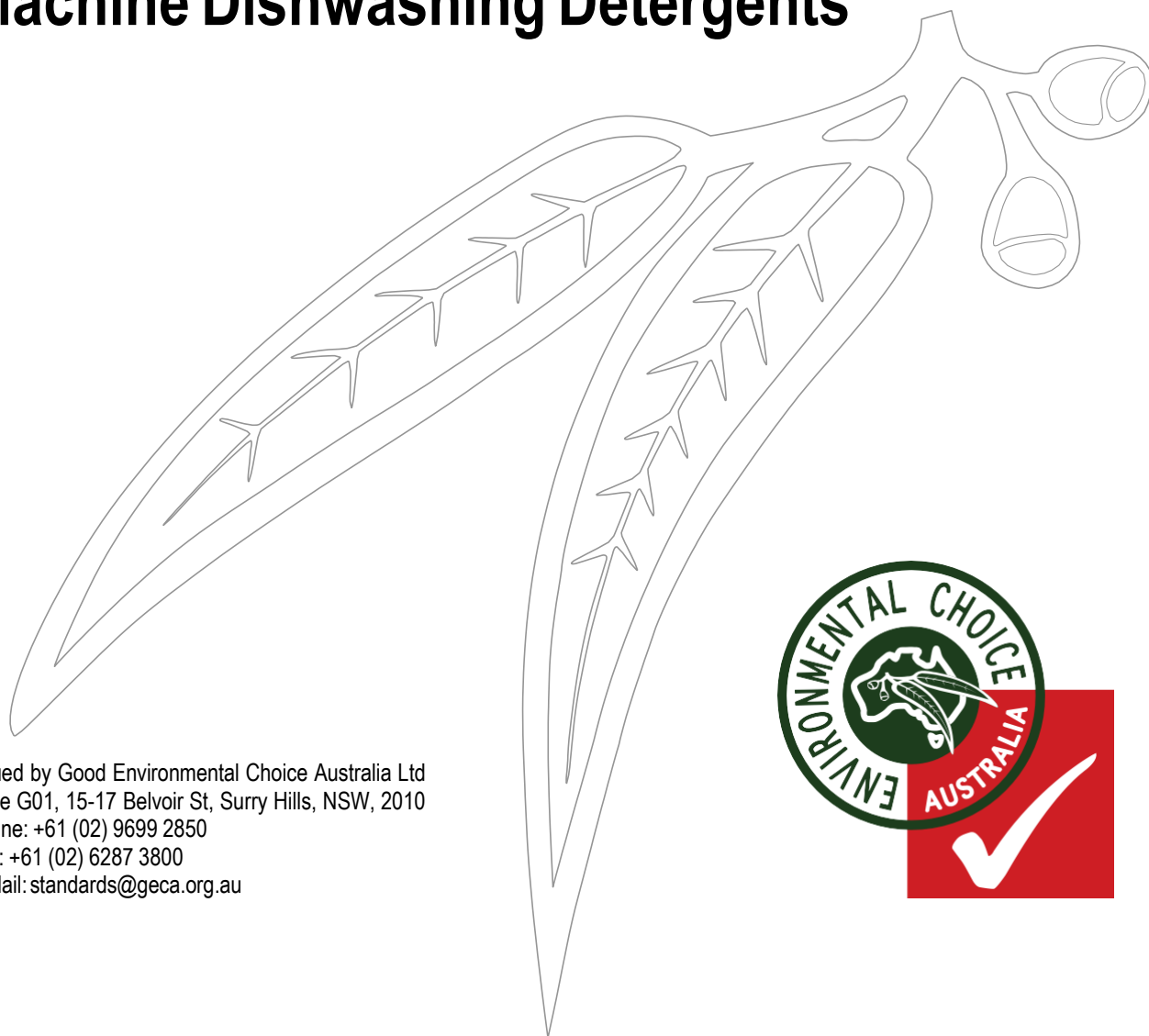


Good Environmental Choice Australia Environmental Performance Standard

Machine Dishwashing Detergents



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USE OF GECA STANDARDS

This standard identifies environmental, quality, regulatory and social criteria that the top products sold in the Australian marketplace must meet in order to be recognised by GECA as “environmentally preferable”.

This standard seeks to set the benchmark for environmentally preferable products. The Australian Ecolabel Program is based on the international standard ISO 14024: "Environmental Labels and Declarations - Guiding Principles" which requires environmental labelling specifications to include criteria that are objective, reasonable and verifiable.

This standard may be used by GECA appointed auditors to verify whether a product conforms to the criteria set by this standard. Where a product is certified under the Australian Ecolabel Program, it may display the GECA ecolabel (the “Environmental Choice Australia Mark”) to show that the product has been independently audited and demonstrates conformance with the environmental and social criteria detailed in this standard.

The purpose of voluntary environmental labels and declarations is the communication of verifiable and accurate information for the numerous environmental aspects of goods and services. As required by the Competition and Consumers Act the information cannot be misleading. Such information encourages the demand for, and supply of, those products that cause less harm to the environment, thereby stimulating the potential for market-driven continuous environmental improvement. Where a company has a product certified as conforming to this standard, it may gain a marketing advantage in government and business procurement programs, as well as greater market recognition in general because of its independently verified environmental attributes.

The principles of life cycle management have been used to set criteria to address relevant environmental loads typical to a product category. As such, this standard may also offer guidance for Australian producers to reduce the environmentally harmful impacts of their product(s). Producers may use the environmental criteria in this standard to design and refine the processing, manufacturing and delivery of their product(s). In addition producers may find other environmental issues and more measures along the product’s life cycle, which are beyond the content of this standard. Producers are encouraged to include and adapt improvements in their environment programs and designs to aim for even better environmental results where technically possible. GECA welcomes feedback where this has been achieved.

