



## ECOLABELS FOR LEATHER AND LEATHER PRODUCTS

**BUCIȘCANU Ingrid - Ioana**

“Gheorghe Asachi” Technical University of Iași, Faculty of Textiles, Leather and Industrial Management, Str. Prof. Dr. Doc. Dimitrie Mangeron, No. 29, 700500 Iași, Romania, E-Mail: [decanat@tex.tuiasi.ro](mailto:decanat@tex.tuiasi.ro)

Corresponding author: Buciușcanu, Ingrid, E-mail: [ibuciscanu@yahoo.com](mailto:ibuciscanu@yahoo.com)

**Abstract:** *Nowadays, there is an increasing demand for consumer goods ecolabelling, coming from consumers concern for adverse environmental impacts of industrial pollution and manufacturers need to protect their existing markets and to expand into new ones. Ecolabels are used to guarantee the purchaser a product meets certain minimum standards relating to its environmental impact during production, use or disposal, and to distinguish the product from competitors in a positive way. In order to be awarded an ecolabel, a product must be certified according to a set of requirements or criteria, with regard to environmental, health and quality aspects. Leather industry and leather products trade hold a significant share of the worldwide economy and leather sector is vital for the economies of many developing countries. Though, leather processing is recognized as a highly polluting activity. Principles and practice of pollution control and prevention in tanning industry are well-known, and ecolabelling appears as an advanced tool to address the sector environmental issues. The emergence of ecolabels in the leather sector proves the commitment of tanneries and leather goods manufacturers for increasing their environmental performance and the consumers move towards more green purchasing patterns. It is the aim of this paper to shortly present the main ecolabels in use on the market of leather and leather products, the key parameters that define an eco-friendly leather, and the benefits and disadvantages of ecolabelling in the leather sector.*

**Key words:** *eco-leather, tanning industry, environment, ecolabelling, green purchasing*

### 1. INTRODUCTION

Ecolabelling is a worldwide voluntary or mandatory labelling system for consumer products, designed to help costumers to select and encourage manufacturers to make products with low environmental impact. An ecolabel provides brief information on environmental-related product qualities and certifies that the product is manufactured using eco-friendly materials, does not contain hazardous chemicals that may affect the consumer’s health, and is safe to use and dispose of.

Ecolabelling essentially relies on symbolic differentiation, which means that the ecolabel indicates that a particular product has a quality that makes it different, in a positive way, from other products, and is environmentally preferable within a specific product category [1].

There are many different ecolabelling schemes in operation around the world, each covering different ranges of environmental criteria. Ecolabels are based on two types of criteria: a) product-related, and: b) production process-related, The most comprehensive ecolabelling scheme is based on Life-Cycle Assessment (LCA), which assess the environmental effects of products from “cradle-to-grave”, but there are serious difficulties in its implementation [2].

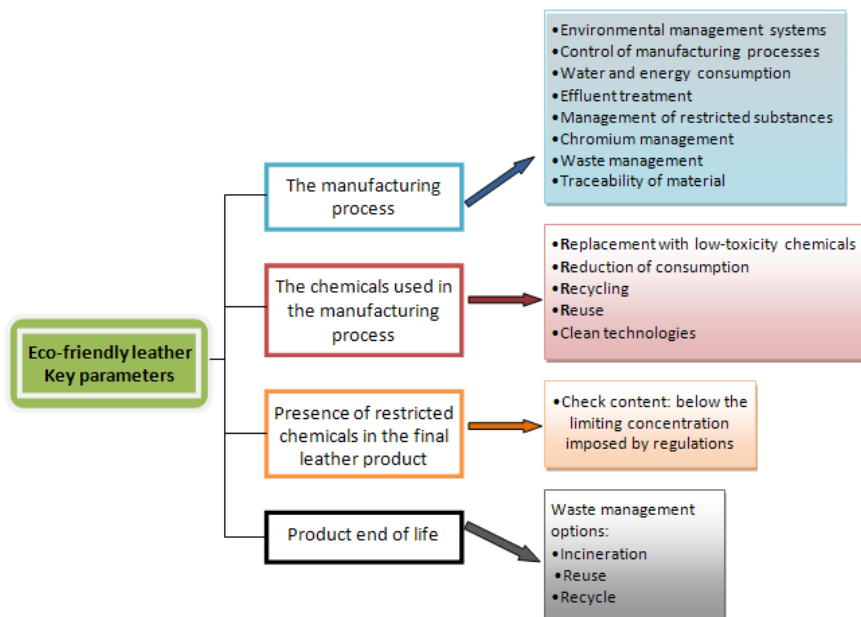
The leather and leather products industry play a prominent role in the world's economy, with an estimated global trade value of more than US\$90 billion per year [3]. The leather industry is vital especially in developing countries, but suffers from a negative image because it produces extensive pollution. The legislative bodies have enforced certain measures to determine the economic actors to adopt environmentally friendly technologies and reduce pollution at different stages of production. These measures include the introduction of ecolabelling, which appears as an advanced tool to address the sector environmental issues.

