

# The Australian Ecolabel Program

## Good Environmental Choice Australia Standard

# Cleaning Products



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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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**GOOD ENVIRONMENTAL CHOICE AUSTRALIA STANDARD**


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## Cleaning Products

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### Abstract

This Standard specifies environmental performance requirements of general purpose and laundry cleaning 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

**Anaerobically degradable** means that, when measured as directed in ISO 11734 "Water quality - Evaluation of the "ultimate" anaerobic biodegradability of organic compounds in digested sludge - Method by measurement of the biogas production", the substance achieves at least 60 % degradation.

**APEO** means alkylphenol ethoxylate. APEO and other alkylphenol derivatives are prohibited under this standard due to aquatic toxicity.

**AS** means Australian Standard.

**ASTM** means American Society for Testing and Materials.

**Bioaccumulative:** A substance is classified as potentially bioaccumulative if its octanol-water partition coefficient is greater than 1000 when measured with the following:

OECD 107. Octanol-Water Partition Coefficient (Flask Method).

OECD 117. Octanol-Water Partition Coefficient (HPLC Method).

OECD 107 must not be used for surfactants. Other test methods may be accepted, such as OECD 305.

**Builder** means any substance intended to maintain alkalinity, and/or bind calcium and magnesium ions (soften the water), and/or keep dirt in suspension, increasing the effectiveness of the detergent. It includes substances such as phosphates, NTA, EDTA, zeolites, sodium citrate, sodium silicate and sodium carbonate.

**Carcinogenic** means capable of causing cancer. The International Agency for Research on Cancer is the internationally accepted body for the classification of carcinogenic substances. See <http://www.iarc.fr>

**Contact sensitizer:** Any substance that induces a progressively amplified response following continuous or repeated doses of that substance.

**EDTA** means ethylene diamine-tetra-acetic acid or ethylene dinitrilo-tetra-acetic acid, or any of its salts or primary derivatives.

**Fragrance or Colouring** means organic substances that are added primarily for aesthetic reasons to give colour or smell. Fragrance can also be for the purpose of concealing smells from other ingredients or from the item to be

cleaned.

**General Purpose Cleaners** means any cleaner designed to perform on a variety of hard surfaces for household, institutional and/or recreational purposes. It excludes institutional cleaners intended for use in certain situations where a highly germicidal action is required, such as in hospital and food processing areas.

**ISO** means the International Organisation for Standardization. See <http://www.iso.org>

**Label** means the Environmental Choice Australia Label.

**Mutagenic** means any substance that causes mutations or genetic abnormalities. The criteria for classification of a substance as mutagenic are defined by the National Industry Chemical Notification and Assessment Scheme (NICNAS).

**NTA** means nitrilotriacetic acid or any of its salts.

**OECD** means Organisation for Economic Co-operation and Development.

**pH** is formally the negative log function of the activity of the hydrogen ion in solution. In practice, it is a scale indicating how acidic or alkaline a solution is. For water, a pH of 7 is neutral, higher pH values are progressively more alkaline and lower pH values are progressively more acidic. Each pH unit represents a ten-fold concentration change of the hydrogen ion.

**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 of the following test methods including the OECD Guidelines for Testing of Chemicals, Test Guidelines 301A-301E, ISO 7827 (1994), AS 4351 (part 2 - 1996) or achieve a biodegradability of at least 80% when tested by the OECD method. The pass level of 80% recognises the inherent experimental variability of the OECD test.

**Solvent** is a general term for a chemically diverse range of liquid phase substances which dissolve other materials.

**Surfactant** or "surface-active agent" means any substance which is intended to reduce surface tension thereby helping water to surround and remove dirt or staining from surfaces.

**Teratogenic** means any substance capable of producing congenital deformations or birth defects. The criteria for classification of a substance as teratogenic are defined by the National Industry Chemical Notification and Assessment Scheme (NICNAS).

**VOC, or Volatile Organic Compound** is defined as any organic compound having a vapour pressure of 0.01 kPa or more, at 20 °C, or having a corresponding volatility under the particular conditions of use.

## 1 INTRODUCTION

### 1.1 Purpose

This Standard seeks to define good environmental performance benchmarks for a wide range of cleaning products. The voluntary environmental labelling standard implemented by Good Environmental Choice Australia (GECA) as part of the Australian ecolabel program specifies environmental performance criteria for both domestic and professional cleaning products including general purpose cleaners for use on walls, ceilings, benches or other hard surfaces, kitchens, bathrooms, toilets laundry detergents as well as general purpose and sanitary cleaning agents. This standard stipulates the environmental load of such products throughout the major aspects of their life cycle.

### 1.2 Background

The primary function of general purpose cleaners is to remove soils from hard surfaces. Millions of kilograms of general purpose cleaners are consumed in Australia each year. This represents a potentially significant burden on the environment in terms of wastewater loading and subsequent treatment, emissions of volatile organic compounds (VOC's), resource consumption and disposal of packaging materials.

