



Sustainable  
United Nations

## Sustainable Procurement Guidelines

# CLEANING PRODUCTS AND SERVICES BACKGROUND REPORT



**I.C.L.E.I**  
Local  
Governments  
for Sustainability

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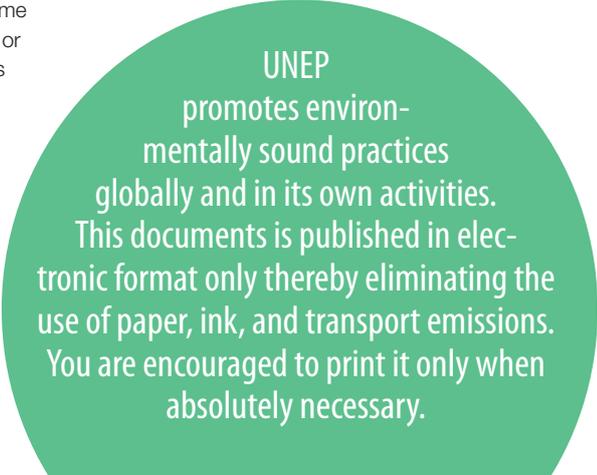
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## *Messages from the United Nations and UNEP*

"I would like to make a public commitment. We are already moving towards making our Headquarters in New York climate-neutral and environmentally sustainable. I would like to see our renovated headquarters complex eventually become a globally acclaimed model of efficient use of energy and resources. Beyond New York, the initiative should include the other UN headquarters and offices around the globe.

We need to work on our operations too, by using energy more efficiently and eliminating wasteful practices. That is why, today, I am asking the heads of all UN agencies, funds and programmes to join me in this effort. And I am asking all staff members throughout the UN family to make common cause with me."



**Ban Ki-moon**  
UN Secretary General  
New York, 5 June 2007  
World Environment Day



**Achim Steiner**  
Executive Director, UNEP  
Geneva, 8 October 2007  
117<sup>th</sup> Assembly of the Inter-Parliamentary Union

"Ban Ki-moon is determined to put global warming at the top of the global political agenda and determined to build the trust so urgently needed if we are to succeed in combating climate change. Under his leadership, the UN is also determined to demonstrate its 'sustainability credentials' by action on the ground and by good housekeeping at home.

Reviews are underway across all agencies and programmes to establish a strategy for a carbon neutral UN and to make the refurbishment of the UN headquarters in New York a model of eco-efficiency.

UNEP is committed to take part in the fight for climate change and in showing leadership. We are committed to become carbon neutral by reducing our energy consumption and carbon footprint and by offsetting emissions."

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## *Purpose of this guide*

### *What is Sustainable Procurement?*

“Sustainable Procurement practices integrate requirements, specifications and criteria that are compatible and in favour of the protection of the environment, of social progress and in support of economic development, namely by seeking resource efficiency, improving the quality of products and services and ultimately optimizing costs.”<sup>1</sup>

Sustainable Procurement practices should be introduced progressively and in full respect of the right of access to the UN market for suppliers from developing countries and countries with economies in transition.

### *How to use the Sustainable Procurement Guidelines?*

The main goal of the Guidelines is to facilitate the implementation of sustainable procurement by providing criteria that may be used by UN staff for the requisition and procurement of goods, civil works and services.

In practice, this means thinking carefully about what the true needs are, as a first step. Then, basing purchasing decisions (for products, services and works) on the lowest environmental impact and most positive social impact which make the most economic sense over the lifetime of the product. Therefore, the guidance covers the following: key environmental impacts, key social considerations, most appropriate means of verification and information on the availability of sustainable products and lifetime costs (where available).

As with local product availability, prices, costs and relevant legislation may vary considerably between regions. The way sustainable procurement is practiced should be adapted to local conditions and markets, and depends on how ambitious the purchasing organization is in terms of sustainable development.

For these reasons, the UN Sustainable Procurement Guidelines comprise of the following for each of the addressed products and services:

- a detailed **background report**, and
- a practical **product sheet**.

The main role of the **background report** is to provide staff involved in procurement with more comprehensive information on the rationale behind the sustainable procurement guidelines presented in the product sheets. The background reports cover various issues related to purchasing a product and service in an environmentally-friendly and socially-responsible way, such as: identifying the key environmental impacts and social considerations, listing the most appropriate schemes for verification, most relevant legislation regarding the environment and social considerations, and providing an indication of the availability on the market of sustainable products.

The **product sheets**, on the other hand, provide sustainability criteria designed specifically for the various phases or steps of the UN procurement cycle. These are: detailing the subject matter of tenders, technical specifications (or terms of reference, for services), sourcing suppliers evaluation criteria and contractual clauses. Guidance is also provided on how compliance with the criteria should be verified. The criteria are also presented in check-list form for use by requisitioners and a weighting matrix is provided.

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<sup>1</sup> Definition adopted by the High Level Committee on Management Procurement Network.

## *Regional differences*

As market conditions vary from region to region, the potential for sustainable procurement may also vary. Therefore, for certain product groups different product sheets may be produced for different regions. The region for which each product sheet is produced for will be clearly indicated on the document itself and also on the SUN Greening the Blue website and the UNGM SP knowledge centre where they can be downloaded.

## *Differences in ambition*

Additionally UN procurers must decide whether they wish to apply the “basic” or “advanced” criteria:

- **Basic sustainability criteria** address the most significant environmental and social impacts and require minimum effort in verification and minimal increases (if any) in price
- **Advanced sustainability criteria** are intended for use by procurers who seek to purchase the most advanced environmentally-friendly and socially-responsible products available on the market, and may require additional administrative effort or result in a price increase as compared to other products fulfilling the same function.

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*Abbreviations and Acronyms*

<b>APEO</b>	Alkylphenolethoxylate
<b>AOX</b>	Adsorbable Organic Halogens
<b>BCF</b>	Bioconcentration factor
<b>EDTA</b>	ethylenediaminetetraacetic acid
<b>IFRA</b>	International Fragrance Association
<b>LAS</b>	Linear Alkyl benzene sulfonates (LAS)
<b>NTA</b>	Nitrilotriacetatic acid
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>Pow</b>	Octanol-water partition coefficient
<b>SCCNFP</b>	Scientific Committee on Cosmetic Products and Non-Food Products
<b>UN</b>	United Nations
<b>UNEP</b>	United Nations Environment Programme
<b>VOC</b>	Volatile organic compound

## 1. Introduction

Sustainable procurement means thinking carefully about what to buy, buying only what you really need, purchasing products and services with high environmental performance and considering the social and economic impacts of purchasing decisions.

This background report, together with the Product Sheets (on “Cleaning Products” and “Cleaning Services” - Basic and Advanced level), constitutes the sustainable procurement guidelines for cleaning products and services for the UN system. The main objective of this background report is to give comprehensive information on the rationale behind the sustainable procurement recommendations made in the Product Sheets. This covers aspects such as “key environmental impacts”, “key social considerations”, “appropriate verification schemes”, “indicative market availability of sustainable products” amongst others.

### 1.1. Scope

These guidelines cover both the procurement of cleaning products and cleaning services for offices.

The guidelines presented in the Product Sheets aim to cover all chemical products likely to be used by cleaning staff for cleaning. It does not include other cleaning products sometimes provided by contractors such as dish washing liquid or laundry detergents. It also does not include other products sometimes provided by cleaning contractors such as paper towels, toilet paper or bin liners.

In many organisations and offices cleaning is carried out by private companies, and in others directly by the staff themselves. The guidance presented in these guidelines is relevant in both cases.

## 2. Key environmental impacts

All cleaning products contain an often complex mixture of chemical substances with different functions. Amongst the different functional elements are:

- **Surfactants:** Short for “surface active agent”, these help to reduce the surface tension of the water used in cleaning, thus enabling it to mix with, and remove dirt more easily. As a result of their surface-active properties, surfactants are relatively toxic to aquatic organisms.
- **Chelating/complexing agents:** These are included to counter the effects of “hard” water which reduces the effectiveness of detergents. Phosphates and EDTA have traditionally been used as chelating agents in cleaning products.
- **Builders:** These have a similar effect to chelating agents, and are used to upgrade and protect the cleaning efficiency of surfactants, they help to soften the solution and to break up oily and greasy dirt. Phosphates have often been used as builders.
- **Solvents:** These help to break up dirt particles and dissolve them in the water solution.
- **Preservatives:** These help to increase the lifetime of the product by preventing bacteria from spoiling the solution<sup>2</sup>.

