

The Australian Ecolabel Program

Good Environmental Choice Australia Standard

Publishing Paper



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Use of This Standard

This voluntary environmental labelling standard may be used by competent environmental assessors to establish product compliance to the Australian Ecolabel Program. Products that are certified with the mark of conformity, the “Good Environmental Choice Label” have been independently tested and demonstrate compliance to the environmental and social performance criteria detailed in this standard. The overall goal of environmental labels and declarations is the communication of verifiable and accurate information, which is not misleading, on environmental aspects of products and services. This encourages the demand for, and supply of, those products and services that cause less stress on the environment, thereby stimulating the potential for market-driven continuous environmental improvement.

This standard identifies environmental, quality, regulatory and social performance criteria that products sold on the Australian market can meet in order to be considered as good “environment practice”. Products that have been certified as complying to this standard may gain greater market recognition and a marketing advantage in government and business procurement programs, as well as broad consumer preference.

This standard can be used by Australian producers to guide their designs for environment programs by using the environmental criteria as key performance benchmarks to reduce the environmental loads of their product. The standard is necessarily restricted in its identification of environmental loads from the product life-cycle. Producers should consider other environmental measures along the product cycle, which are not included in this standard, in their environment program designs for and aim for even higher levels of environmental performance where technically possible.

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Printed in Australia

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Current Status: Final Standard Version 2.1

Date Published: 2 May 2007

Abstract

This Standard specifies environmental performance requirements of publishing paper products for the Australian Ecolabel Program. The Australian Ecolabel Program complies with ISO 14024: "Environmental labels and declarations - Guiding principles" which requires environmental labelling specifications to include criteria that are objective, reasonable and verifiable.

Definitions

"Alkylphenol ethoxylates" (APEO's) are defined as substances that upon degradation produce alkyl phenols.

"AOX" means absorbable organic halogen, a measure of the quantity of chlorine (and other halogens) bound to organic compounds.

"APHA" refers to the most recent edition of the American Public Health Association publication entitled "Standard Methods for the Examination of Water and Wastewater".

"Broke" means machine trim or damaged paper that is pulped and returned to the papermaking process within the mill.

"Chemical Oxygen Demand (COD)" means the mass concentration of oxygen equivalent to the amount of dichromate consumed by dissolved and suspended matter when a water sample is treated with that oxidant under defined conditions.

"EDTA's / DTPA's" are complexing agents used to bind metals found in raw materials and in process water.

"Label" means the Good Environmental Choice Australia Label.

"ISO" means International Organisation for Standardisation.

"NO_x" is a joint chemical abbreviation for nitrogen oxides (NO, N₂O and NO₂). In this document, NO_x means total NO and NO₂ measured as NO₂ equivalents.

"P" is the chemical symbol for phosphorus. In this document, P means phosphorus discharge to water.

"Primary Forest": Native Australian forest with intact understorey and canopy demonstrating a low level of anthropogenic disturbance.

"S" is the chemical symbol for sulphur. In this document, S means all forms of gaseous sulphur emissions to air.

“Readily biodegradable” surfactants are those where the average level of biodegradation observed in an aerobic sewage treatment plant is at least 90% during a residence time of not more than 3 hours. In order to meet this requirement the surfactant must either meet the requirement for “ready biodegradability” when determined using any one of the five test methods described in the OECD Guidelines for Testing of Chemicals, Test Guidelines 301A-301E OR achieve a biodegradability of at least 80% when tested by the OECD method, published in the OECD technical report of 11 June 1976 on the “Proposed Method for the Determination of the Biodegradability of Surfactants used in Synthetic Detergents”. The pass level of 80% recognises the inherent experimental variability of the OECD test.

“Recycled paper” includes:

- Post-Consumer: Material generated by households, or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.
- Pre-Consumer: Material diverted from the waste stream during a manufacturing process. Excluded is re-utilisation of materials such as rework, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

“Return fibre” is fibre collected from the conversion and consumer stages. Purchased broke and broke from own production is defined as new fibre if the raw material is new fibre; and as return fibre if the raw material is recycled.

