-type: none"> - glued sole - sewn sole 	<p>EC-A3</p> <p>PM 92</p>	<p>Peeling-off strength 3.5N/mm at a 10 mm maximum width of adhesion</p> <p>After 500 (100) bendings the stitches must still hold</p>	
Amenability to repair		The shoe must be easily or moderately easily repairable according to description in Appendix II	

10. Supplementary requirements

Shoes should be packaged in a cardboard box made from a minimum of 80% recycled paper.

Fur and leather made from the skins of animals specially raised for their skins may not be used in an eco-label designated product.

11. Product information

Information on VOC emission and reparability

The following information is obligatory:

with a closed shoe

"This shoe is sufficiently waterproof. Further waterproofing treatment is unnecessary.

"This shoe is easily repaired. Repairing a shoe is less damaging to the environment than throwing it away."

A company's own environmental logos are not permitted. In addition the Environmental Advertising Code must be adhered to, particularly article 7.

12. Control research

Control should be carried out once a year. Interim control is carried out if complaints justify it.

13. Information

The concept of manufacturer's declaration implies that the manufacturer supplies a technical dossier containing details of design, construction, specifications of materials, laboratory tests (preferably carried out by third parties), certification of suppliers, etc. to the certifying body in order to demonstrate that the environmental requirements have been met.

Control is carried out on the basis of an appropriate environmental care system or quality care system by producers of materials and producers of the shoes. A care system conforming to ISO 9000 or control based on reporting by an independent research institute certified under the ISO 9000 series is to be preferred.

The certifying body will decide whether an actual visit is required. This will be done by way of sampling where there is reason for doubt.

14. Validity of eco-label

The eco-label requirements are laid down for a period of three years.

Appendix I
(scheme of certification)

NRER: (Non-renewable Energy Resources)

light upper leather: 77 MJ/kg
inner sole leather and leatherboard: 38 MJ/kg
heavy sole leather: 29 MJ/kg
cotton: 65 MJ/kg
PUR (*upper material*): 89 MJ/kg
PUR (*sole material*): 85 MJ/kg
PA/PET (*upper material*): 81 MJ/kg
EVA (*lasting*): 88 MJ/kg
EVA (*injection moulding*): 93 MJ/kg
rubber: 58 MJ/kg
wet rubber (mixed): 50 MJ/kg
wood and cork: 33 MJ/kg
copper: 90 MJ/kg
steel: 23,4 MJ/kg
aluminium: 198,2 MJ/kg
other plastics: 80 MJ/kg

Recycled plastic: NRER - 42 MJ/kg

Appendix II
(scheme of certification)

Further description of reparability

The reparability of shoes varies widely. Within the context of this certification scheme, three groups are distinguished:

1. easily repairable:

shoes with a sewn outer sole or inner sole with an edge or shoes with the outer sole glued to a midsole.

2. moderately easily repaired:

shoes with a "glued on" or moulded sole, whereby the depth of the profile is no greater than 2 mm, or shoes with which the manufacturer supplies the shoe repairer with shaped soles like those used in the shoe or shoes with soles made of PUR.

3. repairable with difficulty/
not repairable

shoes with a glued on or moulded sole with a profile of greater depth than 2 mm or shoes with soles made of plastic such as nylon and PVC.

**GERMAN SG CRITERIA CATALOGUE FOR TESTING LEATHER,
FUR AND LEATHERBOARD**

Parameter	Leather and fur	Leatherboard
Odour	normal	normal
Colour fastness to sweat, alkaline or acid	$\geq 3-4$	$\geq 3-4$
pH of aqueous extract	3.5-7.0	3.5-7.0
HCHO (free and separated through mild hydrolysis)	200 mg/kg ²⁾	200 mg/kg ²⁾
Pentachlorophenol	1 mg/kg	3 mg/kg
Other chlorophenols	1 mg/kg	3 mg/kg
Pesticides ¹⁾	1 mg/kg	1 mg/kg
Arylamines from azo dyestuffs (after reductive separation)	not detectable	not detectable
Chromium (VI)	not detectable	not detectable
Extractable mineral tanning agents (Al+Cr+Ti+Zr)	200 mg/kg ³⁾	200 mg/kg ³⁾
Extractable solids		
upper and lining leather	1.5 %	
insoles and soles	15 % ⁴⁾	5 % ⁵⁾

- 1) DTT, lindane, aldrin, dieldrin, methoxychlor, DDD, DDE, heptachlor, heptachlorepoxyde, HCH (α , β , δ , ϵ), Malathion, Mirex, Parathion, dichlofluanid, pentachloranisol, endosulfane, Permethrine, chlorothalonil, tolylfluanid.
- 2) For infants 100 mg/kg
- 3) For infants 50 mg/kg
- 4) For infants 5 %
- 5) For infants 1.5 %



1993 IUE Recommendations on Clean Technologies For Leather Production

Members of the I.U.L.T.C.S. Environment Commission
M. Aloy – W. Frendrup – J. Gregory – J. Ludvik – K. H. Munz – P. Pantelaras – G. Renner – A. Toumi

The International Union Environment Commission is concerned to take into account the technologies currently applied by the most advanced tanneries and not just to consider the latest developments from research units.

The general recommendations collected by the commission are summarized under the following topics:

Rawstock

- Treatment of fresh or cooled hides and skins
- Use of antiseptics
- Partial salt elimination

Beamhouse processing

- Soaking
- Hair saving unhairing-liming methods
- The direct recycling of liming float
- Splitting limed hides
- CO² deliming

Tanning operations

- Recycling of pickling floats
- Degreasing operations
- Wet-white production
- Direct recycling of chromium tanning floats
- Recycling after precipitation
- High exhaustion tanning process
- Chromium free tanning

Dyeing operations

Finishing operations

This document will be updated annually.

Recomendaciones de la Comisión IUE por las Tecnologías Limpias en la Curtiembre

Miembros de la comisión de medio ambiente de la I.U.L.T.C.S.: **M. Aloy – W. Frendrup – J. Gregory – J. Ludvik – K. H. Munz – P. Pantelaras – G. Renner – A. Toumi.**

La comisión de medio ambiente de la Unión Internacional se interesa por las tecnologías limpias utilizados en las más avanzadas curtiembres y no solamente por las técnicas desarrolladas por los cosejos de investigaciones.

La comisión presente sus recomendaciones generales en los capítulos siguientes:

Cuero crudo

- Tratamiento de piel fresca e de cuero en verde or enfriado
- Utilización de antiséptico
- Eliminación de una parte de sal

Sección de ribera

- Remojo
- Depilado a pelos conservados
- Recyclado directo del baño de pelambre
- Dividido de cuero encalado
- Desencalado con CO₂

Curticion

- Recyclado del baño de piquelado
- Desengrase
- Producción de wet-white
- Recyclado directo del baño de curtición al cromo
- Recyclado después de precipitación
- Curtición con alto agotamiento
- Curtición sin cromo

Tintura

- Acabado
- Este documento sera enmendado cada año.

1993 IUE Empfehlungen für saubere Technologien was die Lederherstellung betrifft

Mitglieder der I.U.L.T.C.S. Umweltkommission: **M. Aloy – W. Frendrup – J. Gregory – J. Ludvik – K. H. Munz – P. Pantelaras – G. Renner – A. Toumi.**

Die Umweltkommission der IULTCS ist mehr daran interessiert, die täglichen Technologien der fortgeschrittensten Gerbereien zu berücksichtigen als die letzten Entwicklungen in den Forschungs Instituten zu betrachten.

Die von der kommission gesammelten allgemeinen Empfehlungen sind unter den folgenden Themen zusammengefasst:

Grüne Haut

- Verarbeitung von frischen oder kühlgelagerten Häute
- Benutzung von bacteriostatischen Produkten
- Teilweise Salzwegschaffung

Wasserwerkstatt

- Weichen
- Haarerhaltende Enthaarung
- Direkte Wiederverwendung des Ächers
- Kalkspaltung
- CO₂ Entkalkung

Gerbung

- Pickelwiederverwendung
- Entfettung
- Wet-white Herstellung
- Direkte Wiederverwendung der Chromgerbungsflotte
- Wiederverwendung nach Ausfällung

ALOY, M. - FRENDRUP, W. - GREGORY, J.

Hoch Erschöpfung im Gerbung
Chromlos Gerbung

Färbung

Zurichtung

Dieses Dokument wird jährlich verarbeitet.

1993 IUE Recommendations on Clean Technologies for Leather Production

M. Aloy - W. Frendrup - J. Gregory - J. Ludvik - K. H.
Munz - P. Pantelaras - G. Renner - A. Toumi.

Aim of the Document:

The International Union Environment Commission is concerned to take into account the technologies currently applied by the most advanced tanneries and not just to consider the latest developments from research units.

The general recommendations collected by the commission have to be adapted to local conditions and under the supervision of an expert.

The commission understands that cleaner technology can be defined as the environmentally and economically best practicable technology. This document will be updated annually.

1. Rawstock

1.1. Treatment of fresh or cooled hides and skins

This exists in many countries and tanneries. Whenever possible, treatment of fresh hides and skins is the best solution to reduce salt pollution. Time elapsing between slaughtering and further treatment (e.g. beamhouse processing) must not exceed a few hours. Beyond this period, it is necessary to cool the hides and skins. Cold air is interesting if hides are transported over long distance. Using ice gives faster cooling and easier freight conditions. Storage below 4°C yields good preservation up to three weeks. This system can be used only when the capacity of the slaughter-house is equivalent to that of the tannery.

1.2. Use of antiseptics

The use of antiseptics with low effect on the environment can help to increase storage time.

These preservatives have to be chosen from TCMTB, Isothiazolone based products. This is valid for the use in pickle and wet-blue preservations as well.

1.3. Partial salt elimination

It is possible by using a drum type shaker to eliminate up to 10% of the salt added to hides and skins for preservation. This method gives a partial answer to the salt pollution problem. Neither brine curing nor salt curing can be considered as clean tech-

nologies. even if prefleshing in slaughter-house on green hides gives an easier valorization to this specific waste.

2. Beamhouse Processing

2.1. Soaking

Apart from the use of less harmful antiseptics, the only clean technology that could be applied at this stage is the fleshing of green hides after soaking. It yields a lower quantity of fleshings, with a neutral pH, and better conditions for transformation into proteins and fats that are not contaminated with chemicals.

2.2. Hair saving unhairing-liming methods

The enzymatic treatment of hides and skins can be considered as a cleaner technology only if no sodium sulphide is added during the process. Compared to a classical process, 30 to 50% of COD reduction, in beamhouse effluent, can result from enzymatic or another hair saving treatment.

Recovery of hair before dissolution, either when it is separated during the liming, or at the end of a hair saving process, can lead to a COD reduction of 15 to 20% for the mixed effluent, and a total nitrogen decrease of 25 to 30%.

It is an advantage to filter off the loosened hair as soon as possible and higher COD and nitrogen reduction can be obtained. This process can be considered as a cleaner technology if the hair is valorized, even as a nitrogen source.

2.3. The direct recycling of liming float

Direct recycling can be applied when there is a good control level in the tannery. Resulting advantages are savings in sodium sulphide (up to 40%) and in lime (up to 50%). It could give a decrease of 30 to 40% of the COD and 35% of the nitrogen for the mixed effluent. The quality of the leather produced might be affected negatively through this recycling process, unless unhairing and opening up processes are used in two steps. The quality of the scouring can be improved during the subsequent phases of leather processing. This clean technology is industrialized in several large bovine tanneries for shoe upper leather.

2.4. Splitting limed hides

Faced with the difficulties of upgrading the chromium-tanned split waste, splitting on the lime can be considered as a clean technology as it saves chromium and yields waste that can be easily recovered for the production of gelatine.

2.5. CO₂ deliming

It is considered that up to 40% of nitrogen is produced by the use of ammonium salts during the deliming process. The use of CO₂ can be considered as a clean technology giving good results on light pelts (thickness lower than 3 mm). For thicker hides, it is necessary to increase float temperature (up to 35°C) and/or process duration and/or to add small amounts of deliming auxiliaries. Hydrogen peroxide can be used before CO₂ insertion, in order to reduce the creation of H₂S.

Since pH of CO₂ deliming float is lower compared to common procedure, special ammonium free bates should be used.

3. Tanning Operations

Chromium tanning salts are used today in 90% of tanning processes. Only the trivalent form is used for tanning operations and this chemical cannot be replaced by another, except for special purpose, to give the same quality of leather. If its concentration in waste exceeds an acceptable level (about 1 g per kg dry solid), it strongly limits any possibility of upgrading, or disposing the waste at acceptable costs.

3.1. Recycling of pickling floats

When tanning and pickling floats are separated, the recycling of pickling floats can economize up to 80% salt and 20 to 25% of either formic or sulfuric acid. When they are associated, the greater economy can be made on the sulfuric acid. For wool-on sheepskins, recycling of pickling, using long floats over 150%, is a current practice which gives good results. It is generally associated with chromium float recycling.

3.2. Degreasing operations

Solvent degreasing is still in use. This practice can lead to a clean technology when the solvent is recovered, the extraction brines are recycled, and the natural grease is commercialized.

On wool-on lamb skins, it is a common practice to undertake a dry solvent extraction when crusted.

The use of non-solvent methods implies the use of higher amounts of surfactants. Etoxylated fatty alcohols should be recommended instead of the more widely used etoxylated alkylphenols, given that they are more easily degraded. Nevertheless the effluents obtained by this method should equally be treated, given that its COD level may amount as much as 200,000 ppm, due to the content of natural grease and surfactants (1 g/l of natural grease is about 2,900 ppm COD, and 1 g/l etoxylated alkylphenol is about 2,300 ppm COD).

3.3. Wet-white production

This process, giving the possibility to produce untanned and upgraded sheetings and shavings, can be considered as a clean technology when the chemicals used are not suspected of toxicity. Aluminium, magnesium, titanium, zirconium are not listed as hazardous, although restricted in several countries. Modified aldehydes tanning agents can be considered as leading to a cleaner process, according to local regulations.

3.4. Direct recycling of chromium tanning floats

When this method is applied in the tannery, it gives the possibility to strongly limit the presence of chromium in the effluents arising from tanning. Savings can be obtained from the process, by a reduction of 20% of the chromium used in a conventional tannery process, and up to 50% for wool-on sheepskins.

3.5. Recycling after precipitation

When large quantities of chromium floats are recovered, recycling after precipitation is the best adapted solution. Coagulants used are mainly sodium carbonate, sodium hydroxide, and magnesium oxide. The addition of polyelectrolyte can improve flocculation. Sludge obtained after filtration is re-dissolved with sulfuric acid, and basicity set at the right level. For conventional tanning, it is possible, with this process, to obtain a clarified effluent, with less than 10 mg/l of chromium expressed in Cr, which might be reused for the next pickling or tanning float.

3.6. High exhaustion tanning process

In order to reduce chromium concentration in the waste float, high exhaustion chromium salts, adapted basification products and/or temperature increase can be used. Tanning of lime split hides has to be preferred. It is very difficult to obtain a residual chromium float containing less than 500 mg/l Cr³⁺, however this process can be considered as a cleaner technology.

3.7. Chromium free tanning

Combinations of metallic cations, for example titanium, magnesium, aluminium and zirconium, are proposed to replace chromium for the tanning process, but the results obtained at the moment are still doubtful. Synthetic tanning agents, such as modified aldehyde, alone or in combination with a metallic cation can be considered as a substitute for chromium, provided that environmental and workers health regulations are complied with.

Vegetable tanning with a dry drum process, or in vats, in closed circuit, can minimize waste and must be included in these considerations.

4. Dyeing Operations

Absence of chromium during retanning, of environmentally risky heavy metals and benzidine in dyes, of halogenated oils in fatliquors, are essential arguments in a cleaner process. High level of exhaustion for syntans, dyes and fatliquors are also to be considered.

Equipment to reduce waste floats and waste chemicals need to be taken into account (e.g. three compartments drums, STAUB dyeing machine).

5. Finishing Operations

The use of water based finishes is fundamental for a cleaner process. Pigments must not contain any environmentally risky heavy metal or other restricted products. Finishing products have to meet the current limits imposed by environmental and workers health regulations. The equipment used is extensive. Roller coating or curtain coating machines are far more satisfying from the environmental point of view, but they cannot be used for all type of leather. For other types, spraying units with economizers can reduce loadings of the environment.

TRADE, ENVIRONMENT AND DEVELOPMENT

Note prepared jointly by the secretariats of
UNCTAD and UNEP for the
Second Meeting of the Commission on Sustainable Development

16-31 May 1994

Geneva, 9 May 1994

Executive Summary

1. In February 1994, an informal high-level meeting on "Environment and Trade: Perspectives of Developing Countries" was co-hosted by the Executive Director of UNEP and the Secretary-General of UNCTAD, and attended by Ministers and/or senior environment officials from 26 developing and developed countries. At that meeting, several ministers requested the UNCTAD and UNEP secretariats to prepare a joint report on trade, environment and sustainable development, to be submitted to the Commission on Sustainable Development at its second session. That request was reiterated at a meeting of environment Ministers held in Agra in February 1994, hosted by the Minister of the Environment and Natural Resources of India.

2. This report, prepared by both secretariats on their own responsibility, identifies ten issues related to trade, environment and sustainable development linkages, which UNCTAD and UNEP will address in a cooperative manner. These areas, which are not listed by priority or workplan schedule, are:

- (1) Internalization
- (2) Environmental standards
- (3) Emerging trends in environmental policy-making
- (4) Eco-labelling and certification
- (5) The role of science
- (6) Indicators of sustainable development
- (7) Multilateral environmental agreements
- (8) Additional financing and technology transfer
- (9) Positive incentives to build compatibility between trade and environment
- (10) Capacity building.

In addressing these issues, the two secretariats will provide governments -- particularly of developing countries -- with background information, additional research, issues analysis and case-studies. It should be noted that the proposed work will draw from the expertise and in-house activities of the respective secretariats. It is intended to complement work under way in other organizations, particularly the GATT/WTO and OECD, and provide more detailed analysis on the issues concerned.

3. A formal institutional structure is not envisaged in the proposed workplan. However, the UNCTAD and UNEP secretariats are planning to jointly host another, two-day high-level or ministerial meeting on trade and environment in late 1994. The purpose will be to help facilitate a dialogue between environment and trade ministers, from both developing and developed countries. In addition, at least one working-level session on trade, environment and sustainable development in 1994. At that meeting, which will be held over two days in Geneva, and which will be open to all governments, working papers dealing with two or three of the issues identified for future work, will be presented prior to the meeting.

4. In undertaking this joint work, both secretariats welcome the important contribution which other international organizations can make to the UNCTAD-UNEP joint work on trade, environment and sustainable development.

4. ECO-LABELLING AND CERTIFICATION

(a) Eco-labelling

35. Eco-labelling aims to improve the environment by raising consumer awareness of the environmental effects of the products and hence changing behaviour, as well as changing the manufacturing design of products in favour of relatively environmentally friendly products and technologies.

36. Chapter IV of Agenda 21 acknowledges the potential contribution that eco-labelling can make to encouraging changes in unsustainable consumption patterns. Paragraph 4.20 recognizes that "the recent emergence of a more environmentally conscious consumer public, combined with increased interest on the part of some industries in providing environmentally sound consumer products, is a significant development that should be encouraged". And paragraph 4.21 encourages the expansion of "environmental labelling and other environmentally-related product information programmes designed to assist consumers to make informed choices".

37. The criteria for the award of such labels, at least in theory, can be based on an overall assessment of the ecological impact of a good during its life-cycle, including production, distribution, use, consumption, as well as disposal. Comparing different environmental impacts associated with the product's life cycle remains difficult. For instance, it is difficult to compare a product which uses an energy intensive production process but emits few pollutants with one which uses less energy in its production process but emits more pollutants.

38. Despite advances in life-cycle analysis and environmental impact assessment, consensus does not yet exist on how to weigh different types of environmental impacts, nor on a procedure for evaluating the net or total environmental impact of a product. In light of the challenges associated with quantifying global environmental values, estimating and quantifying different environmental impacts related to products remains largely a reflection of national priorities.

39. Process-based criteria may be irrelevant or inappropriate for the producing countries. Thus, it is worth considering whether for specific process related criteria, the eco-labelling authorities should accept as equivalent, processes which result in relevant environmental improvements in the producing country. Eco-labelling could also be a useful tool to identify products which can be classified as environmentally friendly and for which it may be possible to obtain price premiums in OECD markets.

40. UNEP and UNCTAD are in the process of comparing the scientific and other criteria in approximately 20 developed and developing country eco-label schemes, focusing on approximately four product categories so as to help identify both common and different environmental criteria. Research also focuses on issues of standards or criteria equivalence, mechanisms for mutual recognition and initiatives for internationally agreed guidelines for eco-labelling.

(b) Certification of environmentally friendly products

41. In recognition of different needs and economic capabilities of developing countries, the Secretary-General of UNCTAD and the Executive Director of UNEP have proposed an initiative on certification of environmentally friendly products. This proposal incorporates different levels of technological and socio-economic development and takes into account the uniqueness of the environmental conditions in each country.

42. Certification schemes for environmentally friendly products could be based on some key elements. These elements could include the development of equivalent environmental standards, which would imply that environmentally friendly certificates could be granted to products which improve the local environments of the producing country, and thus different improvements in different local environment could be regarded as being "equivalent". Another basis for the certification of environmentally friendly products could be to develop principles and guidelines for the mutual recognition of different national environmental certification schemes. Thus principles of mutual recognition should be established with due consideration of the national environmental and economic priorities of developing countries. In addition, certification could be based on internationally agreed guidelines, which could outline broad criteria, but the specific determination of standards, testing and monitoring would be left to national standardization bodies.

43. In the area of eco-labelling and certification, UNCTAD and UNEP would address, by way of conceptual studies, inter-agency meetings, case-studies, and other work, issues related to mutual recognition, equivalency, as well as the central issue of inspection, monitoring and enforcement. This work would also take account of work underway in other bodies, including the International Standards Organisation, CODEX Alimentarius, the GATT Secretariat, as well as work at the regional level.

5. ROLE OF SCIENCE

44. As the standards and regulation section underlines, a major area of concern in the trade-environment debate is a clearer definition of the relationship between scientific certainty of environmental risk and the establishment of national and international standards. In 20 years, remarkable progress has been made in environmental sensing, monitoring and assessment of environmental change. In addition to building a more precise understanding of the complexity of eco-systems, new tools continue to evolve, linking scientific data to environmental management strategies. Science continues to provide decision-makers with a basis on which to gauge the environmental carrying capacity of a region; the sustainable yield of a renewable resource; the pollution assimilative capacity of a watershed or airshed.

45. In order for trade, environment and sustainable development linkages to be understood, policy-makers can benefit from a general understanding of the environmental sciences, in the same way that environmental policy-makers need to understand different economic, development and trade considerations. For the sake of simplicity, environmental analysis can be divided into four basic categories: (i)

FUNDAÇÃO CENTRO DE ESTUDOS DO COMÉRCIO
EXTERIOR

BRAZIL

ECO-LABELLING SCHEMES IN THE EUROPEAN UNION
AND THEIR IMPACTS ON BRAZILIAN EXPORTS

Pedro da Motta Veiga (Coordinator)

Mário C. de Carvalho Jr.

Maria Lúcia Vilmar

Heraldiva Façanha

May 1994

I - INTRODUCTION

Although eco-labelling programs are voluntary and accessible to both domestic and non-domestic producers, there is a series of reasons for assuming that the industry of the importing country is in a position to influence the conceptualization and implementation of these programs, requiring foreign suppliers - particularly from the developing countries - to put forth additional efforts in order to maintain the competitive edge of their exports. Insofar as the criteria and parameters of these eco-labelling schemes are related to the life-cycle of the products and therefore include the production process, they point to the need to achieve, for example, certain standards for pollutant emissions in the countries of origin of the products. The broad-ranging scope of this assessment suggests that eco-labelling systems, although not mandatory, may also affect the production of input materials and raw materials for the export industry, thus effectively acting as barriers to the entry of products exported from the developing countries - although the production of these goods does not generate any environmentally-hazardous transborder effects.

Thus, although a small number of export products of interest from the developing countries is covered by schemes in force today, there is a clearcut upturn in these figures. In fact, of 25 categories of products for which criteria are being set under the aegis of the European Union, at least eight (various types of paper, packaging, textiles, ceramics, footwear and refrigerators) are on the list of Brazilian exports, in varying quantities.

On the other hand, insofar as the so-called 'dirty' industries are noted to represent an increasingly large proportion of exports from the developing countries - and in the case of Brazil this relationship has already been established in a previous study - it may be assumed that eco-labelling initiatives could trigger negative impacts on the export chains of natural resource-intensive industries, as well as heavy polluters, where costs of

compliance with environmental criteria in relation to total production costs and investment costs could be particularly high.

Despite expressive growth in Brazil's industrial exports over the past few decades, it is today an acknowledged fact that this export drive has not always taken environmental factors into consideration. On the other hand, the development of industrial exports from the mid-1980s onwards suggests a reduction in competitiveness gains indicators, due to the country's macroeconomic crisis and its implications on the dynamics of productive investments.

This means that the position of Brazil's export industry on the international market is vulnerable to environmental regulations and non-mandatory initiatives that could boost production costs and investments for its export products, or for the input materials thereof. With the exception of a few sectors, Brazil is a minor supplier on international markets of highly competitive products where the standard for competition is based on prices, leaving limited room for product differentiation strategies. Due to factors linked to the technical and economic characteristics of production processes and international markets, the costs of compliance with environmental rules tend to be higher than those for industry on average, and it is difficult to transfer them to environmentally-friendly competitive strategies.

This study analyses the actual or potential impacts of the eco-labelling systems under discussion and/or implementation in the European Union for Brazil's, textiles, footwear and export pulp and paper sectors. These three sectors featured reasonable export dynamics between 1980 and 1993 - higher than the average for Brazil's foreign sales - with their joint participation in Brazil's export list rising from 9.2% to 12.5% over the period (Tables 1 and 2). This analysis is given in Section II, referenced to some structural characteristics of the three sectors in Brazil and a brief assessment of the competitive position of each of these sectors on the international plane. In this same section, the results are given for the

assessment of the sectorial impacts of eco-labelling systems, carried out by corporate representatives and technical staff for all three sectors.

Section III describes two initiatives under way in Brazil in the area of environmental certification of products: the Green Seal Program launched the Brazilian Technical Norms Association - ABNT, and the CERFLOR Project, resulting from the partnership between entrepreneurs in the logging sector and timber consumers, as well as Federal Government agencies. Although neither of these initiatives is operational, their proposed objectives, functional guidelines and institutional organization are all under discussion. The views of exporters regarding these two initiatives are also presented in this Section.

Finally, Section IV gives the Conclusions And Recommendations of this study, covering the impact of the eco-labelling schemes under discussion and/or implementation in the European Union on Brazilian exports in the three sectors analyzed, as well as the establishment of systems of this type in Brazil, and the conditions necessary to endow them with credibility and ensure international acceptance.