The chemicals used for cleaning may have a number of adverse health and environmental effects. Cleaning products which have harmful ingredients may impact on the health of cleaning staff and on users of the buildings cleaned. Environmental effects can include

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<sup>2</sup> Based on The chemistry of cleaning, Essential Industries, Inc, available at: [www.essind.com/Cleaners/GC-chemistry.htm](http://www.essind.com/Cleaners/GC-chemistry.htm)

chemical products entering the atmosphere and local water systems during production, use and disposal.

It is not possible to give a complete review of all the chemicals used in cleaning products and their potential health and environmental impacts, but a summary of the main groups of constituents and key substances is provided below. It should be noted that due to differing legislative frameworks and cleaning requirements/traditions, the ingredients and types of cleaning products used may vary from region to region.

### 2.1. Harmful/hazardous chemicals

A number of specific substances with potentially harmful impacts have traditionally been used in cleaning products and should be avoided where possible. Some of the most common substances are:

- **EDTA** (ethylenediaminetetraacetic acid) - a very strong complexing agent. Complexing agents may have the effect of re-mobilizing heavy metals into the aquatic environment. EDTA is particularly problematic in this regard as it is poorly biodegradable and relatively strong.
- **NTA** (Nitrilotriacetatic acid) - a possibly carcinogenic builder that requires the use of carcinogens and toxic substances in its production. It may also re-mobilise heavy metals in aquatic environments<sup>3</sup>.
- **Phosphorus** (including phosphates and phosphonates) - used as a “builder” in cleaning products, phosphorus is a major cause of “eutrophication”<sup>4</sup> in water systems, though the impact depends on the wastewater treatment process and temperatures of the receiving waters in individual countries. In Sweden, for example, treatment is highly effective, and use of phosphorus no longer presents a major problem, however treatment in warmer climates can be more problematic. Phosphorus is a particular concern in laundry detergents.
- **VOCs** (volatile organic compounds) – Volatile organic compounds (such as ethanol and isopropanol) are found in many cleaning products. VOC emissions cause ground level ozone and photochemical smog. When highly concentrated in the air, ozone can impair human health and can damage forests, vegetation and crops, reducing yields.
- **APEO's or APE's** - APEOs (Alkylphenoethoxylates), are highly harmful surfactants. In Europe APEO's were recently banned as part of a new detergents regulation<sup>5</sup> which states that only surfactants meeting strict biodegradability standards can be used in cleaning products. APEO's may still be in use in regions outside of Europe.
- **Heavy metals** - Heavy metals is a term used to cover a range of substances including arsenic, lead, cadmium, chromium and mercury. These metals are usually toxic and chronic low exposures can have serious health effects<sup>6</sup>.

There are global and regional regulations/conventions about the labelling of potential health (and environmental) hazards of substances. If a product or substance has potentially harmful impacts it must be indicated. This covers products which are, for example, considered toxic,

<sup>3</sup> International Occupational Safety and Health Information Centre, International Chemical Safety Card, No. 1283. Available at: [www.ilo.org/public/english/protection/safework/cis/products/icsc/dtasht/\\_icsc12/icsc1238.htm](http://www.ilo.org/public/english/protection/safework/cis/products/icsc/dtasht/_icsc12/icsc1238.htm)

<sup>4</sup> “Eutrophication” is a process whereby water bodies, such as lakes, estuaries, or slow-moving streams receive excess nutrients that stimulate excessive plant growth

<sup>5</sup> Detergents Regulation (EC) No 648/2004, available at: [http://eur-lex.europa.eu/smartapi/cgi/sga\\_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=32004R0648&model=quichett](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=32004R0648&model=quichett)

<sup>6</sup> United Nations System-wide Earthwatch website “Heavy metals” available at: <http://earthwatch.unep.ch/emergingissues/toxicchem/heavymetals.php>

irritating, allergenic, carcinogenic, mutagenic, harmful to reproduction or corrosive. Although there are certain similarities, the regulations on labelling vary around the world. Most ecolabels restrict the use of substances which carry such hazard warnings. Given the huge variety of chemicals used (and potentially used in future) in cleaning products, such classification schemes are highly valuable for purchasers wishing to buy greener products. Labelling schemes are discussed further in section 4.1 below.

## 2.2. Disinfectants

Most disinfectants are, by their nature, potentially harmful to human health and other living organisms, and care needs to be taken in their use. For most cleaning purposes disinfecting is not necessary, but is frequently carried out as standard practice. It is only required for areas where there is a potentially hazardous build up of bacteria or areas which need to be as sterile as possible.

Many disinfectants are chlorine-based (sodium hypochlorite is a very common form of household bleach). Chlorine based bleaches have been found to have a number of health and environmental impacts. Chlorine based bleaches give off toxic fumes which can cause irritation to the throat. If the bleach comes into contact with the skin or eyes it can also cause irritation. However, the main potential health impact of using chlorine based bleach is the accidental mixing of the bleach with other cleaners, particularly those that are ammonia based or contain acids. The bleach can react with these chemicals to give off toxic gases such as chlorine gas. If these gases are inhaled, hospitalisation can be required. In higher concentrations sodium hypochlorite may also corrode metal surfaces and is toxic to aquatic life if it enters aquatic environments<sup>7</sup>.

In addition, halogenated organic compounds may be formed by the reaction of active chlorine with organic substances and thus contributing to the AOX load of the aquatic environment. The AOX load is a measure of the presence of halogens (chlorine, fluorine, bromine, and iodine) within waste water<sup>8</sup>. Some of these halogenated compounds may be toxic and slowly degradable in the aquatic environment.

Given these potential impacts procurers may like to consider excluding chlorine based bleach from the portfolio of cleaning products or at least aiming to minimise its use.

## 2.3. Biocides/Preservatives

Biocides are chemical agents that prevent the growth of micro-organisms and are typically used in liquid products as preservatives. Most substances used as preservatives may also be used as disinfectants. Some biocides are bioaccumulative, i.e. they accumulate in food as they move up the food chain.

There are two ways of determining the bioaccumulation of a chemical. The first is to measure what is called the “octanol-water partition coefficient<sup>9</sup>”, the other is to determine the “bioconcentration factor (BCF)<sup>10</sup>”. Most ecolabels refer to both measures of bioaccumulation.

<sup>7</sup> International Occupational Safety and Health Information Centre, International Chemical Safety Card, No. 0482 and 1119. Available at:

[www.ilo.org/public/english/protection/safework/cis/products/icsc/dtash/icsc04/icsc0482.htm](http://www.ilo.org/public/english/protection/safework/cis/products/icsc/dtash/icsc04/icsc0482.htm) and [www.ilo.org/public/english/protection/safework/cis/products/icsc/dtash/icsc11/icsc1119.htm](http://www.ilo.org/public/english/protection/safework/cis/products/icsc/dtash/icsc11/icsc1119.htm)

<sup>8</sup> Chlorine online, glossary, available at: [www.eurochlor.org/main/glossary](http://www.eurochlor.org/main/glossary)

<sup>9</sup> The octanol-water partition coefficient compares the solubility of a substance in octanol and water. This partition is expressed as Pow. The test is described in OECD guidelines No. 107 and 117. If the solubility of the substance in octanol is at least 1000 times greater than in water (log Pow >3), the substance is regarded as bioaccumulative.

<sup>10</sup> The “bioconcentration factor (BCF)” measures the accumulation of substances in fish in accordance with OECD test methods 305 A-E. If the BCF of the substance is 100 or more, the substance is regarded as bioaccumulating.

## 2.4. Fragrances

Fragrances are often added unnecessarily to cleaning products, and serve no cleansing purpose but are simply designed to give off a “clean” smell.

Fragrances receive attention because of their potential hazard to health and also due to their bioaccumulative potential. The main hazard to health is their allergic potential. Contact allergy to perfume is relatively common. Unfortunately, data about the environmental fate and inherent properties of perfumes is very incomplete.

Most manufacturers who use perfume in their formulations refer to the Code of Practice of International Fragrance Association (IFRA), and it is a typical ecolabeling approach to demand that any fragrances used have been produced in accordance with this code.<sup>11</sup>

## 2.5. Biodegradability

The harmful nature of many ingredients in cleaning products makes it important that they biodegrade quickly in the environment. Biodegradation means that the substance is broken down by microbial action and is normally assessed both in terms of aerobic biodegradability (in the presence of oxygen), and anaerobic biodegradability (in the absence of oxygen). For cleaning products aerobic biodegradability is of most importance as once most waste cleaning products have been discharged as wastewater they will ultimately degrade in aerobic environments<sup>12</sup>.