While all GECA ecolabelling standards are voluntary, nevertheless they contain criteria that address compliance with specific laws. In addition, a GECA standard may recognise specific Australian Standards. A prerequisite for certification under the GECA ecolabel is to satisfy the relevant Australian or International Standard, where it is required by law. However, Australian Standards typically define “fit-for-purpose” criteria and usually do not provide assurance of environmental preferability. GECA ecolabelling standards go beyond Australian Standards and define an environmental benchmark for the product category.

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Machine Dishwashing Detergents

Document History

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Previous Versions	Date Published	Summary of Changes
2.0	2006	Fitness for Purpose (Demonstrated Fitness), Material Requirements (Aerobic Biodegradability, Anaerobic Biodegradability, Fragrances, Colorants, Bleaching Agents, Biocides, Sodium, Phosphorus, Enzymes), Environmental Claims (Organic), Hazardous Materials (Alkalinity, Banned Substances, Limited Substances, Bioaccumulative Substances, Hazardous Substances), Design for Environment (Product Information, Packaging, Waste Minimisation), Social and Legal Compliance.
3.0	2013	Scope (Detergents for commercial machines now included), Fitness for Purpose, Material Requirements (Sodium, Limited Substances, pH), Design for Environment (Product Information, Packaging).

How to Apply for GECA Certification

Manufacturers or service suppliers interested in GECA certification using the Environmental Choice Australia Ecolabel are encouraged to read carefully through the entire standard and to evaluate whether their products are likely to conform to the standard and to pass the assessment process.

To launch an application, please contact GECA by phone, email or via the GECA website (www.geca.org.au). The completed application form can be sent to GECA either by mail, fax or email.

After receiving the completed application form and the application fee, GECA refers the verification process to a GECA appointed auditor. The GECA appointed auditor contacts the applicant and gives a clear overview of the steps needed to achieve certification for their particular product type.

Structure of the Standard

Each section within this standard contains criteria and Demonstration of Conformance (DoC). The criteria state the requirements for the product and applicant company with respect to its environmental performance. The DoCs list the information required to verify compliance to the criteria. Selected sections also contain introductory text which outlines the purpose behind the criteria or the reason for its inclusion in the standard.

Requesting Additional Evidence

Demonstration of Conformance items are listed for each criterion. The GECA appointed auditor / s will request additional information to ensure conformance on a case by case basis. Hence, the conformance items listed below are considered a guide to the minimum Demonstration of Conformance items that will be required from the applicant company.



DEFINITIONS & ACRONYMS

% w/w: Percent weight / weight, equivalent to percent by mass.

ACO: Australian Certified Organic.

ADG: Australian Dangerous Goods.

Aerobically Biodegradable: A substance that is biodegradable according to AS 4351.

Anaerobically degradable: A substance 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", achieves at least 60 % degradation.

APEO: Alkylphenol ethoxylate and other alkylphenol derivatives.

Aromatic substance: In the context of this standard, aromatic substances are chemicals which contain a planar unsaturated ring of atoms that is stabilised by an interaction of the bonds forming the ring. Such compounds are typified by benzene and its derivatives.

AS: Australian Standard.

ASTM: American Society for Testing and Materials.

Bioaccumulative: A substance is classified as potentially bioaccumulative if the log K_{ow} (log octanol/water partition coefficient) is equal to or greater than 3.

Biodegradable: Organic substances that decompose in the natural environment due to the action of living organisms.

Blackwater: Wastewater derived from toilets, which is contaminated by human faeces and / or urine.

CAB: Conformity Assessment Body as described by GECA's Scheme Rules. CABs are often referred to as 'auditors', however only GECA appointed auditors may be used to obtain GECA certification.

Carcinogenic: 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>

CAS Number: Chemical Abstract Service number. Unique CAS numbers are assigned to chemical compounds as a means of identification.

CI Number: Colour Index Number, as assigned by the Society of Dyers and Colourists and the American Association of Textile Chemists and Colourists.

COD: Chemical Oxygen Demand.

Dematerialisation: The reduction of material inputs to increase efficiency of resource use.

Demonstration of Conformance (DoC): Defines sources of evidence acceptable to GECA to demonstrate compliance with each criterion of the standard. An applicant manufacturer must provide documentation to the GECA appointed auditor in order to demonstrate conformance of its products under assessment. For further information on Demonstration of Conformance requirements see *Appendix A - Evidence of Conformance* at the end of this standard.



DID List: Detergents Ingredient Database list, as published by the European Union Ecolabel. Available at http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf.

EDTA: Ethylenediaminetetraacetic acid or ethylenedinitrilotetraacetic acid, or any of its salts or primary derivatives.

EMS: Environmental Management System.

Endocrine Disruptor: Substances which interfere with the endocrine system of the body, resulting in development, reproductive, neurological and immune health effects.

Enzyme: A substance, produced by an organism, which acts as a catalyst to specific biochemical reactions.

EPA: Environmental Protection Agency or Environmental Protection Authority.

EPS: Expanded Polystyrene.

GECA Mark: The Environmental Choice Australia Mark, the mark awarded to applicants complying with GECA ecolabelling standards after assessment by a GECA appointed auditor.

GECA: Good Environmental Choice Australia Ltd.

GEN: Global Ecolabelling Network

Greywater: Wastewater generated from washing machines, showers, baths and basins, which, when used correctly, can replace drinking water for watering lawns and gardens. Water from kitchens can also be considered greywater if the correct treatment processes are followed. Wastes from toilets are not included.

Halogen: Any element in Group 17 on the periodic table (previously Group VIIA). Halogens include fluorine, chlorine, bromine and iodine.

Heavy Metal: Elements including antimony (Sb), arsenic (As), cadmium (Cd), chromium (Cr), cobalt (Co), lead (Pb) mercury (Hg), and tin (Sn).

IARC: International Agency for Research on Cancer.

IFRA: International Fragrance Association.

INS Number: International Numbering System for Food Additives Number, as assigned by the Codex Alimentarius of the World Health Organization and the Food and Agriculture Organization of the United Nations. Numbers of this system are analogous to those of the E Number system of the European Union.