Table 1

BRAZILIAN EXPORTS - SELECTED SECTORS

(US\$ millions)

Sectors	1980	1985	1990	1991	1992	1993
Pulp and paper	518.246	555.997	1205.494	1235.835	11444.245	1508.409
# Pulp	362.703	273.873	592.052	578.364	735.273	711.006
# Paper	155.543	282.124	613.442	657.471	708.972	797.403
Footwear	407.655	968.668	1183.589	1245.397	1473.529	1945.178
Textiles	915.666	1000.607	1248.069	1358.970	1463.256	1382.438
# Natl. Threads & Fabrics	614.701	598.864	594.636	603.235	541.143	404.475
# Art. Threads & Fabrics	90.170	125.849	226.817	268.725	351.113	308.391
# Clothing	210.795	275.894	426.596	487.010	571.000	669.572
Total Sectors above	1041.567	2525.272	3637.152	3840.202	4381.030	4836.025
Other Sectors	18290.834	23113.739	27776.604	27780.257	31480.495	33946.654
Overall Total	20132.401	25639.011	31413.756	31260.459	35861.525	38782.679

Source: DTIC/SECEX/MICT

Prepared by: FUNCEX

Table 2

BRAZILIAN EXPORTS - SELECTED SECTORS

(Participation in Export List)

Sectors	1980	1985	1990	1991	1992	1993
Pulp and paper	2.57	2.17	3.84	3.91	4.03	3.89
# Pulp	1.80	1.07	1.88	1.83	2.05	1.83
# Paper	0.77	1.10	1.95	2.08	1.98	2.06
Footwear	2.02	3.78	3.77	3.94	4.11	5.02
Textiles	4.55	3.90	3.97	4.30	4.08	5.02
# Natl. Threads and Fabrics	3.05	2.34	1.89	1.91	1.51	1.04
# Artif. Threads and Fabrics	0.45	0.49	0.72	0.85	0.98	0.80
# Clothing	1.05	1.08	1.36	1.54	1.59	1.73
Total Sectors above	9.15	9.85	11.50	12.14	12.22	12.47
Other Sectors	90.85	90.15	88.42	87.86	87.78	87.53
Overall Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: DTIC/SECEX/MICT

II. 3 - The Footwear Sector

A) Structural Characteristics and Competitive Position

Brazil ranks fourth in the world's footwear sector: its 1990 output consisted of 42% plastic and rubber and 41% leather footwear, with the remaining 17% concentrated in sports shoes. Some 28% of Brazilian footwear production was exported that year, but the export profile differs substantially from the production profile. In fact, 92% of exports consist of leather footwear, which makes this type of footwear industry an essentially export activity: almost two thirds of output is earmarked for foreign sales.

This fact warrants particular attention as Brazil's leather sector has an extremely high rate of residual pollution, particularly heavy metals.

In addition to channeling most of its leather footwear to exports, these activities take place in a very specific pattern of industrial organization characterized by concentration in two regional centers in southern Brazil: Novo Hamburgo, in Rio Grande do Sul state (women's footwear) and Franca in São Paulo (men's footwear). This regional polarization of production has attracted new producers, as well as manufacturers of input materials and equipment, while spurring the implementation of a technological and information infrastructure in these production centers. In addition to underwriting the participation of small and medium sized companies on the international market, this structuring endowed Brazil's export footwear sector with great flexibility as well as a permanent capacity to adapt to constantly changing rules and conditions for competing on global markets. This explains how the sector chalked up expressive growth in exports over the past few years, despite the entry of new competitors from Southeast Asia on the international market.

Thus, while total footwear production is relatively concentrated in a few major companies, in the leather footwear export segment, production is

distributed among large, medium and small companies. The concentration of production in this segment shows 28% of total revenues for the eight largest companies in 1992 (with a downward trend for this indicator) while the number of exporter companies rose from 294 in 1975 to 487 in 1992.

As a part of the international market, Brazil's footwear production sector has gone through three distinct periods over the past 15 years (see Tables 7 and 8):

- the first, between 1980 and 1985, was characterized by marked growth in exports (up 138% over the period), due principally to expansion fueled by demand in the USA. During this phase, Brazil expanded its market share in international competition, although this growth in footwear exports was concentrated in one single market (USA);
- the second, between 1985 and 1990, is marked by relative stagnation of the total amounts exported by this sector (up only 22% over the period) and by a shrinking international market share, down from 2.1% to 1.8% on the worldwide market from 5.0% to 2.8% in the North American market. The entry of competitors from Southeast Asia on this market and transformations in the North American retail market forced suppliers to adopt quick-response practices, explaining Brazil's loss of position in the USA and prompting Brazilian producers to adopt cost-cutting strategies, while upgrading products;
- the third, between 1990 and 1993, suggests that the adaptation to these new market conditions was highly successful: exports soared 64% in three years and maintained the trend towards market diversification, within the OECD nations. In 1992, exports to the USA represented 69% of the total, against 72% in 1990 and 85% in 1985. The European Union, which in 1985 absorbed 7% of Brazil's footwear exports, in 1992 accounted for 19% of this total. Consequently, the participation of

footwear in Brazil's list of exports rose from 3.8% in 1990 to 5% in 1993. The challenge of competition from Southeast Asia was handled through the introduction of technological updating programs and managerial modernization. Additionally, a recent study of the competitive nature of Brazilian industry noted that in the footwear sector 'some areas show technological lags, with a probable blunting of competitive advantages in relation to competitors from Southeast Asia. Small companies, hampered by tight finances, are finding the greatest difficulty in investing, which tends to accentuate the technological heterogeneity of this sector. Basic microelectronics equipment, although not unknown in these companies, is still in limited use. The dissemination of CAD is limited to a few companies, and the same applies to stitching machines, die-cutters and equipment fitted with microprocessors (Costa, 1993).

Although limited, these transformations - underwritten in some major companies by investments under now extinct Beflex Incentives Program - helped redeem the competitiveness of Brazil's footwear exports. Investments in fixed capital by companies supported a strategy of upgrading production as a means of facing up to competition from Southeast Asia and breaking through to an intermediate segment of the OECD markets (North America and the European Union), in terms of the unit price of product.

Technological and organizational changes through which the sector has recently passed did not alter in any significant manner its relationships with the leather supply sector which is responsible for the emissions of high volumes of pollution (BOD and heavy metals) as well as the highest rates of residual water pollution in Brazilian industry (878.9g/US\$ in BOD and 30.3 in heavy metals) in which the abatement rates reached 54% for BOD and 62% for heavy metals (Seroa da Motta, 1993). As a recent (1993) UNIDO study noted " although tanneries have effluent wastes treatment installations, it is estimated that they are not used in an efficient manner (...). Low-pollution processes are being adopted very slowly; treatment plants represent investments and heavy operational costs, particularly for small and medium sized companies, and only in a

few places is it possible to establish joint-use plants. The impossibility of arranging adequate disposal of liquid wastes and muds may force the shutdown of installations which are not in a position to make the necessary investments".

Two tendencies may reshape the quality of the relationships between the leather and footwear sectors over the next few years. On the one hand, Brazil's major footwear companies are becoming vertically integrated, acquiring tanneries and leather treatment plants in order to guarantee the quality of their products and delivery periods. On the other hand, the integration process of the MERCOSUR Southern Cone Common Market streamlines the access of Brazilian footwear manufacturers to leather produced in the other countries of this subregion.

This former development implies the internalization by major companies of pollutive stages in the production processes of footwear input materials. Environmental requirements and regulations targeting the production and preparation of leather will have a direct impact on these companies. In contrast, the latter development implies the import of input materials, thus transferring to the area of relationships between companies in the various MERCOSUR countries, the issue of adapting productive processes to possible future new environmental regulations and requirements.

Table 7

Brazilian footwear exports - 1985/1992 (US\$ millions)

Economic Zones	USA	Canada	EU	LAIA	Japan	EFTA	Others	Total
Sectors								
1985								
Footwear	820.172	25.237	64.366	5.452	0	2.258	51.183	968.668
Overall Total	6955.930	427.510	6227.434	2230.670	1397.792	797.002	7602.673	25639.011
1990								
Footwear	853.192	43.460	198.579	24.150	6.653	27.125	30.430	1183.589
Overall Total	7718.426	521.574	9870.062	3193.685	2348.517	621.825	7139.667	31413.756
1992								
Footwear	1017.824	47.444	283.107	51.961	8.291	18.935	45.967	1473.529
Overall Total	6933.230	401.495	10627.516	7591.924	2306.067	436.661	7564.632	35861.525

Table 8

Brazilian footwear exports - 1985/1992 (US\$ millions)

Economic Zones	USA	Canada	EU	LAIA	Japan	EFTA	Others	Total
Year								
1985	11.79	5.90	1.03	0.24	0.00	0.28	0.67	3.78
1990	11.05	8.33	2.01	0.76	0.28	4.36	0.43	3.77
1992	14.68	11.82	2.66	0.68	0.36	4.34	0.61	4.11

Source : DTIC/SECEX/MICT

Prepared by : Funcex

B) The European Union Eco-Labelling Scheme and Brazilian Footwear Exports.

The Netherlands were appointed by the European Union as the lead country for the definition of product categories, and the development of criteria and parameters for granting footwear the eco-label. The preliminary proposal put forward mentions footwear "made out of leather, rubber, EVA, nylon, polyester, and cotton (...) provided their combined share in the total weight of the shoe is at least 90%." These criteria and parameters cover the five phases of the life-cycle of the product: acquisition of raw materials, production of materials, fabrication of the product, use of the product and waste-processing. The environmental aspects considered for each of the phases in the life-cycle of the product cover the use of raw materials (renewable and non-renewable), energy consumption (including non-renewable), discharges and emissions, various forms of nuisance (health and environmental hazards), wastes, reutilization of products and parts thereof (including through recycling) and the reparability and durability of the product.

Matrix 2 presents the principal environmental factors and aspects to be considered during the production phase of materials and raw materials (hides for tanning and chemical or plant-based tanning agents) for the production of leather footwear, relevant factors for the fabrication phase of footwear as well as those pertinent to the phases of product use and waste processing. This Matrix also indicates in which aspects the environmental impact of the various phases of the life-cycle of the product are considered substantial (++), reasonable (+), non substantial (-), unknown (?) and uncertain (-).

A preliminary assessment based on the information provided in this matrix suggests that major concerns are concentrated on energy consumption, the emission of toxic substances and the quantities of waste during the production phase of materials; energy and waste again during footwear fabrication phase, and finally, emissions of toxic

substances, wastes, reparability and durability during the use and waste-processing phases.

The criteria and parameters defined on the basis of these concerns focus particularly on the production of leather footwear.

- raw materials (1) energy content no greater than 95 mj/pair (60 for children's footwear)

(2) constraints on the use of chemicals and dyestuffs in processing raw materials.

Leather production (1) emissions of chrome < 120 mg/pair

(2) PCP content in the leather <100 ppm

(3) Treatment of leather with water-based materials and not VO's. For VO's no greater than 150 mg/m³

(4) during the leather tanning process, waste water should be disposed of in a biological water purification installation

(5) contaminated chrome waste should be recycled unless the chrome waste is not discharged/recycled as chemical waste in the country where the waste originates

- footwear production (1) criteria identical to item (3) above.

- quality and performance requirements: there is a lengthy list of requirements for the various components in footwear, all with defined parameters and testing methods, with specified checking procedures. These requirements cover, among other matters, resistance to splitting,

sweat, rubbing and abrasion, water, repeated bending, dry and wet, and are specific for upper leather, inner leather, insole leather, non-leather, insole materials, rubber and synthetic sole materials etc.

- average energy content: for all materials that could be used in the production of footwear eligible for the eco-label, this establishes an energy content grid which includes the energy content of the raw material plus that of the processing.

Matrix II: Factors to be considered in an environmental assessment of footwear:
leather component (phases 1 & 2); shoe manufacture (phase 3); leather
part (phases 4 & 5)

Main aspects/ Environment measures	Partial aspects	Acquis. raw material (1)	Produc. of materials (2)	Manuf. of product (3)	Use of product (4)	Waste processing
Raw materials	1. Depleting scarce renewable raw materials	(+)	-	-	-	-
	2. Depleting non-renewable raw materials	+	-	(-)	-	-
	3. Total quantity of raw materials use	-	+	+	-	-
Energy	4. Depleting non-renewable energy sources	+	+	+	-	-
	5. Total energy used	-	+	+	-	-
Emissions	6. Acid emissions	-	+	-	-	+
	7. Fertilizing emissions	-	-	(-)	-	-
	8. Greenhouse gas emissions	-	+	+	-	+
	9. Ozone-depleting emissions	-	(-)	+	-	(+)
	10. Emissions of substances toxic for flora and fauna	+	++	-	-	++
	11. Emissions of substances toxic for man (smog)	-	++	+	-	++
	12. Emissions of waste	-	-	-	-	-
	13. Radiation emissions	-	-	-	-	-
Nuisance	14. Release of substances causing odors	?	++	+	-	-
	15. Noise nuisance for user/environment	-	-	-	-	-
	16. Risk of catastrophes	-	?	-	-	-
	17. Effects on nature/landscape/quality of life	-	-	-	-	+
Waste	18. Quantity of waste produced in processing	-	++	++	-	++
	19. Quantity of waste after processing (final waste)	-	++	++	-	++
	20. Quantity of chemical waste	-	++	++	-	++
Re-usable	21. Total product re-usable	-	-	-	-	(+)
	22. Parts of total product re-usable	-	(+)	(+)	-	(+)
	23. Materials can be recycled	-	-	-	-	+
Repairable	24. The product can be repaired	-	-	-	++	-
Lifespan	25. Technical lifespan of product	-	-	-	++	-

Brazil's major business associations representing the export sector are keenly aware of European eco-labelling initiatives, but this issue is not treated as top priority. More concern is directed to maintaining the competitive edge of export product prices within a context marked by a fresh offensive launched by Asian competitors (principally China) on the international market.

The widespread feeling is that efforts to comply with eco-label criteria would increase production costs and jack up product prices, making them still more vulnerable to competitive prices of Asian products. Interviews were carried out with representatives of business associations, individual companies, and the Footwear, Leather and Similar Products Technological Center (CTCAA) in the Vale dos Sinos Production and Export complex in Rio Grande do Sul State in Southern Brazil. Additionally, four export companies were contacted directly in 1993, which together sold some US\$ 134 million on foreign markets, particularly the USA, the European Union and the EFTA nations. A questionnaire was forwarded to the companies, covering the criteria for eco-labelling under discussion at the European Union. None of the questionnaires forwarded to these companies was replied to, and one of the companies, through a representative, advised over the telephone that it was not possible to answer it, as this topic would be too complex and would depend on a prior survey of information that was not available.

Apparently, large companies are beginning to worry about obtaining information. Difficulties in this area refer principally to information on input materials, as the footwear producers in this case depend on information which their suppliers are not yet capable of providing.

The CTCCA replied in writing to the questionnaire forwarded by UNCTAD to Funcex. The following comments are based on the replies furnished by this Center.

With regard to the criteria covering chemicals and dyestuffs, the Center advised that 'Brazilian companies are already taking steps to ensure the safety of chemical products and dyestuffs used in production processes. Many of the products under restrictions mentioned in the European Union document are no longer in use. The substitution of these products resulted in higher final costs for footwear, which are, however, difficult to measure without an indepth study'.

The requirements for maximum chrome and PCP emissions, as well as limits on the use of volatile organic substances, received the following comments:

- chrome emissions - "with present effluent waste treatment systems, tanneries currently discharge double the required limit. Nevertheless, new investments must be made to upgrade the efficiency of existing treatment stations";

- PCP - "the use of PCP as a leather preservative is already banned in Brazil. Imported leathers should comply with the guarantee certificates ensuring that pentachlorophenol is not used.' With increasing leather imports from neighboring countries, this requirement will tend to have an increasingly marked effect on the relationships between Brazilian footwear companies and Uruguayan or Argentine tanneries";

- volatile organic substances - the emission of volatile substances into the atmosphere "is a major problem during the leather finishing stage. There are already products - which are more expensive - for finishing leather that are water based, and the replacement of products based on organic solvents is already underway. At other production stages, the emission of volatile organic substances is virtually negligible";

- biological water purification systems - in general, tanneries have such systems to treat water biologically;

- use of chlorine-bleached cotton - "in Brazil, bleaching takes place with chlorine, while the footwear sector uses raw or unbleached cotton";
- use of plastic foam - "footwear industries use much expanded plastic material. However, expansion agents are not chlorine based";
- the use of TDI/MDI in PUR, and limits for sulphur and nitrous-dichloromethane in relation to PUR - Brazilian companies already comply with the requirements. The use of nitrous dichloromethane is "insignificant", according to the CTCCA, "and the figure of 2% for sulphur concentrations is considered somewhat low, to the extent of undermining the quality of some products". It is suggested that the parameter should be raised to 3%;
- quality and performance requirements - companies are in a position to comply with these requirements, "which involves using good to excellent quality components, thus affecting costs";
- energy grid - in a superficial analysis, the CTCCA noted no major problems for this set of parameters. This Center is preparing a project to study the use of energy by the leather and footwear sector, in order to obtain more accurate data on this. It should be noted that almost all power used in this sector is hydroelectric.

The CTCCA and business associations are seriously concerned with constraints on the use of PVC linings, coatings and soles, considered a basic material in the production process. Companies are aware of products that replace PVC, but these products boost the cost of materials by at least 20%. In the specific case of coatings, this increase may reach 100%.

Business associations advise that some companies in this sector are already finding difficulty in exporting to some parts of Europe,

particularly Germany, due to rising restrictions on the use of PVC in footwear.

Similarly, requirements covering the use of glue and adhesives also prompt doubts: one company felt that the glue required was not proven adequately efficient. The CTCCA believes that yet again the industry can comply with these requirements, but that this would "boost costs and reduce the productivity" of companies.

In general, the CTCCA feels that Brazil's companies are in a position to produce footwear up to eco-label standards, but that costs would be appreciably higher than for conventional products, although no data are available to measure these cost hikes.

The adaptation of the production process and the use of materials complying with these requirements only makes sense if plans are afoot to develop a line of products targeting a market niche that can pay for footwear with the characteristics required under this scheme. Even under this hypothesis, companies would need time to adapt to these criteria and parameters, the more so as this adaptation involves relationships between the producers and the suppliers of their input materials (leather, plastics, and chemicals). The Brazilian footwear sector feels that many of the difficulties in adapting to these criteria arise from the fact this basically demands changes in the production process of leather - a core material for Brazilian exports.

Historically, the relationship between the leather and footwear sectors in Brazil has been marked by conflict, and thus characterized by a low level of cooperation. Companies in the footwear sector have responded to this situation through verticalization (purchase of tanneries) and increased imports from neighboring countries (Argentina and Uruguay). In turn, this has prompted the leather sector to shift towards modernization which may over the medium term streamline compliance with eco-label requirements.

It is also thought that as these requirements are not mandatory, 'they should not cause any major problems for the sector', as this operates in segments of the market where compliance or non-compliance with environmental criteria seems of little importance in shaping consumers' choices.

III. ECO-LABELLING IN BRAZIL

The first initiative for setting up the Brazilian Green Seal dates back to 1990, when the Brazilian Technical Standards Association - ABNT proposed to the Brazilian Environmental Protection Institute - IBAMA, that they should implement a joint action in the environmental area. This project made little progress, principally due to difficulties of an institutional order, namely lack of resources and insufficient coordination.

Two projects are currently under way: one is being forwarded again by the ABNT, and the other is an initiative undertaken by the Brazilian Forest Development Society - SBS, an organization bringing together private corporate associations to set up the Forest Raw Material Origin Certificate - CERFLOR.

III.1 - The ABNT Project

In 1993, the ABNT Project was selected in an open competition by the Scientific and Technological Development Support Program - PADCT. Financed by the Brazilian Government and the IRDB, under the administration of FINEP (Studies and Projects Financing Agency / Ministry of Science and Technology), it began to work on setting up a Green Seal Project. Its purpose is to establish a voluntary environmental certification system in Brazil, defining the strategies to be adopted for the certification of environmental management systems and implementing the certification of products through a pilot experiment applied to a single product category.

The awarding of Green Seals is designed to certify that a specific product complies with environmental criteria. This is an informative mechanism aimed at consumers, helping them choose products that are more environmentally friendly. It therefore acts as a marketing tool for companies, used on a voluntary basis.

The system under study by the ABNT has two basic guidelines: to be well-tailored to Brazilian reality in order to play the role of an environmental education instrument on the nation's domestic market, and be compatible with international models, so as to develop into a tool helping Brazilian exporters overcome possible future technical barriers based on environmental criteria. This latter guideline assumes that the Brazilian system is established in a manner that allows mutual recognition with programs set up elsewhere in the world.

The first stage in this project consisted of a survey of the state-of-the-art of eco-labelling in various nations, including the visit of Brazilian technical staff to seven countries. This survey provided the basis for the conceptual framework of the studies under way. Next, the first Brazilian Green Seal Project workshop was held in Rio de Janeiro in June 1993. Its purpose was to discuss strategies related to the certification of environmental administration systems and product certification (Green Seal), as well as the guidelines for the Green Seal model. This meeting pinpointed ten families of top-priority products for the project, of which one was to be chosen for the pilot experiment. Representatives of 33 companies took part in this workshop, as well as other agencies and organizations, including: Petrobrás, Vale do Rio Doce, Aracruz Celulose, Shell, Coca-Cola, Papel Klabin, and the Brazilian Nature Foundation, in addition to representatives of the Ministry of Foreign Affairs, the São Paulo State Federation of Industries (FIESP), and the Brazilian Consumer Protection Institute.

The ten families of products suggested during the workshop were the following: paper, footwear and leathers, household appliances, CFC-free aerosols, automobile batteries, biodegradable detergents, lightbulbs, wooden furniture, packaging, cosmetics and toiletries. The selection of products was based on a technical approach and a preliminary survey that was not carried out in any great depth. It was decided that the average technology used by companies in Brazil was already in a position to obtain environmental certification. Additionally, some companies were

appraised as being particularly sensitive on this issue, either through the need to export or the need for marketing on the domestic scene.

With regard to the criteria, it was agreed that these should cover the entire life-cycle of the product, constantly concerned with considering the effects on the surrounding environment.

Finally, in December 1993 the ABNT took part in a meeting in Brasília at the invitation of the Ministry of Foreign Affairs to discuss setting up two work groups involving representatives of various Ministries and employer associations: one group would accompany the progress of efforts to set up the Green Seal Project, and the other would monitor the implementation of a structure to follow up and participate actively in the work of the TC-207 Technical Committee on Environmental Management Systems set up by the International Standardization Organization - ISO, which prepared the international standards that will in future guide the implementation of Environmental Certification Systems.

On this occasion, reference was made to the fact that sizable sectors of the Brazilian economy were beginning to find their exports adversely affected by the unilateral imposition of commercial constraints of an environmental nature. According to the study carried out, the sectors most heavily affected were pulp and paper, footwear, and textiles. At this meeting, it was emphasized that the implementation of Brazil's Green Seal Project would need to be based on work under way by the ISO, otherwise it would run the risk of not meeting the minimum conditions for international acknowledgment.

With regard to the time schedule established by FINEP, the ABNT Project is today somewhat behind. The ABNT is still in the phase of confirming the families of products proposed at the June 1993 workshop, in the hopes that the interest shown therein by companies will help underwrite this project. In this task of heightening the awareness of the

companies involved, the ABNT sees the participation of the Ministry of the Environment and other government agencies as crucial.

The next step is to define the criteria. Starting out from the basis of the survey and the study of the criteria established in the various programs of other countries, the intention is to assess the possibility and feasibility of firming up the pilot experiment scheduled, with a specific category of Brazilian products.

Due to the high costs represented by defining the criteria, the ABNT intends to use technical staff from companies which, together with representatives from other agencies, will establish a consensus on these criteria. International criteria will be taken as the basic text.

Having defined the criteria, any company interested in achieving certification will approach the ABNT, where a Certification Commission is already part of its structure, with Technical Certification Committees for each segment preparing certification regulations.

According to the ABNT certification manager, with the interest shown by the pulp and paper sector, by mid-1994 it will already be possible to carry out the pilot experiment of certifying a paper-mill. The packaging sector has also shown reasonable interest in the Green Seal Project, largely prompted by exports. As little progress has been made in the definition of criteria, it does not seem very likely that the pilot experiment in certification will be carried out by mid-1994.

At the moment, the ABNT is coordinating the preparation of a broader-ranging seminar for discussion with business associations, government agencies and companies, with particular attention to developing a model for product certification, tailoring Brazilian participation in the TC-207 project during the first half of 1994.

The ABNT was recently threatened with having to interrupt its participation in the ISO, as it had not paid the annual fee of US\$ 200,000 to this international organization. However, there are indications that this problem will be solved by the advance of this amount by Brazil's National Metrology Institute - INMETRO. Even so, these difficulties explain why the lack of funding is one of the major stumbling-blocks preventing the ABNT from carrying out its coordination and implementation function for the Green Seal project.

III.2 - The Cerflor Forest Products Certification Project

The idea of setting up a Certification System for the origin of forest raw materials arose in late 1992. In May 1993, the Brazilian Forest Development Society signed a cooperation contract with the Brazilian Agricultural Research Company- EMBRAPA, through the National Forest Research Center - CNPF, covering the preparation of a technical handbook on forest production aspects liable for certification, (due to the demand by corporate clients), and on a certification regime. A document entitled "The Reference for Obtaining CERFLOR Industrial Forest Origin Certification" was then produced.

The Brazilian Forest Development Society brings together business associations such as the Brazilian Pulp Exporters Association - ABECCEL, the Brazilian Chipboard and Plywood Industries Association - ABIMCI, The Association of Timber Export Industries - AIMEX, the Brazilian Charcoal Association - ABRACAVE, and public institutions such as the Brazilian Agricultural Research Company - EMBRAPA, and the Forest Research Institute - IPEF.

Three factors led to the action by the Forest Development Society - SFS:

IV. CONCLUSIONS AND RECOMMENDATIONS.

The environmental regulations in the OECD nations - particularly the European Union - are generally perceived by Brazilian exporters as a threat to the maintenance of positions won by Brazilian products in the markets of these countries over the past two decades.

Under this concept, eco-labelling schemes featured two characteristics that point in opposite directions. On the one hand, as they are not mandatory, the threat represented by these schemes is, at least in principle, lightened. On the other hand, as this involves an analysis of the entire life-cycle of the product, they embody a massive potential for discrimination between imported and domestic products based on the assessment of the various forms of utilization of imports, as well as processing and production methods. This assessment, due to the criteria and parameters that guide it, necessarily implies the upgrading of a specific standard that is not only environmental but also technological and economic, covering the production and interface among various stages of production chains. Criteria and parameters that take into consideration the various sustainable alternatives for the utilization of input materials and production methods may reduce these discriminatory concepts.

These considerations spotlight what may be one of the principal conclusions of this study: the firming-up of potential threats presented by eco-labelling schemes to Brazilian exports depends, among other factors, on the specific characteristics of the formulation and implementation of these schemes. In particular, the experience of Brazil's pulp and paper sector suggests that:

- the definition of criteria and parameters is a major source of potential discrimination, by devaluing environmentally-compatible production methods which are at the same time suited to the availability of natural resources and energy sources that constitute the origin of the

comparative advantages of Brazil in the international pulp trade. In this case, Eurocentrism is evident in the formulation of an energy and input materials grid based on European standards which neutralizes Brazil's comparative advantage.

- the decision process covering the formulation and implementation of this scheme may also constitute a source of discrimination by blocking possibilities for discussing the parameters and criteria that could undermine imports compared to domestic output. The conclusion of the Uruguay Round and the new agreement on Technical Trade Barriers makes the notification procedures already covered for certification systems formulated by government agencies mandatory, even for programs sponsored by private agencies. This fact may lighten the discriminatory effects of the decision process applied to the implementation of eco-labelling schemes.