Surfactants are the key active ingredient in most cleaning products and they are often toxic to aquatic organisms. It is therefore particularly important that they biodegrade quickly in the environment. Some ecolabels specify that only surfactants are biodegradeable. Other ecolabels specify that the entire product or all of its components be biodegradable in order to reduce the impact of other harmful ingredients.

In either case it is important that the ingredient has been tested to be “readily biodegradeable” as defined by the international standards OECD 301A-301E or ISO 7827. This means that 70% of the product degrades within 28 days. If a product makes the general claim that their product is biodegradable there is no way of confirming the rate at which the substance biodegrades (ie. it could be that 2% of the product biodegrades within 50 years).<sup>13</sup>

## 2.6. Packaging

As with any consumer product, it is important to consider packaging namely, the quantity and type of packaging used (particularly chlorinated plastics), and the opportunities for recycling or refilling.

Using refillable, bulk containers for chemicals is one approach to reducing packaging requirements. Using highly concentrated products, which are then diluted on site, is also an effective way of both reducing packaging and transportation costs.

In establishing purchasing criteria, and particularly limit values for certain substances, these should take into account the differences between the concentrated product supplied and the final diluted product used. If this is not recognized this can discriminate against concentrates in favour of ready-diluted products. The Terrachoice general purpose cleaners ecolabel, for example, sets different levels of acceptable VOC content for concentrated and diluted forms.

<sup>11</sup> IFRA Code of Practice: [www.ifraorg.org/Home/Code.%20Standards%20Compliance/Code-of-Practice/page.aspx/88](http://www.ifraorg.org/Home/Code.%20Standards%20Compliance/Code-of-Practice/page.aspx/88)

<sup>12</sup> Assessment of the environmental relevance of anaerobic biodegradation of surfactants. Available at: <http://cat.inist.fr/?aModele=afficheN&cpsid=999542>

<sup>13</sup> How Biodegradable is Your Cleaning Product? (ECO-buy newsletter article) [www.ecobuy.org.au/director/publications/enewsletters.cfm?itemID=09C7B139E92E8CB1BBBEEA0CA065F7C3&articleID=097BE506A163A88FF3569536FDB6FF42](http://www.ecobuy.org.au/director/publications/enewsletters.cfm?itemID=09C7B139E92E8CB1BBBEEA0CA065F7C3&articleID=097BE506A163A88FF3569536FDB6FF42)

### 2.7. Cleaning techniques

One of the most effective ways to reduce the impacts of the chemicals used for cleaning is to use less of them. Altering the way cleaning contractors carry out the service has a major impact on the quantities used.

The following may frequently occur:

- Overuse of chemicals through incorrect dosage application (potentially due to lack of clear information on the product or lack of awareness of the cleaning staff),
- Excessive cleaning of certain areas, where less regular cleaning would be sufficient, and
- Unnecessary disinfecting of areas where this is not required, and over-frequent disinfecting in other areas.

These problems can be addressed through effective management, monitoring and training approaches, with potentially large reductions in chemical usage and also staff time.

Furthermore, modern cleaning techniques such as the use of microfibre mops and cloths, or dry-cleaning techniques for floors, can drastically reduce the need for chemicals.

## 3. Key social considerations

The major aim of including social considerations when procuring cleaning products and services is to preserve the basic rights, working conditions and safety of the people who work for cleaning contractors. The UN already has a number of existing initiatives that promote these aims. These are outlined below.

### 3.1. International labour standards

The International Labour Conference, which comprises tripartite delegations (from governments, employers and workers) of all ILO Member States, meets annually and adopts two types of international labour standards: Conventions, which are binding for Member States that ratify them, and Recommendations that often complete the Conventions and provide additional guidance. They are globally designated as international labour standards, which are the legal component of the ILO's strategy for governing globalization, promoting sustainable development, eradicating poverty, and ensuring that women and men worldwide enjoy decent work. Today, international labour standards have grown into a comprehensive system of instruments concerning work and social policy and cover a broad range of subjects, from working conditions to employment policy, and from occupational safety and health to social security to take only a few examples. They are backed by a supervisory system designed to address all sorts of problems in their application at the national level.

Mention will be made here only of a Convention and a Recommendation that deal explicitly with the social dimension of public procurement, and of the eight so-called core ILO Conventions, covering the four categories of fundamental principles and rights at work to which extensive reference is made in other instruments such as the Global Compact or codes of conduct.<sup>14</sup>

#### *Labour clauses in public contracts*

The Labour Clauses (Public Contracts) Convention (No. 94) and Recommendation (No. 84),

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<sup>14</sup> Additional information on international labour standards may be found at: <http://www.ilo.org/global/standards/lang--en/index.htm>. The full text of all ILO Conventions and Recommendations, as well as their status of ratification, can be found at: <http://www.ilo.org/ilolex/english/index.htm>.

1949 respond specifically to the concerns around the potentially negative social impact of public procurement operations.<sup>15</sup> Convention No. 94 is about good governance, it addresses socially responsible public procurement by requiring bidders/contractors to align themselves with the locally established prevailing pay and other working conditions as determined by law or collective bargaining. Its aim is to remove wages and working conditions from the price competition necessarily involved in public tendering.

Convention No. 94 requires bidders to be informed in advance, by means of standard labour clauses included in tender documents, that, if selected, they would have to observe in the performance of the contract wages and other labour conditions not less favorable than the highest minimum standards established locally by law, arbitration or collective bargaining. The same rules apply to their subcontractors as well as to assignees of the public procurement contract. Bidders should prepare their offers accordingly.

The Convention proposes a common level playing field – in terms of labour standards – for all economic actors, and thus promotes fair competition and socially responsible procurement. Most importantly, the Convention enables contracting authorities to evaluate bids based on objective criteria, such as the efficiency of production methods, the quality of materials, or long-term benefits including technology transfer, which ultimately leads to cost-effective public procurement operations and contributes to sound economic development.

Convention No. 94 provides for two specific types of measures in cases where the labour clauses are not fully respected (without prejudice to other available remedies such as judicial proceedings): first, contracting authorities must take measures, such as the withholding of payment due under the contract, so that the workers concerned can receive the wages to which they are entitled; second, contracting authorities must provide for adequate sanctions, such as the withholding of contracts.

### ***Conventions on fundamental rights at work***

The ILO Conference has also adopted eight core Conventions, almost universally ratified, on freedom of association, forced labour, equality in employment, and the elimination of child labour. A brief summary is presented below.<sup>16</sup> One of the major challenges is to monitor the implementation of these Conventions at each level of the global supply chain, including in the context of public procurement operations.

#### ***Freedom of association and collective bargaining***

The *Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87)* provides that workers and employers must have the right to establish and join organizations of their own choosing without previous authorization. Their respective organizations must be free to organize themselves and their activities without undue interference from the public authorities. They must also have the right to establish and join federations and confederations, which themselves must be free to affiliate with international organizations of workers and employers.

The *Right to Organize and Collective Bargaining Convention, 1949 (No. 98)* provides that

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<sup>15</sup> For detailed information on the content of Convention No. 94 and Recommendation No. 84, as well as on national legislation and practice and the current trends in this area, see the General Survey on Labour clauses in public contracts prepared by the ILO Committee of Experts on Conventions and Recommendations, ILC, 97<sup>th</sup> session, Geneva, 2008, available at [http://www.ilo.org/ilc/ILCSessions/97thSession/reports/lang--en/docName--WCMS\\_091400/index.htm](http://www.ilo.org/ilc/ILCSessions/97thSession/reports/lang--en/docName--WCMS_091400/index.htm). In addition, the International Labour Office has published a practical guide on Convention No. 94, available at: [http://www.ilo.org/wcmsp5/groups/public/@ed\\_norm/@normes/documents/publication/wcms\\_099699.pdf](http://www.ilo.org/wcmsp5/groups/public/@ed_norm/@normes/documents/publication/wcms_099699.pdf).

<sup>16</sup> For a more detailed presentation, see ILO, *Fundamental rights at work and international labour standards*, Geneva, 2003.

workers must enjoy adequate protection against acts of anti-union discrimination, including requirements that a worker not join a union or relinquish trade union membership for employment, or dismissal of a worker because of union membership or participation in union activities. Workers' and employers' organizations must also enjoy adequate protection against any acts of interference by each other. Finally, measures appropriate to national conditions must be taken, where necessary, to encourage and promote collective bargaining.<sup>17</sup>

### **Forced labour**

The *Forced Labour Convention, 1930 (No. 29)* prohibits the use of forced or compulsory labour in all its forms, defined as “all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.”

