

COIR EXPORTS AND ECO REGULATIONS IN GERMANY

Dr. U.S. Sarma, Director, RDTE, Kalavoor P.O., Alleppey Dist., KERALA

INTRODUCTION

Coir forms a part of the products exported to the European Union from India. Among the 15 European Union (EU) countries, Germany has attached a special significance to environmental aspects while importing and in 1996 initiated certain measures to deal with the environment pollution. This was followed by a few ordinances and one of the landmark ordinances issued by Germany was the ban on import of textiles that come into contact with skin dyed with azo dyes containing toxic amines. Coir industry has already taken steps to avoid the use of such banned dyes.

Ever since the ban was imposed, the CCRI has been giving advice to the coir industry on the use of safe chemicals and dyes for processing coir products. A paper has already been published on the subject. Recently there has been addition in the list of banned chemicals, which has to be taken note of to sustain the exports to Germany.

BANNED AMINES

Prohibited azo dyes are ones, which as a result of the splitting of one or more azo groups can release the toxic amines. Two more have been recently added to the list of amines already banned, which are as follows.

1) p-Amino-azo-benzene

2) 2-Methoxyaniline

The banned dyestuffs have already been listed in the earlier paper. These dyes should be avoided with immediate effect.

1. Test Method

The dyed material is reduced with sodium dithionite in a citrate buffered medium. After extraction with a suitable solvent, the amines are identified by means of any of the analytical instruments like TLC, GC-MS or HPLC². The maximum limit of detection of an amine component is 30mg/kg.

Regulations for the detection limit of banned dyes in different countries:

Country	Limit
France	30mg/kg
Netherlands	30mg/kg
Austria	30mg/kg
Switzerland	30mg/kg
Turkey	Claims permissible
Scandinavia	Exported 30mg/Kg
USA, Canada other countries of the EU, Eastern Europe	No regulation

2. PCP³

Manufacture of products with a PCP content of more than 5mg/kg is prohibited. This application limit confines to Germany, France, Netherlands, and Austria. However for Switzerland, the prescribed limit is 10mg/Kg, while for other countries of the european Union it is 1000 mg/Kg. There is no regulation for USA, Canada & Eastern Europe.

3. Flame Retardant Substance

The following flame retardant substances are prohibited in textiles.

- Tri-(2,3-dibromopropyls)-phosphate (TRIS),
- Tris-(aziridinyl)-phosphineoxide (TEPA),
- Polybrominated diphenyls (PBB).

4. Nickel

The EC directive 94/27, which prohibits nickel containing metal items that come into repeated and prolonged contact with the skin, has been in place since 1994. Exempted are the items that have a nickel-free coating that ensures the rate of nickel release from their parts does not exceed 0.5ug/cm²/week for a period of at least 2 years of normal use of the product.

5. Products, which can release formaldehyde

The limit value for formaldehyde is 300mg/kg for outer garments, 75mg/kg for garments with direct skin contact and 20mg/kg for baby clothes.

Possible sources of/reasons for contamination.

- Preservatives, such as for dyes, adhesives

and other additives.

- Reaction components for resins, such as fleeces, finishes, wood/paper fibre materials
- Tanning additive.

Regulations on formaldehyde in products

Country	Limit
Germany	As of 1500mg/kg marked
France	400mg/kg without contact 200mg/kg direct contact 20mg/kg<36 months baby.
Netherlands	No regulations, in discussion
Australia	As of 1500mg/kg marked
Japan	Depending on product 300mg/kg
USA, Canada, Eastern Europe, Switzerland, other countries of the EU	No regulations

6. Use of cadmium and cadmium compounds

For ordinary used products as eg: paediatric garments and accessories, and others the limit value for cadmium of 100mg/kg is valid.

Possible sources of / reasons for contamination.

- stabiliser for PVC - materials
- pigments

Regulations on Cadmium in other countries

Country	Limit
EU	100mg/kg
Netherlands	50mg/kg
Switzerland	100mg/kg
USA, Canada, Eastern Europe, Switzerland, other countries of the EU	No regulations

7. Allergizing dispersion dyes

In 1940 the first nylon stockings were sold in the USA. Soon afterwards the first cases of contact dermatitis were reported. These skin reactions were incorrectly termed "nylon allergy". However, more detailed examinations indicated that these skin reactions were caused by the dyes and not by the nylon material itself.

Today, the allergizing effect of certain dispersion dyes has been documented unequivocally by numerous findings recorded by skin specialists and clinical studies.

The working Group Textiles at Bg VV (former Federal-Health Office) have identified the following eight dyestuffs for which the allergizing effects have been well documented.

7. Dispersion orange 37/76

8. Dispersion red 1

The TUV Rheinland laboratory has developed a routine test method to identify the eight aforementioned dispersion dyes with skin-sensitizing potential in textiles.