1 INTRODUCTION

1.1 Purpose

This Standard seeks to define good environmental performance benchmarks for publishing paper products. The voluntary environmental labelling standard implemented by the Australian Environmental Labelling Association (GECA) specifies environmental performance criteria for a range of publishing and industrial paper products. This standard stipulates the environmental load of such products throughout the major aspects of their life cycle.

1.2 Background

Paper products have long been the subject of community concern, particularly with respect to their impact upon the environment whether this be the sourcing of wood pulp for production from virgin or unsustainably managed native forests or environmental emissions at each stage of production. Consumer demand and the protection of the Australian environment require that paper manufacturers collect and incorporate recycled paper fibre in their products. Where recycled or reclaimed fibre is used it is important that the associated water and air emission impacts, namely heavy bleaching and the use of chemical additives, are minimised so as not to offset the environmental benefits of using recycled fibre. This Standard aims in particular at promoting:

- The reduction of environmentally damaging discharges into waters.
- The reduction of environmental damage or risks related to the use of energy (global warming, acidification, ozone depletion, depletion of non-renewable resources) by reducing energy consumption and related emissions to air.
- The reduction of environmental damage or human health risks related to the use of hazardous chemicals,
- The application of sustainable management principles in order to safeguard forests.

The major environmental impacts of a paper product occur in the following phases of the product's life cycle:

1.2.1 Pulp Source

Sustainable forestry is essential if the resources of forests are to be exploited in the long term. It is important that forestry is operated in a way that minimises disturbance of natural eco-systems and conserves the bio-diversity of forests. Third party certification is a tool to verify sustainable forest management.

1.2.2 Pulp and Paper Production

The environmental impacts that are associated with manufacturing publishing paper result from:

- Using hazardous chemicals,
- Emissions to air and water from pulp and paper mills, and
- Energy and water consumption when pulp and paper is produced.

The manufacture, use and disposal of paper products can result in a significant burden being placed on the environment. Non-biodegradable detergents (surfactants) used in cleaning processes can accumulate and be toxic or otherwise harmful in the environment if discharged, and so only readily biodegradable surfactants should be used. Process effluents can contain high concentrations of natural organic materials which deplete oxygen from receiving waters, adversely impacting plant and animal life. Chlorine-based bleaches and halogenated solvents can accumulate and have toxic effects, if discharged. The inclusion of waxes, plastics or other materials during recycling and manufacturing processes can prevent future recycling of the end product.

1.2.3 Waste Processing

Considerable quantities of waste may be generated between the raw material stage and the completed paper product. This Standard requires that all pulp and paper production waste must be sorted on site and handled in an appropriate way to enable re-use and recycling.

This specification sets requirements that will produce an environmental benefit by:

- Using wood from sustainable forestry operations,
- Lower discharges of sulphur and nitrogen oxides into air,
- Lower emissions of phosphorus, absorbable organic halogens (AOX),
- Lower emissions of oxygen consuming organic materials (COD),
- Reducing energy consumption in pulp and paper production; and
- Encouraging re-use and recycling of waste paper and waste from the production process.

As information and technology change, product category requirements will be reviewed updated when appropriate.

2 STANDARD CATEGORY SCOPE

This standard is applicable to the following categories of paper products:

- 2.1 Paper supplied for the purpose of magazines, newspapers, books, periodicals and high quality publications.
- 2.2 Wood-based and wood-free printing and graphic board, based on cellulose and/or mechanical pulp, for printing and copying.
- 2.3 Industrial papers for painting, lacquering or other craft work.
- 2.4 Folio sheet size for conventional offset, Flexo, Gravure commercial printing.

3 ENVIRONMENTAL PERFORMANCE CRITERIA

3.1 Fitness for Purpose

Certified products should be good performers in their intended application. The manufacturer of the product must ensure that the product is fit for its intended purpose and:

3.1.1 Australian Standards

The product meets or exceeds the requirements of the relevant Australian Standard for its intended application, or

3.1.2 Non-Australian Standards

The product meets the applicable and accepted standard in its target market if it is to be exported.