In addition to this factor, the experience of the two industrial sectors (pulp and paper and footwear) and a segment (T-shirts and bed linen) with a strong tradition of exports in Brazil, indicates that three other aspects related to the consumer market, to the pattern of competition, and to the production structure also influence the capacity of eco-labelling schemes to act as a barrier to trade:

- first, the pre-existence of a consumer preference for specific environmentally-friendly products and production methods endows the eco-labelling system with a high capacity to guide consumer choices, creating a voluntary (rather than regulatory) discrimination that is still more relevant as it blocks products with a high level of substitutability (as is the case with recycled pulp and paper).

The preexistence of a high consumer sensitivity to deforestation and the social appreciation of products and production methods based on recycled paper, which easily replaces pulp, explains what may apparently seem a paradox. This is the threat presented by the eco-labelling scheme to a sector producing intermediate and homogenous (meaning that

product differentiation does not play a relevant role in competitiveness) goods with which the consumer does not enter into direct contact. There is no doubt that this threat is also explicit in the factors already mentioned, including the discrimination implicit in decision processes and criteria, but it is interesting to note that whenever a marked consumer sensitivity is noted to the compatibility between production methods and products on the one hand and the environment on the other, the pressures of demand seem sufficient to introduce product differentiation, demanding investments by companies in order to comply with new specifications (as is the case with TCF pulp etc.).

- second, the relevance of competition through prices and product differentiation in the patterns of competition of segments or sectors analyzed appears in two ways. On the one hand, if the pattern of competition in market segments where companies operate are essentially centered on a price basis, compliance with criteria may undermine the market position of these companies, but, at the same time, concern over the discriminatory effects of the eco-labelling scheme decreases, as the market will not sanction such discrimination and will maintain its preference for low prices. Apparently, this is the case with the Brazilian footwear sector: the perception that the costs for adapting the production process to these criteria are high is accompanied by a relative lack of concern with regard to the effects of the introduction of this scheme on the market shares of the Brazilian footwear industry in European Union. On the other hand, if the demand for ecologically-differentiated products should create segmentation in the consumer market, this would act as a significant incentive for upgrading the production process to comply with eco-labelling criteria, principally in the case of companies where exports to the European Union have a high weight in total foreign sales and growth strategies;

- third, the analysis of the life-cycle of the product shows, in the case of Brazilian footwear, textile and clothing sectors, the weight of the items related to the production of raw materials and input materials in eco-labelling schemes proposed by the European Union. In both these

sectors, Brazilian companies repeatedly mention difficulties in complying with criteria covering these items, which involve imports to an increasing extent. Additionally, these difficulties may also reflect the tradition of troubled relations between the input materials production sectors, and the finished goods production sectors, in a closed economy where levels of protection were administered by the government, frequently in function of pressures from sectorial interests. This means that any effort to channel back to earlier stages in the production chain the information and demands required by these eco-criteria - principally when compliance involves investments in equipment and machinery in the input materials production sector - seems a particularly difficult task for the finished goods production sector, in contrast to what is occurring in the pulp production sector, which is verticalized back to forest planting.

It should also be noted that the transformation of eco-labels into a trade barrier also depends on the economic and financial capacity of companies in the sector studied to implement the adaptations required in their production processes and products. In the case of Brazil it has been noted that this capacity varies in each sector, in function of the size of the company and the weight of its exports - as well as the European Union export market in the company's growth strategy. This is even more so for the large majority of small and medium sized companies in Brazil, where these requirements involving renovation of equipment and redefinition of the patterns for relationships with suppliers and customers seem totally unobtainable within the current economic and financial context of the country.

Even for major export companies, the cost of compliance have been considered high, principally when this involves new investments in fixed assets. In the case of the textile industry, it has also been indicated that testing and certification costs are far heavier than might be assumed *a priori*.

Any reduction in the vulnerability of Brazilian exports to eco-labelling schemes would basically involve:

- with regard to schemes being implemented in the European Union, the adoption of non-discriminatory criteria and parameters, as well as a decision process tailored to GATT regulations;
- the development of international initiatives leading to the consensual preparation of guidelines for the formulation and implementation of national and supra-national eco-labelling schemes, serving as a basis for mutual acknowledgment of domestic schemes;
- on the Brazilian side, the development of initiatives targeting:

A) expansion of knowledge within export sectors of initiatives underway in other nations and their own production processes, which presupposes, among other factors, the systematic preparation and generation of technical data on the use of input and raw materials and the manufacturing processes of companies of these sectors.

B) broader fora for discussion and negotiation among sectors producing input materials and exportable finished goods, seeking the establishment of mechanisms for cooperation that also leads to the modernization of these sectors with a consequent reduction in vulnerability attributable to specific characteristics of Brazil's production structure;

C) indepth discussions of Brazil's Green Seal Project, expanding corporate and government mobilization regarding this initiative and avoiding institutional lack of coordination and a waste of resources. Along the same lines, technical cooperation with countries that have already implemented eco-labelling schemes, together with a quest for compatibility between the Brazilian schemes and these systems would boost the domestic and foreign credibility of the Brazilian scheme,

while opening the way for future mutual recognition of national schemes:

D) joint assessment by the government and the private sector of initiatives underway in the European Union nations, while requiring through diplomatic channels that these schemes should comply with the rules of the new GATT Technical Trade Barriers Code.

TRADE AND ENVIRONMENT

THAILAND AND ECO-LABELLING

FIRST DRAFT

*by Sophia Wigzell**

Thailand Environment Institute

* The author would like to express her thanks to Ms. Rachanee Bowonwiwat for her assistance with and advice on data collection for this report; and Dr. Chaiyod Bunyagidj for his comments and assistance with the national eco-labelling section of the study.

4. Developing Green Market Opportunities Overseas

A number of problems arose during this research project that, to some extent, reflect some of the problems facing Thai producers trying to maintain or enhance their competitiveness in increasingly environmentally-aware world markets. Most notable is the lack of basic data and reliable centres of information. Government departments lack the research facilities, the funding and the technical expertise to conduct extensive research or data collection. Few government departments, whether in Thailand or abroad, had conducted any systematic research into the trade effects of environmental concerns in Thailand's key markets. In fact, there has been little comprehensive market research overseas at all¹⁷.

¹⁶Under NEQA 1992 provision was made to remove import tariffs (up to 40% in some cases) on equipment that would contribute to cleaner production or environmental research (on application to the Ministry of Science, Technology and Environment). This was challenged by the Ministry of Finance, and a compromise reached that such equipment must be used *exclusively* for the purposes of environmental protection or research. Any equipment that could be used in any other way may not therefore be eligible for a tariff reduction. In addition, the tariff reduction is only granted after the equipment has been bought and used for a period of one year, after which it must be proved that it has contributed to environmental protection. These conditions tend to favour end-of-pipe technologies, and are a disincentive to apply for the tariff reduction. In addition, the slowness of the bureaucratic process deters applicants.

¹⁷ The Board of Trade is currently considering research proposals that will address these gaps in data, and, in particular, is looking at the potential market opportunities that may arise in Japan as it opens its borders to trade. The Industrial Finance Corporation of Thailand has also recently undertaken research into potential overseas markets for processed food products (The Nation, 1994). Although the above-mentioned research projects are not specifically concerned with "greener" markets overseas, judging from a recent spate of seminars on the theme, there is increasing interest in overseas environmental interests at least partly because the more forward-looking Thai producers are looking for potential areas of competitive advantage in future markets.

Furthermore, Thai social structure is such that most information is obtainable only through personal connections. In addition, there is some suspicion of independent research organisations on the part of industry. Few producers are prepared to discuss production technologies and environmental protection frankly with organisations over which they have little control. Responses, when they are forthcoming, tend to be very slow, and lacking in detail. Manufacturers do not like to commit themselves in writing, and most specific answers to questions concerning production technologies, technological problems etc. are "off-the-record". Questions concerning capital investments, operating costs etc., are regarded with particular suspicion, and almost invariably answered with general comments rather than actual figures.

In this regard it should be noted that while Thai environmental legislation is fairly stringent to date enforcement has not been effective. The older and smaller producers, in particular, lack the capital, technical expertise, and space to install effective pollution control equipment. Larger producers may fulfil legal requirements to install pollution control technologies, but do not use them. Currently, therefore, a considerable number of producers are not operating within the law. It is hardly surprising, therefore, that discussions of production technologies, and operating costs are regarded with suspicion.

The design and implementation of effective industrial environmental protection policies in Thailand, is hampered by this lack of openness with information, the lack of technical staff in the government, and a lack of data and coordinated research to supplement existing data. Without effective industrial environmental protection policies, one of the key incentives to producers to implement environmentally-sound technologies is missing. Whether this will be compensated for by buyer-demand in key markets overseas remains to be seen.

Although some individual members of the government have been trying to raise interest in the trade implications of overseas environmental concerns for several years¹⁸, the government as a whole has only recently begun to recognise the importance of these issues (Department of Export Promotion, 1994). That said, a paper on the interlinkages between trade and the environment, produced by the Department of Export Promotion this year, states that it is essential that those departments of the government with responsibilities concerning trade and industry begin planning and information campaigns to emphasise the importance of producing "environmentally-sound products" for export.

In general, the attitude of the government is to abide by the decisions of Thailand's key markets, and to encourage Thai producers to fulfil the needs of overseas buyers. Eco-labels are here seen as an opportunity to increase the market share of Thai products. Little consideration seems to have been given to the costs involved in changing production technologies, inputs, packaging techniques etc. The attitude is rather that Thai producers must adapt to the needs of the key markets, and that export levels must be maintained. This view would also appear to reflect the view of many manufacturers in Thailand¹⁹.

¹⁸ The former Ambassador to the European Community, made regular visits to Thailand to give seminars on the potential trade implications of environmental policies and regulations in the European Community for a period of years. Interest on the part of the government and Thai industries was generally limited however. (Ambassador Danai *personal communication*)

¹⁹ That said, given current attitudes towards environmental protection, neither the technological standards nor the skills base and attitudes of employees position all but a very few Thai producers such that they would currently be able to enter "green markets" in the OECD countries with any ease: at least where environmental criteria are to be based on process standards.

4.1 Finding 1: The Impact of Current Environmental and Eco-Labeling Schemes on Thai Products

A: Eco-labelling

To date the impact of the eco-labelling schemes in Thailand's key markets, i.e. North America, East Asia and Europe, has been negligible. None of the Thai Export Promotion Offices in those countries had heard of any products from Thailand which had either been granted or refused an eco-label. Nor did the majority of the products for which eco-label criteria have been drawn up apply to products which are key exports from Thailand.

To date also, where Life-Cycle Analysis (LCA) has been used in drawing up the product criteria for an eco-label, this has tended to be through a review approach highlighting the key stages of the life-cycle. The majority of labels awarded thus far have concentrated on the environmental effects of consumption. Any trade effects are to some extent regarded as legitimate where they address environmental effects in the country specifying the product criteria. So far, few Thai producers have shown any concern about the potential negative effects of eco-labels, if they were informed about their existence and the methodology used in establishing product specifications²⁰. This may change as more rigorous approaches to the LCA methodology are used. In addition, eco-labelling schemes in Canada, Japan, Scandinavia and the European Union are all planning to bring out labels for textiles. These schemes will thus start to affect a key export from the Kingdom.

Notably, the cost of applying for labels under all these schemes may be prohibitive unless some of that cost is absorbed by buyers or importers. Likewise, the costs of inspection would be prohibitive for some schemes under current practice. A system such as that used by the International Standards Organisation whereby local standards institutes would be responsible for verification and spot checks would be less discriminatory.

One of the biggest problems facing Thai producers with regard to eco-labels based on a rigorous life-cycle analysis (a concept not well understood in the Kingdom) is the inadequate understanding of the environmental effects of production, and the tendency to concentrate on end-of-pipe solutions to environmental problems. The introduction of environmental management systems might well serve to support a given manufacturer in assessing the costs and benefits of applying for an eco-label.

In addition, were a given product to be assigned a label designating that all component parts of the product had been produced by companies with an approved environmental management system in place, this might provide a means by which local differences in environmental effects and in environmental concerns could be reflected, while still ensuring that producers have an incentive to take the environmental impacts of their production processes into account.

B: Product Standards Labelling

(i) Eco-textiles in Germany

Attitudes towards the Ecotextiles label established by the German textiles industry are exemplary of the attitude of textiles manufacturers in general. German buyers who have been trying to persuade their suppliers to produce garments eligible for the ecotextiles label complain of a general lack of interest. Textiles manufacturers are concerned that the market niche for such products is not sufficiently large to justify any changes in product standards. (This may well be justified currently with the economic recession in Europe having

²⁰The majority of producers approached were ill-informed about eco-labelling in general, the LCA concept and the schemes in place in OECD countries. For example, many regarded labels as equivalent to legislation, not as a voluntary scheme.

depressed the hoped-for demand for ecotextiles.) When pressed to provide eco-textiles, some producers said that they would prefer to switch to alternative markets (for example, the Middle East) than to switch production inputs etc. In response, some buyers are looking to other countries where producers are more responsive (e.g. Malaysia). That said, as other labels for textiles are approved they may provide the incentives for textiles producers to respond to demands for more environmentally-friendly garments. Thai producers in general have a reputation for short-termism, and for adopting a wait-and-see attitude to new developments in markets. Once convinced of the profitability of a particular course of action, and that the risks will not render them uncompetitive even in the short-term, they are quick to respond, however.

Information available on the eco-textiles requirements was almost exclusively from buyers.

(ii) Green Dot - Packaging Legislation

Where Thai textiles manufacturers have been unresponsive to the demands to provide garments for a voluntary scheme, Thai fisheries and frozen products processors and packagers have had to respond to the demand for changes in plastic packaging content. Packagers use their willingness to respond as demonstration of their willingness to respond to environmental concerns in general. Some comments were made about the cost of complying with this legislation, but they were not generally seen to be prohibitive.

Information on this legislation came largely from the buyers. Information from the Embassy was only available in German. Although the Embassy had a list of translators it was willing to recommend, it would show more commitment to the concept of transparency if they were to have this legislation translated into Thai.

4.2 Finding 2: Regarding the Potential Effects of Forthcoming European Union Eco-Labels on Textiles and Footwear

Labelling Requirements	Comments
TEXTILES	
Quality requirements	<p>Thai textiles are generally preferred for the quality-to-price ratio that Thai producers are able to maintain. This remains the most important criterion for most buyers from overseas markets. Most Thai manufacturers of textiles products for export see no problems in achieving the quality guidelines required for the eco-label even if they are not currently doing so.</p>
Chemical Inputs - In general	<p>German buyers note that Thai producers are currently unwilling to change production inputs or processes to satisfy the requirements of the German ecotextiles label (see previous discussion). Given evidence of larger "green" markets than present, and the increase in the number of eco-labels applying to textiles, this attitude may change.</p>
Dyes	
- in general	<p>Most textile dyes used in the Kingdom are imported</p>
- natural dyes	<p>Thai producers currently use a range of reactive, disperse and direct dyes.</p>
- azo-dyes and other potentially carcinogenic dyes	<p>Very few natural dyes are still in use, those that are account for a minute percentage of all garments/fabrics produced each year and would generally be used in dyeing traditional cloths and garments.</p>
- dyes containing heavy metals	<p>The import of azo-dyes has been prohibited by law within the Kingdom for some time. The use of azo-dyes is also illegal (data on the use of these dyes is therefore very difficult to obtain). Unfortunately, this has raised some problems where testing is concerned, because public and private laboratories have not had the necessary equipment in place to test for the presence/use of azo-dyes.</p>
Oils used in spinning, knitting and weaving	<p>In general, the quality of the dyes used and the content of heavy metals etc., would depend on the manufacturer of the dye. Exported garments generally require the use of high-quality dyes. Many of these dyes are produced by dye manufacturers that are already responding to "environmental imperatives" in the OECD markets by offering a range of non-carcinogenic dyes with low to negligible content of heavy metals.</p>
	<p>Given that producers who are making a fairly concerted effort to switch to more environmentally-friendly processes and are employing waste minimisation approaches etc. do not use oils of the fine grades required by the label it is unlikely that the majority of producers would satisfy this element of the label. No information is available on the cost difference that such a switch would entail.</p>

Detergents or complexing agents	Producers use a range of detergents. No information is available on the relative cost of different detergents.
Bleaching agents	Some producers are using hydrogen peroxide as a bleaching agent.
Flame retardants	Use of flame retardants is dependent on the product and the market -
Crease resistant finishes	Use of crease resistant finishes is dependent on the product and the market
FOOTWEAR	
General Requirements	The Thai footwear market for export responds directly to buyer requests. Thus if there is sufficient demand they will attempt to produce footwear that meets the labelling requirements. Producers and trade associations approached saw no likely obstacles to trade in the labelling requirements. However, this may be because of the lack of understanding of the scope of the LCA in the Netherlands label specifications.
Inputs to footwear production	No information concerning the cost of compliance with the requirements. The greatest possible limitation on the ability of footwear producers to respond to the labelling requirements is likely to be the availability of inputs in terms of more environmentally-friendly leather products etc.
Chromium emissions, PCP and volatile organic substances	The majority of footwear producers who produce for export markets have already responded to requests to stop using PCPs etc. They are also prepared to respond to buyer demands that request changes in other chemical inputs.
FOOTWEAR AND TEXTILES	
Energy Requirements	Very few producers have undertaken an environmental review. Few producers can assess energy use per unit product. Energy calculations would most likely have to be "back-of-the-envelope" calculations of number of units produced over total energy use. Given that energy prices are currently low in the Kingdom, there has previously been little incentive to invest in energy saving machinery/processes etc. Energy use is thus unlikely to be very efficient.
Water Requirements	Where environmental reviews have been carried out, water has generally featured more in terms of reducing emissions of effluent, and improving water re-use. Water prices are currently low and there have until recently been few incentives to conserve water. However, as the textiles industry to a large extent depends on access to water of a reasonable quality, and both the water quality and quantity in the Kingdom are deteriorating this is likely to change in the near future.
Dust in Factories	As with noise pollution, it is difficult to determine the levels of dust in factories as this is not a high profile issue. Producers tend to disregard this as a problem.

Noise in Factories	<p>Although health and safety regulations in the Kingdom cover noise in the workplace, it is difficult to determine whether producers would abide by the requirements of the legislation or the labels as noise pollution is not an issue that commands a great deal of concern anywhere in Thailand. (Although it is a serious problem).</p>
Health and Safety in the Workplace in General	<p>This is a difficult issue. The legislation to protect workers does exist. Multinationals and some large- and middle-scale producers have good records where the health and safety of workers is concerned. Where buyers regularly visit the production site it is possible that standards may be higher than in other cases. But in general, it would seem to depend on the attitude of the manager/owner of the factory. Reports of infractions are rarely publicised except in the cases of disasters such as the Kader Toy Factory fire.</p>
Wastewater Treatment Facilities	<p>A range of wastewater treatment facilities are in use in the Kingdom (see Table 4.2.1.). In general, it would seem ill-advised to insist on one particular technology as this has been shown to discourage innovation that might lead to improvement in the efficiency of environmental protection technologies. In addition, the environmental of different countries may necessitate different approaches towards achieving the same goal.</p> <p>Large factories are almost invariably required to install wastewater treatment facilities of their own. It should be noted, however, that textiles factories are one of the largest contributors of BOD in the Kingdom, and that it is the largest factories that contribute the greatest amount of pollution.</p> <p>On Industrial Estates a Central Wastewater Treatment Plant may be the more appropriate means of waste disposal.</p>

<p>Clean technologies</p>	<p>Currently most producers focus on end-of-pipe technologies to address environmental concerns. With energy and water prices low, there are few economic incentives to adopt waste minimisation technologies etc.. Both sorts of technologies regarded as expensive both to buy and to maintain.</p> <p>Given stronger enforcement and / or other economic incentives (including a growth in domestic and international green markets) to adopt waste minimisation etc. technologies there are still some problems facing Thai producers. First the cost of such technologies may be prohibitive. What government assistance there is for environmental protection is not particularly well-known and, in any case, the slowness of the bureaucratic process deters applicants. Secondly, there have been several complaints that companies marketing technologies from overseas are not willing to sell the "know-how" except at very high prices. The area of technology cooperation with regard to environmentally-sound technologies is one which requires strengthening if developing country producers are not to be discriminated against.</p> <p>In addition, the Thai government should place stronger emphasis on education at the secondary and tertiary levels, and encourage the development of technical skills in the workforce.</p> <p>Both government and the private sector offer laboratory services which could be used to certify compliance with labelling requirements. Whether or not private sector laboratories offer all the services needed depends on whether the market for these services exists, it is thus dependent on both the market overseas and the attitude of producers in the Kingdom.</p> <p>The German ecotextiles label has presented challenges in terms of the number and types of chemicals. As mentioned before, testing for azo-dyes has presented particular problems. Private laboratory services were at first unwilling to install new equipment specifically for the ecotextiles label as it appeared that there would be insufficient demand to make the tests profitable. This position has since changed partly because of pressure exerted by the buyers of textiles products, and partly because it has been observed that such testing of textiles is likely to be more in demand with the introduction of other labels for textiles in other markets. Multinational environmental services are at a particular advantage here having easy access to market information and trends in the countries in which they operate.</p> <p>The cost for testing is unlikely to present a significant barrier unless a number of labels with a variety of testing requirements are brought out under different schemes. If buyers/importers can absorb some of the testing cost then this would obviously assist producers in non-OECD countries. If local standards institutes are accepted as arbitrators of label requirements, then this would also reduce the costs of applying for a label etc.</p>
<p>Testing</p>	

Table 4.2.1 Wastewater Treatment Systems Being Operated by Factories in Thailand

Wastewater Treatment System	Total
1. Filtration	1
2. Chemical Precipitation	30
3. Activated Sludge	36
4. Oxidation Ditch	17
5. Waste Stabilization Pond	13
6. Impounded Pond	4
7. High-rate Algal Pond	4
8. Chemical Precipitation + Oxidation Ditch	7
9. Chemical Precipitation + Rotating Biological Contactor	1
10. Chemical Precipitation + Stabilization Pond	6
11. Impounded Pond + Activated Sludge	1
12. Anaerobic Treatment + Activated Sludge	2
13. Oxidation Ditch + Activated Sludge	2
14. Chemical Precipitation + Activated Sludge	4
15. Activated Sludge + Stabilization Pond	4
16. Chemical Precipitation + Activated Sludge + Stabilisation Pond	2
17. Chemical Precipitation + Impounded Pond	1
18. Chemical Precipitation + High-rate Algal Pond	2
19. High-rate Algal Pond + Activated Sludge	2
20. Anaerobic Treatment + Chemical Precipitation	1
21. Oxidation Ditch + Stabilisation Pond	1
22. High-rate Algal Pond + Oxidation Ditch	8
23. Impounded and Stabilisation Pond	5
24. High-rate Algal Pond + Oxidation Ditch + Filtration	1
25. Chemical Precipitation + Activated Sludge + Oxidation Ditch	1
26. Chemical Precipitation + Oxidation Ditch + High-rate Algal Pond	3
27. Impounded and Stabilisation Ponds + Chemical Precipitation	4
28. Impounded and Stabilisations Ponds + Activated Sludge	1
29. Activated Sludge + Stabilisations Pond + Rotating Biological Contactor	1
Total	165

Source: Industrial Environmental Division, Department of Industrial Works

Note: These 165 factories are the only factories (not including factories in Industrial Estates) that treat their own wastewater and are being supervised by the Industrial Environmental Division of the Department of Industrial Works.

Conclusions Regarding the Effects of the European Union Eco-Labels on the Textiles and Footwear Industries in Thailand

The enactment of NEOA 1992 and the Factories Act 1992 has considerably enhanced Thailand's environmental legislation. In particular, with a new emphasis on the Polluter-Pays-Principle and the use of market instruments for environmental protection, the economic incentives are being set in place to encourage innovation and moves beyond compliance. To date, however, implementation of this legislation has yet to be complete in all its aspects. Crucially, also, the effectiveness of enforcement leaves a lot to be desired. The threat of costly litigation is not yet one which concerns the majority of Thai producers, and it would not be inaccurate to say that the majority are not complying with current environmental regulations. In addition, as government policies tend to undervalue key resources, such as energy and water, it is not surprising that it is only a very few companies that are suitably positioned to enter OECD "green" markets.

The textiles industry, in particular, has a poor reputation with regard to environmental protection standards and attitudes towards environmental protection²¹. (The textiles industry is one of the largest polluters in terms of BOD, see Table 4.2.2). This may be in part because of the highly obvious nature of some of the emissions from the textiles industry (e.g. colour). In addition, many producers in this highly-labour intensive industry in Thailand are currently feeling under pressure from competitors in nations where labour costs are lower. Environmental protection is seen to be too expensive when producers are, in any case, unsure of their competitiveness. This was reflected in the attitude of textiles producers towards the German ecotextiles scheme.

Given that Thailand is losing its competitive advantage with regard to labour costs, however, a movement into "green" markets may offer an alternative growth strategy for the textiles industry, if textiles producers are prepared to put in the appropriate capital investment. Under current practices it is unlikely that many producers would be able to apply successfully for the forthcoming European label. However, given adjustments within the industry, over the next two or three years, in response to these and other external demands to "go green"²², there are no obvious elements to the label that Thai textiles producers could not comply with.

The attitude of footwear producers towards the eco-label was far more positive than that of the textiles producers. The attitude being whatever it takes to satisfy the buyers, the producers are prepared to do. This reflects the nature of the footwear industry in Thailand which is strongly-oriented towards satisfying overseas buyers demands. At the same time, this may also reflect a lack of understanding of the nature of the Life-Cycle Analysis concept. Few producers would seem to have given much thought to where they will obtain some of the necessary inputs for their products, for example. It would appear that there had also been little consideration of the costs of compliance.

The Thai government and relevant organisations in the OECD countries could assist Thai producers in making the switch to "greener" production processes by:

- Improving market research and disseminating this information to producers and trade associations;

- Conducting workshops etc. to inform producers about eco-labelling schemes - their aims, and the means by which products are assessed and labels are awarded - special attention should be given to the life-cycle analysis concept which is poorly understood;

- Improving understanding and acceptance of environmental management systems - in particular, highlighting their use in assisting with a cost-benefit analysis of implementation of clean technologies, and in providing a basis for accurate life-cycle analysis of production technologies;

- Improving educational standards in the Thai workforce notably with regard to technical skills; and

²¹The Industrial Environment Programme of the Federation of Thai Industries has been working with the Thai textiles industry in a project funded by USAID. The majority of technologies demonstrated through this programme were aimed at waste minimisation and pollution prevention. The majority of textiles producers continue to emphasise end-of-pipe technologies, however. Government officials working with environmental protection agencies is concerned. However, some companies are more forward-looking.

²² The response to labels overseas is likely to hinge on how rapidly the demand for "green" products grows.

Improving access to the technological "know-how" of clean technologies such that they can be adapted to the Thai context.