The *Abolition of Forced Labour Convention, 1957 (No. 105)* prohibits forced or compulsory labour as a means of political coercion or education or as a punishment for holding or expressing political views or views ideologically opposed to the established political, social or economic system; as a method of mobilizing and using labour for purposes of economic development; as a means of labour discipline; as a punishment for having participated in strikes; and as a means of racial, social, national or religious discrimination.<sup>18</sup>

### **Equality in employment**

The *Equal Remuneration Convention, 1951 (No. 100)* requires Member States that ratify it to promote the application to all workers of the principle of equal remuneration for men and women workers for work of equal value, and to ensure its application where the State is involved in wage fixing. The Equal Remuneration Recommendation, 1951 (No. 90), which complements Convention No. 100, makes express reference to the desirability of ensuring application of the principle of equal remuneration for men and women workers for work of equal value for work executed under the terms of public contracts.

The *Discrimination (Employment and Occupation) Convention, 1958 (No. 111)* requires ratifying States to declare and pursue a national policy designed to promote, by methods appropriate to national conditions and practice, equality of opportunity and treatment in respect of employment and occupation, with a view to eliminating any discrimination in these fields. Discrimination is defined as any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation. The Discrimination (Employment and Occupation) Recommendation, 1958 (No. 111), which complements Convention No. 111, provides that eligibility for contracts involving the expenditure of public funds should be made dependent on observance of the principles of non-discrimination.<sup>19</sup>

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<sup>17</sup> To date, Convention Nos. 87 and 98 have been ratified by 150 and 160 States respectively. For more information, see the General Survey on freedom of association and collective bargaining, ILC, 81<sup>st</sup> session, 1994 : [http://www.ilo.org/public/libdoc/ilo/P/09661/09661\(1994-81-4B\).pdf](http://www.ilo.org/public/libdoc/ilo/P/09661/09661(1994-81-4B).pdf). See also the Digest of decisions and principles of the Committee on Freedom of Association, 5th (revised) edition, 2006: [http://www.ilo.org/wcmsp5/groups/public/@ed\\_norm/@normes/documents/publication/wcms\\_090632.pdf](http://www.ilo.org/wcmsp5/groups/public/@ed_norm/@normes/documents/publication/wcms_090632.pdf).

<sup>18</sup> To date, Convention Nos. 29 and 105 are ratified by 174 and 169 States respectively. For more information on the application of these Conventions, see the General Survey on forced labour, ILC, 96<sup>th</sup> session, 2007: [http://www.ilo.org/wcmsp5/groups/public/@ed\\_norm/@relconf/documents/meetingdocument/wcms\\_089199.pdf](http://www.ilo.org/wcmsp5/groups/public/@ed_norm/@relconf/documents/meetingdocument/wcms_089199.pdf). See also ILO, *Combating forced labour : a handbook for employers and business*, 2008, available at: [http://www.ilo.org/sapfi/Informationresources/ILOPublications/lang--en/docName--WCMS\\_101171/index.htm](http://www.ilo.org/sapfi/Informationresources/ILOPublications/lang--en/docName--WCMS_101171/index.htm).

<sup>19</sup> To date, Conventions Nos. 100 and 111 have been ratified by 168 and 169 States respectively.

### ***Child labour***

The *Minimum Age Convention*, 1973 (No. 138) provides that the general minimum age for admission to work or employment must not be less than the age of completion of compulsory schooling and, in any case, must not be less than 15 years. Where the economy and educational facilities are insufficiently developed, the minimum age can be initially set at 14 years. The minimum age for hazardous work is set at 18 (16 under certain strict conditions). For light work, the minimum age is 13 years (12 years if the general minimum age is set at 14 years).

The *Worst Forms of Child Labour Convention*, 1999 (No. 182) requires ratifying States to take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour as a matter of urgency. "Child" is defined as a person under 18 years of age. The worst forms of child labour include all forms of slavery or practices similar to slavery (such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict); child prostitution and pornography; using children for illicit activities, in particular for the production and trafficking of drugs; and work which is likely to harm the health, safety or morals of children.<sup>20</sup>

### ***Occupational Health and Safety Procedures***

Cleaning staff and cleaning chemical manufacturers are exposed to many hazards as part of their work. An important social consideration when procuring cleaning services is the occupational health and safety practices of the cleaning service or chemical manufacturing companies. The International Labour Organisation has published a set of guidelines on occupational safety and health management systems (ILO-OSH 2001)<sup>21</sup>.

The guidelines refer to a number of practices which companies should adopt including:

- An occupational health and safety policy,
- First aid and accident arrangements,
- Occupational health and safety training for staff,
- Regular equipment maintenance, and
- A process for reporting hazards and accidents.

There is also often a range of legal requirements for supplying a safe workplace that contractors will need to comply with in their own countries. Referring to these guidelines and the relevant legislation in your country when sourcing suppliers will ensure these aspects are addressed by your contractors.

### ***Other relevant ILO instruments***

The *ILO Declaration on Fundamental Principles and Rights at Work*<sup>22</sup>, adopted in 1998, proclaims that all Member States, even if they have not ratified the eight core Conventions mentioned above, have an obligation arising from the very fact of membership in the Organization to respect, to promote and to realize, in good faith, the principles concerning the four corresponding categories of fundamental rights, namely:

- freedom of association and the effective recognition of the right to collective bargaining;
- the elimination of all forms of forced or compulsory labour;

<sup>20</sup> To date, Conventions Nos. 138 and 182 have been ratified by 157 and 173 States respectively.

<sup>21</sup> International Labour Office, Guidelines on occupational safety and health management systems. OSH – 2001 [www.ilo.org/public/english/protection/safework/cops/english/download/e000013.pdf](http://www.ilo.org/public/english/protection/safework/cops/english/download/e000013.pdf)

<sup>22</sup> For additional information on the 1998 Declaration, including its full text, see <http://www.ilo.org/declaration/lang-en/index.htm>.

- the effective abolition of child labour; and
- the elimination of discrimination in respect of employment and occupation.

The Declaration makes it clear that these rights are universal and must be respected in all States, regardless of their level of economic development. It stresses however that labour standards should not be used for protectionist trade purposes.

The *ILO Tripartite Declaration of principles concerning multinational enterprises and social policy*<sup>23</sup>, adopted in 1977 and last amended in 2006, recognizes that multinational enterprises play an important part in the economies of most countries and in international economic relations. Its aim is to encourage the positive contribution which multinational enterprises can make to economic and social progress and to minimize and resolve the difficulties to which their various operations may give rise. The Declaration sets out principles in the fields of employment, training, conditions of work and life and industrial relations which governments of host and home countries, employers' and workers' organizations and multinational enterprises are recommended to observe on a voluntary basis. Its provisions do not affect obligations arising out of ratification of ILO Conventions. It provides inter alia that all parties concerned should contribute to the realization of the ILO Declaration on Fundamental Principles and Rights and Work of 1998.

### 3.2. Other international instruments

#### *UN Global Compact*

The UN Global Compact<sup>24</sup> is an initiative launched in 1999 by the Secretary-General of the United Nations during the World Economic Forum meeting at Davos. It is both a policy platform and a practical framework offered to businesses for the development, implementation, and disclosure of sustainability policies and practices around 10 principles in the areas of human rights, labour, environment and anti-corruption. It is not a regulatory instrument but rather a voluntary initiative to which companies around the world are invited to participate through a formal commitment to support the Global Compact and its principles. The four principles related to labour issues are derived from the ILO Declaration on Fundamental Principles and Rights and Work of 1998.

The Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labour standards, environment, and anti-corruption. Businesses must respect (even if it is not a regulatory instrument) the following 10 principles:

- Support and respect the protection of internationally proclaimed human rights;
- Ensure that they are not accomplices in human rights abuses;
- Protect the freedom of association and the effective recognition of the right to collective bargaining;
- Elimination of all forms of forced and compulsory labour;
- Abolition of child labour;
- Discrimination-free employment and occupation;
- Support a precautionary approach to environmental challenges;

<sup>23</sup> The text of the 1977 Declaration is available at: [http://www.ilo.org/empent/Whatwedo/Publications/lang--en/docName--WCMS\\_094386/index.htm](http://www.ilo.org/empent/Whatwedo/Publications/lang--en/docName--WCMS_094386/index.htm).