3.2 Material Requirements

3.2.1 Fibre Content

The geographical origin of virgin fibre material must be documented, allowing confirmation of origin throughout the supply chain. Fibre for certified products shall be:

3.2.1.1 Sustainable Plantations

100% by weight shall come from plantation wood fibre, cellulose fibre, return fibre, cotton fibre or other waste fibre or fibre sourced from plantation forests certified by the Forest Stewardship Council or the Australian Forestry Standard or an acceptable or equivalent overseas sustainable forestry certification program. The plantation must have been established prior to 2000 and should not have impacted primary forest at the time of establishment. Establishment includes the immediate logging of primary forest followed by the establishment of the plantation within a period of ten years.

3.2.1.2 Degraded Plantations

Up to 100% by weight may come from fibre sourced from forests certified by the Forest Stewardship Council or the Australian Forestry Standard or equivalent forestry certification scheme where the forest has been degraded of biodiversity due to continual intensive forestry uses in a similar way for over 60 years or at least three generations of harvesting. Chain of custody standards and mechanisms of monitoring fibre source such as procedures by the Australian Forestry Standard, Pan-European Forestry Scheme, the Forest Stewardship Council or equivalent scheme must be implemented for all fibre sources subject to this criterion. The remainder shall be fibre sourced according to the requirements of the previous Section.

3.3 Hazardous Materials

3.3.1 Production Chemicals

3.3.1.1 Bleaching Agents

Halogenated bleaching agents or chlorine gas must not be used in paper processing. The residual quantities formed as a result of the production of chlorine dioxide using chlorate are not defined as a component of chlorine gas bleaching.

3.3.1.2 Chelating Agents

Pulp manufacturers must use less than 2.5kg of EDTA or DTPA per ton of pulp and must provide records of the quantity of EDTA / DTPA used per ton of pulp.

3.3.1.3 Surfactants

When surfactants are used in the manufacturing process, such as for the de-inking of recycled paper input, where quantities ≥ 100 g/ADT (summed over all the surfactants used in all the different formulations used in de-inking return fibres), each surfactant shall be readily biodegradable in accordance with OECD test method No. 301 A-F. Where such surfactants are used in quantities < 100 g/ADT, each surfactant shall be readily biodegradable or ultimately biodegradable in accordance with OECD test method No. 302 A-C. Foam inhibitors used for chemical recycling are exempted from this requirement.

3.3.1.4 Equipment Cleaning Agents

Solvents used in the cleaning of production equipment must be free of halogenated hydrocarbons and alkylphenol ethoxylates or other alkylphenol derivatives (APEO's). Testing equipment is excluded from this requirement.

3.3.2 Dyes

3.3.2.1 Prohibited Dyes

The following dyes shall not be used:

4- aminodiphenyl
benzidine
4-chloro-o-toluidine
2-naphtylamine
o-aminoazotoluene
2-amino-4-nitrotoluene
4-chloroaniline
2,4 – diaminioanisole
4,4 – diaminodiphenylmethane
3,3 – dichlorobenzidine
3,3 – dimethoxybenzidine
3,3 – dimethylbenzidine
3,3 dimethyl-
4,4 diaminodiphenylmethane
p-cresidine
4,4 methylene-bis-(2-chloroaniline)
4,4-oxidianiline
4,4 – thiodianiline
o-toluidine
2,4-toluylenediamine
2,4-diaminotoluene
2,4,5 –trimethylaniline
o-anisidine
4-aminoazobenzene

3.3.2.2 Risk Phrases

No dyes or pigments shall be used on either pulp or paper that is assigned or may be assigned at the time of application any of the following risk phrases (or combinations thereof) in accordance with EU Directive 67/548/EEC:

R50 (very toxic to aquatic organisms),
R51 (toxic to aquatic organisms),
R52 (harmful to aquatic organisms),
R53 (may cause long-term adverse effects in the aquatic environment)

3.3.2.3 Heavy Metals

No dyes or pigments shall be used that contain lead, copper, chromium, nickel, aluminium or cadmium as constituent parts. Copper phthalocyanine dyes or pigments are excepted.

The levels of ionic impurities in the dye stuffs used shall not exceed the following: Ag 100 ppm; As 50 ppm; Ba 100 ppm; Cd 20 ppm; Co 500 ppm; Cr 100 ppm; Cu 250 ppm; Fe 2 500 ppm; Hg 4 ppm; Mn 1 000 ppm; Ni 200 ppm; Pb 100 ppm; Se 20 ppm; Sb 50 ppm; Sn 250 ppm; Zn 1 500 ppm.

