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## **The Australian Ecolabel Program**

### **Australian Voluntary Environmental Labelling Standard**

# **Office 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 "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, through communication of verifiable and accurate information that is not misleading, on environmental aspects of products and services, to encourage 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 best "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 and broad consumer environmental preference.

This standard can be used by Australian producers to guide their design for environment programs by using the environmental criteria as key performance benchmarks that 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 improvement along the product cycle not included in this standard for their design for environment programs and aim for even higher levels of environmental performance where technically possible.

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# Voluntary Environmental Labelling Standard

## Office Paper

### Abstract

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

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### 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 Environmental Choice Australia Label.

**ISO** means International Organisation for Standardisation.

**NO<sub>x</sub>** is a joint chemical abbreviation for nitrogen oxides (NO, N<sub>2</sub>O and NO<sub>2</sub>). In this document NO<sub>x</sub> means total NO and NO<sub>2</sub> measured as NO<sub>2</sub> equivalents.

**P** is a chemical abbreviation 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 disturbance from anthropogenic sources.

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**S** is a chemical abbreviation for elemental 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.

## **1.0 Introduction to the Environmental Loads of Office Paper Products**

This Standard is a voluntary environmental labelling standard which specifies requirements for office paper products. Paper products have and continue to be the subject of considerable community concern with respect to their impact upon the environment, particularly the of sourcing of wood pulp from virgin or unsustainably managed native forests, and production emissions. Consumers and the protection of the Australian environment also demand that there is a strong uptake of Australian collected and recycled fibre in the content of paper products. Where recycled or reclaimed fibre is used it is important the associated water emission and air emission impacts are lower so as not to offset the environmental benefits of this fibre source through heavy bleaching and chemical additives. The standard aims in particular at promoting:

- The reduction of discharges of certain toxic or otherwise polluting substances 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 risks related to the use of hazardous chemicals,
- The application of sustainable management principles in order to safeguard forests.

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

1. Managing and harvesting of the forest;
  2. Producing pulp and paper;
  3. Processing the paper product as waste; and
  4. Processing production waste.
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### ***Sustainable forestry***

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 biodiversity of forests. Third party certification is a tool to verify sustainable forest management.

### ***Producing pulp and paper***

The environmental impacts that are associated with manufacturing office 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.

### ***Waste processing***

Considerable quantities of waste may be generated between the raw material stage and the completed paper product. The criteria impose the requirement that all the pulp and paper manufacturers' 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) and
- Oxygen consuming organic materials (COD);
- Reducing energy consumption in pulp and paper production; and
- Encouraging re-use and recycle of waste paper and waste from the production process.

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

## **2.0 Product Category Scope**

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

**2.1** Products supplied in cut reams used for Digital printing and photocopying in an office environment up to 240 GSM.

**2.2** Stationary Paper products (envelopes, exercise books, invoice books, posters etc).

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### **3.0 Environmental Performance Criteria**

#### **3.1 Fitness for Purpose**

Certified products should be suitable for their intended application. It is implied that certain standards of product performance are implicit in the label. Certified product must ensure that the product is fit for its intended purpose and where relevant:

- 3.1.1 The product meets the performance requirements of the relevant Australian Standard for its intended application;

#### **3.2 Fibre Content**

Certified products require that geographical locations of virgin fibre material and actual sources and locations of all other fibre must be monitored and documented allowing confirmation of origin throughout the supply chain. Fibre for certified products shall either be:

- 3.2.1 100% by weight shall come entirely from or as any combination of plantation wood fibre, cellulose fibre, return fibre, cotton fibre or other waste fibre or fibre sourced from plantation forests. The plantation must have been established prior to 2000 and 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.

Or

- 3.2.2 Where non plantation fibre is used the new fibre by weight must come 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 requirements of 3.2.1.

#### **3.3 Production Considerations**

- 3.3.1.1 The processing of paper shall be performed without halogenated bleaching agents or chlorine gas. 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 Pulp manufacturers may only utilize  $\leq 2.5\text{kg}$  of EDTA / DTPA per ton of pulp and must provide an account of the quantity of EDTA / DTPA used per ton of pulp.
- 3.3.1.3 When surfactants are used in the manufacturing process, such as for the de-inking of recycled paper input, where quantities  $\geq 100\text{ g/ADT}$  (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  $< 100\text{ g/ADT}$ , 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.
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### **3.3.2 Production Equipment Cleaning**

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.