In addition, the ILO has established a Helpdesk for Business that provides free and confidential assistance service and is available for company managers and workers, as well as government agencies, employers' and workers' organizations and other interested organizations. The Helpdesk can be contacted at : <http://www.ilo.org/empent/AreasOfWork/business-helpdesk/lang--en/index.htm>.

<sup>24</sup> <http://www.unglobalcompact.org/>

- Undertake initiatives to promote environmental responsibility;
- Encourage the development and diffusion of environmentally friendly technologies;
- Fight against corruption in all its forms, including extortion and bribery.

Global Compact membership is still limited among UN suppliers in developing countries, with the large majority of orders from the UN placed with Global Compact members located in developed countries and especially in Europe. UN procurement from Global Compact members as a percentage of orders of USD 30,000 or more increased from 12.32 % in 2006 to 14.15 % in 2008.<sup>25</sup>

### ***UN Supplier Code of Conduct***

The UN Code of Conduct<sup>26</sup> provides the minimum standards expected of suppliers to the UN. It is the expectation of the UN that suppliers adhere to all laws, rules and regulations, and strive to exceed both international and industry best practices. The Code of Conduct has been developed with recognition of the importance of the ILO Core Labor conventions and the ten principles of the UN Global Compact, and is viewed as an important means of integrating the Compact's principles into the operations of the UN.

The UN recognizes that reaching the standards established in this Code of Conduct is a dynamic rather than static process and encourages suppliers to continually improve their workplace conditions.

While a number of UN organizations have adopted the UN Supplier Code of Conduct (SCC), others, like ILO, are still to adopt a Code of Conduct. ILO intends to publish such a Code that will contain some provisions which differ from those of the UN SCC, particularly with respect to labour issues.

### ***UNON Fair Employment Package Policy***

The United Nations Office at Nairobi (UNON) has developed a "Guaranteed Fair Employment Package" (or 'Fair Pack' policy) aimed at improving the working conditions of contractor's employees (including cleaning contractors) working at the UNON Gigiri Complex in Nairobi. Compliance with the "Fair Pack Policy" can form part of the conditions of contract.

The policy states that contractors must provide a minimum wage, health insurance, maternity leave and assistance with transport amongst other work conditions. In areas where certain work conditions are not required by law, incorporating policy such as this cleaning service contracts may be a way of ensuring contractor staff are fairly treated.

### ***The OECD Guidelines for multinational enterprises***

The OECD Guidelines for multinational enterprises<sup>27</sup> pursue the same goal as the ILO Tripartite Declaration of 1977. They contain recommendations addressed to multinational enterprises operating in or from adhering countries (the 34 OECD countries plus 8 non-OECD countries: Argentina, Brazil, Egypt, Latvia, Lithuania, Morocco, Peru and Romania). These recommendations are directly addressed to multinational enterprises and not to workers' and employers' organizations, since the OECD is not a tripartite organization like the ILO. The recommendations on employment and industrial relations make reference in concise terms to freedom of association, the abolition of child labour and forced or compulsory labour, as well as non-discrimination with respect to employment or occupation. The commentaries that accompany these guidelines recognize that the ILO is the competent

<sup>25</sup> 2008 Annual Statistical Report on United Nations Procurement, UNOPS

<sup>26</sup> [http://www.un.org/depts/ptd/pdf/conduct\\_english.pdf](http://www.un.org/depts/ptd/pdf/conduct_english.pdf)

<sup>27</sup> <http://www.oecd.org/dataoecd/56/36/1922428.pdf>

body to set and deal with international labour standards, and to promote fundamental rights at work as recognized in its 1998 Declaration on Fundamental Principles and Rights at Work. They stress that the provisions of the guidelines on employment and industrial relations echo relevant provisions of the 1998 Declaration, as well as the 1977 Tripartite Declaration.

### *Other Codes of Conduct*

In addition to the above-mentioned instruments that were adopted under the auspices of intergovernmental organizations, a number of codes of conduct were developed, either at the sectoral level or at a broader scale. Some of them are relevant for the social dimension of public procurement.

The NGO Social Accountability International (SAI)<sup>28</sup> developed the *SA8000 standard* that makes express reference to a number of ILO Conventions, including the eight core Conventions. Nonetheless, the ILO is not linked in any manner to the development and supervision of the implementation of the SA8000 standard. A voluntary certification procedure for companies has also been put in place.

In September 2010, the International Organization for Standardization (ISO) adopted the ***International Standard ISO 26000:2010, Guidance on social responsibility***. *Contrary to other standards developed by the ISO, this standard cannot be used for certification purposes*. It is more comprehensive than the SA 8000 standard and provides guidance for organizations that voluntarily want to strengthen their social responsibility regarding in particular human rights (including fundamental rights at work) and working conditions. A Memorandum of Understanding was concluded between the ISO and the ILO to ensure consistency of the new standard with ILO standards.

## **4. Legislation impacting the procurement of cleaning products and services**

Although UN procurement organizations are not always directly affected by legislation it is important to be aware of it. Legislation may already sufficiently address some important environmental and social aspects, which need not therefore be addressed by procurers. For example, certain hazardous substances may be banned, or suppliers may be required to provide a take-back and disposal service. Examples of key legislation relevant to the procurement of cleaning products and services are provided below.

### **4.1. Hazardous chemical labelling systems**

Many countries have a hazardous chemical labelling system which provides information to end users on the health and environmental impacts of the chemical they are using. These systems will usually provide advice on safe handling and storage techniques for the substance.

Several countries and regions have developed these systems independently meaning there are many different labelling requirements around the world. To align the requirements of these systems the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) was developed.

The GHS is a non-legally binding international agreement established by the UN. The agreement provides international harmonised criteria for classifying substances and mixtures according to their health, environmental and physical hazards. It also provides harmonized hazard communication symbols and statements, including requirements for labelling and

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<sup>28</sup> <http://www.sa-intl.org/>

safety data sheets.

The labelling requirements of this scheme are:

- A Symbol – A pictogram must be displayed depending on the specific hazard category or class the substance belongs to under the scheme.
- A Signal word - means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in the GHS are “Danger” and “Warning”.
- A Hazard statement - a phrase assigned to a hazard class and category that describes the nature of the hazards of a hazardous product (e.g. “May be harmful if inhaled”)
- A precautionary statement - a phrase (and/or pictogram) that describes recommended measures that should be taken to minimise or prevent adverse effects resulting from exposure to a hazardous product (e.g. Keep out of reach of children).
- A Product identifier – this includes the chemical identity of the substance, for mixtures the label should include the chemical identities of all the hazardous ingredients.
- Supplier identification – the name, address and phone number of the supplier.

A safety data sheet (or Material Safety Data Sheet) must be provided. – this document provides information on the hazards of the product and safe storage, handling and disposal techniques.

At the time of publication, sixty-five countries were in the process of adopting legislation to implement this agreement. Once the GHS is in force in all countries, common purchasing criteria that exclude certain categories of harmful substances will be able to be developed. The common labelling requirements will also make it easier for suppliers to demonstrate that their products meet the criteria.

Many UN offices are in countries where the GHS is being implemented. Given this, the GHS categories and classifications have been used in the development of the cleaning products and services criteria. However, in recognition of the fact that full implementation of the GHS may be some time away, the current chemical classification systems of the United States and the European Union have also been provided in order to give procurers a choice as to the most relevant system for their country.

A summary of the laws relating to chemical labelling in a number of countries and their progress towards implementing the GHS is provided below.

### *European Union*

The European Union is currently moving to adopt the GHS system. A transitional period during which both the current legislation and the new Regulation will be in place stipulates that the deadline for substance reclassification is 30 November 2010 and for mixtures 31 May 2015. The current Directives on classification, labelling and packaging, i.e. Council Directive 67/48/EEC and Directive 1999/45/EC, will be repealed on 1 June 2015.

The current labelling requirements are that the label must contain (amongst other information):

- A danger symbol,
- A “Risk phrase” (or R-Phrase) which indicates the precise nature of the risk (such as R45: May cause cancer or R50: Very toxic to aquatic organisms),
- A “Safety phrase” (S-Phrase) which provides advice on safety practices relating to the substance (such as S17: Keep away from combustible material or S49: Keep only in the original container).

A comparison between the GHS system and the current European system is available at:

[http://ec.europa.eu/enterprise/reach/docs/ghs/ghs\\_comparison\\_classifications.pdf](http://ec.europa.eu/enterprise/reach/docs/ghs/ghs_comparison_classifications.pdf).