The major active components in general purpose cleaners are surfactants, builders, solvents and scouring abrasives. Components, such as surfactants, may accumulate and may be toxic or otherwise harmful in the environment. Surfactants provide a significant load on sewage systems.

Builders serve to overcome water hardness and improve surfactant performance. Phosphate and nitrilotriacetic acid (NTA) are commonly used builders. Although NTA is an efficient builder, it increases the mobility of heavy metals in aquatic environments.

Phosphate may be a limiting nutrient in some aquatic environments and in many countries the use of phosphate in detergents has been discouraged to prevent unsustainable plant growth and oxygen starvation (eutrophication) of lakes and waterways. In Australian waters, the contribution of phosphate from agricultural and forested land usually outweighs that from sewage however for local area waste water management systems phosphate free detergents can reduce nutrient availability for eutrophication.

Solvents are used either to assist in the cleaning action or to provide solvency for other ingredients. The most widely used solvent is water; however organic solvents are also in common use. Volatile organic compound (VOC) emissions from all purpose cleaners are significant in comparison to other household products. These VOC's react with nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight to produce ground level ozone and photochemical smog. Reducing VOC emissions will thus improve air quality.

To reduce environmental and human health impacts, components of general purpose cleaners should either be environmentally innocuous or should readily biodegrade, and the products of degradation should not pose an increased risk to the environment.

Based on a review of currently available information, the following product category requirements will produce environmental benefits by reducing water pollution by reducing the volume of total chemicals used in the products and by limiting the use of (VOC's) and potentially hazardous ingredients, conserving transport and energy and by minimising waste production by reducing the amount and type of primary packaging. As information and technology change, product category requirements will be reviewed, updated and progressively amended.

This standard has been developed using Australian and international environmental and toxicological research. Toxicological requirements are generally consistent with European ecolabelling standards, with other criteria introduced for the Australian market.

## 2 STANDARD CATEGORY SCOPE

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

### 2.1 General Surface Cleaners

This category includes cleaners for use on tables, benches, tiles, windows, walls, ceilings and other fixed surfaces. This includes cleaners for kitchen use.

### 2.2 Sanitary Cleaners

This category includes cleaners for use on toilets, bathrooms and other wet-areas.

### 2.3 Laundry Detergents

This category includes laundry cleaning agents including liquids and powders for washing machine or hand clothes washing use.

The following categories of cleaners are covered under other GECA Standards:

- Hand and machine dishwashing detergents
- Soaps and Shampoos

This Standard specifically excludes the following cleaners:

- Disinfectants
- Drain cleaners
- Decalcification agents
- Pure acids

### 3 ENVIRONMENTAL PERFORMANCE CRITERIA

#### 3.1 Fitness for Purpose

Certified products should be good performers in their intended application. Certain standards of quality and effectiveness are implicit in the Label. The manufacturer must ensure that the product is fit for its intended purpose and:

##### 3.1.1 Applicable Standards

The product meets or exceeds the requirements of the relevant Australian Standard, or the product meets the applicable and accepted standard in its target market if it is to be exported, or

##### 3.1.2 Demonstrated Performance

If there is no relevant Australian Standard, the product can demonstrate sufficient quality by providing testing reports from an independent organisation or case studies from cleaning trials conducted by an independent organisation demonstrating suitability and quality.

#### 3.2 Chemical Requirements

All raw materials must be sourced from facilities that comply with Section 4 of this standard.

Details of all ingredients used in all certified cleaning products must be provided using the Ingredients List spreadsheet available with this standard at <http://www.geca.org.au/standardsregister.htm>

##### 3.2.1 Prohibited Substances

The following substances are prohibited in all certified cleaning products.

Halogenated organic substances or solvents (e.g., chlorinated methane or ethane, fluoropolymer additives).

Aniline based amines.

The phthalates DEHP, DBP, DAP or BBP.

Aziridine or polyaziridines.

Polybrominated diphenyl ethers, or short-chain chlorinated organic flame retardants.

APEO and other alkylphenol derivatives

Xylene sulfonates or other linear alkyl benzene sulfonates

Reactive chlorine compounds (e.g., hypochlorites)

Organic chlorine carriers (e.g., triclosan)

Benzalkonium chloride

Butoxyethanol

Optical brightening agents

The following fragrances:

<i>Common Name</i>	<i>CAS number</i>
Moskusxylene	81-15-2
Moskusambrette	83-66-9
Moskene	116-66-5
Moskustibetin	145-39-1
Moskusetone	81-14-1

The chelating agents EDTA, DTPA, NTA or phosphonates.  
Exception may be made for phosphonates if hydrogen peroxide is present in solutions at concentrations greater than 1 % by mass, provided that no greater than 1 g / kg of solution (0.1 % by weight) is present.

Any substances listed as class 1 or 2a carcinogens by the International Agency for Research on Cancer (IARC).

Any substance that is potentially bioaccumulative according to the definition given above.

### 3.2.2 Restricted Substances

This section places limits on certain substances based on the concentration of the in-use solution or solid. For products sold as concentrates or solids for dissolution (e.g., laundry powder), the concentration will be measured when the solution is diluted as directed on the label. If multiple dilution options are given for various applications, the concentration will be measured for the most concentrated application rate.