It is the aim of this paper to shortly present the main ecolabels in use for leather and leather products within the global ecolabelling concept, the key parameters and criteria that define an eco-friendly leather, and the benefits and disadvantages of ecolabelling in the leather sector.

## 2. ECOLABELS FOR LEATHER AND LEATHER PRODUCTS

### 2.1. What is an eco-leather and key parameters defining an eco-leather.

The term “eco-leather” refers to genuine leather distinguished from ordinary leather by two main characteristics: (1) is manufactured in tanneries that comply with an environmental management system, and make use of green or clean technologies with lower environmental impact than the conventional ones; (2) presents a minimal health hazard potential for the final consumer; such leather is also called “eco-friendly” or “environmentally preferred”. The key elements that define the eco-friendly leather are given in **Fig. 1**.



*Fig. 1: Key parameters that define an eco-leather*

### 2.2. Ecolabels in use and compliance criteria for leather and leather products

The eco-friendliness of leather or leather products can be certified and recognized by consumer by means of ecolabels and marks awarded to tanneries or leather products manufacturers. The most dependable ecolabels and marks available on the global market of leather and leather



products are given in **Table 1**. The most credible labels are awarded by an impartial third party, such as a testing institute, which are responsible for monitoring the compliance and issuing the ecolabel.

The **EU Ecolabel** criteria for footwear products include the following:

- Raw materials of natural origin, sustainably managed;
- Reduced water consumption and effluents polluting charge during the tanning stage processes:
  - The Chemical Oxygen Demand (COD) value in waste water from leather tanning sites, when discharged to surface waters after treatment, shall not exceed 200 mg/l;
  - The total chromium (Cr) concentration in tannery wastewater after treatment shall not exceed 1.0 mg/l.
- Minimised use of hazardous substances:
  - For shoes containing Cr-tanned leather, there shall be no Cr (VI) in the final product;
  - Residual concentrations of As, Cd or Pb in the end product must be lower than 0.2 mg/kg;
  - The amount of formaldehyde in the footwear shall not exceed 20 mg/kg;
  - The total use of VOCs in the final footwear production shall not exceed 18.0 g VOCs/pair.
- Footwear should not contain any electrical or electronic components;
- Leather used in products intended for children under three years of age shall be subject to the restriction on chromium-based tanning;
- Wear durability;
- The use of recycled materials for packaging.

The EU Ecolabel for footwear was revised in 2016 and new criteria were proposed, which address the “hot spots” of the life cycle and the labour conditions at final assembly sites. It is also important to consider harmonising the EU Ecolabel for footwear with other labels and schemes in order to reposition the EU Ecolabel within the market and to lower the administrative burden for both applicants and awarding authorities.

The **EcoSure** leathermark is designed as a credible marketing tool to aid the sourcing of leather and to demonstrate environmental compliance at point of sale. It is part of the Sure leathermarks family, which also comprises the LeatherSure, QualitySure, ConsumerSure and MetalSure trade marks [7]. Each individual mark denotes a different level of assurance, which allows them to be used as stand alone certification marks or in combination as a suite to demonstrate a holistic view of responsibility and compliance.

The **Naturleder IVN** mark is based on the assessment of all stages of the production chain, beginning with the raw material and including sales and usage of the finished leather (not the finished product). A meaningful savings of resources, environmental and health protection in both the production and usage as well as user-friendly design are benchmarks for this evaluation.

The **Nordic Swan Ecolabel** is a voluntary ecolabelling scheme that evaluates a product's impact on the environment throughout the whole life cycle. Ecolabelled hides/skins and leather fulfil a range of *environmental*, *health*, and *quality* requirements, but the use of chemicals during production are central to the criteria. The companies that administrate the Nordic ecolabelling schemes are from Finland, Denmark, Norway, Iceland, and Sweden.

The **Leather Standard by OEKO-TEX®** is a worldwide consistent, independent testing and certification system for leather and leather articles of all levels of production. Examples of articles that can be certified are: semifinished and finished leather, leather fiber material, garments of all types, accessories, leather gloves, leather handbags, leather covers, upholstery etc.