3.3.2.4 Carcinogenic Substances

No dyestuffs or other additives may be used which have been identified as carcinogenic substances in categories 1, 2A and 2B as classed by the International Agency for Research on Cancer – <http://www.iarc.fr>.

3.4 Coatings

Residual monomers that are assigned or may be assigned any of the following risk phrases (or combinations thereof) in accordance with EU Directive 67/548/EEC, shall not be present in coatings:

R45 (may cause cancer)

R46 (may cause heritable genetic damage)

R49 (may cause cancer by inhalation)

R50/53 (very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment)

R51/53 (toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment)

R52/53 (harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment)

R60 (may impair fertility)

R61 (may cause harm to unborn child)

Acrylamide must not be used in coatings.

3.5 Emissions Requirements

3.5.1 Emissions to Water

The total discharges to water, after treatment relating to the paper product shall be calculated as the sum of the discharges from the pulp and the paper production stages. COD shall be measured in accordance with ISO 6060 or equivalent standards. Biodegradability must be in accordance with OECD test method No. 301 A-F or ultimately biodegradable in accordance with OECD test method No. 302 A-C. Total discharges must not exceed:

3.5.1.1 Chemical Oxygen Demand

30kg chemical oxygen demand (COD) per tonne of paper produced with chemical pulp raw material.

12kg COD per ton for return fibre.

3.5.1.2 Phosphorus

0.050kg phosphorous (P) per ton of paper produced with chemical pulp raw material.

0.010kg P per ton of paper produced with return fibre.

3.5.1.3 AOX

The amount of AOX (as CL) discharged from each pulp manufacturing site shall not exceed 0.50 kg per ton of paper produced.

3.5.1.4 Biocidal agents

The active components in biocides or biostatic agents used to counter slime-forming organisms in circulation water systems containing fibres shall not be potentially bio-accumulative.

3.5.1.5 Foam Inhibitors

At least 95% by weight of active ingoing components in foam inhibitors used in the production of pulp and paper must be readily biodegradable. Foam inhibitors used for chemical recycling are exempted from this requirement.

3.5.2 Emissions to Air

The total emissions to air relating to the paper product shall be calculated as the sum of the emissions from the pulp and the paper production stages and shall not exceed:

3.5.2.1 Sulphur

1 kg sulphur compounds (S) per tonne of paper produced. The supporting documentation shall include an indication of the measurement frequency and the calculation of S. It shall include all emissions of S which occur during the production of electricity. Measurements shall include recovery boilers, lime kilns, steam boilers and destructor furnaces for strong smelling gases. Diffuse emissions shall be taken into account. Reported emission values for S to air shall include both oxidized and reduced S emissions (dimethyl sulphide, methyl mercaptan, hydrogen sulphide and the like). The S emissions related to the heat energy generation from oil, coal and external fuels with known S content may be calculated instead of measured and taken into account.

3.5.2.2 Nitrogen Oxides

3.0 kg nitrogen oxides (NO_x, as NO₂ equivalents) per tonne of paper produced. The emissions related to the production of electricity need not be accounted for.

3.5.2.3 Carbon Emissions

1 500 kg carbon dioxide from non renewable sources per ton of paper produced using chemical pulp raw material and 1700 kg carbon dioxide from non renewable sources per ton of paper produced using return fibre, including emissions from the production of electricity (whether on-site or off-site). Factors to determine carbon dioxide contributions of different fuel types shall be in accordance with the National Greenhouse Gas Inventory of the Australian Greenhouse Office.

3.6 Post-Consumer Recycling

Certified products must not be impregnated, coated or otherwise treated in a manner which would prevent recycling in Australia or in the country where the product is used.

3.7 Packaging Requirements

Chlorinated or halogenated plastics must not be used in product packaging.

Used packaging shall be able to be recycled by local recycling systems.

4 COMPLIANCE TO ENVIRONMENTAL REGULATIONS

The applicant is required to comply with relevant environmental legislation and government orders at the Local, State, and Commonwealth levels, if these have been issued. An applicant's compliance with these criteria may be established by undertaking a series of random checks; and/or by gathering samples of applicant operational procedures and documents from approved assessors as evidence to support compliance during the verification. Where an applicant is from an overseas jurisdiction, that jurisdiction's environmental regulations apply. Where the applicant is subject to a guilty verdict by a legally constituted court in the last 24 months on the basis of a breach of any environmental legislation or permits, there must be evidence of corrective action.