Table 4.2.2. Most Polluting Industries in the Ten Most Heavily-Industrialised Provinces in Thailand - Biochemical Oxygen Demand

<i>Province</i>	<i>Factory</i>	<i>BOD loading (tons/yr)</i>	<i>Percent of Total Loading (%)</i>	<i>Number of Factories</i>	<i>Ratio BOD /factory</i>
1. Bangkok	1. MANUFACTURING OF TEXTILES	14,350	45.1	880	16.3
	2. Manufacturing of fabricated metal products	5,489	17.2	4,033	1.36
	3. Food manufacturing	4,797	15.1	842	5.69
	4. Manufacturing of plastic products not elsewhere classified	2,045	6.4	1,680	1.21
	5. Manufacturing of other chemical products	1,284	4.0	436	2.94
2. Samut Prakan	1. Food manufacturing	9,577	42.4	198	48.36
	2. MANUFACTURING OF TEXTILES	7,178	31.8	257	27.92
	3. Manufacturing of paper and paper products	1,643	7.3	44	37.34
	4. Manufacturing of transport equipment	839	3.7	114	7.35
	5. Manufacturing of industrial chemical and other chemical products	717	3.2	98	7.31
3. Samut Sakhon	1. Food manufacturing	9,060	48.1	222	40.81
	2. MANUFACTURING OF TEXTILES	7,110	37.8	244	29.13
	3. Manufacturing of glass and glass products	1,136	6.0	11	103.27
	4. Manufacturing of fabricated metal products	607	3.2	186	3.26
	5. Manufacturing of plastic products not elsewhere classified	402	2.1	115	3.49
4. Nakorn Prathom	1. MANUFACTURING OF TEXTILES	5,429	49.9	154	35.25
	2. Food manufacturing	4,255	39.1	175	24.31
	3. Manufacturing of fabricated metal products	307	2.8	86	3.56
	4. Manufacturing of plastic products not elsewhere classified	248	2.3	91	2.72
	5. Beverage industries	222	2.0	14	15.85
5. Nonthaburi	1. MANUFACTURING OF TEXTILES	3,415	58.1	27	35.20
	2. Food manufacturing	1,567	26.7	106	14.78
	3. Manufacturing of fabricated metal products	382	6.5	111	3.44
	4. Beverage industries	172	2.9	10	17.2
	5. Manufacturing of other chemical products	86	1.5	25	3.44
6. Ratburi	1. Food manufacturing	7,191	62.7	108	66.58
	2. MANUFACTURING OF TEXTILES	2,932	25.6	52	47.21
	3. Manufacturing of machinery	940	8.2	110	8.54
	4. Manufacturing of glass and glass product	131	11.4	14	9.35
	5. Manufacturing of fabricated metal products	86	0.8	67	1.28

Province	Factory	BOD loading (tons/yr)	Percent of Total Loading (%)	Number of Factories	BOD /factory
7. Pathum Thani	1. MANUFACTURING OF TEXTILES	6544	59.0	46	142.26
	2. Food manufacturing	1055	9.5	125	8.44
	3. Manufacturing of electrical machinery, apparatus, appliances and supplies	870	7.8	53	16.41
	4. Manufacturing of fabricated metal products	763	6.9	75	10.17
	5. Manufacturing of industrial chemicals	358	3.2	33	10.84
8. Rayong	1. Food manufacturing	3904	84.5	381	10.24
	2. Manufacturing of industrial chemicals	288	6.2	12	24
	3. MANUFACTURING OF TEXTILES	250	5.4	4	62.5
	4. Manufacturing of fabricated metal products	72	2.6	32	2.25
	5. Manufacturing of plastic products not elsewhere classified	40	0.9	11	3.63
9. Chonburi	1. Food manufacturing	6036	75.0	501	12.04
	2. MANUFACTURING OF TEXTILES	904	11.2	34	26.58
	3. Manufacturing of fabricated metal products	367	4.6	83	4.42
	4. Manufacturing of machinery	234	2.9	91	2.57
	5. Manufacturing of electrical machinery, apparatus, appliances and supplies	201	2.5	16	12.56
10. Chachoengsao	1. Food manufacturing	581	31.4	217	2.67
	2. MANUFACTURING OF TEXTILES	399	21.6	9	44.33
	3. Manufacturing of electrical machinery, apparatus, appliances and supplies	319	17.2	32	9.96
	4. Manufacturing of glass and glass products	152	8.2	3	50.66
	5. Manufacturing of plastic products not elsewhere classified	117	6.3	18	6.5

Source: Thailand Environment Institute, 1994

5. General Conclusions

Thailand's economic growth during the last two decades has been largely export-led. GDP is now generated for the most part by international trade, that trade being dominated by trade with the OECD countries. The key growth sectors of the Thai economy have been labour-intensive manufacturing industries, including textiles and footwear. However, the Kingdom is in danger of losing its competitive advantage, in terms of labour costs, to Indochina, China and Indonesia. Economic growth in Thailand has also had its environmental costs, some of which are beginning to have adverse effects on the rate of economic growth. If these environmental problems are not addressed in the near future, it may be difficult to maintain Thailand's economic growth rates.

The growth of "green" consumerism in the OECD markets is unlikely to be a passing fad, although it may currently be depressed by the economic recession. Given that there is likely to be increasing pressure to go "green", whether through producing greener products, or employing cleaner production technologies, or both, Thai producers would do well to

position themselves to enter these markets. The two key disincentives towards doing so would be the attitude of Thai producers towards environmental protection and the cost of environmentally-sound technologies. The larger producers generally have the necessary funds to invest. A clearer demonstration of the economic benefits to "going green" might provide part of the incentives for a change in the attitude of Thai producers.

The Kingdom's environmental legislation and infrastructure development both provide support for the implementation of cleaner production technologies. However, to date, enforcement has been inadequate. Introduction of more market based instruments of environmental protection in conjunction with existing command and control methods may assist in providing additional economic incentives for cleaner production. It remains critical, however, that enforcement be improved. Were enforcement to improve, the support that this would give to a shift towards cleaner production might well make Thai producers more, not less competitive in OECD markets in the future. Overseas demands for "greener" products may be the key to providing the mutual reinforcement between the government's economic and environmental goals.

Some suggested actions on the part of the OECD country eco-labelling schemes to minimise adverse effects on Thai producers

1. Actively seeking input from industry and environmental expert representatives in producing countries. Consideration of the life-cycle effects in a variety of environments, publication of specifications that take environmental differences into account.
2. Actively disseminating information about the schemes and market research on particular product groups to Thai government and key industrial associations.
3. Collaboration with Thai government and industrial associations to provide training about key concepts such as the Life-Cycle analysis.
4. Recognition of local standards institutes to verify and check producers.

SECTION II

THE NATIONAL ECO-LABELLING SCHEME

Introduction

The common aims of eco-labeling schemes are: protecting the environment through raising consumer awareness of the environmental effects of products, and hence influencing their purchasing behavior; as well as changing the manufacturing design of products in favour of environmentally friendly products and technologies.

With this stated, careful consideration must be taken to what sorts of signals are received during the formulation of an eco-labelling scheme, and whether those signals reinforce or interfere with the goals set by such a scheme. The scope and efficacy of a national eco-labelling scheme deals with varying motivations behind support, as well as varying perceptions by industrial manufacturers, government, and the final consumers. It is in dealing with these perceptions that institutional and environmental repercussions may differ considerably. For instance, in most developing countries, the overriding concern of some key government sources is how to maintain economic competitiveness in international markets. Therefore, it may be viewed that product specifications need to be focused on meeting the demands of these markets. In achieving this aim, the role of addressing the environmental problems of production specific to Thailand may be limited, however. The manufacturers' incentives behind support for such a scheme also deserves attention. The formulation of product specifications may be influenced by both domestic consumer demand and the perceived goodwill resulting from initiating or innovating environmental management systems to achieve the criteria of the scheme. Through this perspective, the specific environmental problems of production are more likely to be addressed. The design of product specifications in order to achieve one of these two goals will also determine whether producers whose key markets are domestic or international are the major applicants for the labels.

The Thai Green Labelling Scheme

The working group responsible for spearheading the "Thai Green Labelling scheme" is the Thailand Business Council for Sustainable Development (TBCSD)²³. TBCSD was founded on the 6th October, 1993, where it was first mooted that the Council should establish a national eco-labelling scheme as one of five action Council projects. On approval by the Council members, plans for the national eco-labelling scheme were sounded out and approved at subsequent Associate meetings and interested members of the Council were asked to join a special Working Group. Recently approved in principal by the Ministry of Industry, the "Thai Green Labelling scheme", should be officially accepted as the national eco-labelling scheme of Thailand by September 1994.

The TBCSD Working Group is composed of associates from leading corporations who are members of TBCSD. It was initially stressed that the associates nominated to represent the "Thai Green Labelling scheme" should come from diverse professions such as the manufacturing sector, retailers and lawyers.

²³ A national "branch" of the global Business Council for Sustainable Development (BCSD). TBCSD comprises a group of corporate business leaders from various business sectors interested and engaged in environment and development issues. Council members nominate Associate members to take care of the operations of the Council activities. The secretariat to TBCSD (the Thailand Environment Institute) is responsible for project management, coordination and information services. The aim of TBCSD focuses on the business role in environmental policy formulation and promoting the concept of "sustainable development" amongst business leaders. Unlike BCSD, TBCSD is more action-oriented than research-oriented, thus responding to the needs of the Thai context where active leadership by example is currently required to address both industrial and more general environmental problems.

The TBCSD member companies which constitute the TBCSD Working Group on Project Green Label are listed as follows: IFCT; Amway (Thailand) Ltd.; Thai Oil Co., Ltd.; The Manager; EGAT; The Bangkok Post; Advance Agro; SGS Environmental Services; National Petrochemical; Central Department Store; The Matichon Newspaper Group; 3M Thailand Ltd.; IBM Thailand; Lever Brothers (Thailand); Thai Pure Drinks; The Nation Publishing Group.

Work Plan for the "Thai Green Labelling scheme"

Activities	Time Frame	Expected Outcome
PHASE I		
(1) Establish a committee on green labeling which will consist of representatives from several organisation such as the Federal of Thai Industry, the Board of Trade of Thailand, TISI, interested consumer groups and TBCSD members (TEI will serve as the Secretariat).	1 month	Report on the composition of the established committee, its role and responsibilities.
(2) Review and evaluate the existing eco-labeling programs. Propose a practical "Thai Green Labeling scheme".	1 month	Report on the evaluation of the existing eco-labeling schemes and the proposed Thai version.
(3) Select the product categories; establish criteria for green labeling and threshold levels.	5 month	Report on the selection of product categories, criteria and threshold levels.
(4) Organise a seminar to introduce the "Thai Green Labeling scheme" to the general public. Publish and introduce the complete scheme to industries.	2 months	Report on the comments of the seminar.
PHASE II		
(5) Encourage industries to apply for the label.	2 months	Report on the numbers of applied industries.
(6) Review and evaluate the performance of the scheme after operation.		Report on the results of the evaluation.

Total Duration: approximately 1 year

Development of the Thai Green Labelling Scheme

The development of the national scheme will consult the prior experience of three models: the German Blue Angel scheme; the Environmental Choice programme; and the Japanese Ecomark system. The Canadian Environmental Choice programme is the core consultation base of the Thai scheme. It should be emphasised that the exact scope and nature of the eco-labelling scheme will respond to specific domestic needs of Thailand.

It is widely understood that during the development of eco-labelling systems in developing countries, consultation with those programmes existing in developed countries, particularly those of the OECD, is normal practice; Thailand is no exception. For instance, the Indian Ecomark system was developed in consultation with the Environmental Choice programme in Canada, and the Selo Verde scheme in Brazil is being developed in consultation with the German Blue Angel programme. The fact that an eco-labelling programme is developed in consultation with better known programmes, specifically those of developed countries, implies that, should mutual recognition of an eco-labelling programme become operative, developing countries which have already developed an eco-labelling programme can make an easier case for the recognition of their program. In addition, if similar structures and product specifications are used throughout the chances of successful harmonization of the various eco-labelling programmes are improved.

While adoption and adaptation of a developed country model for an eco-labelling scheme is common practice, it should be remembered that the success with which this model will be applied will still depend on clear identification of the aims of the scheme. In the case of Thailand, the explicit aim of the scheme is to raise environmental awareness among both consumers and producers. .

The "Thai Green Labelling Scheme" is not yet operational. Its administrative framework has yet to be finalised, nor has the methodology for product selection and product specification. In addition, there is a need to undertake research into the state of environmental awareness in the Kingdom, and to identify an appropriate promotional strategy to raise awareness of the scheme among producers and consumers.

AGREEMENT ON TECHNICAL BARRIERS TO TRADE

Members,

Having regard to the Uruguay Round of Multilateral Trade Negotiations;

Desiring to further the objectives of GATT 1994;

Recognizing the important contribution that international standards and conformity assessment systems can make in this regard by improving efficiency of production and facilitating the conduct of international trade;

Desiring therefore to encourage the development of such international standards and conformity assessment systems;

Desiring however to ensure that technical regulations and standards, including packaging, marking and labelling requirements, and procedures for assessment of conformity with technical regulations and standards do not create unnecessary obstacles to international trade;

Recognizing that no country should be prevented from taking measures necessary to ensure the quality of its exports, or for the protection of human, animal or plant life or health, of the environment, or for the prevention of deceptive practices, at the levels it considers appropriate, subject to the requirement that they are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail or a disguised restriction on international trade, and are otherwise in accordance with the provisions of this Agreement;

Recognizing that no country should be prevented from taking measures necessary for the protection of its essential security interest;

Recognizing the contribution which international standardization can make to the transfer of technology from developed to developing countries;

Recognizing that developing countries may encounter special difficulties in the formulation and application of technical regulations and standards and procedures for assessment of conformity with technical regulations and standards, and desiring to assist them in their endeavours in this regard;

Hereby agree as follows:

Article 1

General Provisions

1.1 General terms for standardization and procedures for assessment of conformity shall normally have the meaning given to them by definitions adopted within the United Nations system and by international standardizing bodies taking into account their context and in the light of the object and purpose of this Agreement.

1.2 However, for the purposes of this Agreement the meaning of the terms given in Annex 1 applies.

1.3 All products, including industrial and agricultural products, shall be subject to the provisions of this Agreement.

1.4 Purchasing specifications prepared by governmental bodies for production or consumption requirements of governmental bodies are not subject to the provisions of this Agreement but are addressed in the Agreement on Government Procurement, according to its coverage.

1.5 The provisions of this Agreement do not apply to sanitary and phytosanitary measures as defined in Annex A of the Agreement on the Application of Sanitary and Phytosanitary Measures.

1.6 All references in this Agreement to technical regulations, standards and conformity assessment procedures shall be construed to include any amendments thereto and any additions to the rules or the product coverage thereof, except amendments and additions of an insignificant nature.

TECHNICAL REGULATIONS AND STANDARDS

Article 2

Preparation, Adoption and Application of Technical Regulations by Central Government Bodies

With respect to their central government bodies:

2.1 Members shall ensure that in respect of technical regulations, products imported from the territory of any Member shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country.

2.2 Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade. For this purpose, technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create. Such legitimate objectives are, *inter alia*: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. In assessing such risks, relevant elements of consideration are, *inter alia*: available scientific and technical information, related processing technology or intended end-uses of products.

2.3 Technical regulations shall not be maintained if the circumstances or objectives giving rise to their adoption no longer exist or if the changed circumstances or objectives can be addressed in a less trade-restrictive manner.

2.4 Where technical regulations are required and relevant international standards exist or their completion is imminent, Members shall use them, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems.

2.5 A Member preparing, adopting or applying a technical regulation which may have a significant effect on trade of other Members shall, upon the request of another Member, explain the justification for that technical regulation in terms of the provisions of paragraphs 2 to 4. Whenever a technical regulation is prepared, adopted or applied for one of the legitimate objectives explicitly mentioned in paragraph 2, and is in accordance with relevant international standards, it shall be rebuttably presumed not to create an unnecessary obstacle to international trade.

2.6 With a view to harmonizing technical regulations on as wide a basis as possible, Members shall play a full part, within the limits of their resources, in the preparation by appropriate international standardizing bodies of international standards for products for which they either have adopted, or expect to adopt, technical regulations.

2.7 Members shall give positive consideration to accepting as equivalent technical regulations of other Members, even if these regulations differ from their own, provided they are satisfied that these regulations adequately fulfil the objectives of their own regulations.

2.8 Wherever appropriate, Members shall specify technical regulations based on product requirements in terms of performance rather than design or descriptive characteristics.

2.9 Whenever a relevant international standard does not exist or the technical content of a proposed technical regulation is not in accordance with the technical content of relevant international standards, and if the technical regulation may have a significant effect on trade of other Members, Members shall:

- 2.9.1 publish a notice in a publication at an early appropriate stage, in such a manner as to enable interested parties in other Members to become acquainted with it, that they propose to introduce a particular technical regulation;
- 2.9.2 notify other Members through the Secretariat of the products to be covered by the proposed technical regulation, together with a brief indication of its objective and rationale. Such notifications shall take place at an early appropriate stage, when amendments can still be introduced and comments taken into account;
- 2.9.3 upon request, provide to other Members particulars or copies of the proposed technical regulation and, whenever possible, identify the parts which in substance deviate from relevant international standards;
- 2.9.4 without discrimination, allow reasonable time for other Members to make comments in writing, discuss these comments upon request, and take these written comments and the results of these discussions into account.

2.10 Subject to the provisions in the lead-in to paragraph 9, where urgent problems of safety, health, environmental protection or national security arise or threaten to arise for a Member, that Member may omit such of the steps enumerated in paragraph 9 as it finds necessary, provided that the Member, upon adoption of a technical regulation, shall:

- 2.10.1 notify immediately other Members through the Secretariat of the particular technical regulation and the products covered, with a brief indication of the objective and the rationale of the technical regulation, including the nature of the urgent problems;
- 2.10.2 upon request, provide other Members with copies of the technical regulation;
- 2.10.3 without discrimination, allow other Members to present their comments in writing, discuss these comments upon request, and take these written comments and the results of these discussions into account.

2.11 Members shall ensure that all technical regulations which have been adopted are published promptly or otherwise made available in such a manner as to enable interested parties in other Members to become acquainted with them.

2.12 Except in those urgent circumstances referred to in paragraph 10, Members shall allow a reasonable interval between the publication of technical regulations and their entry into force in order to allow time for producers in exporting Members, and particularly in developing country Members, to adapt their products or methods of production to the requirements of the importing Member.

Article 3

Preparation, Adoption and Application of Technical Regulations by Local Government Bodies and Non-Governmental Bodies

With respect to their local government and non-governmental bodies within their territories:

3.1 Members shall take such reasonable measures as may be available to them to ensure compliance by such bodies with the provisions of Article 2, with the exception of the obligation to notify as referred to in paragraphs 9.2 and 10.1 of Article 2.

3.2 Members shall ensure that the technical regulations of local governments on the level directly below that of the central government in Members are notified in accordance with the provisions of paragraphs 9.2 and 10.1 of Article 2, noting that notification shall not be required for technical regulations the technical content of which is substantially the same as that of previously notified technical regulations of central government bodies of the Member concerned.

3.3 Members may require contact with other Members, including the notifications, provision of information, comments and discussions referred to in paragraphs 9 and 10 of Article 2, to take place through the central government.

3.4 Members shall not take measures which require or encourage local government bodies or non-governmental bodies within their territories to act in a manner inconsistent with the provisions of Article 2.

3.5 Members are fully responsible under this Agreement for the observance of all provisions of Article 2. Members shall formulate and implement positive measures and mechanisms in support of the observance of the provisions of Article 2 by other than central government bodies.

Article 4

Preparation, Adoption and Application of Standards

4.1 Members shall ensure that their central government standardizing bodies accept and comply with the Code of Good Practice for the Preparation, Adoption and Application of Standards in Annex 3 to this Agreement (referred to in this Agreement as the "Code of Good Practice"). They shall take such reasonable measures as may be available to them to ensure that local government and non-governmental standardizing bodies within their territories, as well as regional standardizing bodies of which they or one or more bodies within their territories are members, accept and comply with this Code of Good Practice. In addition, Members shall not take measures which have the effect of, directly or indirectly, requiring or encouraging such standardizing bodies to act in a manner inconsistent with the Code of Good Practice. The obligations of Members with respect to compliance of standardizing bodies with the provisions of the Code of Good Practice shall apply irrespective of whether or not a standardizing body has accepted the Code of Good Practice.

4.2 Standardizing bodies that have accepted and are complying with the Code of Good Practice shall be acknowledged by the Members as complying with the principles of this Agreement.

CONFORMITY WITH TECHNICAL REGULATIONS AND STANDARDS

Article 5

Procedures for Assessment of Conformity by Central Government Bodies

5.1 Members shall ensure that, in cases where a positive assurance of conformity with technical regulations or standards is required, their central government bodies apply the following provisions to products originating in the territories of other Members:

5.1.1 conformity assessment procedures are prepared, adopted and applied so as to grant access for suppliers of like products originating in the territories of other Members under conditions no less favourable than those accorded to suppliers of like products of national origin or originating in any other country, in a comparable situation; access entails suppliers' right to an assessment of conformity under the rules of the procedure, including, when foreseen by this procedure, the possibility to have conformity assessment activities undertaken at the site of facilities and to receive the mark of the system;

5.1.2 conformity assessment procedures are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade. This means, *inter alia*, that conformity assessment procedures shall not be more strict or be applied more strictly than is necessary to give the importing Member adequate confidence that products conform with the applicable technical regulations or standards, taking account of the risks non-conformity would create.

5.2 When implementing the provisions of paragraph 1, Members shall ensure that:

5.2.1 conformity assessment procedures are undertaken and completed as expeditiously as possible and in a no less favourable order for products originating in the territories of other Members than for like domestic products;

5.2.2 the standard processing period of each conformity assessment procedure is published or that the anticipated processing period is communicated to the applicant upon request; when receiving an application, the competent body promptly examines the completeness of the documentation and informs the applicant in a precise and complete manner of all deficiencies; the competent body transmits as soon as possible the results of the assessment in a precise and complete manner to the applicant so that corrective action may be taken if necessary; even when the application has deficiencies, the competent body proceeds as far as practicable with the conformity assessment if the applicant so requests; and that, upon request, the applicant is informed of the stage of the procedure, with any delay being explained;

5.2.3 information requirements are limited to what is necessary to assess conformity and determine fees;

5.2.4 the confidentiality of information about products originating in the territories of other Members arising from or supplied in connection with such conformity assessment

procedures is respected in the same way as for domestic products and in such a manner that legitimate commercial interests are protected;

5.2.5 any fees imposed for assessing the conformity of products originating in the territories of other Members are equitable in relation to any fees chargeable for assessing the conformity of like products of national origin or originating in any other country, taking into account communication, transportation and other costs arising from differences between location of facilities of the applicant and the conformity assessment body;

5.2.6 the siting of facilities used in conformity assessment procedures and the selection of samples are not such as to cause unnecessary inconvenience to applicants or their agents;

5.2.7 whenever specifications of a product are changed subsequent to the determination of its conformity to the applicable technical regulations or standards, the conformity assessment procedure for the modified product is limited to what is necessary to determine whether adequate confidence exists that the product still meets the technical regulations or standards concerned;

5.2.8 a procedure exists to review complaints concerning the operation of a conformity assessment procedure and to take corrective action when a complaint is justified.

5.3 Nothing in paragraphs 1 and 2 shall prevent Members from carrying out reasonable spot checks within their territories.

5.4 In cases where a positive assurance is required that products conform with technical regulations or standards, and relevant guides or recommendations issued by international standardizing bodies exist or their completion is imminent, Members shall ensure that central government bodies use them, or the relevant parts of them, as a basis for their conformity assessment procedures, except where, as duly explained upon request, such guides or recommendations or relevant parts are inappropriate for the Members concerned, for, *inter alia*, such reasons as: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment; fundamental climatic or other geographical factors; fundamental technological or infrastructural problems.

5.5 With a view to harmonizing conformity assessment procedures on as wide a basis as possible, Members shall play a full part, within the limits of their resources, in the preparation by appropriate international standardizing bodies of guides and recommendations for conformity assessment procedures.

5.6 Whenever a relevant guide or recommendation issued by an international standardizing body does not exist or the technical content of a proposed conformity assessment procedure is not in accordance with relevant guides and recommendations issued by international standardizing bodies, and if the conformity assessment procedure may have a significant effect on trade of other Members, Members shall:

5.6.1 publish a notice in a publication at an early appropriate stage, in such a manner as to enable interested parties in other Members to become acquainted with it, that they propose to introduce a particular conformity assessment procedure;

5.6.2 notify other Members through the Secretariat of the products to be covered by the proposed conformity assessment procedure, together with a brief indication of its objective and rationale. Such notifications shall take place at an early appropriate stage, when amendments can still be introduced and comments taken into account;

5.6.3 upon request, provide to other Members particulars or copies of the proposed procedure and, whenever possible, identify the parts which in substance deviate from relevant guides or recommendations issued by international standardizing bodies;

5.6.4 without discrimination, allow reasonable time for other Members to make comments in writing, discuss these comments upon request, and take these written comments and the results of these discussions into account.

5.7 Subject to the provisions in the lead-in to paragraph 6, where urgent problems of safety, health, environmental protection or national security arise or threaten to arise for a Member, that Member may omit such of the steps enumerated in paragraph 6 as it finds necessary, provided that the Member, upon adoption of the procedure, shall:

5.7.1 notify immediately other Members through the Secretariat of the particular procedure and the products covered, with a brief indication of the objective and the rationale of the procedure, including the nature of the urgent problems;

5.7.2 upon request, provide other Members with copies of the rules of the procedure;

5.7.3 without discrimination, allow other Members to present their comments in writing, discuss these comments upon request, and take these written comments and the results of these discussions into account.

5.8 Members shall ensure that all conformity assessment procedures which have been adopted are published promptly or otherwise made available in such a manner as to enable interested parties in other Members to become acquainted with them.

5.9 Except in those urgent circumstances referred to in paragraph 7, Members shall allow a reasonable interval between the publication of requirements concerning conformity assessment procedures and their entry into force in order to allow time for producers in exporting Members, and particularly in developing country Members, to adapt their products or methods of production to the requirements of the importing Member.

Article 6

Recognition of Conformity Assessment by Central Government Bodies

With respect to their central government bodies:

6.1 Without prejudice to the provisions of paragraphs 3 and 4, Members shall ensure, whenever possible, that results of conformity assessment procedures in other Members are accepted, even when those procedures differ from their own, provided they are satisfied that those procedures offer an assurance of conformity with applicable technical regulations or standards equivalent to their own procedures. It is recognized that prior consultations may be necessary in order to arrive at a mutually satisfactory understanding regarding, in particular:

6.1.1 adequate and enduring technical competence of the relevant conformity assessment bodies in the exporting Member, so that confidence in the continued reliability of their conformity assessment results can exist; in this regard, verified compliance, for instance through accreditation, with relevant guides or recommendations issued by international standardizing bodies shall be taken into account as an indication of adequate technical competence;

6.1.2 limitation of the acceptance of conformity assessment results to those produced by designated bodies in the exporting Member.

6.2 Members shall ensure that their conformity assessment procedures permit, as far as practicable, the implementation of the provisions in paragraph 1.

6.3 Members are encouraged, at the request of other Members, to be willing to enter into negotiations for the conclusion of agreements for the mutual recognition of results of each other's conformity assessment procedures. Members may require that such agreements fulfil the criteria of paragraph 1 and give mutual satisfaction regarding their potential for facilitating trade in the products concerned.

6.4 Members are encouraged to permit participation of conformity assessment bodies located in the territories of other Members in their conformity assessment procedures under conditions no less favourable than those accorded to bodies located within their territory or the territory of any other country.

Article 7

Procedures for Assessment of Conformity by Local Government Bodies

With respect to their local government bodies within their territories:

7.1 Members shall take such reasonable measures as may be available to them to ensure compliance by such bodies with the provisions of Articles 5 and 6, with the exception of the obligation to notify as referred to in paragraphs 6.2 and 7.1 of Article 5.

7.2 Members shall ensure that the conformity assessment procedures of local governments on the level directly below that of the central government in Members are notified in accordance with the provisions of paragraphs 6.2 and 7.1 of Article 5, noting that notifications shall not be required for conformity assessment procedures the technical content of which is substantially the same as that of previously notified conformity assessment procedures of central government bodies of the Members concerned.