ISO: International Organization for Standardization. See <http://www.iso.org>.

MEA: Monoethanolamine, also known as ethanolamine.

Mutagenic: 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).

NASAA: National Association for Sustainable Agriculture Australia.

NOHSC: National Occupational Health and Safety Commission.

NTA: Nitrilotriacetic acid or any of its salts.

OECD: Organisation for Economic Co-operation and Development.



Organic (chemistry): Carbon compounds other than simple salts such as carbonates, carbon oxides, cyanides and carbides. Unless specified, this definition of organic is applicable to all parts of this standard.

Organic (farming method): Substances or ingredients that have been produced without the use of artificial fertiliser or synthetic chemicals.

Packaging: Materials used for the transport, containment or display of products.

pH: Formally, pH is defined as 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. 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.

Post-Consumer Material: Post-consumer material is generated by end-users (including households, businesses, industries and institutions) from products that can no longer be used for their intended purpose. Post-consumer material also includes the return of material from distribution chains.

Pre-Consumer Material: Pre-consumer (sometimes also referred to as post-industrial) material is recovered from the manufacturing process before it is sold to end consumers.

Producer / Manufacturer: For the purpose of this standard these terms comprise both manufacturers of a product as well as service suppliers. These may not necessarily be the companies that apply for GECA certification, since certification can also be awarded to retailers of a product. However, for some criteria it is required that the original manufacturer of the product conforms to particular requirements.

Recycled Content: Denotes the proportion of a product that is generated from post-consumer and pre-consumer material.

Reference Detergent: A dishwasher detergent deemed to be one of the top three market leaders in the country of testing. Market leading brands and products are defined based on the shelf space allocated at a major supermarket in the given country.

SDS: Safety Data Sheet (formally Material Safety Data Sheet – MSDS). Contains information relating to the composition, classification and risk assessment of the product. To qualify as suitable, the SDS and information therein must not be more than 5-years old.

Surfactant or “Surface-Active Agent”: Any substance which is intended to reduce surface tension thereby helping water to surround and remove dirt or staining from surfaces.

Teratogenic: Any substance capable of causing heritable genetic damage, producing congenital deformations or causing birth defects. The criteria for classification of a substance as teratogenic are defined by the National Industry Chemical Notification and Assessment Scheme (NICNAS).

TGA: Therapeutic Goods Administration.

WELS: Water Efficiency Labelling and Standards Scheme.

WFCC: World Federation of Culture Collections.

WHO: World Health Organization.

Note: all percentages described in this document are to be measured as percent by mass.



BACKGROUND

GECA standards aim to target the key environmental impacts of products and /or services throughout their life cycle. This particular standard seeks to set an environmental benchmark for machine dishwashing detergents. The scope is intended to cover machine dishwashing detergents sold in the Australian market. The criteria are used for environmental labelling, implemented by Good Environmental Choice Australia (GECA) as part of the Australian Ecolabelling program. This Standard is voluntary, and after verification, enables certified products to display an environmental label (ecolabel) as implemented by GECA to show it is environmentally preferable.



STANDARD CATEGORY SCOPE

Criterion 1: The product must fall within the category scope of this standard.

This standard is applicable to:

Detergents (liquid and powder) and rinse aids intended for use in automatic dishwashers. There are two separate categories of product covered by this standard:

- Products for use in domestic dishwashers (long-cycle products) – i.e. detergents used in machines with wash cycles longer than 15 minutes including short cycles on domestic dishwashers;
- Products for use in commercial dishwashers (short-cycle products) – i.e. detergents used in machines with wash cycles less than 15 minutes.

Other environmentally innovative machine dishwashing products that do not directly fit into the above types may be considered for certification provided the product fulfils the requirements of relevant sections of this standard. Other types may be added to the scope at a later date.

Additional categories of cleaners are covered under other GECA Standards:

- GECA Personal Care Products; and
- GECA Cleaning Products.

Where not mentioned otherwise, the criteria of this standard apply to both short-cycle and long-cycle products.

Exclusions and Notes

Dishwasher cleaners are excluded from this standard.

Demonstration of Conformance

DoC 1.1: Brief description of the product(s) or product range and their purpose as relevant to the standard.



FITNESS FOR PURPOSE

To be certified, the product(s) must be fit to perform its intended purpose or application. A minimum level of quality and durability is implicit before the GECA ecolabel can be displayed on the product. The applicant must ensure that the product is fit for its intended purpose.

Demonstrated Performance

Criterion 2:

- Long-cycle products must demonstrate fitness for purpose according to EN 50242 (modified as below), or equivalent; or
- Short-cycle products must demonstrate fitness for purpose according to internal or external test results. Tests must be performed at the recommended concentration. Performance of the product with respect to both cleaning ability (ability to remove soil) and cleaning performance (the total amount of soil removed per dish wash) must be assessed.

Demonstration of Conformance

DoC 2.1: For long-cycle products: Test reports showing the product to be equal to or better than a reference detergent (as defined under Definitions and Acronyms section) after the fifth wash cycle, based on EN 50242 conducted with the following modifications, or equivalent:

- Tests shall be performed at $50 \pm 2^{\circ}\text{C}$, with a cold prewash without detergent;
- The machine used for testing shall be a 12 place setting machine with a 5 star or higher WELS rating;
- The machine's drying program shall be used but only the cleanliness of the dishes assessed;
- A mildly acidic rinsing agent according to the standard (formulation III) shall be used;
- The rinsing agent setting shall be set to 2 or 3;
- The manufacturer's recommended dosage shall be used during testing; and
- Three trials shall be performed at the water hardness stated in the standard. One trial shall comprise five wash cycles with the results assessed after the fifth cycle without cleaning between cycles

For short-cycle products: Test report showing results and describing test method used.

If reformulations take place, the applicant must demonstrate that the new formulation also complies with this requirement.



MATERIAL REQUIREMENTS

The criteria in this section are intended to address impacts that may occur over the life cycle of a product that can be avoided or mitigated during the design phase of product development.