### *Canada*

Canada is conducting consultation, economic analysis and drafting recommendations on the implementation of the GHS.

A comparison between the GHS system and the current Canadian system is available at:

[www.hc-sc.gc.ca/ahc-asc/pubs/ghs-sgh/analys/index-eng.php](http://www.hc-sc.gc.ca/ahc-asc/pubs/ghs-sgh/analys/index-eng.php).

### *United States*

In the United States the GHS is being compared and aligned with the current hazardous goods labelling system.

The current labelling requirements for hazardous substances are outlined in OSHA Hazard Communication Standard 29CFR1910.12001(HCS).

A comparison between the two systems is available at:

[www.osha.gov/dsg/hazcom/GHSOSHAComparison.html](http://www.osha.gov/dsg/hazcom/GHSOSHAComparison.html).

### *Chile*

The Ministry of Health in Chile is currently leading the implementation of the GHS along with a number of other departments.

### *Japan*

Japan has made significant progress towards adopting the GHS. The Industrial Safety and Health Law has been amended in order to implement GHS labelling requirements and a national standard on labelling of chemicals based on the GHS has been published.

Further information and links to relevant documents are available on the GHS website

[www.unece.org/trans/danger/publi/ghs/implementation\\_e.html#Japan](http://www.unece.org/trans/danger/publi/ghs/implementation_e.html#Japan).

### *Thailand*

Thailand has also made significant progress towards implementing the GHS. It is expected that the Hazardous Substance Committee's Notification on GHS will enter into force in 2008. There are proposed transitional periods: 1 year for substances and 3 years for mixtures and products (by 2011) controlled under the Hazardous Substance Act.

Further information and links to relevant documents are available on the GHS website:

[www.unece.org/trans/danger/publi/ghs/implementation\\_e.html#Thailand](http://www.unece.org/trans/danger/publi/ghs/implementation_e.html#Thailand).

### *Other Areas*

According to the GHS website the GHS is not currently being implemented in Panama, Kenya, Ethiopia or Lebanon. However, it is possible that labelling of hazardous substances may be occurring in these countries.

## **4.2. Other relevant legislation**

### *Europe*

#### *Banned or Restricted Substances*

Many harmful substances found in cleaning products may be banned or restricted in many countries. Therefore it will not be necessary to specify in the purchasing criteria that it be excluded. Some examples of substances that are banned in Europe and the relevant legislation are listed below.

- Directive 76/769/EEC<sup>29</sup> and its subsequent amendments restrict the chemical properties of products. It is stated that products classified as Toxic (T) or Very Toxic (T+) may not be placed on the market for sale to the general public. They are only permitted for certain specialist uses (such as in laboratories) and as such will not be available to contracting authorities.
- Regulation (EC) No 648/2004 updates and expands restrictions on the testing and sale of detergents. In particular it aims to increase the protection of the aquatic environment against the harmful effects of surfactants<sup>30</sup>, through stricter testing of biodegradability. Now, only surfactants meeting strict biodegradability standards can be used in cleaning products. In certain situations producers can apply for derogation (exemption) from this, but in practice, such products would never be legally available to public consumers.
- Council Directive 76/768/EEC on cosmetic products and its subsequent amendments and Council Directive 94/36/EC of 30 June 1994 on colours for use in foodstuffs and its subsequent amendments are relevant regulations that apply to cleaning products. These Directives restrict the use of, and set strict labelling requirements for certain dyes and fragrances.

#### *REACH Regulation (1907/2006)*<sup>31</sup>

The REACH (registration, evaluation, authorisation and restrictions of chemicals) Regulation (1907/2006) was adopted in December 2006, and entered into force on 1 June 2007. It provides a new regulatory framework for the collection of information on the properties of chemicals on the European market, and also for future restrictions on their use.

Under the new regulation manufacturers and importers will be required to gather information on the properties of their chemical substances (both existing and new), which will allow their safe handling, and to register the information in a central database run by the European Chemicals Agency (ECHA) in Helsinki. It also calls for the progressive substitution of the most dangerous chemicals when suitable alternatives have been identified.

The central database developed as part of this regulation could be used by purchasers to verify supplier compliance with certain purchasing criteria. However, it will take some years before the system will be fully operational.

#### *North America*

The US Environmental Protection Agency provides a list of toxic/polluting substances on its website - [www.epa.gov/ebtpages/pollutants.html](http://www.epa.gov/ebtpages/pollutants.html). Any legislation or programs associated with each of the listed pollutants can be accessed by clicking the relevant links<sup>32</sup>.

In the United States banned substances vary between states, for example, 25 states have passed laws limiting the amount of phosphates in cleaning products.<sup>33</sup>

#### *Consolidated List of Products*

A useful source of information on banned products in different countries is the Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely

<sup>29</sup> Directive 76/769/EEC of 27 July 1976 on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations.

<sup>30</sup> Surfactants (surface active agents) are the most important ingredients in cleaning products, due to their capability to wet hydrophobic surfaces, remove dirt and keep it in suspension.

<sup>31</sup> REACH in Brief, [http://ec.europa.eu/environment/chemicals/reach/pdf/2007\\_02\\_reach\\_in\\_brief.pdf](http://ec.europa.eu/environment/chemicals/reach/pdf/2007_02_reach_in_brief.pdf)

<sup>32</sup> US Environmental Protection Agency website [www.epa.gov/ebtpages/pollutants.html](http://www.epa.gov/ebtpages/pollutants.html)

<sup>33</sup> "Cleaning up the Cleansers: A Costly Patchwork of State Phosphate Bans" (Enviro.blr.com news article) <http://enviro.blr.com/news.aspx?id=88148>

Restricted or not Approved by Governments. This list complements and consolidates other information on hazardous chemicals produced within the United Nations system, including the Prior Informed Consent (PIC) circulars issued by the secretariat, maintained jointly by the United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO), of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. The criteria excludes the use of any product on this list. In the current issue of the List, all the products covered under the Rotterdam Convention are marked by an asterisk(\*) to highlight their special status.

More information available at: <http://apps.who.int/medicinedocs/en/d/Js4902e/1.html>

## 5. Sources for sustainable procurement guidelines

### 5.1. Background on the recommended criteria

The criteria in the background document have been developed by conducting an assessment of the different ecolabels. These criteria cover an enormous range of substances which pose a variety of health and environmental risks. For a number of these chemicals there is ongoing debate by chemists, health professionals, environmental scientists and the cleaning products industry as to the nature and severity of the impacts these substances may have on human health or the environment.

There is also debate about appropriate trigger levels and which verification testing methods should be used. This made it impossible to create a common criteria that covered all of the requirements of the different ecolabels.

ICLEI felt it was important that they not be involved in making a judgement on which substances, trigger levels or testing methods were the best or most important and should therefore be included in the purchasing criteria.

To avoid this, an analysis of the most common criteria was conducted. Criterion that were similar were grouped and the most common criterion were included in the proposed cleaning product purchasing criteria. The criterion that allowed the most ecolabels to demonstrate compliance was chosen. In some cases this required small adjustments to the criteria wording.

A comparison of the various ecolabels is available in Annex 1. The criteria are available in “Sustainable procurement guidelines for cleaning products and services - Product sheets”.

### 5.2. Environmental labels for cleaning products

The criteria included in the product sheets for Cleaning Products and Services are based on the criteria of various ecolabels for cleaning products and services. Information on the ecolabels used is outlined in the table below.

There are a wide variety of labels available and also several classification schemes for labels, namely, Type I, II and III, as defined by the International Standards Organisation (ISO). In brief, labels classified as **Type I** labels are the most useful group for procurers. These labels are based on life-cycle environmental impacts and the criteria are set by an independent body and monitored through a certification or auditing process. Transparency and credibility is thus ensured by third-party certification. A number of Type I and “Type I like” labels are presented in the below subsection for office stationery products.

For more information on environmental labels and the use of environmental labels in the UN procurement process, please consult “A Guide to Environmental Labels for procurement

## CLEANING PRODUCTS AND SERVICES

Practitioners of the United Nations system” published by UNOPS and UNEP (as part of the HLCM/SUN sustainable procurement initiative) (July 2009). For more information regarding ecolabels available globally, please consult the website of the Global Ecolabelling Network (GEN): [www.globalecolabelling.net](http://www.globalecolabelling.net)

A number of ecolabels for cleaning products exist in the different regions, although none could be identified in Japan, Latin America, East Africa or the Middle East. The following table displays the labels identified.