7.3 Members may require contact with other Members, including the notifications, provision of information, comments and discussions referred to in paragraphs 6 and 7 of Article 5, to take place through the central government.

7.4 Members shall not take measures which require or encourage local government bodies within their territories to act in a manner inconsistent with the provisions of Articles 5 and 6.

7.5 Members are fully responsible under this Agreement for the observance of all provisions of Articles 5 and 6. Members shall formulate and implement positive measures and mechanisms in support of the observance of the provisions of Articles 5 and 6 by other than central government bodies.

Article 8

Procedures for Assessment of Conformity by Non-Governmental Bodies

8.1 Members shall take such reasonable measures as may be available to them to ensure that non-governmental bodies within their territories which operate conformity assessment procedures comply with the provisions of Articles 5 and 6, with the exception of the obligation to notify proposed conformity

assessment procedures. In addition, Members shall not take measures which have the effect of, directly or indirectly, requiring or encouraging such bodies to act in a manner inconsistent with the provisions of Articles 5 and 6.

8.2 Members shall ensure that their central government bodies rely on conformity assessment procedures operated by non-governmental bodies only if these latter bodies comply with the provisions of Articles 5 and 6, with the exception of the obligation to notify proposed conformity assessment procedures.

Article 9

International and Regional Systems

9.1 Where a positive assurance of conformity with a technical regulation or standard is required, Members shall, wherever practicable, formulate and adopt international systems for conformity assessment and become members thereof or participate therein.

9.2 Members shall take such reasonable measures as may be available to them to ensure that international and regional systems for conformity assessment in which relevant bodies within their territories are members or participants comply with the provisions of Articles 5 and 6. In addition, Members shall not take any measures which have the effect of, directly or indirectly, requiring or encouraging such systems to act in a manner inconsistent with any of the provisions of Articles 5 and 6.

9.3 Members shall ensure that their central government bodies rely on international or regional conformity assessment systems only to the extent that these systems comply with the provisions of Articles 5 and 6, as applicable.

INFORMATION AND ASSISTANCE

Article 10

Information About Technical Regulations, Standards and Conformity Assessment Procedures

10.1 Each Member shall ensure that an enquiry point exists which is able to answer all reasonable enquiries from other Members and interested parties in other Members as well as to provide the relevant documents regarding:

- 10.1.1 any technical regulations adopted or proposed within its territory by central or local government bodies, by non-governmental bodies which have legal power to enforce a technical regulation, or by regional standardizing bodies of which such bodies are members or participants;
- 10.1.2 any standards adopted or proposed within its territory by central or local government bodies, or by regional standardizing bodies of which such bodies are members or participants;
- 10.1.3 any conformity assessment procedures, or proposed conformity assessment procedures, which are operated within its territory by central or local government bodies, or by

non-governmental bodies which have legal power to enforce a technical regulation, or by regional bodies of which such bodies are members or participants;

10.1.4 the membership and participation of the Member, or of relevant central or local government bodies within its territory, in international and regional standardizing bodies and conformity assessment systems, as well as in bilateral and multilateral arrangements within the scope of this Agreement; it shall also be able to provide reasonable information on the provisions of such systems and arrangements;

10.1.5 the location of notices published pursuant to this Agreement, or the provision of information as to where such information can be obtained; and

10.1.6 the location of the enquiry points mentioned in paragraph 3.

10.2 If, however, for legal or administrative reasons more than one enquiry point is established by a Member, that Member shall provide to the other Members complete and unambiguous information on the scope of responsibility of each of these enquiry points. In addition, that Member shall ensure that any enquiries addressed to an incorrect enquiry point shall promptly be conveyed to the correct enquiry point.

10.3 Each Member shall take such reasonable measures as may be available to it to ensure that one or more enquiry points exist which are able to answer all reasonable enquiries from other Members and interested parties in other Members as well as to provide the relevant documents or information as to where they can be obtained regarding:

10.3.1 any standards adopted or proposed within its territory by non-governmental standardizing bodies, or by regional standardizing bodies of which such bodies are members or participants; and

10.3.2 any conformity assessment procedures, or proposed conformity assessment procedures, which are operated within its territory by non-governmental bodies, or by regional bodies of which such bodies are members or participants;

10.3.3 the membership and participation of relevant non-governmental bodies within its territory in international and regional standardizing bodies and conformity assessment systems, as well as in bilateral and multilateral arrangements within the scope of this Agreement; they shall also be able to provide reasonable information on the provisions of such systems and arrangements.

10.4 Members shall take such reasonable measures as may be available to them to ensure that where copies of documents are requested by other Members or by interested parties in other Members, in accordance with the provisions of this Agreement, they are supplied at an equitable price (if any) which shall, apart from the real cost of delivery, be the same for the nationals¹ of the Member concerned or of any other Member.

10.5 Developed country Members shall, if requested by other Members, provide, in English, French or Spanish, translations of the documents covered by a specific notification or, in case of voluminous documents, of summaries of such documents.

¹"Nationals" here shall be deemed, in the case of a separate customs territory Member of the WTO, to mean persons, natural or legal, who are domiciled or who have a real and effective industrial or commercial establishment in that customs territory.

10.6 The Secretariat shall, when it receives notifications in accordance with the provisions of this Agreement, circulate copies of the notifications to all Members and interested international standardizing and conformity assessment bodies, and draw the attention of developing country Members to any notifications relating to products of particular interest to them.

10.7 Whenever a Member has reached an agreement with any other country or countries on issues related to technical regulations, standards or conformity assessment procedures which may have a significant effect on trade, at least one Member party to the agreement shall notify other Members through the Secretariat of the products to be covered by the agreement and include a brief description of the agreement. Members concerned are encouraged to enter, upon request, into consultations with other Members for the purposes of concluding similar agreements or of arranging for their participation in such agreements.

10.8 Nothing in this Agreement shall be construed as requiring:

10.8.1 the publication of texts other than in the language of the Member;

10.8.2 the provision of particulars or copies of drafts other than in the language of the Member except as stated in paragraph 5; or

10.8.3 Members to furnish any information, the disclosure of which they consider contrary to their essential security interests.

10.9 Notifications to the Secretariat shall be in English, French or Spanish.

10.10 Members shall designate a single central government authority that is responsible for the implementation on the national level of the provisions concerning notification procedures under this Agreement except those included in Annex 3.

10.11 If, however, for legal or administrative reasons the responsibility for notification procedures is divided among two or more central government authorities, the Member concerned shall provide to the other Members complete and unambiguous information on the scope of responsibility of each of these authorities.

Article 11

Technical Assistance to Other Members

11.1 Members shall, if requested, advise other Members, especially the developing country Members, on the preparation of technical regulations.

11.2 Members shall, if requested, advise other Members, especially the developing country Members, and shall grant them technical assistance on mutually agreed terms and conditions regarding the establishment of national standardizing bodies, and participation in the international standardizing bodies, and shall encourage their national standardizing bodies to do likewise.

11.3 Members shall, if requested, take such reasonable measures as may be available to them to arrange for the regulatory bodies within their territories to advise other Members, especially the developing country Members, and shall grant them technical assistance on mutually agreed terms and conditions regarding:

11.3.1 the establishment of regulatory bodies, or bodies for the assessment of conformity with technical regulations; and

11.3.2 the methods by which their technical regulations can best be met.

11.4 Members shall, if requested, take such reasonable measures as may be available to them to arrange for advice to be given to other Members, especially the developing country Members, and shall grant them technical assistance on mutually agreed terms and conditions regarding the establishment of bodies for the assessment of conformity with standards adopted within the territory of the requesting Member.

11.5 Members shall, if requested, advise other Members, especially the developing country Members, and shall grant them technical assistance on mutually agreed terms and conditions regarding the steps that should be taken by their producers if they wish to have access to systems for conformity assessment operated by governmental or non-governmental bodies within the territory of the Member receiving the request.

11.6 Members which are members or participants of international or regional systems for conformity assessment shall, if requested, advise other Members, especially the developing country Members, and shall grant them technical assistance on mutually agreed terms and conditions regarding the establishment of the institutions and legal framework which would enable them to fulfil the obligations of membership or participation in such systems.

11.7 Members shall, if so requested, encourage bodies within their territories which are members or participants of international or regional systems for conformity assessment to advise other Members, especially the developing country Members, and should consider requests for technical assistance from them regarding the establishment of the institutions which would enable the relevant bodies within their territories to fulfil the obligations of membership or participation.

11.8 In providing advice and technical assistance to other Members in terms of paragraphs 1 to 7, Members shall give priority to the needs of the least-developed country Members.

Article 12

Special and Differential Treatment of Developing Country Members

12.1 Members shall provide differential and more favourable treatment to developing country Members to this Agreement, through the following provisions as well as through the relevant provisions of other Articles of this Agreement.

12.2 Members shall give particular attention to the provisions of this Agreement concerning developing country Members' rights and obligations and shall take into account the special development, financial and trade needs of developing country Members in the implementation of this Agreement, both nationally and in the operation of this Agreement's institutional arrangements.

12.3 Members shall, in the preparation and application of technical regulations, standards and conformity assessment procedures, take account of the special development, financial and trade needs of developing country Members, with a view to ensuring that such technical regulations, standards and conformity assessment procedures do not create unnecessary obstacles to exports from developing country Members.

12.4 Members recognize that, although international standards, guides or recommendations may exist, in their particular technological and socio-economic conditions, developing country Members adopt certain technical regulations, standards or conformity assessment procedures aimed at preserving indigenous technology and production methods and processes compatible with their development needs. Members therefore recognize that developing country Members should not be expected to use international standards as a basis for their technical regulations or standards, including test methods, which are not appropriate to their development, financial and trade needs.

12.5 Members shall take such reasonable measures as may be available to them to ensure that international standardizing bodies and international systems for conformity assessment are organized and operated in a way which facilitates active and representative participation of relevant bodies in all Members, taking into account the special problems of developing country Members.

12.6 Members shall take such reasonable measures as may be available to them to ensure that international standardizing bodies, upon request of developing country Members, examine the possibility of, and, if practicable, prepare international standards concerning products of special interest to developing country Members.

12.7 Members shall, in accordance with the provisions of Article 11, provide technical assistance to developing country Members to ensure that the preparation and application of technical regulations, standards and conformity assessment procedures do not create unnecessary obstacles to the expansion and diversification of exports from developing country Members. In determining the terms and conditions of the technical assistance, account shall be taken of the stage of development of the requesting Members and in particular of the least-developed country Members.

12.8 It is recognized that developing country Members may face special problems, including institutional and infrastructural problems, in the field of preparation and application of technical regulations, standards and conformity assessment procedures. It is further recognized that the special development and trade needs of developing country Members, as well as their stage of technological development, may hinder their ability to discharge fully their obligations under this Agreement. Members, therefore, shall take this fact fully into account. Accordingly, with a view to ensuring that developing country Members are able to comply with this Agreement, the Committee on Technical Barriers to Trade provided for in Article 13 (referred to in this Agreement as the "Committee") is enabled to grant, upon request, specified, time-limited exceptions in whole or in part from obligations under this Agreement. When considering such requests the Committee shall take into account the special problems, in the field of preparation and application of technical regulations, standards and conformity assessment procedures, and the special development and trade needs of the developing country Member, as well as its stage of technological development, which may hinder its ability to discharge fully its obligations under this Agreement. The Committee shall, in particular, take into account the special problems of the least-developed country Members.

12.9 During consultations, developed country Members shall bear in mind the special difficulties experienced by developing country Members in formulating and implementing standards and technical regulations and conformity assessment procedures, and in their desire to assist developing country Members with their efforts in this direction, developed country Members shall take account of the special needs of the former in regard to financing, trade and development.

12.10 The Committee shall examine periodically the special and differential treatment, as laid down in this Agreement, granted to developing country Members on national and international levels.

INSTITUTIONS, CONSULTATION AND DISPUTE SETTLEMENT

*Article 13**The Committee on Technical Barriers to Trade*

13.1 A Committee on Technical Barriers to Trade is hereby established, and shall be composed of representatives from each of the Members. The Committee shall elect its own Chairman and shall meet as necessary, but no less than once a year, for the purpose of affording Members the opportunity of consulting on any matters relating to the operation of this Agreement or the furtherance of its objectives, and shall carry out such responsibilities as assigned to it under this Agreement or by the Members.

13.2 The Committee shall establish working parties or other bodies as may be appropriate, which shall carry out such responsibilities as may be assigned to them by the Committee in accordance with the relevant provisions of this Agreement.

13.3 It is understood that unnecessary duplication should be avoided between the work under this Agreement and that of governments in other technical bodies. The Committee shall examine this problem with a view to minimizing such duplication.

*Article 14**Consultation and Dispute Settlement*

14.1 Consultations and the settlement of disputes with respect to any matter affecting the operation of this Agreement shall take place under the auspices of the Dispute Settlement Body and shall follow, *mutatis mutandis*, the provisions of Articles XXII and XXIII of GATT 1994, as elaborated and applied by the Dispute Settlement Understanding.

14.2 At the request of a party to a dispute, or at its own initiative, a panel may establish a technical expert group to assist in questions of a technical nature, requiring detailed consideration by experts.

14.3 Technical expert groups shall be governed by the procedures of Annex 2.

14.4 The dispute settlement provisions set out above can be invoked in cases where a Member considers that another Member has not achieved satisfactory results under Articles 3, 4, 7, 8 and 9 and its trade interests are significantly affected. In this respect, such results shall be equivalent to those as if the body in question were a Member.

FINAL PROVISIONS

*Article 15**Final Provisions**Reservations*

15.1 Reservations may not be entered in respect of any of the provisions of this Agreement without the consent of the other Members.

Review

15.2 Each Member shall, promptly after the date on which the WTO Agreement enters into force for it, inform the Committee of measures in existence or taken to ensure the implementation and administration of this Agreement. Any changes of such measures thereafter shall also be notified to the Committee.

15.3 The Committee shall review annually the implementation and operation of this Agreement taking into account the objectives thereof.

15.4 Not later than the end of the third year from the date of entry into force of the WTO Agreement and at the end of each three-year period thereafter, the Committee shall review the operation and implementation of this Agreement, including the provisions relating to transparency, with a view to recommending an adjustment of the rights and obligations of this Agreement where necessary to ensure mutual economic advantage and balance of rights and obligations, without prejudice to the provisions of Article 12. Having regard, *inter alia*, to the experience gained in the implementation of the Agreement, the Committee shall, where appropriate, submit proposals for amendments to the text of this Agreement to the Council for Trade in Goods.

Annexes

15.5 The annexes to this Agreement constitute an integral part thereof.

ANNEX 1

TERMS AND THEIR DEFINITIONS FOR THE
PURPOSE OF THIS AGREEMENT

The terms presented in the sixth edition of the ISO/IEC Guide 2: 1991, General Terms and Their Definitions Concerning Standardization and Related Activities, shall, when used in this Agreement, have the same meaning as given in the definitions in the said Guide taking into account that services are excluded from the coverage of this Agreement.

For the purpose of this Agreement, however, the following definitions shall apply:

1. *Technical regulation*

Document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.

Explanatory note

The definition in ISO/IEC Guide 2 is not self-contained, but based on the so-called "building block" system.

2. *Standard*

Document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.

Explanatory note

The terms as defined in ISO/IEC Guide 2 cover products, processes and services. This Agreement deals only with technical regulations, standards and conformity assessment procedures related to products or processes and production methods. Standards as defined by ISO/IEC Guide 2 may be mandatory or voluntary. For the purpose of this Agreement standards are defined as voluntary and technical regulations as mandatory documents. Standards prepared by the international standardization community are based on consensus. This Agreement covers also documents that are not based on consensus.

3. *Conformity assessment procedures*

Any procedure used, directly or indirectly, to determine that relevant requirements in technical regulations or standards are fulfilled.

Explanatory note

Conformity assessment procedures include, *inter alia*, procedures for sampling, testing and inspection; evaluation, verification and assurance of conformity; registration, accreditation and approval as well as their combinations.

4. *International body or system*

Body or system whose membership is open to the relevant bodies of at least all Members.

5. *Regional body or system*

Body or system whose membership is open to the relevant bodies of only some of the Members.

6. *Central government body*

Central government, its ministries and departments or any body subject to the control of the central government in respect of the activity in question.

Explanatory note:

In the case of the European Communities the provisions governing central government bodies apply. However, regional bodies or conformity assessment systems may be established within the European Communities, and in such cases would be subject to the provisions of this Agreement on regional bodies or conformity assessment systems.

7. *Local government body*

Government other than a central government (e.g. states, provinces, Länder, cantons, municipalities, etc.), its ministries or departments or any body subject to the control of such a government in respect of the activity in question.

8. *Non-governmental body*

Body other than a central government body or a local government body, including a non-governmental body which has legal power to enforce a technical regulation.

ANNEX 2

TECHNICAL EXPERT GROUPS

The following procedures shall apply to technical expert groups established in accordance with the provisions of Article 14.

1. Technical expert groups are under the panel's authority. Their terms of reference and detailed working procedures shall be decided by the panel, and they shall report to the panel.
2. Participation in technical expert groups shall be restricted to persons of professional standing and experience in the field in question.
3. Citizens of parties to the dispute shall not serve on a technical expert group without the joint agreement of the parties to the dispute, except in exceptional circumstances when the panel considers that the need for specialized scientific expertise cannot be fulfilled otherwise. Government officials of parties to the dispute shall not serve on a technical expert group. Members of technical expert groups shall serve in their individual capacities and not as government representatives, nor as representatives of any organization. Governments or organizations shall therefore not give them instructions with regard to matters before a technical expert group.
4. Technical expert groups may consult and seek information and technical advice from any source they deem appropriate. Before a technical expert group seeks such information or advice from a source within the jurisdiction of a Member, it shall inform the government of that Member. Any Member shall respond promptly and fully to any request by a technical expert group for such information as the technical expert group considers necessary and appropriate.
5. The parties to a dispute shall have access to all relevant information provided to a technical expert group, unless it is of a confidential nature. Confidential information provided to the technical expert group shall not be released without formal authorization from the government, organization or person providing the information. Where such information is requested from the technical expert group but release of such information by the technical expert group is not authorized, a non-confidential summary of the information will be provided by the government, organization or person supplying the information.
6. The technical expert group shall submit a draft report to the Members concerned with a view to obtaining their comments, and taking them into account, as appropriate, in the final report, which shall also be circulated to the Members concerned when it is submitted to the panel.

CODE OF GOOD PRACTICE FOR THE PREPARATION, ADOPTION AND APPLICATION OF STANDARDS

General Provisions

- A. For the purposes of this Code the definitions in Annex 1 of this Agreement shall apply.
- B. This Code is open to acceptance by any standardizing body within the territory of a Member of the WTO, whether a central government body, a local government body, or a non-governmental body; to any governmental regional standardizing body one or more members of which are Members of the WTO; and to any non-governmental regional standardizing body one or more members of which are situated within the territory of a Member of the WTO (referred to in this Code collectively as "standardizing bodies" and individually as "the standardizing body").
- C. Standardizing bodies that have accepted or withdrawn from this Code shall notify this fact to the ISO/IEC Information Centre in Geneva. The notification shall include the name and address of the body concerned and the scope of its current and expected standardization activities. The notification may be sent either directly to the ISO/IEC Information Centre, or through the national member body of ISO/IEC or, preferably, through the relevant national member or international affiliate of ISONET, as appropriate.

SUBSTANTIVE PROVISIONS

- D. In respect of standards, the standardizing body shall accord treatment to products originating in the territory of any other Member of the WTO no less favourable than that accorded to like products of national origin and to like products originating in any other country.
- E. The standardizing body shall ensure that standards are not prepared, adopted or applied with a view to, or with the effect of, creating unnecessary obstacles to international trade.
- F. Where international standards exist or their completion is imminent, the standardizing body shall use them, or the relevant parts of them, as a basis for the standards it develops, except where such international standards or relevant parts would be ineffective or inappropriate, for instance, because of an insufficient level of protection or fundamental climatic or geographical factors or fundamental technological problems.
- G. With a view to harmonizing standards on as wide a basis as possible, the standardizing body shall, in an appropriate way, play a full part, within the limits of its resources, in the preparation by relevant international standardizing bodies of international standards regarding subject matter for which it either has adopted, or expects to adopt, standards. For standardizing bodies within the territory of a Member, participation in a particular international standardization activity shall, whenever possible, take place through one delegation representing all standardizing bodies in the territory that have adopted, or expect to adopt, standards for the subject matter to which the international standardization activity relates.
- H. The standardizing body within the territory of a Member shall make every effort to avoid duplication of, or overlap with, the work of other standardizing bodies in the national territory or with the work of relevant international or regional standardizing bodies. They shall also make every effort to achieve a national consensus on the standards they develop. Likewise the regional standardizing

body shall make every effort to avoid duplication of, or overlap with, the work of relevant international standardizing bodies.

I. Wherever appropriate, the standardizing body shall specify standards based on product requirements in terms of performance rather than design or descriptive characteristics.

J. At least once every six months, the standardizing body shall publish a work programme containing its name and address, the standards it is currently preparing and the standards which it has adopted in the preceding period. A standard is under preparation from the moment a decision has been taken to develop a standard until that standard has been adopted. The titles of specific draft standards shall, upon request, be provided in English, French or Spanish. A notice of the existence of the work programme shall be published in a national or, as the case may be, regional publication of standardization activities.

The work programme shall for each standard indicate, in accordance with any ISONET rules, the classification relevant to the subject matter, the stage attained in the standard's development, and the references of any international standards taken as a basis. No later than at the time of publication of its work programme, the standardizing body shall notify the existence thereof to the ISO/IEC Information Centre in Geneva.

The notification shall contain the name and address of the standardizing body, the name and issue of the publication in which the work programme is published, the period to which the work programme applies, its price (if any), and how and where it can be obtained. The notification may be sent directly to the ISO/IEC Information Centre, or, preferably, through the relevant national member or international affiliate of ISONET, as appropriate.

K. The national member of ISO/IEC shall make every effort to become a member of ISONET or to appoint another body to become a member as well as to acquire the most advanced membership type possible for the ISONET member. Other standardizing bodies shall make every effort to associate themselves with the ISONET member.

L. Before adopting a standard, the standardizing body shall allow a period of at least 60 days for the submission of comments on the draft standard by interested parties within the territory of a Member of the WTO. This period may, however, be shortened in cases where urgent problems of safety, health or environment arise or threaten to arise. No later than at the start of the comment period, the standardizing body shall publish a notice announcing the period for commenting in the publication referred to in paragraph J. Such notification shall include, as far as practicable, whether the draft standard deviates from relevant international standards.

M. On the request of any interested party within the territory of a Member of the WTO, the standardizing body shall promptly provide, or arrange to provide, a copy of a draft standard which it has submitted for comments. Any fees charged for this service shall, apart from the real cost of delivery, be the same for foreign and domestic parties.

N. The standardizing body shall take into account, in the further processing of the standard, the comments received during the period for commenting. Comments received through standardizing bodies that have accepted this Code of Good Practice shall, if so requested, be replied to as promptly as possible. The reply shall include an explanation why a deviation from relevant international standards is necessary.

O. Once the standard has been adopted, it shall be promptly published.

P. On the request of any interested party within the territory of a Member of the WTO, the standardizing body shall promptly provide, or arrange to provide, a copy of its most recent work

programme or of a standard which it produced. Any fees charged for this service shall, apart from the real cost of delivery, be the same for foreign and domestic parties.

Q. The standardizing body shall afford sympathetic consideration to, and adequate opportunity for, consultation regarding representations with respect to the operation of this Code presented by standardizing bodies that have accepted this Code of Good Practice. It shall make an objective effort to solve any complaints.

25 January 1994

GATT - 49TH SESSION OF THE CONTRACTING PARTIES

25-27 January 1994, Geneva

Report by Ambassador H. Ukawa (Japan), Chairman of the Group on
Environmental Measures and International Trade, to the
49th Session of the CONTRACTING PARTIES

the context of packaging requirements.

Labelling requirements

66. UNCED recognized the potential usefulness of labelling requirements aimed at protecting the environment (eco-labelling) in terms of them providing information that can assist consumers to make environmentally-sound purchasing decisions.
67. The majority of the eco-labelling schemes examined in the Group, on the basis of information provided by individual delegations, are voluntary in nature. While not mandatory, since they are designed to differentiate products on the basis of their environmental characteristics they can have a major influence on conditions of competition in a market.
68. As in the case of packaging requirements, many delegations have emphasised the importance of the transparency of eco-labelling schemes for overseas suppliers (the desirability of ex ante transparency has been stressed) and of adequate time allowed for foreign suppliers to adjust.
69. An unlabelled product, whether tested or not, may face a market disadvantage by conveying the impression that it has environmental shortcomings. Attention in the discussions has therefore focused on effective access for foreign suppliers to domestic labelling schemes, namely having the opportunity to participate and raise their trade concerns, as necessary, in the process through which product criteria and threshold levels for awarding eco-labels are decided, and their products having access to certification systems and the awarding of labels on the same terms as domestically produced goods.
70. The choice of products to be labelled and the criteria that a product must meet to obtain an eco-label are viewed as generally being the most critical aspects of a labelling programme. It has been noted that both tend normally to reflect local environmental conditions, such as resource constraints and local preferences for specific environmental product attributes, which may prove difficult for foreign producers to meet or result in overlooking positive environmental qualities of imported products. Local industry influence in the choice of products or criteria should not result in inadvertent protective consequences, and the importance of basing the criteria on sound scientific evidence has been stressed. Some saw a need for a greater role for public authorities in certain aspects of the process of developing and granting eco-labels.
71. Life-cycle analysis of a product's environmental qualities are increasingly being used in eco-labelling schemes, although in practice these may tend to highlight only a few of a product's environmental attributes. The choice made will inevitably involve value judgements and can have an important influence on the trade effects of the measures. For this reason, the desirability of providing foreign suppliers access at the

design stage of the scheme to allow their trade concerns to be taken into account was stressed.

72. Eco-labelling criteria based on processes and production methods (PPMs) which are put in place using a single formula may prove particularly difficult, and even environmentally inappropriate, for overseas suppliers to meet. PPM problems can vary from one country to another, and they raise a number of complex issues in respect of the trade effects of eco-labels.

73. Foreign suppliers' access to an eco-label may be restricted if their own preferred PPMs do not coincide with those required in the overseas market, or if establishing that they meet the process standard involves substantial additional cost. Criteria based on PPMs may also require that confidential business information be disclosed in order to gain an eco-label. Although not discussed in any detail, concerns have been registered that specifying trade restrictions in terms of PPMs can amount to exporting domestic environmental standards (and raise, in the view of some, issues of extraterritorial application). However, in the view of some delegations if an eco-label is awarded on the basis of life-cycle analysis of the environmental impact of a product - which they consider is often the case - it seems inevitable to them that it will need to take the environmental impact of the PPMs used into account, no matter where they have their environmental effect.

74. Attention has also been called to the special problems that developing countries may face. In particular, it has been suggested that they may use very different PPMs from those considered acceptable in their main markets for gaining an eco-label, and they may lack the capital and the technology to adapt their PPMs accordingly.

75. Diversity of eco-labelling schemes in different markets, and the problems that this can cause for all multi-market suppliers, especially those of relatively small size, were raised. Doubts were expressed as to whether standardisation has an effective role in reducing this diversity: it is probably neither desirable nor possible to try to standardise differences in environmental conditions, tastes and priorities in different countries. More potential was seen for harmonisation and mutual recognition of criteria used to award eco-labels and of the eco-labels themselves.