Unless otherwise stated, the requirements in this section apply to each type of material contained in the finished product regardless of weight.

Aerobic Biodegradability

Criterion 3: All surfactants and organic ingredients must be readily biodegradable in accordance with AS 4351, relevant OECD tests, or shown on the most recent DID list (Part A), found at http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf, as readily biodegradable (marked with R).

In the case that numerous ingredients are not reported on the DID list, the product may be tested as a whole to AS 4351 or a relevant OECD test.

Demonstration of Conformance

DoC 3.1: Test report based on AS 4351 or relevant OECD test for each surfactant or organic ingredient not included in the DID list, or

DoC 3.2: Test report based on AS 4351 or relevant OECD test for the product as a whole.

Anaerobic Biodegradability

Criterion 4: All surfactants used in the product must be anaerobically biodegradable in accordance with ISO 11734, relevant OECD tests, or shown on the most recent DID List, found at http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf, as anaerobically biodegradable (marked with Y).

Demonstration of Conformance

DoC 4.1: Test report based on ISO 11734 or relevant OECD test for each surfactant not included in the DID list.

Fragrances

Criterion 5: Fragrance must be produced and used in accordance with the “Code of Practice” compiled by the International Fragrance Association (IFRA), available at http://www.ifraorg.org/en-us/code_of_practice_1.

Demonstration of Conformance

DoC 5.1: The applicant must provide a declaration signed by the manufacturer(s) of all fragrances used which states that the fragrance was produced in accordance with the IFRA Code of Practice. This may be supported by evidence of the manufacturer’s membership to IFRA.

Colorants

Criterion 6: 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.

OR

Colours must be approved for use in foods under Australian Food Standard 1.3.1, schedule 1, 3 or 4. This can be found at <http://www.comlaw.gov.au/Series/F2008B00614>.

Demonstration of Conformance

DoC 6.1: Full list of all colorants used, identified by chemical name, CAS number, and where applicable CI (colour index) number or INS (International Numbering System for food additives) number.



Bleaching Agents

Criterion 7: The product must not contain reactive chlorine compounds or perborate.

Demonstration of Conformance

DoC 7.1: Full ingredients list for each product.

Sodium

Criterion 8: Long-cycle products must not contain more than 5 g sodium per wash. Short-cycle products must not contain more than 0.5 g sodium per L of wash water.

Demonstration of Conformance

DoC 8.1: Full ingredients list for each product and a calculation of the total quantity of sodium in g/wash for long-cycle products or in g/L dishwater for short-cycle products.

Phosphorus

Criterion 9: The product must not be manufactured using any phosphorus compounds.

Trace amounts of phosphorus must not exceed 0.05% w/w excluding water.

Demonstration of Conformance

DoC 9.1: Full ingredients list for each product; and

DoC 9.2: Declaration of the trace amount of phosphorus contained in the product and supporting documentation such as a Total Phosphorus Test, dilution and calculations to determine the amount of phosphorus % w/w.

Enzymes

Criterion 10: Products containing enzymes must meet the following criteria:

- Microorganisms used to produce enzymes shall be considered non-pathogenic and classified as World Health Organization (WHO) Risk Group 1 or equivalent;
- Microorganisms used to produce enzymes must be demonstrated to be susceptible to a Therapeutic Goods Administration (TGA) recognised disinfectant in accordance with the TGA Disinfectant Test (TGO 54 Standard 1), Option C or higher, or equivalent;
- Microorganisms used to produce enzymes must be demonstrated to be susceptible to the major five classes of antibiotics (aminoglycoside, macrolide, beta-lactam, tetracycline and fluoroquinolones) in accordance with Beckman Dickinson BBL Antimicrobial Susceptibility Disc Method;
- Microorganism strains used to produce enzymes must be pure and identified by a culture collection listed with the World Federation of Culture Collections (WFCC);
- Bacteria used for the production of enzymes must not be present in the final preparation of the product;
- Enzymes must be in liquid or dust free granule form; and
- Products must not claim to contain microorganisms or be bacterial.

Demonstration of Conformance

DoC 10.1: The applicant must provide documentation detailing:

- World Health Organization classification of microorganism(s);
- Identification of the microbial strain by a culture collection listed with WFCC;
- Susceptibility of the microbe to antimicrobial controls in accordance with the TGA Disinfectant Test, Option C or higher, and the Beckmann Dickinson BBL Antimicrobial Susceptibility Disc Method;
- Standard plate count; and
- Copy of the product label, showing no claims such as 'contains microorganisms', 'bacterial', or that which implies bacterial action.



ENVIRONMENTAL CLAIMS

Environmental claims are one of the tools utilised by consumers when attempting to make environmentally preferable choices and therefore it is essential that such claims are true and substantiated.

All claims must be relevant to the product and verifiable to GECA or a GECA appointed auditor.

Organic

Organic in the context of this criterion refers to substances or ingredients that have been produced without the use of artificial fertiliser or synthetic chemicals. Organic with reference to other sections of the standard refers to chemically organic substances, meaning carbon compounds other than simple salts such as carbonates, carbon oxides, cyanides and carbides.

Criterion 11: Products that declare “Organic”, or similar, must contain at least 95% ingredients certified as organic by Australian Certified Organic (ACO), Organic Growers of Australia, National Association for Sustainable Agriculture Australia (NASAA) Certified Organic or Demeter Certified Biodynamic.

Products that claim to contain “Organic Ingredients”, or similar, shall only claim ingredients as organic if certified by one of the above bodies. Ingredients certified as organic by one of the above bodies shall be identified as so on the label of the product.

Demonstration of Conformance

DoC 11.1: For products which claim to be organic, or similar, the applicant must provide evidence of organic certification for ingredients making up at least 95% of the product; or

DoC 11.2: For products which claim to contain organic ingredients, or similar, the applicant must provide documentation detailing the certification of those ingredients; and

DoC 11.3: Product label, showing identification of ingredients which are certified organic.