Name/Website	Region	Number of products/companies labelled
Ecologo <a href="http://www.ecologo.org">www.ecologo.org</a>	North America	45 labelled companies for general purpose cleaners, 35 for bathrooms cleaners, 30 for degreasers, 11 hand dish washing products, 6 for industrial cleaners, 39 for window and glass cleaners.
Greenseal <a href="http://www.greenseal.org">www.greenseal.org</a>	US	137 companies labelled for Industrial and institutional cleaners, 8 companies labelled for household cleaners.
European Ecolabel (Flower) <a href="http://ec.europa.eu/environment/ecolabel/index_en.htm">http://ec.europa.eu/environment/ecolabel/index_en.htm</a>	Europe	82 companies labelled for all purpose cleaners, sanitary cleaners and window cleaners, 15 companies labelled for detergents for domestic (or similar) dishwashers, 46 companies labelled for hand dish washing detergents, 21 companies labelled for laundry detergents for domestic washing machines.
Nordic Swan <a href="http://www.svanen.nu">www.svanen.nu</a>	Europe (mainly Scandinavia)	21 companies labelled for cleaning products, 4 companies labelled for microfibre cloths and mops.
Austrian Ecolabel (Umweltzeichen) <a href="http://www.umweltzeichen.at/filemanager/list/15672">www.umweltzeichen.at/filemanager/list/15672</a>	Austria	7 companies labelled for All purpose and sanitary cleaners, 3 companies labelled for hand dish washing detergents
Bra Miljöval/Good Environmental Choice <a href="http://www2.snf.se/bmv/english.cfm">www2.snf.se/bmv/english.cfm</a>	Europe (mainly Scandinavia)	30 companies labelled for Cleaning products
Thai Green Label <a href="http://www.tei.or.th/greenlabel">www.tei.or.th/greenlabel</a>	Thailand	2 companies labelled for Detergents, 2 companies labelled for dish washing detergents, 2 companies labelled for surface cleaners

The criteria underlying these ecolabels are similar, but there are important differences between them. This is principally in terms of how the criteria are worded, the specific restricted substances, trigger levels, testing methods and the different types of chemical classification.

It is challenging, therefore, to derive from these labels a universally applicable set of criteria. The environmental issues introduced in Section 2 are covered by the majority of the ecolabels studied.

### 5.3. Environmental labels for cleaning services

Only two ecolabels were identified for cleaning services: Green Seal in the US ([www.greenseal.org](http://www.greenseal.org)) and the Nordic Swan in Europe (mostly Scandinavia) ([www.svanen.nu](http://www.svanen.nu)). Although, as yet there are not many labelled providers, the criteria of the ecolabels provide a very valuable source of inspiration for the appropriate issues to address for cleaning services. Importantly, for most aspects, there should be little regional differentiation in their applicability (with the exception of the cleaning products used and perhaps waste separation systems). Good practice should therefore be possible to apply globally. The issues can be categorised as:

- the use of green cleaning products and green cleaning techniques,
- appropriate work instructions and cleaning plans for the buildings,
- training for staff on cleaning techniques and the handling of chemicals and waste, and
- monitoring and reporting on performance, training and chemical use.

The Green Seal criteria go into substantially more detail than those of the Nordic Swan, with highly prescriptive approaches for many types of cleaning procedure. Whilst this may be useful guidance for cleaning organisers it seems too detailed and complicated to use as a form of minimum general specification.

### 5.4. Other guidance on green cleaning

A number of other sources provide useful guidance on green cleaning:

- European Commission GPP Training Toolkit. ([http://ec.europa.eu/environment/gpp/toolkit\\_en.htm](http://ec.europa.eu/environment/gpp/toolkit_en.htm)) – This provides public purchasing criteria for both cleaning products and cleaning services, together with background information on the reasons for the development of the criteria. It has been used as the starting point for these guidelines.
- US Responsible Purchasing Network – Guide to Cleaners. ([www.responsiblepurchasing.org/purchasing\\_guides/cleaners/purchasing\\_guide.pdf](http://www.responsiblepurchasing.org/purchasing_guides/cleaners/purchasing_guide.pdf)) – This provides some general guidance on the application of green cleaning, including links to North American best practice examples .
- INFORM (US) Green Cleaning Toolkit. ([www.informinc.org/toolkit.php](http://www.informinc.org/toolkit.php)) – Provides a variety of tools to assist in the application of green cleaning.
- Swedish Environmental Management Council's (MSR) procurement criteria for chemical products (Not yet available in English – [www.msr.se](http://www.msr.se)) – Provides concrete purchasing criteria which can be used directly by public authorities or other major purchasers.
- The US Environmental Protection Agency has an Environmentally Preferable Purchasing (EPP) Guide for cleaning products ([www.epa.gov/epp/pubs/cleaning.htm](http://www.epa.gov/epp/pubs/cleaning.htm)), which is largely based around the Green Seal criteria.
- EcoBuy (Australia) Guide to Green Purchasing (restricted access for members only - [www.ecobuy.org.au](http://www.ecobuy.org.au)) – Provides concrete advice principally on the products, but also on cleaning approaches.
- Several local or regional governments also have guidance on green cleaning such as the New York Guidelines for schools ([www.ogs.state.ny.us/bldgadmin/environmental/GreenGuidelines.pdf](http://www.ogs.state.ny.us/bldgadmin/environmental/GreenGuidelines.pdf)).

### 5.5. Global and regional market availability of sustainable cleaning products and services

Information on market availability of sustainable cleaning products and services in the countries covered by this report is limited. However in the US it has been established that currently, truly green cleaners account for 2% to 5% of the products sold in the \$17.5 billion U.S. cleaning products market for household, janitorial, food service, and laundry chemicals. Many products with green components have been available for some time, including concentrates sold with dilution and dispensing systems that require less energy to ship, zinc-free floor finishes, cold-water laundry detergents, and right-sized packaging.<sup>34</sup>

## 6. Implementing the sustainable procurement guidelines

### 6.1. Using a life-cycle costing approach

The most common misconception about sustainable purchasing is that green products cost more. However, this does not necessarily hold true. Although in some cases the sustainable alternative may have a higher purchase price, if we analyse all the costs (throughout the working life of the product), the greener alternative may be cheaper over time.

If contracting authorities wish to ascertain, which products are most cost effective for them, they need to apply Life-Cycle Costing (LCC) approaches in their procurement decisions. This means comparing not just the initial purchase price of a product, but all future costs as well such as:

- Usage costs (energy/water consumption, cleaning chemical use),
- Maintenance costs, and
- Disposal costs.

Procurers could also consider costs relating to improvements in staff productivity or avoided sick leave.

This approach has been well documented for products such as electrical appliances, where an energy efficient version will cost less over the longer term due to reduced energy costs. Unfortunately there has been comparatively little work done on quantifying the lifecycle costing of cleaning products and services. Two examples where some of these ongoing costs have been quantified are provided below.

A European Commission study on the Costs & Benefits of GPP in 2007<sup>35</sup> examined the cost implications of purchasing green (ecolabelled) cleaning products on the overall cleaning budget.

Significantly between 92% and 97% of the money spent on cleaning is spent on staff costs, and therefore differences in product prices have a largely minimal impact on overall cleaning budgets. Reconsidering the cleaning frequency for different parts of the building may therefore be beneficial both in terms of human resources and chemicals needed for carrying out the service.

With regards to the products themselves a mixed picture emerged as the following table demonstrates.

<sup>34</sup> Significant Opportunities Exist for Green Cleaning Products According to Kline Report (Press Release): [www.klinegroup.com/news/green\\_cleaning\\_products\\_05-20-08.asp](http://www.klinegroup.com/news/green_cleaning_products_05-20-08.asp)

<sup>35</sup> Study on costs/benefits of Green public procurement in Europe. Available at: [http://ec.europa.eu/environment/gpp/index\\_en.htm](http://ec.europa.eu/environment/gpp/index_en.htm)

Country	Price difference between green and non-green product (%)		
	All-purpose and floor care products	Sanitary cleaning products	Window cleaners
Sweden	-74% (i.e. green product less expensive)	-82%	-9%
Germany	+36%	+148%	-36%
Spain	+131%	+92%	-94%
Czech Republic	+158%	+2%	-

These differences reflect the advanced development of the market for green cleaning products in the Nordic countries, and indicate that in countries where the market is not so well developed, products currently cost substantially more. However this increased cost may be offset by cleaning practices which minimise the use of chemicals.