Certified products must not contain more than 0.1 % by mass of in-use solution of any ingredient that is classified as a known or suspected endocrine disruptor, mutagen or teratogen, as defined above.

Certified products must not contain more than 1 % by mass of in-use solution of any ingredient that is classified as a possible carcinogen (IARC class 2b), possible mutagen or contact sensitizer as defined above.

The phosphorus load of liquid cleaning products shall not exceed 50 mg / L of in-use solution. Toilet cleaners may contain up to 200 mg / L of in-use solution. The total phosphorus content of solid cleaning products shall not exceed 0.2 % by mass.

### 3.2.3 Surfactants and Enzymes

All surfactants must be readily biodegradable as defined above.

All surfactants must be anaerobically degradable as defined above.

The micro-organism used for enzyme production shall not be detectable in the final preparation.

### 3.2.4 Solvents

Certified cleaners must not contain more than 5 % by mass volatile organic compounds (VOC). For products sold as concentrates for dissolution with water, the VOC concentration will be measured or calculated when the solution is diluted as directed on the label. If multiple dilution options are given for various applications, the VOC concentration will be measured for the most concentrated application rate that may be expected for routine use. The VOC requirement may not apply to occasional use of the concentrated product, such as stubborn stain removal.

### 3.2.5 Fragrances and Colours

Fragrance must be produced and used in accordance with the "Code of Practice" compiled by the International Fragrance Association (IFRA).

Colorants used must be included on the "List of Colouring Agents Allowed for use in Cosmetic Products" in Annex IV of the European Union Commission Directive 76/768/EEC. A copy of the Directive is available at:

[http://ec.europa.eu/enterprise/cosmetics/html/consolidated\\_dir.htm](http://ec.europa.eu/enterprise/cosmetics/html/consolidated_dir.htm)

### **3.3 Other Claims**

#### **3.3.1 Suitable for Local Wastewater or Greywater Systems**

Products that intend to claim suitability for local waste water systems or on-site grey water systems and to declare that environmental characteristic as part of the voluntary environmental labelling declaration use must show that the total sodium load per recommended dose (e.g., per wash for laundry detergents) is less than 0.1 g / L or less than 10 g in total per use, whichever is the lesser emission.

#### **3.3.2 Phosphorus Related Claims**

Products that intend to declare “no phosphorus”, “phosphorus free” or “phosphate free”, or similar, as part of the voluntary environmental labelling declaration must not be in a product category where none of its competitors use phosphorus-containing compounds (e.g., liquid laundry detergent), since this represents a misleading competitive environmental benefit.

If the claim refers to “phosphorus”, the product must not contain any phosphorus containing compounds whatsoever.

If the claim refers to “phosphates”, the product must not contain phosphates nor any other phosphorus-containing compounds that may react (including via biologically mediated reactions) to provide nutrient in any aquatic system.

#### **3.3.3 Food Safe**

Products that intend to declare “food safe”, or similar, as part of the voluntary environmental labelling declaration must be able to provide evidence of formal recognition of this claim by Food Standards Australia.

#### **3.3.4 Organic**

Products that intend to declare “Organic”, or similar, as part of the voluntary environmental labelling declaration must be Australian Certified Organic (ACO), National Association for Sustainable Agriculture Australia (NASAA) Certified Organic or Demeter Certified Organic.

#### **3.3.5 Other Claims**

Other environmental claims shall be verifiable by GECA citing, as a minimum, appropriate test results from an independent laboratory in accordance with an internationally recognised relevant test method.

### **3.4 Packaging and Labelling**

#### **3.4.1 Recyclability**

All plastic containers and plastic components must be made of a plastic type that is recycled in Australia (or the country to which the product is exported and sold). If only one plastic type is used in the product packaging, major parts must be marked with the appropriate resin identification code promulgated by the Plastics and Chemical Industry Association (<http://www.pacia.org.au>) or in accordance with ISO 11469.

Packaging made from more than one type of material must be easily and quickly separable into component recyclable parts without the need for any tools, and each component must be marked with the appropriate resin identification code promulgated by the Plastics and Chemical Industry Association (<http://www.pacia.org.au>) or in accordance with ISO 11469.

Packaging must not be impregnated, labeled, coated or otherwise treated in a manner, which would prevent recycling (e.g., reinforced sleeves, metallic labels).

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

Cardboard packaging must contain at least 70% recycled pulp, or meet the requirements of GECA Standard 11 – Recycled Paper Products.

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

### **3.4.2 Product Information**

The manufacturer must provide written information to the consumer clearly stating:

- Instructions for proper use so as to maximise product performance and minimise waste.
- A list of product ingredients which complies with the requirements of the EEC Commission Recommendation for Labelling of Detergents and Cleaning Products.
- Environmentally responsible disposal instructions.
- If the product is to be exported, instructions for safe chemical use must be provided in all appropriate languages.

#### 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 EVIDENCE OF CONFORMANCE**

### **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 19 011.

### **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 criteria of 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.