Other Claims

Criterion 12: 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.

Demonstration of Conformance

DoC 12.1: Test report showing results and test method used.



HAZARDOUS MATERIALS

Many products may contain substances that are hazardous to humans or the environment. Today's market expects environmental products to be non-toxic to human health through regular correct use. The criteria in this section are aimed at eliminating hazardous chemicals, thereby minimising risks to human health and the environment.

pH-Value

Criterion 13: The pH of long-cycle products must not exceed 11.0. This is to be measured as supplied for liquid products, or in a 500 g/L (saturated) aqueous solution for solid products (the powder does not have to be dissolved for this measurement).

The pH of short-cycle products must not exceed 12.5. This is to be measured at the maximum recommended 'in use' concentration of the product. Short-cycle products with a pH value of greater than 11.0 (measured for the product as supplied) are to be used in a dosage system or electronic dispenser system and must be supplied in a form suitable for automatic dosage systems minimising risk of exposure.

Demonstration of Conformance

DoC 13.1: Test report showing results and test methods used. For short-cycle products with a pH of more than 11, a brief description of the product form, how it is suitable for dosage systems and how it minimises risk of exposure, supported by photographs or samples of packaging.

Banned Substances

Criterion 14: Certified products must not contain any ingredient that that are or may decompose into substances that are classified as a known or suspected endocrine disruptor, carcinogen, mutagen or teratogen, or may cause serious damage to health. This includes the classifications listed in Table 1 and below.

Table 1 Classifications (carcinogens, mutagens, toxic to reproduction or causes serious damage to health) for banned ingredients.

Carcinogenic, mutagenic, toxic to reproduction					
H340	May cause genetic defects	R46	H341	Suspected of causing genetic defects	R68
H350	May cause cancer	R45, R49	H351	Suspected of causing cancer	R40
H360	May damage fertility or the unborn child	R60, R61	H361	Suspected of damaging fertility or the unborn child	R62, R63
H362	May cause harm to breast-fed children	R64	H372	Causes damages to organs through prolonged or repeated exposure	R48/25,R48/24, R48/23

or

- EU C/M/R; or
- IARC Group 1* and 2A

*Ethanol is classed by IARC as a Group 1 carcinogen in the context of alcoholic beverages. This ruling is not considered relevant to the product categories covered by this standard. Therefore, ethanol will not be considered carcinogenic based on this information. If ethanol is, or becomes, further classified as carcinogenic according to any of the criteria above, it must not be used in certified products.

Demonstration of Conformance

DoC 14.1: Full ingredients list, stating chemical names and CAS numbers; and

DoC 14.2: SDS for each ingredient.



Criterion 15: The following substances must not be intentionally added to the product or its ingredients:

- Alkylphenol ethoxylates (APEO) and other alkylphenol derivatives;
- Quaternary ammonium compounds that are not readily biodegradable;
- Aziridine or polyaziridines.;
- Benzotriazole and its derivatives;
- Ethylenediaminetetraacetic acid (EDTA), diethylenetriaminepentaacetic acid (DTPA) and nitrilotriacetic acid (NTA), or any of their salts;
- Halogens and halogenated compounds, including reactive chlorine compounds, organic chlorine carriers, and benzalkonium chloride ;
- Heavy metals, including antimony (Sb), arsenic (As), cadmium (Cd), chromium (Cr), cobalt (Co), lead (Pb) mercury (Hg), and tin (Sn);
- Linear alkylbenzene sulfonates (LAS);
- Monoethanolamine (MEA) and triethanolamine (TEA);
- Musk fragrances, including Moskusxylene (CAS 81-15-2), Moskusambrette (CAS 83-66-9), Moskene (CAS 116-66-5), Moskusitibetin (CAS 145-39-1), and Moskusketone (CAS 81-14-1);
- Phosphonates;
- Selenium and selenium compounds.
- Substances listed in Annex III of the Rotterdam Convention; or
- Persistent Organic Pollutants (listed in the Stockholm Convention).

Demonstration of Conformance

DoC 15.1: Signed declaration from an Executive Officer of the applicant company which confirms that the listed chemicals are not used as ingredients and are not contained in the ingredients used;

DoC 15.2: Full ingredients list, stating chemical names and CAS numbers; and

DoC 15.3: SDS for each ingredient, and test reports based on AS 4351 or relevant OECD test methods where applicable.

Criterion 16: Bioaccumulative Substances

The product must not contain any substances which are deemed to be potentially bioaccumulative. A substance is classified as potentially bioaccumulative if the log K_{ow} (log octanol/water partition coefficient) is equal to or greater than 3.

Demonstration of Conformance

DoC 16.1: Test reports using relevant methods, such as OECD 107 or OECD 117.

Limited Substances

Criterion 17: The product must not contain more than 1% w/w (excluding water) of any substance that carries one or more of the risk phrases/hazard statements listed in Table 2.



Table 2 Classifications for limited substances.

Toxicity					
H300	Fatal if swallowed	R28	H301	Toxic if swallowed	R25
H302	Harmful if swallowed	R22	H304	May be fatal if swallowed and enters airways	R65
H310	Fatal in contact with skin	R27	H311	Toxic in contact with skin	R24
H312	Harmful in contact with skin	R21	H330	Fatal if inhaled	R23/26
H331	Toxic if inhaled	R23	H332	Harmful if inhaled	R20
H370	Causes damage to organs	R39/23, 39/24, 39/25, 39/26, 39/27, 39/28	H371	May cause damage to organs through prolonged or repeated exposure	R48/20, 48/21, 48/22
Respiratory and skin sensitisation					
H317	May cause allergic skin reaction	R43	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
Hazardous to the aquatic environment					
H400	Very toxic to aquatic life	R50	H410	Very toxic to aquatic life with long-lasting effects	R50/53
H411	Toxic to aquatic life with long-lasting effects.	R51/53	H412	Harmful to aquatic life with long-lasting effects	R52/53
H413	My cause ling-lasting effects to aquatic life	R53			
Other environmental effects					
	Toxic to flora	R54		Toxic to fauna	R55
	Toxic to soil organism	R56		Toxic to bees	R57
	May cause long-term adverse effects	R58	H420/ EUH59	Harms public health and the environment by destroying ozone in the upper atmosphere	R59

Enzymes and percarbonates are exempt from this requirement.