The **Environmental Choise New Zealand (ECNZ)** and the **Good Environmental Choise Australia (GECA)** use the life cycle approach to identify environmental issues across the whole life of a product or service. Certification criteria for leather are mainly related to the presence of heavy metals in the final product and to the treatment of tannery wastewater.

The India's **Ecomark** is awarded on the basis of compliance with both environmental and



**ANNALS OF THE UNIVERSITY OF ORADEA  
FASCICLE OF TEXTILES, LEATHERWORK**

*Table 1: Ecolabels in use for leather and leather goods*

<b>Ecolabel or mark name</b>	<b>Symbol</b>	<b>Awarding organization/ Country</b>	<b>Covered products</b>	<b>Ref.</b>
EU Ecolabel		European Commission (EU) EU Ecolabelling Board	All categories of footwear	[4]
Nordic Swan Ecolabel		The Nordic Council of Ministers	Hides, skins, leather, leather products	[ 5]
Oeko-Tex® Confidence in Leather – Leather Standard- Leather goods tested for harmful substances		International Association for Research and Testing in the Field of Textile and Leather Ecology	Leather and leather articles of all levels of production	[6]
EcoSure Mark		BLC Leather Technology Center and Leather Working Group, UK	Leather and leather products	[7]
NATURLEDER IVN		Internationaler Verband der Naturtextilwirtschaft e.V. (IVN), Germany	Finished leather	[ 8]
SG Mark		Prüf- und Forschungsinstitut Pirmasens (PFI Group), Germany	Leather and fur products	[9]
Environmental Choise New Zealand (ECNZ)		The New Zealand Ecolabelling Trust	Skins and Leather	[10]
Good Environmental Choise Australia (GECA)		Good Environmental Choice Australia Ltd	Skins and leather	[11]
ECOMARK		Ministry of Environment and Forests India	Leather and leather products	[2]



product quality criteria. Ecomark's lack of success in India can be explained by low awareness of environmental issues amongst industries and consumers, and consumers reluctance to pay extra money for products with reduced impact on the environment.

The **SG Mark** (where SG stands for "Schadstoffgeprüft", meaning "tested for hazardous compounds") can only be awarded to those products which satisfy the stringent limit values and pollutant parameters listed in the SG catalogue of test criteria, and to ISO 9001 certified companies. For the consumer, the presence of the SG Mark on a leather product communicates a message of particular care taken by the manufacturer. It means that dyes which can release carcinogenic amines, carcinogenic and allergenic dyes, Cr(VI) and organotin compounds cannot be detected and that the formaldehyde content lies below the admissible limits. The amount of soluble heavy metals with a hazardous or sensitizing action meets strict limit values, so the product has no health hazard. Articles intended for use by young children are subject to particularly stringent requirements.

#### 2.4. Ecolabels benefits and issues in the leather sector

Ecolabels offer three major benefits. Firstly, *for consumers*, they are an accessible, recognizable and trustworthy guide to leather products that were manufactured by eco-friendly technologies and present low health hazard. This is related to chemical auxiliaries left in leather, mainly to the hexavalent chromium. Chromium-tanned leather footwear, which releases >3 ppm Cr(VI), may pose a risk of sensitizing and eliciting allergic dermatitis. Chromium was identified in 95% of leather footwear products, and Cr(VI) concentration reached levels higher than 10 ppm or even 62 ppm [12]. Ecolabeled footwear guarantee Cr(VI) content lower than the exposure limit, which is beneficial mainly for children.

Secondly, *for manufacturers*, ecolabels offer a point of difference in the consumer's eyes and a competitive advantage over companies that do not make shifts towards environmental responsibility. Moreover, leather manufacturers committed for gaining an ecolabel must comply to severe environmental regulations and management procedures; for the long term, this would have positive effects for the business.

Thirdly, *labels encourage a general raising of environmental performance*, even among products that aren't labeled, because if environmentally friendly products sell better, all manufacturers have an incentive to produce similar products, and standards rise overall.

Use of ecolabels may have disadvantages, as well. The *biggest problem* is that manufacturers may be tempted to make exaggerated or misleading claims, which deceive consumers into thinking products are better than they really are. Instead of raising standards, the result is confusion among consumers and a systematic undermining of genuine eco-friendly products.