5 COMPLIANCE TO LABOUR, ANTI-DISCRIMINATION AND SAFETY REGULATIONS

An applicant shall demonstrate that all employees are covered by a Federal or State award or a certified industrial agreement or a registered workplace agreement as determined by the Industrial Relations Commission, the Employment Advocate or a State or Territory Workplace Relations Agency or a workplace agreement in compliance with Workplace Relations Act 1996 Part 7 – The Australian Fair Pay and Conditions Standard.

An applicant shall demonstrate general compliance to the terms of State or Territory Legislation concerning Occupational, Health and Safety and/or the *Commonwealth Safety, Rehabilitation and Compensation Act 1988*, where applicable. Where the applicant is subject to a breach order by a government agency, or a guilty verdict by an Australian Court within the last 24 months, on the basis of a breach of State, Territory or Commonwealth Occupational, Health and Safety Legislation, there must be evidence of corrective action.

The applicant shall demonstrate general compliance to the requirements of the Racial Discrimination Act 1975, Sex Discrimination Act 1984, Disability Discrimination Act 1992, Equal Opportunity for Women in the Workplace Act 1999, and complementary State Legislation. Applicants cannot be in the list of 'named' or non-compliant employers under the Equal Opportunity for Women in the Workplace Act 1999. Where the applicant is subject to a breach order by a government agency, or a guilty verdict by an Australian Court in the last 24 months on the basis of a breach of these Acts, there must be evidence of corrective action.

Where an applicant is from an overseas jurisdiction, the applicant shall demonstrate general compliance to that jurisdiction's anti-discrimination, occupational health and safety, and workers' compensations regulations. Where the applicant is subject to a breach order by a government agency, or a guilty verdict by a legal court in their respective country within the last 24 months on the basis of a the breach of anti-discrimination, occupational health and safety, and workers' compensation regulations, there must be evidence of corrective action.

An applicant's compliance with these criteria may be established by undertaking a series of random checks; gathering samples of applicant operational procedures and documents from approved assessors; and/or by providing a self-declaration document signed by an executive officer of the applicant organisation as evidence to support compliance during verification.

6 COMPLIANCE TESTING

6.1 Audit Methodology

Conformance with this standard shall be demonstrated by undertaking an assessment under the above criteria by an approved assessor, following the certification and verification procedures detailed in the Good Environmental Choice Australia Ltd Documented Quality Management System, which generally follows the environmental auditing requirements of ISO 14 011 and 14 012.

6.2 Assessor Competency

The Australian Ecolabel Program classifies approved assessors as:

- a. Assessors registered by Good Environmental Choice Australia Ltd as environmental professionals that hold expertise relevant for an assessment, and who have undertaken training in the procedures of the Australian Ecolabel Program; or
- b. Environmental auditors accredited with the RABQSA.

6.3 Suitable Sources

Audit evidence should be of such a quality and quantity that competent environmental auditors, working independently of each other, will reach similar audit findings from evaluation of the same audit evidence against the same audit criteria.

Suitable sources of information to establish compliance may be, but are not limited to:

- a. Technical specification of the product.
- b. Obvious characteristics of the product under examination.
- c. Scientific test results and reports.
- d. Environmental management system and audit reports and results.
- e. Life-cycle assessment of each stage of the product life-cycle via a physical audit and examination.
- f. Life-cycle assessment via scientific testing.
- g. A statement of confirmation by an executive officer.
- h. An assessment of company or government records.
- i. Other material that can be considered objective evidence.

6.4 Laboratory Testing

New testing shall be undertaken by a laboratory accredited by the National Association of Testing Authorities (NATA), or similar overseas accreditation agents who can conduct the relevant tests and/or provide documentation detailing environmental performance against the key indicators for this standard. The test results should be presented on NATA-endorsed reports or from a laboratory acceptable to Good Environmental Choice Australia Ltd.

If test results or environmental auditing results are not available, and/or there is insufficient data to establish full compliance with the criteria required by this standard, then certification cannot be awarded.