Surfactants in concentration <25% in the final product are exempt if the 1% limit is based only on R50 (H400).

Demonstration of Conformance

DoC 17.1: Full ingredients list, stating chemical names and CAS numbers; and

DoC 17.2: SDS for each ingredient.



DESIGN FOR ENVIRONMENT

The criteria in this section are intended to address some of the major factors of a product that can be anticipated in sustainable design and are more easily incorporated during the design phase of product development.

Product Information

Criterion 18: Suitable information must be supplied with the product or made available to the public.

Information that must be included on the label/packaging includes

- Instructions for correct use including dosage and dilution measures if applicable. For short-cycle products, it must include that the product is intended for use in an automatic dosage systems;
- All hazards associated with the product, its use, storage or disposal;
- An instruction for users to read the SDS;
- Complete ingredients listing, according to Annex VII of the European Union Commission Directive 89/542/EEC on the Labelling of Detergents and Cleaning Products, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:104:0001:0035:EN:PDF>; and
- Environmentally responsible use and disposal instructions.

Information that must be available to the public includes:

- Safety data sheet (SDS);
- Technical data sheets or product information sheets.

Demonstration of Conformance

DoC 18.1: Copy of labels, care instructions and other information provided with the product;

DoC 18.2: A current safety data sheet for each product; and

DoC 18.3: Technical data sheets, web pages and any other information freely available to customers and / or the public.

Packaging

Criterion 19: Each material used as packaging must comply with at least one of the following.

Packaging materials must:

- a) Contain at least 50% recycled content by weight; or
- b) Be derived from plant-based materials (e.g. PLA plastics); or
- c) Be compostable to a relevant GECA, ASTM or ISO standard; or
- d) Be biodegradable to a relevant ASTM or ISO standard such as ASTM D5511; or
- e) Be recyclable in local municipal recycling system. Recyclable packaging must not be treated or labelled in a manner that would prevent recyclability. Materials that are technically recyclable but cannot be handled by a local municipal system are not acceptable. This includes expanded polystyrene (EPS) and flexible plastic films.

Paper and cardboard packaging must contain at least 70% post-consumer recycled content by weight.

Material used for the transport of products, and whose disposal is not the responsibility of the end consumer, may be exempt from the above requirements if they are re-used by the applicant.

Demonstration of Conformance

DoC 19.1: Test reports under the relevant standard or test method; and / or

DoC 19.2: Details of materials used in the product and their manufacture including information on the input of recycled and virgin materials reported by weight. The recycled content can be averaged over a 12-month period to find the amount or range of recycled content; and / or

DoC 19.3: Details of re-use programs for transport materials within the applicant company.



Criterion 20: Packaging must not be halogenated.

Demonstration of Conformance

DoC 20.1: Information regarding composition of packaging materials including chemical names, CAS numbers and / or SDS where applicable.

Criterion 21: All plastic bottles and other major or primary packaging must be marked with a plastics identification code. It is not mandatory for small components including caps and pump-spray nozzles to be marked.

Demonstration of Conformance

DoC 21.1: Visual inspection of each plastic component of the packaging.

Criterion 22: Individual wrappers (i.e. on tablet formulations) must be biodegradable to a relevant ASTM or ISO standard such as ASTM D5511.

Demonstration of Conformance

DoC 22.1: Test reports under the relevant standard or test method.

Waste Minimisation

Reducing total waste reduces the generation of hazardous waste, encourages reduced consumption of resources through dematerialisation and increases production efficiency.

Criterion 23: The applicant must demonstrate that at least 97% of material inputs (ingredients) result in product and that effective waste management / material efficiency policies and procedures are developed and implemented, including:

- Waste minimisation policies and procedures to reduce the amount of waste generated;
- Waste recovery procedures to capture and reuse as much waste as is practical;
- Efficient use of resources through dematerialisation; and
- Energy conservation policies to reduce energy usage.

Demonstration of Conformance

DoC 23.1: Documentation of all material inputs and outputs on an annual (12-month) basis. The calculation will be made by using the weight of all material inputs versus the weight of the final product(s) (including packaging), by determining the % waste, or by alternate means determined appropriate by a GECA appointed auditor. The calculation may include process information and waste recapture methods as necessary; and

DoC 23.2: Demonstrate progress on developing, implementing and adhering to effective resource minimisation policies and procedures as detailed above. This may include documentation of programs which aim to reduce or reuse waste; dematerialise or use fewer raw materials (e.g. reduced paper usage); or conserve or use alternate sources of energy or purchase green power.



SOCIAL AND LEGAL COMPLIANCE

This section addresses compliance with the law and the societal attributes of the manufacturer and the applicant company. Criteria for social aspects of the product are required under the international standard on ecolabelling (ISO 14024), and this section is common to all GECA standards. Equivalent sections are included in standards of all other GEN member ecolabelling bodies around the world. The social aspect partially addresses the third dimension of sustainability - Society. This was first understood by manufacturers under the name Corporate Social Responsibility (CSR). In this standard social criteria include laws for equal opportunity, safety and protection of workers. GECA certification cannot be given to any company that illegally exploits workers or their families.

Environmental Legislation

Criterion 24: The manufacturer of the product and applicant company are required by law to comply with relevant environmental legislation and government orders at the Local, State and Commonwealth levels (if these have been issued). Where a manufacturer is from an overseas jurisdiction, it is that jurisdiction's environmental regulations that apply. Where the manufacturer has been found guilty of a breach of any environmental legislation or permit(s) within the last 2-years there must be evidence of corrective action.