A *second problem* is failure of ecolabelling implementation, related to both consumers and economical actors behaviour. Lack of consumers' environmental awareness produces lack of demand for environmentally friendly product and low willingness to pay extra for products with reduced impact on the environment will lead to low success of ecolabelling, mainly in developing countries. For the customers majority, price is the most critical consideration and environmental concerns do not play a role in their choice of products. It seems that ecolabelling is a marketing tool that works better in developed countries. Furthermore, companies feel that the expensive and laborious procedures involved in gaining an ecolabel are not justified by potential advantages in terms of increased profitability and market share. Manufacturers are required to pay for the application, testing, licensing fee, and renewal costs involved in certification. Some estimates indicate that these costs can increase the price of ecolabelled products by 15 % [13].

The differences between ecolabels criteria and their negative impacts on the interstate trade, mainly to the developing countries detriment, are largely described by Alam [2], particularized for the Indian Ecomark vs the EU Ecolabel for footwear.



### 3. CONCLUSIONS

In the current climate of environmental awareness, there is a requirement to understand the environmental credentials of leather goods and the leathermaking process. Ecolabelling schemes for the leather industry aim to promote the sale of leather products having a reduced environmental impact, minimal risk of allergic reactions from process chemicals, and safe disposal choices.

A number of both developed and developing countries have introduced these labels to influence consumers and industry to behave in an environmentally responsible manner.

Inconsistency between certification criteria amongst different ecolabels schemes can raise trade barriers for leather and leather products, mainly between developed and developing countries. Ecolabels harmonization, which could solve this issue, still remains a debate subject.

Ecolabelling in leather industry is developing an “in progress work ” and have the acceptance of an increasing number of consumers.

### REFERENCES

- [1] M. Boström and M. Klintman, “*Eco-Standards, Product Labelling and Green Consumerism*”, Basingstoke: Palgrave Macmillan, 2008, pp. 27-31.
- [2] O. Memedovic and H. Mattila, “*The global leather value chain: the industries, the main actors and prospects for upgrading in LDCs*”, IJTLID, vol. 1, pp. 482-519, Feb. 2008.
- [3] G. Alam, “*Sustainable production in the leather industry as a tool for enhanced market access*”, Jaipur: CUTS Centre for International Trade, Economics & Environment, 2005, pp. 23-37.
- [4] Commission Decision (EU) 2016/1349 of 5 August 2016 establishing the ecological criteria for the award of the EU Ecolabel for footwear. [Online]. Available: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016D1349&from=E>
- [5] Nordic Ecolabelling of Textiles, hides/skins and leather, Version 4.3. (2016, Jan.12). [Online]. Available: [http://www.ecolabel.dk/kriteriedokumenter/039e\\_4\\_3.pdf](http://www.ecolabel.dk/kriteriedokumenter/039e_4_3.pdf)
- [6] “Standard: LEATHER STANDARD by OEKO-TEX®, Edition 01.2017”, Zurich: International Association for Research and Testing in the Field of Textile and Leather Ecology, 2017.
- [7] Introducing the Sure family. (2008, March/April). BLC Journal [Online]. 50(2), pp. 3-5. Available: [http://www.blcleathertech.com/images/db/dt\\_leather-journal/34/JournalMarApr08.pdf](http://www.blcleathertech.com/images/db/dt_leather-journal/34/JournalMarApr08.pdf)
- [8] NATURTEXIL IVN zertifiziert (IVN NATURLEDER) Version 3.0. (2014, März). Internationaler Verband der Naturtextilwirtschaft e.V. [Online]. Available: [http://www.vegetable-tanned-leather.com/assets/ivn-rili-eder\\_3\\_0\\_deu.pdf](http://www.vegetable-tanned-leather.com/assets/ivn-rili-eder_3_0_deu.pdf)
- [9] K. Schulte. (2015, March). SG Mark for Low-Pollutant Leather Products [Online]. Available: [http://newsletter.pfi-germany.de/pfi\\_nl\\_mar\\_2015/img/e\\_PFI\\_SG\\_Label.pdf](http://newsletter.pfi-germany.de/pfi_nl_mar_2015/img/e_PFI_SG_Label.pdf)
- [10] “Licence Criteria for Textiles, Skins and Leather, Version EC-31-12”, Auckland: The New Zealand Ecolabelling Trust, 2014.
- [11] “Environmental Performance Standard No: TLv3.0-2014, Textiles and Leather”, Surry Hills: GECA Good Environmental Choice Australia Ltd, 2014.
- [12] J.P. Thyssen et al., “*Chromium in leather footwear - risk assessment of chromium allergy and dermatitis*”, Contact Dermatitis, vol. 66, pp. 279-285, May 2012.
- [13] S. N. Kaul et al., “*Wastewater Management: With Special Reference to Tanneries*”, New Delhi: Discovery Publishing House, 2005, pp. 208-224.