### **3.3.3 Emissions to Water**

3.3.3.1 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 and shall not exceed:

3.3.3.2 30kg chemical oxygen demand (COD) per tonne of paper produced with chemical pulp raw material and 12kg COD per ton for return fibre. COD shall be measured in accordance with ISO 6060 or equivalent standards.

3.3.3.3 0.050kg phosphorous (P) per ton of paper produced with chemical pulp raw material and 0.010kg P per ton of paper produced with return fibre.

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

3.3.3.5 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.

3.3.3.6 At least 95% by weight of active ingoing components in foam inhibitors used in the production of pulp and paper must be readily biodegradable in accordance with OECD test method No. 301 A-F or ultimately biodegradable in accordance with OECD test method No. 302 A-C. Foam inhibitors used for chemical recycling are exempted from this requirement.

### **3.3.4 Emissions to Air**

3.3.4.1 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:

3.3.4.2 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.

3.3.4.3 3.0 kg nitrogen oxides (NO<sub>x</sub>, as NO<sub>2</sub> equivalents) per tonne of paper produced. The emissions related to the production of electricity need not be accounted for.

3.3.4.4 1 500 kg carbon dioxide from non renewable sources per ton of paper produced using chemical pulp raw material and 1 700 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.

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### 3.4 Dyes

3.4.1 The following dyes shall not be used as dyestuffs:

4-aminodiphenyl  
benzidine  
4-chloro-o-toluidine  
2-naphtylamine  
o-aminoazotoluene  
2-amino-4-nitrotoluene  
4-chloroaniline  
2,4 – diaminoisole  
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

3.4.2 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)

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

3.4.4 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.

3.4.5 No dyestuffs 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>.

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### **3.5 Coating and post-consumer recycling**

3.5.1 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)

3.5.2 Acrylamide shall not be present in coatings.

3.5.3 The recycled paper to which the label is applied 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.

3.5.4 Halogenated plastics are not used as packaging. The type of material used for packaging must be clearly marked to allow for easier recycling.

### **3.6 Compliance to Environmental Regulations**

The applicant is required to comply with relevant environmental legislation and if they have been issued government orders at the Local, State and Commonwealth level. This compliance may be established by a statement of self declaration by an executive officer of the applicant organisation. Where an applicant is from an overseas jurisdiction, that jurisdiction's environmental regulations apply. Where the applicant is subject to a guilty verdict by an Australian Court in the last 24 months on the basis of a breach of any environmental legislation there must be evidence of corrective action.

### **3.7 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.

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 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*, and *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

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is subject to 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 jurisdictions anti-discrimination, occupational health and safety and workers compensations regulations. Where the applicant is subject to 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 compensations regulations there must be evidence of corrective action.

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

#### **4.0 Compliance Testing**

Conformance with this standard shall be demonstrated by undertaking an assessment to the above criteria by an approved assessor following the certification and verification procedures detailed in Good Environmental Choice Australia Ltd Documented Quality Management System which generally follows the environmental auditing requirements of ISO 19 011.

The Australian Ecolabel Program classifies approved assessors as:

1. Assessors registered by Good Environmental Choice Australia Ltdas environmental professionals that hold expertise relevant for an assessment and which have undertaken training in the procedures of the Australian Ecolabel Program, or
2. Environmental auditors accredited with the Quality Society of Australasia; or
3. Assessors registered with the Environmental Choice New Zealand Trust.

New testing shall be undertaken by a laboratory accredited by NATA or similar overseas accreditation to carry out the relevant tests and/or documentation detailing environmental performance against the key indicators for this standard. The tests results should be presented on NATA endorsed reports or from a laboratory acceptable to the Australian Environmental Labelling Association.

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:

- 1) Technical specification of the product.
- 2) Obvious characteristics of the product from examination.
- 3) Scientific and test results and reports.
- 4) Environmental management system and audit reports and results.
- 5) Life cycle assessment of each stage of the product life cycle via a physical audit and examination.
- 6) Life cycle assessment via scientific testing.
- 7) A statement of confirmation by an executive officer.
- 8) An assessment of company or government records.
- 9) Other material that can be considered objective evidence.

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

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