Demonstration of Conformance

DoC 24.1: Signed declaration from an Executive Officer of the organisation stating compliance to environmental legislation and government orders; as well as declaration of any breaches of environmental legislation or permits and the date of the breach. Applicants must list all applicable legislation in, or as an attachment to, this declaration;

DoC 24.2: Any relevant permits granted by the EPA or an equivalent national body; and

DoC 24.3: Evidence of corrective action following a guilty verdict, if applicable.

Fair Pay

Criterion 25: All employees must be covered by a Federal or State award; a certified industrial agreement or a registered agreement as determined by the Australian Government Workplace Authority, 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. Where a manufacturer is from an overseas jurisdiction, it is that jurisdiction's equivalent regulations that apply.

Demonstration of Conformance

DoC 25.1: Signed declaration of compliance from an Executive Officer of the organisation;

DoC 25.2: Text or template of a typical workplace agreement offered to employees of the company; and

DoC 25.3: Sample payslips.

Workplace Safety

Criterion 26: A manufacturer / applicant company must demonstrate general compliance with State or Territory Legislation concerning Occupational and Workplace Health and Safety and / or the Commonwealth Safety, Rehabilitation and Compensation Act 1988, where applicable. Where a manufacturer is from an overseas jurisdiction, it is that jurisdiction's equivalent regulations that apply. Where a manufacturer / applicant company has been found guilty of a breach of relevant legislation within the last 2-years, there must be evidence of corrective action.

Demonstration of Conformance

DoC 26.1: Signed declaration from an Executive Officer of the organisation stating compliance to workplace legislation and government orders, as well as declaration of any breaches of legislation and the date of the breach. Applicants must list all applicable legislation in, or as an attachment to, this declaration;

DoC 26.2: Copy of the company Occupational / Workplace H&S policy and procedures; and

DoC 26.3: Evidence of corrective action following a guilty verdict, if applicable.



Equal Opportunity

Criterion 27: The manufacturer and / or applicant company must demonstrate general compliance with 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. The manufacturer cannot be in the list of 'named' or non-compliant employers under the Equal Opportunity for Women in the Workplace Act 1999. Where a manufacturer / applicant company is from an overseas jurisdiction, it is that jurisdiction's equivalent regulations that apply. Where a manufacturer has been found guilty of a breach of relevant legislation within the last 2-years, there must be evidence of corrective action.

Demonstration of Conformance

DoC 27.1: Signed declaration of compliance from an Executive Officer of the organisation;

DoC 27.2: Copy of relevant company policies and procedures;

DoC 27.3: Evidence of corrective action following a guilty verdict, if applicable; and

DoC 27.4: The assessor will verify that the company does not appear on the following list:

http://www.eowa.gov.au/Reporting_And_Compliance/What_Happens_if_my_Report_does_not_Comply/List_of_Non_Compliant_Organisations.asp

Lawful Conduct

Criterion 28: The manufacturer / applicant company must not have been convicted of any breach of criminal law, any breach of the Trade Practices Act 1974 or the Corporations Act 2001, including prosecution or de-listing by the Australian Stock Exchange (ASX) or international equivalent. Where a manufacturer is from an overseas jurisdiction, it is that jurisdiction's equivalent regulations that apply. Where a manufacturer has been found guilty of a breach of relevant legislation within the last 2-years, there must be evidence of corrective action.

Demonstration of Conformance

DoC 28.1: Signed declaration from an Executive Officer of the organisation; and

DoC 28.2: Evidence of corrective action following a guilty verdict, if applicable.



APPENDIX A EVIDENCE OF CONFORMANCE

Demonstration of Conformance (DoC)

This section lists the sources of evidence which may be considered during an audit to establish conformance against GECA's standards. This list is provided in order to guide the applicant manufacturer through the requirements of the standard and to facilitate the preparation of an application.

The DoC requirements as specified, along with each criterion in the standard, define specific sources of evidence acceptable to GECA. In cases where criteria offer several DoC requirements, it is the sole decision of the GECA appointed CAB to choose the appropriate option in the preliminary stage of the assessment. Where specific standards or test methods are required, it is intended that the most recent version of the applicable standard or method are used. If none of the recommended DoC requirements stipulated for a particular criterion in the standard is applicable for a product under assessment, then the GECA appointed CAB may choose an alternative but equivalent source of evidence. In cases where alternative sources of evidence are accepted for the verification of the product, the GECA appointed CAB will inform GECA by providing a report on the details as far as appropriate. GECA will use this information to continuously improve the DoC requirements stipulated by each standard.



Application CHECKLIST

The Application Checklist is intended to guide the applicant company through the application and verification process. The company may collect all the information that is required for the verification of the product and attach the relevant documents to their application. The table below summarises the DoC requirements for each criterion in the standard.

Criterion Number	Criterion Content	Demonstration of Conformance	Evidence Attached	Complies N or NA
Standard Category Scope				
Criterion 1	Detergents (liquid and powder) and rinse aids intended for use in automatic dishwashers. There are two separate categories of product covered by this standard: <ul style="list-style-type: none"> - Products for use in machines with wash cycles longer than 15 minutes (long-cycle products – intended for domestic dishwashers) - Products for use in machines with wash cycles less than 15 minutes (short-cycle products – intended for commercial dishwashers) 	Detailed description of the product (range)		
Fitness For Purpose				
Criterion 2	Demonstrated performance	For long-cycle products: Test reports showing the product to be equal to or better than a reference detergent after the fifth wash cycle, based on EN 50242, or equivalent. For short-cycle products: Test report showing results and describing test method used		
Aerobic Biodegradability				
Criterion 2	Surfactants and organic ingredients aerobic biodegradability	Test reports using AS 4351 or OECD requirements where applicable		
Anaerobic Biodegradability				
Criterion 4	Surfactant anaerobic biodegradability	Test reports using ISO 11734 or relevant OECD test where applicable		
Fragrances				
Criterion 5	Compliance with IFRA	Declaration signed by manufacturer stating compliance		
Colorants				
Criterion 6	Compliance with EU Directive 76/768/EEC or FSANZ Standards	Full list of colorants used		



