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**WORKSHOP ON POLLUTION ABATEMENT AND  
WASTE MANAGEMENT IN THE TANNING INDUSTRY  
FOR COUNTRIES OF THE DANUBE RIVER BASIN**

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**ECO-LABELLING IN THE LEATHER INDUSTRY**

**(Shortened Version)**

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## **1 Introduction and outline**

In many industrialized countries, environment has become the fourth sales parameter along which the three classical (price, quality, design).

The interest of consumers as well as vendors in having some kind of expression of the so-called "environmental properties" of products has lead to the mushrooming of private eco-labelling initiatives of most variable quality.

A recent publication summarized the results of a questioning of 60 companies in the German leather sector alone which marked their products under names with "bio-", "eco-", "nature-" or the like. Among these 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.

In order to regulate the chaos and to obtain a more objective and comparative labelling, various standardized eco-labelling systems have been established on a national or international basis. The first eco-label system, the "Blue Angel" was introduced in Germany (West) in 1977 and the "award criteria" for the first six product groups were adapted at the end of 1978. There are now approximately twenty national eco-labelling schemes worldwide including those in several developing countries. The European Union has developed an eco-labelling scheme that is intended to replace the national labelling programmes of member states and which is now being implemented.

Some schemes specific for leather products which already exist or are going to be implemented, will be discussed below (section 3)

## **2. Definitions and principles**

Eco-labelling means the voluntary use of labels to inform consumers that a product has been determined to be environmentally more friendly than other products of the same category. Since no absolutely ecologically sound products exist and every product has some negative impact during its lifetime, all eco-labelling systems are relative in the sense that they draw attention to products that are less harmful than similar products. Eco-labelling aims at influencing both consumer behaviour and the product's design in favour of these environment-friendly products and technologies. In markets where consumers prefer environment-friendly (green) products, eco-labels serve as a marketing tool.

Among the various organized eco-labelling schemes, two essentially different approaches exist. Their respective features are found in the figure below:

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## **ECO-LABELLING TYPES**

### **1. Consumer Protection Label**

Aiming towards consumer products (e.g. leathergoods)

Content of supposed harmful substances

Other properties of the product

Label can be granted according to test of the product directly

Label is not given to tanneries directly

Schemes for leather products do exist

### **2. Environmental Certificate**

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.

Certificate can be given to tannery directly

#### **Problems:**

A complete LCA is (prohibitively) expensive

Various factors cannot be balanced against each other

Certification problem (geography; reliability)

First scheme for tanneries has been introduced recently.

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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, which is also, maybe even exclusively, process orientated, looks into the ecological consequences of the production itself. On the other hand, both a life cyclus assessment and the certification question are difficult to handle.

The object of the eco-labelling schemes may be said to be the exertion of a pressure towards an improvement of the way resources are used and towards an ecologically sustainable production. The eco-labelling schemes are based upon voluntary compliance and are consequently self-regulatory and working through the market operations. This type of regulation is different from but not contradictory to the compulsory approach, enforced through laws, decrees etc.

All eco-labelling systems are relative in the sense that they highlight products which are considered to be less harmful than some other products in the same group. Typically, this is handled in a way that about 20% of all products of a given category found on the market deemed to be the "ecologically soundest" can obtain a label.

This kind of regulation does imply that criteria and limit values are to be periodically revised, i.e. sharpened. For the EU schemes, a revision of criteria every third year is envisaged.

Some words might be said concerning the many private declarations. The German investigation mentioned above did show that 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 fatliquoring were regarded to be of some importance. Furthermore, the durability and reparability, 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.

Among the most extreme "ecologists" found is the USA-based organization PETA (People for the Ethical Treatment of Animals) with about 500,000 members. The members of this Animals' Rights Organization are opposed to any utilization of

animals for food, for leather, or as draught animals. "Calfs are murdered for the leather industry". "Do not buy your shoes at the butcher's".

On the other hand, a week ago I found a shop in Germany, selling "nature shoes". The criteria for a "nature shoe" were that the upper had to be made of vegetable tanned leather (conceived as "natural" leather) and the sole of leather or natural latex. The owner of the shop informed me that the shoe suppliers were resident in Pirmasens but had most of the shoes produced in Hungary and other Eastern European countries.

### 3. Labelling schemes of relevance for the leather industry

Although of compulsory and not of voluntary nature, some governmental regulations of the content of various substances in leather may be mentioned here:

According to the EC Council Directive on Safety of Toys of 1988, the maximum permissible level for extractable chromium in leather to be used for toys is 60 mg Cr/kg dry substance (ppm) (extraction with HCl at pH 1,5 and 37°C). According to a French draft decree, any manufacture or importation of leather containing more than 150 ppm extractable trivalent chromium and 0.5 ppm extractable hexavalent chromium will be prohibited.

Since 1990, the production, distribution or utilisation of leather containing more than 5 ppm pentachlorophenol has been prohibited in Germany. Several other countries follow the German rules, and according to the French draft decree mentioned any manufacture or importation of leather containing more than 0.5 ppm (reflecting the detection limit) will be prohibited.

As from 1996-1999, a number of azo dyestuffs which can split off some particular prohibited amines are banned in Germany. Similar legislation is being prepared in France.

Also an upper limit for the formaldehyde content of leather is found in some countries.

Regulations and limits like these have indeed their effect on the eco-labelling schemes.

The actual state of the various organized initiatives in the eco-label field can be summarized as follows:

Among schemes which regard the consumer protection, aspect only belong the German Criteria catalogue for testing shoe components for their content of harmful substances, developed by the Shoe Research Institute in Pirmasens (PFI). Criteria are found for i.e. leather, fur and leatherboard. Products that satisfy the requirements may be marked with the SG Textile Mark ("Schadstoffgeprüft" i.e. "Tested for harmful substances").