8. Chromium (VI)-Compounds

Since Chromium (VI)-compounds are known to be carcinogenic, it is desired that they must not be detectable in textile.

Sources of / reasons for contaminations:

-Oxidation of Chromium III through atmospheric oxygen in the presence of highly alkaline components, e.g.:-latex adhesives, finishes, etc.

Country	Limit
Germany	3mg/kg
Switzerland	Not specified
USA, Canada, Eastern Europe, other countries of the EU	No regulations.

9. TBT and other organotin compounds in clothing

The following organotin compounds are the most important ones with regards to textiles:-

TeBt	Tetrabutyltin compounds	DOT	Diocetyl tin compounds
TBT	Tributyltin compounds	MOT	Monooctyltin compounds

Dispersion blue 1

Dispersion blue 35

Dispersion blue 106

Dispersion blue 124

Dispersion yellow 3

Dispersion orange 3

DBT	Dibutyltin compounds	TcyT	Tricyclohexyltin compounds
MBT	Monobutyltin compounds	TPhT	Triphenyltin compounds

So far essentially 3 potential sources have been identified:

1. Anti-microbial finishing, i.e. to prevent the bacterial degradation of sweat and the corresponding unpleasant odour.
2. To improve the grip by the polysiloxanes which may contain low amounts of organotin compounds as stabilizers.
3. PVC sometimes contains DOT or other organotins as stabilizers.

Toxic Effect of TBT

Even traces of TBT have also shown adverse normal effects. High level of TBT are believed to cause neurological problems, damage to the immune symptoms and have to the liver.

10. Chlorine

No use of chlorine bleaching in production is allowed.

11. Organic Solvents

No organic solvents to be used in printing/production.

Analysis at TUV Product und Umwelt GmbH

TUV Product und Umwelt GmbH, Am Grauem Stein, D-51105 Koln, Germany, Tel: 0221-806-2062, Fax: 0221-806-2882, is authorized to carry out all the tests and the reports are

internationally accepted. For testing of azo dye a 20g samples is required from articles of one colour. To test dyes in powder form a 3g sample is sufficient.

Contact person: Dr. Ansgar Wennemer

In India one can approach:
 TUV Rheinland (India) Private Ltd.,
 504-506 Prestige Centre Point,
 26, Cunningham Road,
 Bangalore - 560 052.
 Tel: 080-228 2490.
 Fax: 080-228 2491.
 E-Mail: tuvrhein@giasbg01.vsnl.net.in

Environment in Packaging

It is estimated that packaging accounts for 20.8% of all waste, 2% of gaseous emission, 1% of water consumption and 3.7% of energy consumption. Germany has been particularly concerned with ever increasing quantities of packaging waste and the need for its appropriate disposal. The German Ordinance in this regard has laid down stringent standards to be followed. Several other countries are also introducing measures to reduce the usage of packaging and legislate an appropriate disposal system for packaging waste.

On 12th June 1991 a German Ordinance on the Avoidance of Packaging Waste was issued. Its basis is the principle: "polluter pays".

The Ordinance lays down that

- 1) Packaging must be recyclable
- 2) Priority be given to material recycling

Non-recyclable packaging is no longer allowed.

It has been stressed that only packaging strictly necessary for conservation, health and safety should be used. In regard to waste, the order of priority laid down is:

Elimination/reduction of superfluous packaging

Prevention/reduction of the volume of one-way packaging, and organization of separate collection and processing systems keeping waste transport to absolute minimum.

Re-use of packaging (multi-use system)

Recycling of packaging

Only in the last resort, final disposal.

The directive of European Union (EU) sets specific targets for the fulfillment, not later than 10 years after it comes into force, to remove 90% weight of the packaging waste output from the waste stream for the purpose of recovery.

CONCLUSION

Back home, the dyestuff industry, the textile industry and the government have realized the

full implications of the German Ban. The Indian Government has already issued a Gazette Notification relating to prohibition of using azo dyes. The coir industry has already taken note of the ban on azo dyes and other chemicals and there is no doubt, it will rise to the occasion with regard to the enforcement of further eco regulations to export coir as an environment friendly products.

ACKNOWLEDGEMENT

Acknowledgement is due to the Indo-German Export Promotion Project, 2, Nyaya Marg, Chanakyapuri, New Delhi-110 021, which had arranged a seminar at Bangalore on 10th July, 2000, to appraise about the eco regulations

REFERENCE

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2. V.A. Shenai, Ecology and Textiles, Sevak Publications, Mumbai, 1997.
3. V.A. Shenai, Toxicity of Dyes and Intermediates, Sevak Publications, Mumbai, 1998.

" If you pursue only profits,
quality will be your first casualty
if you pursue quality,
profits will chase you"