Criterion Number	Criterion Content	Demonstration of Conformance See standard body for details	Evidence Attached	Complies Y/ N or NA
Bleaching Agents				
Criterion 7	Reactive chlorine compounds or perborate banned.	Full ingredients list for each product	<input type="checkbox"/>	<input type="checkbox"/>
Sodium				
Criterion 8	Sodium limits	Full ingredients list for each product and calculation of total sodium quantity	<input type="checkbox"/>	<input type="checkbox"/>
Phosphorus				
Criterion 9	Manufacturing using phosphorus compounds banned. Trace amounts limits.	Full ingredients list for each product	<input type="checkbox"/>	<input type="checkbox"/>
		Declaration of trace amounts of phosphates	<input type="checkbox"/>	
Enzymes				
Criterion 10	Requirements for products containing enzymes	WHO classification of microorganism	<input type="checkbox"/>	<input type="checkbox"/>
		Identification of strain using WFCC	<input type="checkbox"/>	
		Susceptible to TGA disinfectant test, or equivalent	<input type="checkbox"/>	
		Susceptibility to antimicrobial controls in accordance with the TGA Disinfectant Test and the Beckmann Dickinson BBL Antimicrobial Susceptibility Disc Method	<input type="checkbox"/>	
		Standard plate count	<input type="checkbox"/>	
		Copy of product label	<input type="checkbox"/>	
Organic				
Criterion 11	Organic claims	Evidence of organic certification	<input type="checkbox"/>	<input type="checkbox"/>
Other Claims				
Criterion 12	Other environmental claims	Test reports and method used	<input type="checkbox"/>	<input type="checkbox"/>
pH-Value				
Criterion 13	pH of long-cycle products (undiluted) must not exceed 11.0 pH of short-cycle products ('in-use') must not exceed 12.5	Test report showing results and test methods used	<input type="checkbox"/>	<input type="checkbox"/>



Criterion Number	Criterion Content	Demonstration of Conformance See standard body for details	Evidence Attached	Complies Y/ N or NA
Banned Substances				
Criterion 14	Endocrine disruptors, carcinogens, mutagens, teratogens	Full ingredients list.	<input type="checkbox"/>	<input type="checkbox"/>
		SDS for each ingredient.	<input type="checkbox"/>	
Criterion 15	Harmful substances	Statement of conformance signed by Executive Officer.	<input type="checkbox"/>	<input type="checkbox"/>
		Full ingredients list.		
		SDS for each ingredient and relevant test reports where applicable.	<input type="checkbox"/>	
Criterion 16	Bioaccumulative substances	Relevant test reports.	<input type="checkbox"/>	<input type="checkbox"/>
Limited Substances				
Criterion 17	Limited substances	Full ingredients list	<input type="checkbox"/>	<input type="checkbox"/>
		SDS for each ingredient	<input type="checkbox"/>	
Product Information				
Criterion 18	Information available on label and to public	Copy of labels and instructions	<input type="checkbox"/>	<input type="checkbox"/>
		SDS for each product	<input type="checkbox"/>	
		Information available to public	<input type="checkbox"/>	
Packaging				
Criterion 19	Packaging requirements	Test reports under relevant method	<input type="checkbox"/>	<input type="checkbox"/>
		Details of materials used in product	<input type="checkbox"/>	
		Details of re-use programs for transport materials	<input type="checkbox"/>	
Criterion 20	Halogenation	Information regarding packaging materials	<input type="checkbox"/>	
Criterion 21	Plastic ID codes	Visual inspection of packaging	<input type="checkbox"/>	
Criterion 22	Individual wrappers	Test reports under relevant method	<input type="checkbox"/>	
Waste Minimisation				
Criterion 23	Waste minimisation policies	Documentation of material flows	<input type="checkbox"/>	<input type="checkbox"/>
		Progress on waste minimisation strategies	<input type="checkbox"/>	



Criterion Number	Criterion Content	Demonstration of Conformance See standard body for details	Evidence Attached	Complies Y/ N or NA
Environmental Legislation				
Criterion 24	Applicable environmental legislation and government orders	Statement of conformance signed by Executive Officer	<input type="checkbox"/>	<input type="checkbox"/>
		Applicable permits granted by EPA	<input type="checkbox"/>	
		Evidence of corrective action (if applicable)	<input type="checkbox"/>	
Fair Pay				
Criterion 25	Coverage of employees under certified agreements	Statement of conformance signed by Executive Officer	<input type="checkbox"/>	<input type="checkbox"/>
		Sample workplace agreement	<input type="checkbox"/>	
		Sample payslips	<input type="checkbox"/>	
Workplace Safety				
Criterion 26	Compliance with state or territory legislation	Statement of conformance signed by Executive Officer	<input type="checkbox"/>	<input type="checkbox"/>
		Copy of Occupational or Workplace H&S policies and procedures	<input type="checkbox"/>	
		Evidence of corrective action (if applicable)	<input type="checkbox"/>	
Equal Opportunity				
Criterion 27	Racial Discrimination Act, Sex Discrimination Act, Disability Discrimination Act, Equal Opportunity for Women in the Workplace Act and complementary State Legislation and Regulations.	Statement of conformance signed by Executive Officer	<input type="checkbox"/>	<input type="checkbox"/>
		Copy of relevant policies and procedures	<input type="checkbox"/>	
		Evidence of corrective action (if applicable)	<input type="checkbox"/>	
		Does not appear on list of non-compliant organisations	<input type="checkbox"/>	
Lawful Conduct				
Criterion 28	No breaches of Trade Practices Act or Corporations Act.	Statement of conformance signed by Executive Officer	<input type="checkbox"/>	<input type="checkbox"/>
		Evidence of corrective action (if applicable)	<input type="checkbox"/>	

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