A similar scheme is the SATRA Freedom from Harmful Substances Certificate.

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 is taken directly from a textile standard, which leads to values for e.g. chromium or pH which cannot be complied with by leather.

The Netherlands proposal for the criteria for the European Union Eco-label for footwear has now appeared as a final proposal (version 31. December 1994). In relation to the former version, the criteria for leather have undergone some simplifications.

Both versions contain criteria and limits for both product and processing, but no procedures for certification. If the validity of the input data can be reasonably doubted, the matter must be brought for the court.

Westdeutsche Gerberschule Reutlingen has created a scheme for issuing a "green" certificate to tanneries directly, in this way meeting the demand from companies which have perfected their environmental measures more than the compulsory minimum for obtaining a certificate that their production is environmentally friendly. The scheme was presented during the recent IULTCS Conference in Friedrichshafen.

A tannery can apply for two different certificates. One being a Declaration of Freedom from harmful Substances, similar to but simpler and more relevant than the SG or Öko-Tex labels.

The other certificate is production-orientated, environmental loads from the production are 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. At present, only Western European tanneries can apply for this type of certificate.

#### **4. Important Issues for the Leather Industry**

##### A. Selection of criteria and levels of criteria

Especially when discussing international eco-labelling, it is important that criteria selected and limit values set up are related to a scientifically documented evaluation of environmental effects and as far as possible 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 in relations to tanners outside the EU.

It is very important that the tanning industry has the opportunity to exert due influence upon the preparing of Eco-labelling schemes in order to avoid irrelevant and/or unrealistic parameters, criteria or limit values.

It goes without saying that the objective of an ecolabelling system, that about 20% of the products on the market are able to comply with the limits fixed, should be fulfilled.

##### B. 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 environmental load the committee preparing the eco-label scheme and the authority approving it find most 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 pro-

teins, 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.

A group of EU leather institutes are applying the EU for a grant for comprehensive evaluation of alternatives to chromium with regard to environment, human ecology, leather properties and production economy.

Among the criteria which will gain importance can be mentioned occupational health aspects and recyclability. Already, automotive leather producers in the USA offer to take back the leather from scrapped cars. And in Western Europe the amount of chromium in discarded leather products being dumped is much greater than the corresponding amount in waste from the tanneries.

#### C. Eco-labelling costs

Leather and leather products are not exceedingly profitable. Eco-labelling represents a not negligible surplus cost. In the long run, the consumer has to pay for this. An eco-label must not add such costs that it makes an eco-labelling scheme nonsense.

#### D. The hides as a renewable resource and a byproduct.

##### LCA comparisons with synthetic materials

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.

The conception of ecological leather product from ecologically produced raw hides is not wholly unrealistic. Already, cattle is reared "ecologically" in some countries and interest exists among these farmers as well as among tanners to establish a separate handling of such hides. However, a development of this kind will probably be delayed by logistic difficulties, the market being only of limited size.



#### E. 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.

#### F. "Green" labels for tanneries

This is an important incentive for the tanneries in order to promote investment in environmental measures. Fortunately, an initiative in this field has been taken (see above).

#### G. Obligations of subcontractors

The supplier of a final product, applying for an eco-label must be able to get all necessary information and documentation from his subcontractor.

Normally, the tannery has the subcontractor's role by delivering leather to a leathersgoods manufacturer. Also the tannery delivering wet blue may have to comply with specifications from its customers.

Also the tanneries producing leather for products which are going to be eco-labeled, may need detailed information from its chemical suppliers. In some cases this may be difficult to obtain, when the tanning industry is considered a customer of minor importance only.

#### H. The importance of local conditions

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

The salt discharge is no problem for a tannery situated at an ocean shore but a heavy problem e.g. for tanneries in the Danube Basin.

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.

### I. The certification problem

The content of harmful substances in the leather can be controlled near the consumer. However, any eco-label system based upon some kind of LCA presupposes the existence of an independent institution, able to control the environmental impact of the production in the country where it is carried out.

This problem must be solved individually in different countries. However, it should be pointed out that e.g. in the U.K. or in Norway independent companies exist which do this kind of work internationally on a commercial basis.

Also, some kind of international certification system seems to be necessary.

### J. 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.

### K. 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 in beforehand.

## 5. Possible Strategies

With regard to the strategy to choose, two main options exist:

- A) To regard eco-labelling as one further unfair attack on the leather industry. The consequences of this will be to keep the business going as long time as possible, if necessary to switch to other markets with lower demands (but, however, also yielding lower prices) and, probably, finally close down.
- B) To consider eco-labelling as a challenge and give a response. Use the compliance with an eco-labelling system as a marketing parameter and, possibly also obtain a "green label" for the tanning itself.

This can be a way to penetrate e.g. the Western European market and in this way to ensure a pay-back from investments in environmental measures which have been ordered by the authorities and, in a wider perspective, to ensure the survival of the tannery.

## 6. UNIDO Initiatives

UNIDO presented its preliminary points of view to the 11th session of the UNIDO Leather Panel (Nairobi, November 1993). During this meeting it was recommended to hold the expert meeting (Vienna 1994). The conclusions and recommendations of the expert meeting are found in the Annex of the present paper.

UNIDO is going to prepare a first technical draft for an International Eco-label on the leather footwear and leather products industry. The draft is going to be discussed at the next session of the UNIDO Leather Panel.

It was agreed at the Vienna meeting that the establishment of an international Eco-label is necessary in order to bring a certain system in the eco-label issue and offer the customers uniform and reliable consumer information. Although such a label cannot be used as a tool to stop company self-declarations and it is not intended to replace the national and regional eco-labels, it will be of significance especially to those countries which have not yet joined any eco-label scheme.

## 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.