UNCED Follow-up

76. As noted in the introduction to this report, the CONTRACTING PARTIES at their 48th Session in December 1992 asked the Group to cover matters raised in Agenda 21 of UNCED with respect to making trade and environmental policies mutually supportive. (For details see Annex II). The Group has formally discussed substantively UNCED follow-up in two of its sessions pursuant to preparations in earlier informal meetings.

77. The Group has been informed of the results of the discussions on UNCED follow-up that took place in the UNCTAD Trade and Development Board last

COTANCE. General Assembly, Lyon 10/6 1994

The issue relating to ECO-label however raised a long debate that last for one hour and half and was concluded with a votation.

The secretariat believes that the sector should take the initiative and insure that the development of ECO-labels for leather clothing, leather furniture, leathergoods and gloves is not conducted without the tanning industry.

Mr Quijano explained that:

- public opinion's pressure for environmental products keeps increasing and the leather industry, if unable to refrain it, might be forced to adapt to it if it does not want to be boycotted;
- in the current Community scheme there is no possibility for creating an ECO-label for leather since it is not a consumer product but a material;
- therefore no environmental standard for leather could be created by this means to oppose the increasing requests of articles manufacturers and consumers;
- tanners and dressers would be obliged to meet sometimes senseless conditions from their customers or authorities if they do not act first by taking initiatives within the downstream sectors;
- the situation is clearly illustrated by the ECO-label for shoes for which the sector had no opportunity to express its opinion as a whole as well as by the developments proliferating everywhere.

The secretariat proposes to launch an initiative for ECO-labels for leather clothing, leather furniture, leathergoods and gloves by supporting the DTI (Danish research centre, member of GERIC). The DTI will take the appropriate action to obtain the dossier seeing that in exploratory meetings, it had given enough assurances to the secretariat to create environmental standards for leather in full cooperation with COTANCE and GERIC members.

During the debate various points were clarified:

- Why the DTI?

The secretariat for the creation of ECO-labels cannot be given to a sectoral research centre such as the CTC, SSIP, BLC or WGR etc because they are too obviously linked with industry. The DTI is a horizontal research centre with a good expertise in the field of leather as it takes part in GERIC and advise tanners in Denmark. This privileged relationship is a guarantee for our sector. Denmark also offers the advantage of appearing as a country with a very good environmental image. An ECO-label developed in Denmark will not raise suspicions as it would in Greece for instance.

- Possibility of creating an ECO-label only for leather clothing as opposed to all clothes, for leather furniture as opposed to all kinds of furniture

There is such a possibility since an ECO-label is also developed for office chairs as opposed to all kinds of chairs.

- Costs

This initiative would not cost anything to the sector since the dossier would be wholly supported by the Commission. The development of ECO-labels for products is advantageous because the actual application for them is not made by tanners and dressers but by articles manufacturers. Therefore these will have to bear the costs as they will also benefit from the environmental-friendly image of the products and win market shares from their competitors.

- CEN

Leather standardisation in the framework of CEN does not deal with environment.

After the debate, the following positions were revealed:

D VDL: Mr Schneider pointed out that the tannery had failed to try and control the situation in Germany and that there were already so many green labels on the market that he could not see the use of such an initiative.
Vote: cannot favour it at the moment.

GB BLC: Dr Sykos expressed reserves on the subject and indicated that the BLC would, on the request of ICT, carry out a feasibility study of an ECO-label for leather based on marketing.
Vote: Would rather see a draft project before taking a decision.

F FPM: Mr Roux was not convinced and would rather give more time to it.
Vote: Cannot take a decision yet.

NL FNL: Mr Dellaert favours the initiative.
Vote: Approves the proposal.

DK FDL: Mr Dittman approves the proposals and adds that there is no alternative and that European standards had to be created. He pointed out that during a recent stay in the US, he had observed that Eagle Ottawa wanted to develop an ECO-label.
Vote: Approves the proposal.

E CEC: Mr Giralt agrees on the secretariat's proposal.
Vote: Approves the proposal.

I UNIC: Dr Mercogliano supports the secretariat's proposal and insists on the collaboration between DTI and the sector. He added that tanners had nothing to lose and everything to win and that time should not be wasted. Dr Mercogliano mentioned that if COTANCE did not take action, Italy would.
Vote: Approves the proposal.

Decisions:

1) The Council invited VDL to distribute the German position statement on hazardous waste to all COTANCE members so that they can adopt it as their own and take appropriate action to their national authorities so that tannery waste and by-products are not considered hazardous and do not have to be disposed in special landfills.

2) The Council adopted the secretariat's position statement relating to HELCOM with the possibility for interested members to introduce opportune modifications to make it more pertinent.

3) The Council invited the secretariat to ask the opinion of the mandated members as to confirm or cancel the decision of launching ECO-labels for leather clothing, leather furniture, leather goods and gloves. The Secretary General is also invited to look for sufficient guarantees with DTI as to the association of the sector in the development of environmental standards for leather in the case where the decision is confirmed by a majority of COTANCE members.

III Relations with the chemical industry

The point was to know whether it was convenient to ask chemicals suppliers to indicate the presence or absence of toxic substances in their products to customers of the leather sector. With the approval of a new Community directive, they would be obliged to transmit information on the ecotoxicity of their products to national and Community authorities. However tanners and dressers would not receive this information although they would be the first interested parties.

Mr Mercogliano favoured the motion and indicated that UNIC has tried to obtain that kind of information but that the chemical industry had ignored its requests. He believes that efforts must be intensified in this field. Mr Schneider, Mr Giralt, Mr Dellaert and Dr Sykes agreed with him. Dr Sykes suggested to ask producers to answer with a simple yes or no to the question whether their chemicals contain a specific substance listed in an inventory such as the "federal toxic release inventory" in the US.

Decision:

The Council invited the secretariat to get in touch with the main chemicals suppliers to ask them to transmit automatically to their customers a note revealing the presence or not of ecotoxic substances.

4/7 1994

COTANCE**ECO LABEL.****Considerations from the perspective of the European Leather Industry***** Regulatory Pressure - Voluntary schemes**

During the last two decades European tanners have been facing an increased regulatory pressure in environmental matters. Legislative approaches to ecological performances of tanneries have been too often biased by political considerations rather than having been based on purely technical and scientific evidence. As a result leather producers in Europe have been confronted with often unnecessary high standards and the danger of not being able to follow the financial escalade in environmental costs. Voluntary schemes, such as the Eco-label, allow industry to agree on environmental schemes which are technically feasible.

*** Environmental legislation - Eco-labels**

Once the basic environmental legislation is set out establishing a plain level field for all operators and providing for an ecologically sustainable development of industry, it makes little sense to oblige business to improve environmental standards with compulsory legislation as it only creates a cost burden which pushes operators either to relocate or out of business. Eco-labels provide a market advantage which, in principle, should allow business to obtain a reasonable return on investments.

*** Eco-label - protectionism**

Eco-labels distort in fact competition as they provide a competitive advantage to these operators who go for them. This is acceptable because the ultimate winners are business and nature. An Eco-label reflects the serial commitment of manufacturers to particularly protect environment. An Eco-label for leather products rewards in fact those producers who have voluntarily decided to invest in ecology. An Eco-label is not a modern tool of commercial protectionism as anybody who complies with the environmental standards it specifies can apply for it. On the contrary, an Eco-label aims for its largest possible use so as to spread as much as possible the benefits for environment.

*** National - European Eco-labels**

Proliferation of Eco-labels for the same product is counter-productive as it leads to confusion amongst consumers and reduces their impact. Divergencies in the environmental specifications for the product concerned by several Eco-labels may provoke an unproductive competition between the Eco-labels which would not serve either business nor nature. Eco-labels are marketing tools and should be designed for the market they ought to cover. With the completion of the European internal market there is little sense for national Eco-labels.

* International - European Eco-label

There is no such "international market" in spite of the globalisation of the economy. Consequently there is no room for an International Eco-label. Regional Eco-labels, such as a European Eco-label, could however provide consumers in other markets with an indication of the ecological characteristics of a product in relation with the environmental demands existing in its region of origin.

* Eco-label for leather / Eco-label for manufactured leather products

An Eco-label is meant to have an impact on the consumer. It therefore makes little sense to develop Eco-labels for the materials composing a consumer product as those would not reach their destinatories. Eco-labeled manufactured leather products on the contrary allow the producers to take advantage of the consumers preference for a "greener" product. Those Eco-labels should set the ecological criteria for the materials they are made of.

* Leather industry - Eco-label

As leather is the main material which makes out a manufactured leather product, an Eco-label for such products should basically set the specifications for this material. It is therefore essential for the emphasis to be laid on leather and for the environmental requirements to be developed in close cooperation with tanners.

* Requirements for leather - Eco-label for leather products

Environmental requirements for leather should be twofold:

1. Requirements concerning the product itself which could be tested by analysing the material.
2. Requirements concerning the production process and waste management practices which could be checked and certified by an independent body.

Gustavo Gonzalez-Quijano

Note: These comments do not necessarily reflect the opinion of COTANCE.



SATRA House
Rockingham Road
Kettering, Northamptonshire
NN16 9JH, England

Telephone Kettering (0536) 410000
International +44 536 410000
Telex 34323 SATRA G
Facsimile (Group 3) (0536) 410626 SATRA

D	M	Y	Time

To: Mr W Frendrup (Environmental Technology)

Country: Denmark

Firm: Danish Technological Institute,

Fax No: 45 43507150

Date: 8 July 1994

From: S G Abbott

Pages (including this sheet): 2

~~P/NR~~

(Please delete as necessary)

Please call the Fax Operator (0536) 410000 regarding transmission problems

Ecolabelling of footwear

In response to your enquiry we believe that, in principle, ecolabelling of footwear could be useful in helping the small but growing proportion of consumers who wish to buy environmentally friendly footwear.

However, the number of components in a shoe and the variety of materials and styles makes the setting up a sensible scheme difficult.

This is highlighted by current studies, led by the Dutch, on developing criteria for ecolabelling of footwear within the EC ecolabelling scheme. By attempting to cover all the main materials and effects the proposed criteria are over-complicated; it would be better to concentrate on a few aspects such as energy use, chromium and VOC emissions and restricted substances. In addition attempting to set performance or fitness -for-purpose criteria has led to a large number of proposed tests.

Thus the way things are progressing the costs of demonstrating compliance will be high, and the timescale for achieving an award might be lengthy in relation to the fashion cycle, restricting the types and numbers of shoe styles for which ecolabels are sought.

Comparisons between leather and other materials are potentially useful, but there is the considerable problem of assessing aspects which are not measurable or comparable. For example is a cotton shoe lining (renewable resource but uses biocides) better than nylon (no biocides but from finite resource)?

I do not see ecolabelling as a technical hindrance to trade as the schemes proposed allow for inclusion of imported products. However in some fields, such as textiles, there is a proliferation of national and industry-based schemes. Our preference is for one EC or international system of ecolabelling.

In general, we feel that ecolabelling is better applied - at least initially - to finished products such as shoes rather than leather. However a scheme for ecolabelling materials would assist shoemakers in choosing materials for ecolabelled footwear.

For further views on leather it might be worth contacting Dr N J Cory at B L C, the UK leather technical centre, fax no 0604 494131.

I hope these notes are helpful,

Stephen Whittaker

Chief Executive
Ron E Whittaker, PhD MPhil BSc FInstP FPRU FBIM
Deputy Chief Executive and Secretary
John Butcher, MBE JP FSCA FInstAM FBIM

SATRA Footwear Technology Centre
A company limited by guarantee

Registered in England No. 153475

THE POSITION OF THE INDUSTRY

Leather Industries of America

This position on the industry's on-going commitment to the environment was affirmed on October 29, 1993, by the Board of Directors of the Leather Industries of America, comprised of 125 companies involved in the production and marketing of leather in the United States.

- The leather industry will continue to give priority attention to the pursuit of any and all technological opportunities to safeguard our environment;
- Using its history of environmental accomplishments as a standard of commitment, the leather industry pledges its full resources — expertise in chemistry, biology, and environmental technology — to preserve the quality of our land, air and water;
- The leather industry will continue to work with, share knowledge with, and cooperate fully with local, state and federal agencies in the establishment of laws and regulations which protect the environment, while taking voluntary initiative to improve performance through alternative processing and sound waste management;
- Industry-wide education and training programs are given top priority to reinforce our obligation as good corporate citizens;
- Increased attention is given to employee awareness regarding their responsibilities to protect our fragile environment on the job, in their homes, and in the communities in which they live.

THE AMERICAN LEATHER INDUSTRY IN PARTNERSHIP WITH THE ENVIRONMENT

Few industries are as dependent on the health of the environment as is the leather industry. Centuries ago the leather industry discovered the value of animal hide, a by-product of the food chain, for durable apparel and covering. Since its humble beginning, it has remained on the leading edge of environmental technology.

Just as the value of its raw materials are dependent on the health of livestock, so is the financial stability of the leather company dependent on environmental stewardship. This summary, listing representative milestones of environmental accomplishment in processing and waste management, is to serve as a ready reference for those seeking information on the industry's efforts to protect our land, air, rivers and lakes — much of which was voluntarily initiated without regulatory mandate.

- Process and equipment changes have made possible reduced water use (and discharge) by as much as three fold.
- Finishing operations are being converted from solvent to water-based finishes. Using the latest technology, the industry is capable of reducing air emissions of volatile organic compounds (VOCs) by as much as 98 percent.
- As new information becomes available on chemical toxicity, the industry has been quick to minimize or eliminate certain processing materials identified as potential health concerns. Alternatives have been put into use for certain dyes and pigments, chemical preservatives, organic solvents, etc.
- Another change currently underway is the replacement of ammonium salts (an important process chemical, but one which may be toxic to certain aquatic species) with carbon dioxide, a harmless gas.
- As part of on-going waste management measures to reduce dependency on landfills, the industry has identified various uses for leather scrap and shavings. The industry employs or is aggressively pursuing processes which recycle leather scrap into bonded leather fiber products, fertilizers, adhesives, packaging materials, and other applications.
- Improved process management and treatment has dramatically reduced effluent discharge.

QUOTES:

"This is an industry committed to preserving the environment, looking beyond existing legislation and environmental regulation to extraordinary breakthroughs in waste management, the recycling of processing resources, and greater utilization of scrap and shavings. This is being accomplished without compromising the high quality of American leathers, thanks to the technical expertise of corporate leadership and sizable outlays of capital investment." — *Charles S. Myers, President, Leather Industries of America, (202) 342-8086*

"In addition to being one of the most desirable materials, leather is an entirely safe material that poses absolutely no threat to human health or the environment." — *Dr. Robert Lollar, Professor Emeritus, Department of Tanning Science, University of Cincinnati, Cincinnati, OH*

LEATHER TANNING AND TRIVALENT CHROMIUM

"It is the position of Leather Industries of America, the trade association of the industry, that trivalent chromium, which is used in the tanning of leather, poses no threat to human health or the environment." — Charles S. Myers, President, Leather Industries of America

The chrome tanning process uses exclusively non-toxic trivalent chromium salts. Seven-to-eight percent of chromium commercially extracted worldwide is used in the tanning industry internationally.

Chromium is a naturally occurring element found in soil, air, water, plants and animals. Animals, including man, need chromium as an essential trace element in the normal metabolism of sugars. In fact, studies have shown that trivalent chromium plays a vital role in the control of diabetes in humans.

Because dietary intake of Cr(III) in the United States is predominately deficient, it is added to a number of over-the-counter vitamin/mineral supplements. Cr(III) is a common green pigment approved for use in personal care products, such as bath soaps and cosmetics. Gut sutures stabilized with Cr(III) are used in a variety of surgical applications. Over the last century, billions of people have used chrome-tanned leather without incident in shoes, gloves, garments, sporting goods, accessories, etc.

The Milwaukee Metropolitan Sewerage District, which receives effluent from ten tanneries, produces a dried sludge product which is marketed as a specialty turf fertilizer under the trade name *Milorganite*®. This product currently contains an average of 700 mg/kg of trivalent chromium, but in the past has been in excess of 7,000 mg/kg. MMSD reports:

"Milorganite® has been safely marketed as a common fertilizer product for 63 years without any reported incidents of adverse effects on plants, humans or the environment. No phytotoxicity has ever been observed by research institutions when Milorganite® was applied to agricultural test plots at recommended application rates or even up to five times the recommended application rates."

In 1989, the Environmental Protection Agency asked for a review of chromium found in wastewater treatment sludge. The review was conducted by 35 recognized experts from academia, government and private industry selected by the U.S. Department of Agriculture's Cooperative State Research Service Technical Committee. Their published conclusions:

"There is no scientific basis to limit application of sewerage sludge-Cr based on phytotoxicity. Similarly, there is no known basis to limit sludge-Cr to protect the food chain, livestock or children from Cr-toxicity due to sludge ingestion, or soil biota or wildlife."

"We have no specific recommendation about sludge-Cr limits, or sludge-Cr application limits because we can identify no scientific basis to establish such limits."

Affirming the above, the U.S. Environmental Protection Agency has excluded leather industry solid wastes from hazardous waste regulation under the Resource Conservation & Recovery Act, and the Occupational Safety and Health Agency has exempted leather from its Hazard Communication Standard.



Summary Ecolabel for footwear

(Proposal by lead country Netherlands)

The European Union considers to implement an Ecolabel for footwear, a proposal prepared by the Dutch foundation for Ecolabelling "Stichting Milieukeur" under the European Ecolabelling scheme (Regulation 880/92).

An Ecolabel on a product can guide the consumer in buying less environmentally damaging products.

An Ecolabel for footwear is considered because of the frequency the consumer buys this product (almost five pairs of shoes a year), the amount (in 1991 1.1 billion pairs of shoes were produced in the EU) and the impact on the environment.

Due to the frequency of buying, the amount and the materials used in footwear contributes to environmental pollution by the spreading of heavy metals after the disposal of the shoe and by the emission of volatile organic compounds in the air and chromium in the water during production.

An Ecolabel sets limits to this pollution of air, water and soil by footwear and gives consumers and producers the opportunity to contribute to diminish these impacts on the environment.

In this final proposal for the European Ecolabel for footwear the functional requirements as proposed by the Dutch Competent Body are mentioned.

Because on this subject no agreement could be found in the Adhoc Working Group we list some proposed alternatives.

Alternative 1: Referring to the future CEN-criteria

Criterion:

"The product should fulfill the criteria of the CEN-norm regarding footwear".

The Ecolabel could be adopted and published but will come into force after the CEN-criteria have been officially published (by the end of 1995).

Alternative 2: Referring to guarantee

Criterion:

"The applicant should have a system of independent judgement of complaints by consumers".

Because of this system manufacturers as a matter of fact guarantee the quality of their products.

The Hague, 31 December 1994



1. Defining the product group

"All articles of clothing designed to protect or cover the foot, with a fixed outer sole which comes into contact with the ground".

A minimum of 90% of the material used for any shoe to which an eco-label can apply must consist of the following: leather, rubber, EVA, PUR, PVC, Polyamid, polyester, cotton.

The requirements laid down in this scheme of certification apply if the materials listed above constitute more than 3% of the weight of the shoes or more than 10% of the surface of the upper material.

Metal is permitted for more than 3% in safety shoes as described in guidelines EN 344/345/346 and/or 89/686/EC. The requirements are based on shoe size 40 Paris point. If this "test model" fulfills the criteria, the whole series fulfills the criteria. For children's shoes the requirements for a size 32 Paris point apply (or the largest size in case of maximum sizes smaller than 32 Paris point).

Footwear as meant under an eco-label for shoes also includes the following:

- shoes with a flat or high heel for normal indoor or outdoor use;
- sandals of various types, slippers and suchlike;
- dance shoes;
- sports shoes without any special accessories;
- shoes made in one piece e.g. from rubber or plastic;
- protective footwear covered by the EC guideline 89/686/EC.

Not included are shoes with special accessories for specific sports such as spikes, clips, skates, football boots, ski boots and suchlike.

They are excluded on the grounds that "outer sole which comes into contact with the ground" does not apply.

2. Defining the model

In the process of granting an eco-label, shoes which differ from one another in only a few components can be regarded as falling into the same category. This is conditional on the supplier giving a clear description of the variations in the eco-label application. The test institute assesses whether the condition of similarity between types of shoe has been fulfilled and which aspects require further examination.

When a group of shoes is extended to include new models, a similar procedure must be followed. The concept of 'variation' also includes: a change in supplier, e.g. obtaining the leather from a different tanner.



3. Environmental requirements

A. Raw materials

i) Use of raw materials

Requirement

The total energy content of the used Non Renewable Resources must not exceed 70 MJ/pair.

For a child's shoe this figure is a maximum of 45 MJ/pair.

This requirement does not apply to safety shoes which are covered by EN-344/345/346 and/or 89/686/EC.

Method

$$\Sigma(M_{(\text{material})} \times E_{(\text{material})})$$

$M_{(\text{material})}$ = weight of material (kg)

$$E_{(\text{material})} =$$

$$E_{(\text{material})} + E_{(\text{use})} \text{ (MJ/kg)}$$

For $E_{(\text{material})}$ see Appendix I

Applicant will deliver the end product and all components for testing.

ii) Exclusion of materials and additives

Requirements

The following heavy metals and compounds are excluded until the range of 50 ppm (each element): Hg, Cd, Cr (with the exception of chrome-tanned leather), Pb, As, Sn, Ag, Ti and Te.

Chlorinated phenols (excluding pcp) below detection limit.

Method

Heavy metals should be analysed according to 86/278/EEG;
Chlorinated phenols should be analysed using GC.

B. Leather (all types)

Environmental aspects

i) Cr emission

Requirement

Chrome emission (in the effluent) across the whole chain (including dyeing) must not exceed 120 mg/pair.

Similarly with respect to all the processed leather no more than 0.33 g Cr/kg may be emitted during the entire tanning phase (this corresponds to a chrome emission level of 2 ppm when 40 m³ of water is used per ton of hides).
(Public waste water treatment can be integrated in the calculations.)

Method

Cr emission should be analyzed according to relevant national standards to be selected by the Competent Body.

ii) VOC emission

Requirement

The leather used in the manufacture of shoes must be treated with water based finishes or solvents, unless the tanner can demonstrate that measures have been implemented whereby the VOC emissions are limited to a maximum of 150 mg/m³.

Method

VOC emission should be analyzed according to relevant national standards to be selected by the Competent Body.

iii) COD emission

Requirement

The emissions to water have to pass through a waste water treatment plant (a public plant is also allowed).

Method

Producer's documentation of treatment plant and site or inspection by a ISO-9001/2 certified institute and selected by the Competent Body.



C. Synthetic upper and lining materials

Environmental aspect

i) VOC emission

Requirement

The synthetic upper material used in the manufacture of shoes may only be treated with water based finishes or solvents, unless the producer of the material can demonstrate that measures have been implemented whereby the VOC emissions are limited to a maximum of 150 mg/m³.

Method

VOC emission should be analyzed according to relevant national standards to be selected by the Competent Body.

In addition, the requirements listed under E (plastic sole materials) also apply.

D. Cotton

Environmental aspect

i) VOC emission

Requirement

The cotton used in the manufacture of shoes may only be treated with water based finishes or solvents unless the producer of the material can demonstrate that measures have been implemented whereby the VOC emissions are limited to a maximum of 150 mg/m³.

Method

VOC emission should be analyzed according to relevant national standards to be selected by the Competent Body.

ii) Bleaching

Requirement

Cotton may not be bleached with chlorine-based bleaches.

**Method**

Producer's list of used bleaches with data sheets from manufacturer(s) of the used bleaches and inspection of the Environmental Management Report in which the measurement is documented.

iii) COD emission**Requirement**

The emissions to water have to pass through a waste water treatment plant (a public plant is also allowed).

Method

Producer's documentation of treatment plant and site or inspection by a ISO-9001/2 certified institute and selected by the Competent Body.

E. Plastic sole materials and rubber**Environmental aspect****i) VOC emission****Requirement**

During the production of the rubber sole the total VOC emission may not exceed 150 mg/m³.

Method

VOC emission should be analyzed according to relevant national standards to be selected by the Competent Body.

ii) Emission from PUR**Requirement**

No TDI may be used in the manufacture of PUR and the maximum emission of MDI during the production may not exceed 50 g/ton and 20 mg/m³.

Method

TDI: inspection of Environmental Management Report in which this measurement is documented.

The MDI emission should be analyzed according to relevant national standards to be selected by the Competent Body.



iii) Emission of toxic substances

Requirement

In the manufacture of foam from plastics no volatile organic substances (VOC) may be used (including chlorinated hydrocarbons).

EDC emissions from a MVC plant may not exceed 5 g EDC/ton PVC.

MVC emissions from a PVC plant may not exceed 80 g MVC/ton PVC air emission.

Method

EDC- and MVC emissions should be analyzed according to relevant national standards to be selected by the Competent Body.

iv) Additives to rubber

Requirement

No more than 2% (w/w) of sulphur may be added to rubber soles as a vulcaniser. No nitrosodiphenylamine may be used as an additive.

Method

Inspection of the Environmental Management Report in which these measurements are documented.

F. Shoe manufacture

Environmental aspect

VOC emission of adhesives

Requirement

The adhesive used to assemble the shoe should be free of organic solvents, with the exception of the adhesives used to bond the sole. The sole adhesive should be toluene-free. The maximum of toluene free, VOC-based, adhesives: 30 g/pair (total adhesive).

Method

Mass balance (per year) regarding the definite product. Demonstration of the mass balance. Data sheets of the producer's of all used adhesives.



4. Functional requirements

The requirements are indicated for each sort of material. Only the prescriptions mentioned under the materials used in the manufacture of the shoes apply. A condition is that at least 3% of the weight or (in the case of upper and lining material) 10% of the surface should be made of the material mentioned.

G. Upper leather

i) Tear strength

Requirement

Child's shoe: min. 100 N
Other shoes: min. 50 N

Method

ISO-3377

ii) Rub fastness

Requirement

At most very limited damage (min. 4 according to CTL F64):

<u>rubs</u>	<u>felt</u>	<u>leather</u>
50	dry	wet
50	wet	dry
30	rubber	dry
20	rubber	wet

Method

IUF/450

Veslic C4505

iii) Resistance to repeated flexing dry and wet

Requirement

At most very limited damage (min. 4 according to CTL F65):

<u>flexes</u>	<u>type of leather</u>
- 50.000	split leather with top layer
- 15.000	patent leather
- 20.000	other types of leather



Method
IUP/20

iv) Water vapour permeability

Requirement
At least 1.0 mg/(cm².h)

Method
EN-344, clause 5.13.1

Remark
Only for closed shoes

H. Synthetic upper material

i) Tear strength

Requirement
Min. 50 N

Method
IUP/8

ii) Resistance to repeated flexing

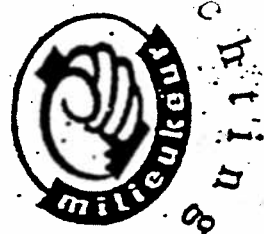
Requirement
After 100.000 flexes very limited damage (min. 3 according to Satre)

Method
IUP/20

iii) Rub fastness

Requirement
- Finish layer: At most only limited damage (min. 4-5 according to CTL F65):

<u>rubs</u>	<u>felt</u>	<u>material</u>
50	dry	wet
50	wet	dry
30	rubber	dry
20	rubber	wet



<u>rub</u>	<u>cotton fabric</u>	<u>material</u>
100	dry	wet
100	wet	dry

Method

- Finish layer: IUF/450

*iv) Water vapour permeability**Requirement*

Min. 1.0 mg/(cm².h)

Method

EN-344, clause 5.13.1

Remark

Only for closed shoes

I. Textile upper material*i) Tear strength**Requirement*

Min. 50 N

Method

ISO-3377

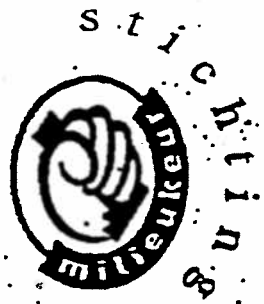
J. Lining leather*i) Tear strength**Requirement*

Min. 30 N

Method

ISO-3377

ii) Rub fastness

**Requirement**

At most only limited damage (min. 4 according to CTL F64):

<u>rub</u>	<u>felt</u>	<u>material</u>
50	dry	wet
50	wet	dry
50	sweat	dry

Method

IUF/450

iii) Water vapour permeability**Requirement**

Min. 1.0 mg/(cm².h)

Method

IUP/15

K. Synthetic lining material (with top layer)**i) Tear strength****Requirement**

Min. 30 N

Method

ISO-3377

ii) Water vapour permeability**Requirement**

Min. 1.0 mg/(cm².h)

Method

IUP/15

Remark

Only for closed shoes



L. Textile lining

i) Tear strength

Requirement
Min. 20 N

Method
ISO-3377

M. Insole leather

i) Stitch tear strength

Requirement
Min. 65 N/mm

Method
DIN-53331

ii) Water soluble matter

Requirement
Total: max. 15%
Salts: max. 1.5%
Epsom salt: max. 1.0%

Method
Total: IUC/6
Salts: IUC/6
Epsom salt: ISO 5399

iii) Water absorption

Requirement
Absorption min. 35%
Desorption min. 40%

Method
EN-344



N. Non leather insole materials

i). Stitch tear strength

Requirements

Dry min. 50 N

Wet min. 30 N

Method

Din-53331

ii) Water absorption

Requirements

Absorption min. 35%

Desorption min. 40%

Method

EN-344

O. Sole leather

i) Thickness

Requirements

Min. 3.5 mm (Women's footwear 3.0 mm)

Method

ISO-3589

ii) Abrasion resistance

Requirements

Volume loss: max. 400 mm³

Method

ISO-4649 Method A



P. Rubber and plastic sole materials

i) Thickness

Requirement

Min. 4 mm excluding profile

Method

ISO-2589

ii) Abrasion resistance

Requirement

Maximum volume loss in mm³ depending of material and application:

<u>Material</u>	<u>Child's</u>	<u>Other shoes</u>
Rubber	150	250
TR	250	300
PVC	150	200
PUR	100	200
Poro-type	200	300

Method

ISO-4649, Method A

Remark

Rubber, PVC and TR at 10 N; PUR and poro-type materials at 5 N

iii) Resistance to repeated flexing

Requirement

Maximum increase of incision: 4 mm

Method

EN-344

iv) Resistance to hydrolysis

Requirement

The material treated must come up to the standards for repeated flexing

Method

ISO-5423, Annex C



Remark

Only for PUR

Q. Construction of shoe

i) Adhesion of sole to upper

Requirements

- Stuck- on sole: Peeling-off strength 2 N/mm and 10 mm minimum width of adhesion
- Stitched sole: After 500.000 flexes no loosening of seam

Method

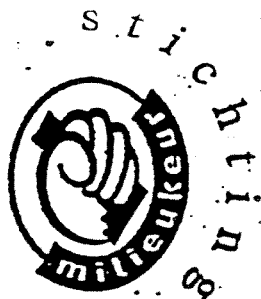
- Stuck- on sole: EC-A3
- Stitched sole: PM 92

5. Supplementary requirements

Shoes should be packed in a cardboard box made from a minimum of 80% recycled paper (if packed).

6. Inspection testing

The analysis and tests should be carried out by institutes selected by the Competent Body or institutes which fulfil EN-45001 or equivalent norm.



Appendix I

NRER:

Light upper leather: 77 MJ/kg

Inner sole leather and leatherboard: 38 MJ/kg

Heavy sole leather: 29 MJ/kg

Cotton: 65 MJ/kg

PUR (*upper material*): 89 MJ/kg

PUR (*sole material*): 85 MJ/kg

PA/PET (*upper material*): 81 MJ/kg

EVA (*lasting*): 88 MJ/kg

EVA (*injection moulding*): 93 MJ/kg

Rubber: 58 MJ/kg

Natural rubber (mixed): 50 MJ/kg

Wood and cork: 33 MJ/kg

Copper: 90 MJ/kg

Steel: 23.4 MJ/kg

Aluminum: 198.2 MJ/kg

Other plastics: 80 MJ/kg

PVC: 68 MJ/kg !

100% recycled material: 10 MJ/kg (x% recycled p.c. material can be recalculated using the NRER of the virgin material)
(post-consumer)

Internationale Gemein-
schaft für Forschung und
Prüfung auf dem Gebiet
der Textilökologie

International Association
for Research and Testing
in the Field of Textile Eco-
logy

Association Internationale
de Recherche et d'Essai
dans le domaine de l'Eco-
logie des Textiles

Öko-Tex

Öko-Tex Standard 116

(Deutsch/English/Français)

Leder und Lederbekleidung, ausgenommen Babybekleidung

Leather and leather clothing, without baby clothing

Cuir et vêtements en cuir, à l'exception de la layette

Spezielle Bedingungen für die
Vergabe der Berechtigung zur
Öko-Tex-Kennzeichnung für
Leder und Lederbekleidung,
ausgenommen Babykleidung.

Special conditions for granting
the authorization to use the
mark Öko-Tex for leather and
leather clothing, except baby
clothing.

Conditions spéciales relatives à
l'octroi de l'autorisation d'ap-
poser le label Öko-Tex, pour cuir
et vêtements en cuir, à l'except-
ion de la layette

Inhalt

1. Zweck
2. Anwendung
3. Begriffe
4. Bedingungen

Contents

1. Purpose
2. Applicability
3. Terms and definitions
4. Conditions

Table des matières

1. Objet
2. Utilisation
3. Définitions
4. Conditions

1. Zweck

Der Öko-Tex Standard 100 legt die allgemeinen Bedingungen für die Vergabe zur Berechtigung fest, Textilien mit der Öko-Tex-Kennzeichnung "Textiles Vertrauen - Schadstoffgeprüfte Textilien nach Öko-Tex Standard 100" auszuzeichnen.

Der vorliegende Öko-Tex Standard 116 ergänzt den Öko-Tex Standard 100 dadurch, daß er die speziellen Bedingungen, insbesondere die Grenzwerte für die Berechtigung zur Kennzeichnung von Leder und Lederbekleidung, ausgenommen Babybekleidung, festlegt.

2. Anwendung

Dieser Standard ist für Leder und Lederbekleidung, ausgenommen Babybekleidung, anzuwenden.

3. Begriffe

Die im Öko-Tex Standard 100 festgelegten Begriffe werden wie folgt ergänzt:

Leder und Lederbekleidung, ausgenommen Babybekleidung, sind jene Artikel, die vom Hersteller dafür bestimmt sind.

Leder und Lederbekleidung für Babys sind die Artikel, welche für Kinder bis zum zweiten Lebensjahr vorgesehen sind.

Als hautfern sind jene Artikel zu bezeichnen, die nur mit einer kleinen Oberfläche direkt mit der Haut in Kontakt treten (wie z.B. gefütterte Artikel, Einlagestoffe u.ä.).

Als hautnah sind jene Artikel zu bezeichnen, die zu einem großen Teil direkt mit der Haut in Kontakt treten können (wie z.B. Blusen, Hemden, Unterwäsche u.ä.).

4. Bedingungen

Die im Öko-Tex Standard 100 festgelegten Bedingungen werden wie folgt ergänzt:

1. Purpose

The Oeko-Tex Standard 100 specifies the general conditions for granting authorization to mark textiles with "Confidence in Textiles - Passed for harmful substances to Oeko-Tex Standard 100".

This Oeko-Tex Standard 116, which is supplementary to Oeko-Tex Standard 100 determines the special conditions especially limiting values for the authorization to mark leather and leather clothing, with the exception of baby clothing.

2. Applicability

This standard is to be applied to leather and leather clothing, with the exception of such for baby clothing.

3. Terms and definitions

The following terms are supplementary to those defined in Oeko-Tex Standard 100:

Leather and leather clothing, except baby clothing, are those articles qualified for this purpose by the producer.

Leather and leather clothing for babies are those articles, provided for children up to an age of two years.

No skin contact articles are those which are worn with only a little part of their surface in direct contact with the skin (e.g. stuffings, linings etc.).

Skin contact articles are those which are worn with a large part of their surface in direct contact with the skin (e.g. blouses, shirts, underwear etc.).

4. Conditions

The following conditions are added to those laid down in Oeko-Tex Standard 100:

1. Objet

L'Oeko-Tex Standard 100 définit les conditions générales relatives à l'octroi de l'autorisation de marquer les textiles par le label Öko-Tex "Confiance textile - Testé substances nocives d'après Oeko-Tex Standard 100".

Le présent Oeko-Tex Standard 116 complète l'Oeko-Tex Standard 100 en définissant les conditions spéciales et plus particulièrement les valeurs limites relatives à l'autorisation d'apposer le label pour cuir et vêtements en cuir, à l'exception de la layette.

2. Utilisation

Le présent standard doit être utilisé pour cuir et vêtements en cuir, à l'exception de la layette.

3. Définitions

Les définitions données dans l'Oeko-Tex Standard 100 sont complétées comme suit :

Cuir et vêtements en cuir, à l'exception de la layette, sont les articles qui sont considérés comme tels par le fabricant.

Cuir et vêtements en cuir pour bébé sont les articles, prévus pour les enfants jusqu'à leur deuxième année.

Les articles dont le contact direct avec la peau est minime sont considérés comme articles sans contact avec la peau (p.ex. vêtements doublés, triplure, etc.).

Les articles étant en grande partie en contact direct avec la peau sont considérés comme article en contact avec la peau (p.ex. chemisiers, chemises, sous-vêtements, etc.).

4. Conditions

Les conditions définies dans l'Oeko-Tex Standard 100 sont complétées comme suit :

4.1 Antrag und Verpflichtungserklärung

Der Antrag an die jeweilige Stelle der Internationalen Gemeinschaft für Forschung und Prüfung auf dem Gebiet der Textilökologie sowie die Verpflichtungserklärung haben auf den dafür vorgesehenen Formularen zu erfolgen.

4.2 Mustermaterial

Für die Prüfung und als Belegmuster sind vom Antragsteller entweder zwei Bekleidungsstücke oder ein Bekleidungsstück und von jedem für das Bekleidungsstück eingesetzten Flächengebilde ein Laufmeter und von jedem für das Bekleidungsstück eingesetzten Zubehör 5 bis 10 Stück vorzulegen. Bei schmalen oder leichten Artikeln muß das Probengewicht mindestens 100 g betragen.

Die Verpackungsrichtlinien gemäß Öko-Tex Standard 100 sind einzuhalten.

Bei eingesetzten Artikeln, die bereits die Berechtigung zur Kennzeichnung mit "Textiles Vertrauen - Schadstoffgeprüfte Textilien nach Öko-Tex Standard 100" haben, ist das Gutachten vorzulegen.

4.3 Abgabe einer Konformitätserklärung

Die Konformitätserklärung ist gemäß Öko-Tex Standard 100 abzugeben.

4.4 Prüfung

Prüflinge, die einen produktfremden Geruch bzw. einen Geruch aufweisen, der auf eine unsachgemäße Produktion schließen läßt, werden von der Prüfung ausgeschlossen. Die Art und der Umfang der Prüfungen hängen vom zu prüfenden Produkt und den Angaben des Antragstellers über das Produkt ab. Textile Einzelbestandteile, die weniger als 1.0 Gew-% des gesamten Gewichts des zu zertifizierenden Artikels ausmachen, müssen nicht geprüft werden. Das Prüfprogramm wird durch die jeweilige Stelle der Internationalen Gemeinschaft für Forschung und Prüfung auf dem Gebiet der

4.1 Application and issuing of obligation

The Application to the respective organisation of the International Association for Research and Testing in the Field of Textile Ecology and the issuing of obligation have to be given on the respective forms.

4.2 Sample material

For test purposes and for evidence samples the applicant shall provide at least 2 pieces of the clothing or from all used fabrics one running meter and 5 - 10 pieces of any accessory. At least 100 g of tiny or light articles have to be sent to the organisation for testing.

The regulations of the packing instructions in Oeko-Tex-Standard 100 have to be met.

When applied articles have been already granted the authorization to use the mark "Confidence in Textiles - Passed for harmful substances to Oeko-Tex Standard 100", the certificate has to be displayed.

4.3 Issuing a conformity declaration

The conformity declaration has to be given in accordance to Oeko-Tex Standard 100.

4.4 Testing procedure

Test specimens having an odour extraneous to the product or an odour indicating an improper production technology will be rejected from testing. Type and scope of testing depends on the type of product and on the information about the product the applicant can give. Single textile components weighing less than 1.0 w-% of the total weight of the article to be certified, need not to be tested. The parameters to be tested are determined by the respective organisation of the International Association for Research and Testing in the Field of Textile Ecology

4.1 Demande et déclaration d'engagement

La demande ainsi que la déclaration d'engagement à l'une des organisations de l'Association Internationale de Recherche et d'Essai dans le domaine de l'Ecologie des Textiles doivent être faites sur les formulaires prévus à cet effet.

4.2 Echantillonnage

Pour les essais, et pour servir d'échantillons témoins, le demandeur doit présenter soit deux vêtements soit un vêtement et un mètre linéaire de chaque étoffe utilisé pour le vêtement ainsi que cinq à dix pièces de chaque accessoire utilisé. Une quantité minimale de 100 g par échantillon doit être fournie pour les articles de petite largeur ou légers.

Il convient de respecter les directives des instructions d'emballage de l'Oeko-Tex Standard 100.

Si, pour des articles utilisés l'autorisation pour le label "Confiance textile - Testé substances nocives d'après Oeko-Tex Standard 100" a déjà été donnée, le rapport d'essai correspondant doit être présenté.

4.3 Remise de la déclaration de conformité

La déclaration de conformité doit être faite conformément à l'Oeko-Tex Standard 100.

4.4 Essais

Les échantillons présentant une odeur différente de celle du produit ou encore une odeur dont on peut déduire que la production n'est pas conforme doivent être exclus des essais. La nature et l'étendue des essais dépendent de la nature du produit et des indications du demandeur sur le produit. Les composants textiles individuels représentant moins que 1.0 % en poids de l'article à certifier ne sont pas à tester. Les paramètres à tester sont déterminés par l'organisation de l'Association Internationale de Recherche et d'Essai dans le domaine de l'Ecologie des Textiles (Öko-Tex)

Eine Vollprüfung umfaßt folgende Prüfungen, welche gemäß Öko-Tex Standard 200 durchgeführt werden:

- ▶ Bestimmung des pH-Wertes
- ▶ Qualitative Prüfung auf das Vorhandensein von Formaldehyd
- ▶ Quantitative Prüfung des Gehaltes an freiem und teilweise abspaltbarem Formaldehyd
- ▶ Quantitative Prüfung der extrahierbaren Schwermetallanteile
- ▶ Bestimmung des Pestizidgehaltes
- ▶ Bestimmung des Pentachlorophenolgehaltes
- ▶ Prüfung auf Azo-Farbstoffe, die reduktiv in Arylamine der MAK-Gruppen III A1 und III A2 aufgespalten werden können
- ▶ Prüfung auf allergisierende Farbstoffe
- ▶ Bestimmung der Wasserechtheit
- ▶ Bestimmung der Schweißechtheit
- ▶ Bestimmung der Reibechtheit
- ▶ Geruchsprüfung

A complete testing consists of the following tests, which are performed according to Oeko-Tex Standard 200:

- ▶ Determination of the pH value
- ▶ Qualitative test for the presence of formaldehyde
- ▶ Quantitative determination of free and partly releasable formaldehyde
- ▶ Determination of the content of extractable heavy metals
- ▶ Determination of the content of pesticides
- ▶ Determination of the content of pentachlorophenole
- ▶ Test for Azo-dyestuffs, which may be cracked reductively into arylamines of MAK-groups III A1 and III A2
- ▶ Test for allergenous dyestuffs
- ▶ Determination of colour fastness to water
- ▶ Determination of colour fastness to perspiration
- ▶ Determination of colour fastness to rubbing
- ▶ Odour test

Une analyse complète comprend les essais suivants comme défini dans l'Oeko-Tex Standard 200 :

- ▶ Détermination du pH
- ▶ Détermination de la présence de formaldéhyde
- ▶ Détermination de la teneur en formaldéhyde libre et partiellement éliminable
- ▶ Dosage des métaux lourds dans les extraits
- ▶ Détermination de la présence de pesticides
- ▶ Dosage du pentachlorophénol
- ▶ Recherche de colorants azoïques qui, par réduction, peuvent être dissociés en arylamines appartenant aux MAK-Groupes III A1 et III A2
- ▶ Recherche des colorants allergisants
- ▶ Solidité des teintures à l'eau
- ▶ Solidité des teintures à la sueur
- ▶ Solidité des teintures au frottement
- ▶ Test sur l'odeur

4.5 Grenzwerte/Anforderungen

- ▶ pH-Wert: pH 4.8 - 7.5
- ▶ Gehalt an freiem und teilweise abspaltbarem Formaldehyd, bezogen auf das Probengewicht:
 - hautfern ≤ 300 ppm
 - hautnah ≤ 75 ppm
- ▶ Extrahierbare Schwermetalle, bezogen auf das Probengewicht:

Metallisches Zubehör, hautfern

 - Chrom (total) ≤ 2 ppm
 - Chrom(VI) keine
 - Kupfer ≤ 150 ppm
 - Nickel ≤ 4 ppm

Metallisches Zubehör, hautnah; andere Bestandteile

 - Arsen ≤ 1 ppm
 - Blei ≤ 1 ppm

4.5 Limiting values/requirements

- ▶ pH value: pH 4.8 - 7.5
- ▶ Content of free and partially releasable formaldehyde, referring to the sample weight:
 - no skin contact ≤ 300 ppm
 - skin contact ≤ 75 ppm
- ▶ Extractable heavy metals, referring to the sample weight:

Metallic accessory, no skin contact

 - Chromium (total) ≤ 2 ppm
 - Chromium(VI) none
 - Copper ≤ 150 ppm
 - Nickel ≤ 4 ppm

Metallic accessory, skin contact; other parts

 - Arsenic ≤ 1 ppm
 - Lead ≤ 1 ppm

4.5 Valeurs limites/conditions

- ▶ pH pH 4.8 - 7.5
- ▶ Teneur en formaldéhyde libre et partiellement éliminable par rapport au poids de l'échantillon:
 - sans contact peau ≤ 300 ppm
 - en contact peau ≤ 75 ppm
- ▶ Résidus de métaux lourds par rapport au poids de l'échantillon:

Accessoire en métaux, sans contact peau

 - Chrome (total) ≤ 2 ppm
 - Chrome VI nul
 - Cuivre ≤ 150 ppm
 - Nickel ≤ 4 ppm

Accessoire en métaux, en contact peau; autre composants

 - Arsenic ≤ 1 ppm
 - Plomb ≤ 1 ppm

<ul style="list-style-type: none"> - Cadmium $\leq 0,1$ ppm - Chrom (total) ≤ 2 ppm - Chrom(VI) keine - Kobalt ≤ 4 ppm - Kupfer ≤ 50 ppm - Nickel ≤ 4 ppm - Quecksilber $\leq 0,02$ ppm 	<ul style="list-style-type: none"> - Cadmium $\leq 0,1$ ppm - Chromium (total) ≤ 2 ppm - Chromium(VI) none - Cobalt ≤ 4 ppm - Copper ≤ 50 ppm - Nickel ≤ 4 ppm - Mercury $\leq 0,02$ ppm 	<ul style="list-style-type: none"> - Cadmium $\leq 0,1$ ppm - Chrome (total) ≤ 2 ppm - Chrome VI nul - Cobalt ≤ 4 ppm - Cuivre ≤ 50 ppm - Nickel ≤ 4 ppm - Mercure $\leq 0,02$ ppm
<p>► Gehalt an Pestiziden, bezogen auf das Probengewicht:</p> <ul style="list-style-type: none"> - Grenzwerte: - DDT,DDD,DDE $\leq 1,0$ ppm - HCH's (ausser Lindan) $\leq 1,0$ ppm - Lindan $\leq 0,5$ ppm - Aldrin $\leq 0,2$ ppm - Dieldrin $\leq 0,2$ ppm - Toxaphen $\leq 0,5$ ppm - Heptachlor,-epoxid $\leq 0,5$ ppm - 2,4-D $\leq 0,1$ ppm - 2,4,5-T $\leq 0,05$ ppm - total (inkl. PCP) ≤ 1 ppm 	<p>► Content of pesticides, referring to the sample weight:</p> <ul style="list-style-type: none"> - Limit values: - DDT,DDD,DDE $\leq 1,0$ ppm - HCH's (without Lindan) $\leq 1,0$ ppm - Lindan $\leq 0,5$ ppm - Aldrin $\leq 0,2$ ppm - Dieldrin $\leq 0,2$ ppm - Toxaphen $\leq 0,5$ ppm - Heptachlor,-epoxid $\leq 0,5$ ppm - 2,4-D $\leq 0,1$ ppm - 2,4,5-T $\leq 0,05$ ppm - total (incl. PCP) ≤ 1 ppm 	<p>► Teneur en pesticides par rapport au poids de l'échantillon:</p> <ul style="list-style-type: none"> - Valeurs limites: - DDT,DDD,DDE $\leq 1,0$ ppm - HCH's (sauf Lindan) $\leq 1,0$ ppm - Lindan $\leq 0,5$ ppm - Aldrin $\leq 0,2$ ppm - Dieldrin $\leq 0,2$ ppm - Toxaphen $\leq 0,5$ ppm - Heptachlor,-epoxid $\leq 0,5$ ppm - 2,4-D $\leq 0,1$ ppm - 2,4,5-T $\leq 0,05$ ppm - total (incl. PCP) ≤ 1 ppm
<p>► Gehalt an Pentachlorophenol, bezogen auf das Probengewicht:</p> <ul style="list-style-type: none"> - total $\leq 0,5$ ppm 	<p>► Content of pentachlorophenole, referring to the sample weight:</p> <ul style="list-style-type: none"> - total $\leq 0,5$ ppm 	<p>► Teneur en pentachlorophénol par rapport au poids de l'échantillon:</p> <ul style="list-style-type: none"> - total $\leq 0,5$ ppm
<p>► Farbstoffe der MAK Klassen III A1 und III A2:</p> <ul style="list-style-type: none"> - nicht nachweisbar 	<p>► Dyestuffs of MAK classes III A1 and III A2:</p> <ul style="list-style-type: none"> - below detection limits 	<p>► Colorants appartenant aux MAK-Groupes III A1 et III A2:</p> <ul style="list-style-type: none"> - selon la limite de détection
<p>► Allergisierende Farbstoffe:</p> <ul style="list-style-type: none"> - nicht nachweisbar 	<p>► Allergenic dyestuffs:</p> <ul style="list-style-type: none"> - below detection limit 	<p>► Colorants allergisants:</p> <ul style="list-style-type: none"> - selon la limite de détection
<p>► Krebserregende Farbstoffe:</p> <ul style="list-style-type: none"> - dürfen nicht eingesetzt worden sein 	<p>► Cancerogenous dyestuffs:</p> <ul style="list-style-type: none"> - must not have been used 	<p>► Colorants cancérigènes:</p> <ul style="list-style-type: none"> - ne doivent pas être utilisés
<p>► Mindest-Farbechtheitszahlen für das Anbluten:</p> <ul style="list-style-type: none"> - Wasserechtheit: 3 - Schweißechtheit: - sauer 3 - 4 - alkalisch 3 - 4 - Reibechtheit: - trocken 4 - naß 2 - 3 <p>Wird die Mindest-Reibechtheitszahl bei Pigment- oder Küpenfarbstoffen nicht erreicht, ist eine Mindest-Reibechtheitszahl trocken von 3 und naß von 2 zulässig.</p>	<p>► Minimum colour fastness grades for staining:</p> <ul style="list-style-type: none"> - Colour fastness to water: 3 - Colour fastness to perspiration: - acid 3 - 4 - alkaline 3 - 4 - Colour fastness to rubbing: - dry 4 - wet 2 - 3 <p>If in the case of pigment or vat dyestuffs the above minimum grade of colour fastness to rubbing is not achieved a minimum grade of 3 (dry) and 2 (wet) may be accepted.</p>	<p>► Indice minimal de solidité des teintures vis-à-vis du dégorge-ment:</p> <ul style="list-style-type: none"> - Solidité à l'eau: 3 - Solidité à la sueur: - acide 3 - 4 - alcaline 3 - 4 - Solidité au frottement: - à sec 4 - humide 2 - 3 <p>Si, en présence de colorants pigmentaires ou de cuves, l'indice minimal de solidité des teintures ne peut être atteint, on pourra se contenter d'un indice minimal pour la solidité au frottement à sec de 3 et humide de 2.</p>
<p>► Geruchsprüfung:</p> <ul style="list-style-type: none"> - kein produktfremder Geruch 	<p>► Odour test:</p> <ul style="list-style-type: none"> - no odour extraneous to the product. 	<p>► Test sur l'odeur:</p> <ul style="list-style-type: none"> - pas d'odeur différente de celle du produit.





Sehr geehrte Damen und Herren,

die Westdeutsche Gerberschule Reutlingen (WGR) hat sich nach Beobachtung der Entwicklung im gesamten Prüfbereich dazu entschlossen, ein Prüfzeugnis und ein Prüfzeichen für

"umweltgerecht hergestellte und schadstoffgeprüfte Leder"

zu vergeben. Grundlage für die Vergabe sind die Rechtsvorschriften der Bundesrepublik Deutschland, an die in der Folge eine entsprechende Anpassung vorgenommen wird, sowie die Erfahrungen aus umfangreichen Untersuchungen, die die WGR an Ledern im Bereich der Schadstoffprüfung durchgeführt hat.

Wir haben diese Prüfung aus unserer Fachkenntnis der Lederherstellung und der Umweltbereiche im Ledersektor heraus auch auf die "umweltgerechte Herstellung" der Leder ausgeweitet. Wir wollen damit dem Lederhersteller, dem Lederhandel und dem Lederverarbeiter bis hin zum Verbraucher Sicherheit geben, daß die umweltrechtlichen Anforderungen bei der Herstellung des Leders erfüllt wurden und daß auch eine Prüfung auf Schadstoffe in fachlich richtiger Weise erfolgt ist.

Bei der Prüfung der Umweltaanforderungen legen wir nicht nur das Recht der Bundesrepublik Deutschland zugrunde. Soweit die Lederherstellung außerhalb der Bundesrepublik erfolgt gehen wir von den Bestimmungen des jeweiligen Landes aus.

Die WGR behält sich vor, in den lederherstellenden Betrieben eine Überprüfung der umweltrelevanten Unterlagen und Anlagen vorzunehmen. Aus Gründen der

räumlichen Entfernung bei Kontrollen in den Herstellungsbetrieben muß allerdings die Zeugniserteilung auf den Bereich der EU-Mitgliedsstaaten sowie der Staaten Schweiz und Norwegen begrenzt werden.

Die Bedingungen zur Vergabe des Prüfzeichens sind umfassend und marktan-gepaßt. Es ist den Ledernerstellern auch möglich, kleinere Partien, die aus modischen und sonstigen Gründen auf den Markt gebracht werden müssen, auf diese Weise prüfen zu lassen, ohne daß unüberwindbare zeitliche Hemmnisse eintreten.

Die Vergabe des Prüfzeichens geschieht für Lederhersteller, Lederhändler und Lederverarbeiter wie folgt:

a. Ledernersteller

Als Ledernersteller können Sie sich unmittelbar mit der Abteilung Materialprüfung der WGR in Verbindung setzen und unsere Antragsunterlagen anfordern. Sie senden uns dann mit dem vollständig ausgefüllten Hersteller-Bogen (Seite 2 bis 7 des Formulars) Lederproben ein, wobei die Farbpalette, soweit es der Antragsbogen unter dem Punkt 1.3.1.2 zuläßt, angegeben werden muß. Von der Hauptfarbe sind 3 Probestücke nach DIN 53 302 T1 zu entnehmen (mit einer Mindestmasse von 300 g), von den anderen Farben nach 1.3.1.2 Proben in der Größe von 20 x 30 cm (mit einer jeweiligen Mindestmasse von 100 g).

Nach der Antragstellung und der Einsendung der vollständigen im Antrag geforderten Unterlagen, werden Sie beim Erreichen der von uns vorgegebenen Werte das Prüfzeichen erhalten. Sowohl die von Ihnen eingesandten Antragsunterlagen als auch die Originallederproben werden in der WGR mindestens 5 Jahre aufbewahrt. Die WGR behält sich vor, weitere Lederproben dieser angegebenen Charge, die dann mit unserem Prüfzeichen und der Prüfnummer versehen ist, stichprobenartig zu untersuchen. Die Verwender und Verarbeiter der hergestellten Leder mit Prüfzeichen und -nummer sind deshalb der Prüfstelle auf Anfrage zu benennen.

b. Lederhandel

Auch als Unternehmen des Leder-Groß- und Außenhandels können Sie einen Antrag auf Vergabe eines Prüfzeichens an die WGR richten. Sie verpflichten sich,

- den die Lederfertigung betreffenden Teil des Antrags an den Lederhersteller weiterzugeben, damit dieser für Ihr Leder diesen Teil des Prüfbogens verantwortlich ausfüllen kann.

Für die einzusendenden Leder gelten die unter Punkt a. dieses Schriftstückes gemachten Angaben. Das Gleiche trifft zu für die weiteren Lederfarben, die unter dem Punkt 1.3.1.2 besonders aufgeführt worden sind.

Das Prüfzeugnis und das Prüfzeichen dürfen dann allein von Ihnen im Zusammenhang mit den von Ihnen erworbenen Ledern verwendet werden. Das Prüfzeichen gilt nicht gleichzeitig für den Lederhersteller.

c. Lederverarbeiter

Sind Sie Lederverarbeiter, dann können Sie ebenfalls einen Antrag auf Vergabe eines Prüfzeichens stellen. Sie erhalten von der WGR die Antragsunterlagen zugeschnitten und reichen den für den Lederhersteller bestimmten Teil an diesen weiter. Erst wenn der Ledernersteller seine Angaben vollständig übersandt hat mit der Unterschrift seines Vertretungsberechtigten, können die Leder von der WGR überprüft werden. Dazu sind Proben zu ziehen wie es in diesem Schriftstück unter Punkt a. beschrieben worden ist.

Wichtig ist, daß alle Angaben, die vom Ledernersteller und den weiteren Stufen gemacht werden, rechtsverbindlich sind. Der Vertretungsberechtigte des Lederherstellers muß in dem Antrag genannt werden und diesen unterschreiben. Treten insoweit personelle Änderungen bei dem Ledernersteller ein, dann muß der WGR selbständig der neue Vertretungsberechtigte benannt werden. Bei einer Veränderung des Herstellungsverfahrens ist die Prüfstelle zu unterrichten. Sie entscheidet, ob das Prüfzeugnis mit dem Prüfzeichen aufrecht erhalten werden kann oder ob eine neue Prüfung erforderlich ist.

Proben der neuen Herstellung sind schon mit der vorbezeichneten Meldung einzureichen. Die neuen Proben können Stichprobenprüfungen unterzogen werden.

Das Prüfzeichen dient zur Unterrichtung; es ist kein eigentliches Werbezeichen. Das Prüfzeichen ist in einer Größe zu verwenden, die es gestattet, jederzeit die Prüfnummer zu lesen. Besteht das Endprodukt, an dem das Zeichen verwendet werden soll, aus verschiedenen Materialien, dann muß der flächenmäßig

überwiegende Teil (mindestens 80 %) aus dem geprüften Leder sein und es muß klar ersichtlich sein, worauf sich das Prüfzeichen bezieht. Mit dieser Prüfnummer ist es möglich, die Wege des Leders bis zum Hersteller zurückzuverfolgen, wenn Fragen auftreten.

Diese allgemeine Information ist Bestandteil des gesamten Antrags- und Prüfungsverfahrens.

Westdeutsche Gerberschule - Postfach 2944 - D-72719 Reutlingen



Abteilung: Materialprüfung

Ihr Schreiben vom

Ihre Zeichen

Unsere Zeichen

Datum

MP-Nr.:

bitte bei Rückfragen angeben

Die Westdeutsche Gerberschule Reutlingen (WGR) vergibt ein Prüfzeugnis in Verbindung mit einem Prüfzeichen für "umweltgerecht hergestellte und schadstoffgeprüfte Leder" sowie für Artikel, die aus diesen Ledern gefertigt wurden.

Die Grundlagen dafür bilden rechtsverbindliche Erklärungen der Lederhersteller und Erstmusterprüfungen der Materialprüfabteilung der WGR.

Die Führung des Prüfzeichens kann durch einen entsprechenden Antrag und nach Stichprobenprüfungen, die im Ermessen der Prüfstelle liegen, über die normale Anfangslaufzeit von 1 Jahr noch einmal um 6 Monate verlängert werden. Die WGR behält sich vor, Produkte der geprüften Leder am Markt zu erwerben und ebenfalls stichprobenartigen Untersuchungen zuzuführen.

Ein zusätzlicher Bestandteil des Verfahrens kann auch die Auditierung des Lederherstellenden Betriebes durch Mitarbeiter der WGR sein. Dabei werden die Anforderungen an die Lederherstellung und den Umweltschutzbereich geprüft. Diese Auditierung ist für die Erlangung des Prüfzeugnisses nicht grundsätzlich erforderlich, sie sollte aber von den Prüfzeugnisinhabern angestrebt werden.

Die nachstehenden Erklärungen sind von dem Lederhersteller mit der Antragstellung abzugeben und durch die rechtsverbindliche Unterschrift des Vertretungsberechtigten zu bestätigen.

Die Analysenergebnisse beziehen sich nur auf die eingesandten Proben. Probenreste bleiben 2 Monate in Aufbewahrung.
Vervielfältigungen und Wiedergaben von Attesten nur in Originalfassung, nicht in Auszügen gestattet.

Hausadresse:
Erwin-Seiz-Straße 9
D-72764 Reutlingen

Tel. (07121) 16 23-0
Fax (07121) 16 23-11

USt.-IdNr.:
DE 146484890

Bankkonto:
Volksbank Reutlingen (BLZ 640 901 00)
Konto Nr. 101 817 002

Postscheck Stuttgart
(BLZ 600 100 70)
Konto Nr. 24 520-708

A N T R A G

an die

Westdeutsche Gerberschule Reutlingen (WGR)

Erwin-Seiz-Str. 9 · D-72764 Reutlingen

Tel. 07121/1623-0 · Fax 07121/1623-11

zur Erlangung des Prüfzeugnisses und des Prüfzeichens:

"Umweltgerecht hergestelltes und schadstoffgeprüftes Leder"**1 Angaben zur Lederherstellung**

Diese Angaben zur Lederherstellung stellen rechtsverbindliche Erklärungen des Lederherstellers dar, sie sind nur von dem Hersteller selbst abzugegeben und können nicht übertragen werden. Die Angaben dienen der Westdeutschen Gerberschule zur Entscheidung bei der Erteilung des Prüfzeugnisses und des Prüfzeichens. Erst nach der Abgabe des vollständigen Antrages und bei Erfüllung der Anforderungen in allen Punkten kann die Untersuchung der entsprechenden Leder vorgenommen werden.

Die Westdeutsche Gerberschule verpflichtet sich zur Geheimhaltung des Herstellers und der in dem Antrag gemachten Angaben.

Erklärung des Lederherstellers

(Werden anderenorts vorgefertigte Zwischenprodukte wie Wet-blue oder Crustleder verarbeitet, müssen dem Fertiglederhersteller die Prüfzeugnisse der Vorprodukte vorliegen, die diesem Antrag beizufügen sind.)

1.1 Hersteller der Leder mit vollständiger Firmenanschrift:

1.2. Name und Anschrift des Vertretungsberechtigten:

1.3 Hergestellter und in den Verbrauch gebrachter Ledertyp, Bezeichnungen oder Markennamen:

1.3.1 Verwendete Lederfarbbezeichnungen:

1.3.1.1 Hauptlederfarbe: (für die Gesamtprüfung)

1.3.1.2 Weitere Lederfarben: (Unter diesem Punkt können 10 Lederfarben angegeben werden, die für sich der zusätzlichen Prüfung nach Punkt 2.1.3 unterliegen.)

1.3.2 Vorgesehene Lederverwendungsart: (z.B. Täschner-, Schuhoberleder usw.)

1.3.3 Tier- und Lederart: (z.B. Rind-Anilinleder, Ziegen-Veloursleder usw.)

1.4 Angaben zur Erfüllung der Umweltauflagen des Herstellerlandes:

1.4.1 Sulfidentfernung

Anforderung des Herstellerlandes in mg H₂S/l: _____

Gesamtabwasser: ☐ Teilstrom: ☐

Die Erfüllung dieser Auflage ist durch die Übersendung von mindestens 2 Überwachungszeugnissen der letzten 6 Monate vor Antragstellung (Analysenatteste in Kopien zu diesem Antrag) zu belegen. Ja: ☐

1.4.2 Minimierung der Chromemission

Anforderungen des Herstellerlandes in mg Cr/l: _____

Gesamtabwasser: ☐ Teilstrom: ☐

Die Erfüllung dieser Auflage ist durch die Übersendung von mindestens 2 Überwachungszeugnissen der letzten 6 Monate vor Antragstellung (Analysenatteste in Kopien zu diesem Antrag) zu belegen. Ja: ☐

(Nur auszufüllen bei Anwendung von Chrom-III-Salzen in den Naßprozessen.)

1.4.3 Die Gesamtabwässer der Lederherstellung werden

mechanisch: ja ☐

und biologisch gereinigt: ja ☐

Die Angaben gelten für Direkteinleiter: ☐

und auch für Indirekteinleiter: ☐

deren Abwässer z.B. in einer kommunalen Kläranlage mechanisch und biologisch gereinigt werden. (Bitte entsprechend ankreuzen)

Die genannten Erfüllungen der Umweltauflagen können jederzeit von einem autorisierten Mitarbeiter der WGR in dem Betrieb überprüft werden. Die Einhaltung der Umweltauflagen des Herstellerlandes sind für 6 Monate vor der Antragsabgabe durch die Bereitstellung der Überwachungsanalysen auf Anfrage nachzuweisen. Die weitergehende Erfüllung der Umweltauflagen ist durch regelmäßige Überprüfung für den Zeitraum der Gültigkeit des Prüfzeugnisses durch Analysenberichte auf Anfrage zu belegen.

- 1.5 Für die im Leder verbleibenden Einsatzstoffe liegen dem Lederhersteller die Sicherheitsdatenblätter und die Produktbeschreibungen der Produktlieferanten vor, aus denen die nachstehend geforderten Angaben zu den Produktinhaltsstoffen hervorgehen.

(Die Sicherheitsdatenblätter werden vom Lederhersteller mit dem Antrag eingereicht. Duplikate der Sicherheitsdatenblätter sind vom Lederhersteller mit der Prüfnummer 3 Jahre aufzubewahren. Sie können von der Prüfstelle eingesehen werden)

- 1.5.1 Gerb-/Nachgerbstoffe: ja ☐ nein ☐

- 1.5.2 Farbstoffe: (Ausgeschlossen sind Azofarbstoffe, die die in der 2. und 3. Verordnung zur Änderung der Bedarfsgegenständeverordnung der Bundesrepublik Deutschland vom 15.7.1994 bzw. 16.12.1994 benannten Amine abspalten können.)

ja ☐ nein ☐

- 1.5.3 Fettstoffe: (In diesen dürfen keine adsorbierbaren organischen Halogenverbindungen enthalten sein (AOX).)

ja ☐ nein ☐

- 1.5.4 Zurichtprodukte: (Es dürfen nur Zurichtprodukte auf wäßriger Basis eingesetzt werden. Bei Einsatz von z.B. Appreturen auf anderer Grundlage muß die Einhaltung der gesetzlichen Vorschriften gewährleistet sein.)

ja ☐ nein ☐

- 1.5.5 Bakterizide und Fungizide: (PCP-haltige Produkte dürfen nicht verwendet werden.)

ja ☐ nein ☐

Die Wirkstoffe der eingesetzten Produkte sind nachfolgend anzugeben:

Der Lederhersteller haftet mit dieser rechtsverbindlichen Erklärung für die Richtigkeit und die Einhaltung der in dem Antrag gemachten Angaben. Bei einer Veränderung des Herstellungsverfahrens, die die gemachten Angaben beeinträchtigt, ist die Prüfstelle unverzüglich darüber zu unterrichten. Sie entscheidet allein, ob das Prüfzeugnis mit dem Prüfzeichen aufrechterhalten werden kann. Treten für den benannten Vertretungsberechtigten personelle Veränderungen ein, so sind diese mit der Bekanntgabe und der Unterschrift des neuen Vertretungsberechtigten der Westdeutschen Gerberschule mitzuteilen.

Wird durch eine Überprüfung durch die WGR festgestellt, daß die Grundlagen, die zur Erteilung des Prüfzeugnisses geführt haben, nicht mehr gegeben sind, dann erfolgt eine Mahnung durch die WGR und bei Nichtbeachtung ein Entzug der Verwendungsgenehmigung des Prüfzeugnisses.

Die Prüfung, die zur Vergabe des Prüfzeugnisses führt, erfolgt nur an neuen, unverarbeiteten Ledern. Sie wird nicht an Ledern aus dem Gebrauchszustand heraus vorgenommen.

Da die Westdeutsche Gerberschule keinen Einfluß auf die Probenahme und die Kontinuität der Produktion hat, beziehen sich das Prüfzeugnis und das Prüfzeichen hinsichtlich der Lederprüfung nur auf die vorgelegten und untersuchten Proben. Eine Haftung der Prüfstelle für die nach diesen Angaben gefertigten Partien ist damit ausgeschlossen.

Die nachstehende Unterschrift wird von dem Vertretungsberechtigten geleistet:

Name und Funktion des Vertretungsberechtigten:

Ort und Datum :

2 Lederprüfung

Die Erstmusterprüfung beinhaltet - wie auch die vorgesehenen Stichprobenprüfungen - folgende in der Materialprüfabteilung der WGR durchzuführende Untersuchungen:

- | | | |
|-------|--|--|
| 2.1.1 | Chrom-VI-Verbindungen | unter der Nachweisgrenze des angewandten Verfahrens. |
| 2.1.2 | Pentachlorophenol (PCP) | unter der vorgeschriebenen Höchstgrenze von 5 mg/kg
(Chemikalienverbotsverordnung der Bundesrepublik Deutschland vom 14. Oktober 1993) |
| 2.1.3 | Azofarbstoffe, die in krebserzeugende Amine gespalten werden können. | nicht nachweisbar
(2. + 3. Verordnung zur Änderung der Bedarfsgegenständeverordnung der Bundesrepublik Deutschland vom 15.07.1994 und vom 16.12.94) |
| 2.1.4 | Freier und teilhydrolytisch abspaltbarer Formaldehyd | nicht über 200 mg/kg |
- Diese Prüfungen können im Bedarfsfall durch Entscheidung der Prüfstelle durch folgende Untersuchungen ergänzt bzw. erweitert werden:
- | | | |
|-------|---|-------------------------|
| 2.1.5 | Geruchsprüfung | nicht unter der Stufe 3 |
| 2.1.6 | Qualitative Prüfung auf freien Schwefel | negativ |

Prüfzeugnis

Die Westdeutsche Gerberschule Reutlingen erteilt hiermit der Firma:

die Genehmigung, für die Leder der im Prüfantrag unter der Bezeichnung (Markenname):

und den Farbbezeichnungen:

benannten Produktion für 1 Jahr, vom Vergabetag an, dieses

Prüfzeugnis und Prüfzeichen

mit der Prüfnummer: zu verwenden.

Das Prüfzeugnis und die Prüfnummer können damit auch an Gegenständen verwendet werden, die vollständig oder in der Hauptsache (mindestens 80% der verwendeten Lederflächen) aus diesen geprüften Ledern hergestellt wurden. Bei der Auszeichnung von hergestellten Gegenständen muß bei Mitverwendung anderer (nicht geprüfter) Leder der Hinweis auf die Leder, die die Prüfbezeichnung und Prüfnummer tragen dürfen, in eindeutiger und nicht verwechselbarer Weise erfolgen.

Das Prüfzeichen muß in Form und Schrift genau der Vorgabe durch die Prüfstelle entsprechen und wie die Prüfnummer klar zu erkennen und zu lesen sein. Die dafür erforderliche Mindestgröße muß eingehalten werden. Eine besondere Farbvorschrift gibt es nicht.

Bei einer nach Antrag genehmigten Verlängerung ändern sich das Prüfzeichen und die Prüfnummer nicht.

2.2 Benennung der angewendeten Analysenverfahren:

(Soweit sich die Prüfmethode noch in der Entwicklung befinden, werden diese von der Prüfstelle stets dem neuesten Stand angepaßt. Dies ist durch die Mitarbeit in den entsprechenden nationalen und internationalen Gremien gewährleistet.)

Chrom-VI-Verbindungen, DIN 53 314 E 3.1995 (neuester Entwurf)

Pentachlorphenolgehalt - neuester DIN-Entwurf

Bestimmung der Aryamine: DC / HPLC / GC-MS

Formaldehydgehalt. (frei und teilhydrolytisch abspaltbar) in Anlehnung

an B 82.02 - Amtl. Sammlung von Untersuchungsverfahren nach § 35 LMBG

2.3 Folgende Qualitätsprüfungen werden vorgeschlagen (sie sind im Bedarfsfall durch andere Prüfungen zu ersetzen oder zu erweitern):

2.3.1 Prüfung der Reibechtheit von Lederfärbungen und Zurichtungen DIN 53 339

die Anforderungen werden dem
Lederotyp entsprechend festgelegt.

2.3.2 Bestimmung des pH-Wertes eines wäßrigen Lederaus- zuges DIN 53 312

mindestens 3,5

(Eine Begrenzung des pH-Wertes
zum alkalischen Bereich erfolgt nur
im Bedarfsfall).



State institutions to implement environmentally sound purchasing

A new Circular issued by the Ministry of Environment and Energy requires state purchasing departments to take environmental considerations into account when purchasing

Purchases amounting to more than USD 1,000 million a year will in future be made in an environmentally sound manner.

This is apparent from the Circular "Environmental and Energy Considerations in State Purchasing" issued by the Ministry of Environment and Energy at the end of February.

The Circular means that in future when purchasing, large state institutions such as the Great Belt Link Ltd., which is building the World's longest suspension bridge across the Great Belt Sea, the Road Directorate, the Prisons Service, the Post Office, etc., will have no choice but to accord as much importance to environmental considerations as to other considerations.

Thus Section 2 of the Circular states "All state institutions and state-owned or state-controlled enterprises shall ... undertake environmentally sound purchasing of products and services by placing environmental considerations on an equal footing with other considerations, e.g. price, quality, delivery conditions, etc."

The public sector sets an example

The primary aim of having an environmentally sound public sector purchasing policy is to limit the direct environmental impact of public sector consumption.

Secondly, the public sector can set an example to the private sector and consumers by leading the way in environmentally sound purchasing.

Last but not least, a major purchaser such as the State can influence the market and thereby enable environmentally sound products to gain a foothold. In Denmark this applies to, for example, photocopiers, of which the State accounts for 15% of all sales.

In order to comply with the Circular, state institutions and enterprises have first to draw up an environmentally sound purchasing policy and thereafter a plan of how to implement that policy. The action plans have to be submitted to the Danish EPA by February 1, 1996.

The Circular does not describe in detail

how this should be done, but instead lists the activities that a typical action plan should include. However, the institutions are required to nominate staff members who shall be responsible for environmentally sound purchasing and for ensuring that the action plans are implemented.

Reluctant institutions and enterprises cannot be penalized, but that is in any case unnecessary according to Mariane Hounum of the Danish EPA.

"The Circular has been through hearings in the various Ministries, and the response has been entirely positive," she says.

Handbook on environmentally sound purchasing

In order to aid the enterprises in the process, the Ministry of Environment and Energy will regularly issue information on the most important environmental and energy aspects of different products and services.

The first major guideline was published in May in the form of a handbook on green purchasing. The book is directed at purchasers throughout the public sector and provides general advice and guidelines for inspiration.

Specific environmental requirements, brands or products are not recommended in the book since technology, materials, design, etc., are under continual development. The individual purchaser himself has to take the initiative and investigate the possibilities for undertaking environmentally sound purchasing.

On the other hand, purchasers will find help in the handbook as to how one draws up a purchasing policy, and how one draws up environmental action plans. Moreover, the book gives instructions as to how one can document ones endeavours and control ones suppliers.

See also the Action Plan for a Sustainable Public Procurement Policy, which can be obtained from Miljøbutikken (Phone: +45 33 92 76 92).

Cleaner Technology

Published
by Ministry
of Environment
and Energy

Danish Environmental
Protection Agency

**Newsletter
No. 1**

1995

CONCLUSIONS AND RECOMMENDATIONS

UNIDO Expert Group Meeting, Vienna 3-4. October 1994

1. The meeting appreciated the valuable information and comprehensive material on this complex matter provided by the consultant and representatives of the participating organizations. It also recognized the work done by other national, regional and international institutions on the subject of eco-labelling.
2. The meeting is of the opinion that an international Eco-label would help counter the proliferation of inconsistent or misleading initiatives and that the technical criteria for such an ecological certification should be drafted by UNIDO in cooperation with the interested bodies such as ISO, UNCTAD, and the non-governmental agencies working in the leather field such as ICT, IULTCS, UITIC, and research institutes from industrialized and developing countries.
3. To counteract misleading claims, there is a need for harmonization of eco-labelling schemes on the basis of verifiable parameters. To that end the meeting recognized that, generally, the Eco-label is a consumer-oriented issue and, therefore, an international Eco-label should, in the first instance, be applied to leather products. The inputs (including chemicals) to these products should be subjected to ecological certification.
4. As regards process certification, it was recognized that this is governed by national environmental legislation. To support process certification, process guidelines (including treatment of waste) and glossaries, conforming to internationally acceptable processing technology, norms and standards should be compiled from existing data and information for the national bodies concerned. The Eco-label and process guidelines may constitute elements of a package which could promote the adoption of low waste technology and waste treatment in the sector.
5. The International Eco-label should be of a voluntary nature and be developed in phases. Such a labelling scheme should be in conformity with the stipulations in the revised text of the GATT Technical Barriers to Trade (TBT) Article 7 which deals with "certification systems" and requires, *inter alia*, that these systems do not have the effect of creating obstacles to trade.
6. It is recommended that UNIDO will assume a catalytic and coordinating role, and prepare the first technical draft for the International Eco-label in the leather footwear and leather products industry. The views of the expert group meeting on Eco-label held in Vienna 3-4 October 1994 will be taken into consideration, in particular the recommendation of a strategy facilitating the participation of the developing countries in an Eco-labelling scheme.
7. The first draft should also include a proposal for the establishment of an International ECO-LABEL Committee (IELC) which should be formed with members from appropriate international, regional and national institutions such as ICT, IULTCS, research institutes from industrialized and developing countries and UNIDO, in cooperation with ISO and UNCTAD. The terms of reference of this Committee should include, inter alia, the following:

- to formulate the ECO-label technical specifications
- to formulate the ECO-label requirements and format
- to recommend certifying institutes.

Accredited R&D establishments are seen as the most appropriate institutions for monitoring, testing/verifying an Eco-label.

8. The first draft of the Eco-label scheme should be circulated by UNIDO to the agencies concerned for comments prior to the forthcoming 12th Session of the UNIDO Leather Panel, scheduled to take place end of May 1995, and ultimately be presented to the Regional Consultations on the Leather and Leather Products Industry to be held during the last quarter of 1995.
9. It is further recommended that a feasibility study should be prepared by UNIDO in association with selected national and regional leather and leather products institutions to assess the economic impact of such an Eco-label as applicable to various regions of the world.

Proposal of membership of the International Eco-Label Committee (IELC)

International Council of Tanners (ICT)

International Union of Leather Technicians' and Chemists' Societies (IULTCS)

IULTCS Environment Committee (IUE)

UITIC

Relevant leather institutions (e.g. the institutions in Reutlingen, Northampton, Madras, Shanghai, Bulawayo, Buenos Aires and Cincinnati)

A representative of the chemicals suppliers

UNIDO Leather Panel

UNIDO Leather and Leather Products Unit

United Nations Environment Programme (UNEP)

International Standard Organization (ISO)

World Trade Organization (WTO)

United Nations Conference on Trade & Development (UNCTAD)

As observers can be invited representatives of institutions actually working on eco-labelling of leather and leather products.

Preliminary Outline of Terms of Reference for the International Eco-Label Committee (IELC)

In order to establish a fully operative international eco-labelling scheme for leather and leather products the Committee, assisted by a secretariat, will provide the following services:

1. Selection and establishment of an accrediting organization for future certifying agents and the rules for accreditation, including the monitoring of potential certifying agents.
2. Formulation of policies concerning national and regional regulations and eco-labelling schemes in consumer and producer countries International trade organizations Consumers' organizations Standardizing organizations as ISO or EU EMAS Other interested parties in general.
3. Formulation of technical specifications of product based and process based ecolabelling schemes Parameters and limit values Test methods Performance of the monitoring.
4. Formulation of eco-label requirements and format (who can apply for a label; conditions for use of label; terms of validity; conditions for renewal etc.).
5. Formulation of rules for certification, recommendation of institutes suitable for accreditation as certifying agents, and establishment of an international network of accredited certifying agents.
6. Preparation of a preliminary economical survey of a self-sustaining eco-labelling scheme.
7. Establishment of a permanent updating function and of guidelines for the necessary regular updating of the eco-labelling scheme.
8. Inputs, Work Plan and Time Schedule.

Detailed Terms of Reference and Time Schedule will be prepared shortly after project approval.

Preliminary proposal for technical specifications of eco-labelling of leather and leather products

Product based:

Pentachlorophenol	max. 5ppm
Chromium VI	max. 3ppm
Formaldehyde	max. 200ppm
Aromatic amines ¹	max. 30ppm
Cadmium	³
Nickel	²
pH	≥ 3,5
Leather properties	³

Remarks: ¹ According to German official list
² In leather for watchstraps
³ To be defined

These parameters can be monitored and certified by every accredited institution.

Process based:

Mechanical and biological waste water treatment	necessary
Water based finishing	necessary
Water consumption	max. 50 m ³ /t salted rawhide
Sulphides ⁴	absent
Total chromium ⁴	0,1 kg/t s.r.
COD ⁴	10 kg/t s.r.
Suspended solids ⁴	2 kg/t s.r.

Remark: ⁴ into recipient

Methods of analysis and monitoring to be specified.