The University of California Davis Medical Center (UCDMC) conducted a cost comparison of microfibre mops compared to standard mops. This study considered mop costs, labour costs, chemical costs, water usage and electricity usage for washing. The study found the use of microfibre mops resulted in:

- 60% lifetime cost savings for mops,
- 95% reduction in chemical costs,
- 20% labour cost savings per day,
- 95% less water and chemical use.<sup>36</sup>

The study also identified that the use of microfibre mops may result in reduced costs resulting from worker injuries. This is because they are much lighter than a conventional mop and they require less cleaning solution, meaning staff do not need to repeatedly lift heavy buckets of water<sup>37</sup>. Using less toxic cleaning chemicals may also result in reduced worker injuries and may increase productivity. However no quantified information on the costs savings attributable to this was available.

## 6.2. Verification of requirements

The procurement of sustainable cleaning products may raise some difficulties for purchasers to both identify and judge compliance with, in particular, environmental criteria, given the complexity of the chemical information to be assessed.

In regions where ecolabels exist, the environmental criteria underlying the ecolabel can be used in procurement. As long as there is a sufficient supply of ecolabelled products on the market, the burden placed on the procurer when it comes to verifying compliance with criteria (e.g. specifications), will be limited as the majority of suppliers will likely offer ecolabelled products. However, of course other forms of verification must always be accepted and this must be made explicit in the tender documents. In regions where ecolabelled products are not as abundant, the issue is not so easy to address, and a more limited set of environmental criteria will need to be used, with which procurers are easily able to verify compliance.

The main source of information for procurers for chemical cleaning products is the safety data sheet, sometimes known as a Material Safety Data Sheet or MSDS. In many countries,

<sup>36</sup> Please note: some caution should be exercised when using the results of this study as the cleaning requirements of hospitals are different to offices. For example, microfibre mop heads need to be changed for every room in a hospital to prevent cross contamination. In an office this may not be necessary.

<sup>37</sup> Using Microfiber Mops in Hospitals, US Environmental Protection Agency  
[www.epa.gov/region09/waste/p2/projects/hospital/mops.pdf](http://www.epa.gov/region09/waste/p2/projects/hospital/mops.pdf)

producers are required by law (see section 4) to provide users with detailed health, safety and environmental information on all their products, using a common format. A safety data sheet is also a requirement of the GHS (globally harmonised system of classification and labelling of chemicals).

However, it should be noted that not all important environmental and health concerns are fully dealt with by the safety data sheet or other standard accompanying information – many issues covered by certain ecolabels are, for example, not covered in the safety data sheet.

Furthermore, classified hazardous ingredients need only be mentioned in the safety data sheet if they make up higher than a certain percentage of the weight of the final product. Below this weight threshold, the supplier does not need to include the information on the safety data sheet. Under the GHS and also in European legislation, the legal weight threshold is considerably higher than that used by the European Ecolabel, for example – typically 1% of the final product weight in the safety data sheet, compared to 0.1% or 0.01% for the European Ecolabel (though this varies from ingredient to ingredient).

International Chemical Safety Cards (ICSC) are similar in format to an MSDS and provide information on health and safety impacts for a large number of common chemicals. They may be found on the International Occupational Safety and Health Centre website: [www.ilo.org/public/english/protection/safework/cis/products/icsc/dtasht/index.htm](http://www.ilo.org/public/english/protection/safework/cis/products/icsc/dtasht/index.htm). Procurers could use this database to help verify the claims of manufacturers.

Another approach to verification could be that the supplier is required to provide a list of ingredients that make up more than 0.01% of the product. The procurer can then verify the criteria by comparing the ingredient list to internationally recognised lists of dangerous chemical substances such as the “Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or not Approved by Governments” annually updated and edited by the UN. Criteria which can be verified in this way have been included in the Basic Sustainability Criteria in the Product Sheet.

For criteria where such lists are not available, contracting authorities will need to consider other forms of proof, such as self-declarations and test reports. These criteria have been included under the Advanced Sustainability Criteria to reflect the greater effort required in verifying these requirements.

Suppliers can verify compliance with certain cleaning service requirements by demonstrating that they hold an ecolabel or have an Environmental Management System (EMS) in place.

It is important to note that it is not possible to require that the contractor has in place a specific ecolabel, EMS or reporting framework even though these can be used to demonstrate compliance if relevant information is included. Instead, purchasers will often need to rely on contractors supplying appropriate documentation of their capacity to take the necessary environmental management measures, and for these measures to be properly documented and reported during the contract. As such, when setting criteria, it is important to outline what documentation should be provided.

### **6.3. Developing work instructions**

A large proportion of the environmental and health impacts of cleaning services are a result of the way in which the cleaning services are carried out. These impacts can be managed by requiring the contractor to develop detailed work instructions in cooperation with the contracting authority. The work instructions should provide detailed steps for cleaning staff to follow and will be one of the main mechanisms used to implement the environmental and/or occupational health and safety practices.

In particular, when developing work instructions the current frequency of cleaning should be

reconsidered. In some cases, areas may be being cleaned when they don't require cleaning. This results in the overuse of cleaning chemicals and costs the contracting authority more in cleaning staff time. To reduce this waste the contracting authority should create an inventory of rooms and spaces and specify the level of use and required level of hygiene. For example a kitchen will need to be cleaned more frequently than a boardroom.

It is also a good opportunity to consider where and how certain cleaning products are used. Some cleaning products are often used too frequently or may even be unnecessary from a hygiene perspective. Such products include toilet bowl freshener, cistern additives, deodorising blocks for urinals, air freshener, chemical drain cleaners, fabric softeners, floor finish based on water insoluble polymers, disinfectants, aerosol cans and propellants. The work instructions could specify where and how these products are used to ensure they are used only when absolutely necessary.

#### **6.4. Gaining the support of cleaning staff**

Green cleaning products and tools often require the use of specific application techniques if they are to be effective. The implementation of a new sustainable purchasing policy for cleaning products and services will therefore require the support of cleaning staff.

Cleaning staff may initially be resistant to these changes. They may also have preconceptions about the effectiveness of different green cleaning techniques. It is important the contracting authority and the contractor work with cleaning staff to ensure the new cleaning practices are adopted.

Support for new methods can be fostered by:

- conducting regular training programs,
- conducting demonstrations of the new techniques to show that they are as effective as the previous techniques,
- providing explanations of the health and safety benefits to staff,
- ensuring new staff inductions include training in green cleaning techniques,
- involving cleaning staff in trials of new cleaning products and methods,
- encouraging staff to provide feedback on the techniques and adapting them if necessary where they are not practical, and
- enlisting the support and advice of senior cleaners who are respected amongst the staff.

The City of Santa Monica employed a combination of these methods effectively when implementing their green cleaning program. Information on their approach is outlined in an US Environmental Protection Authority case study titled "The City of Santa Monica's Environmental Purchasing" (pages 11 to 15)<sup>38</sup>.

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<sup>38</sup> The City of Santa Monica's Environmental Purchasing" (pages 11 to 15) available at: [www.santa-monica.org/EPD/SP/pdf/SantaMonica\\_EPA\\_Case\\_Study.pdf](http://www.santa-monica.org/EPD/SP/pdf/SantaMonica_EPA_Case_Study.pdf)

## 7. Information sources

### 7.1. Ecolabels and other criteria sources

- Austrian Ecolabel (Umweltzeichen) All purpose and sanitary cleaners, hand dish washing detergents: [www.umweltzeichen.at/filemanager/list/15672](http://www.umweltzeichen.at/filemanager/list/15672)
- Bra Miljöval/Good Environmental Choice Cleaning products: [www2.snf.se/bmv/english.cfm](http://www2.snf.se/bmv/english.cfm)
- European Ecolabel All Purpose cleaners, Household cleaners: [http://ec.europa.eu/environment/ecolabel/product/index\\_en.htm](http://ec.europa.eu/environment/ecolabel/product/index_en.htm)
- Green Seal Environmental Standard for industrial and institutional cleaners, cleaning services: [www.greenseal.org](http://www.greenseal.org)
- Nordic Swan cleaning products, microfibre cloths and mops: [www.svanen.nu](http://www.svanen.nu)
- Terrachoice Environmental Marketing Ecologo, general purpose cleaners, bathrooms cleaners, degreasers, hand dish washing products, industrial cleaners, window and glass cleaners: [www.ecologo.org](http://www.ecologo.org)
- Thai Green Label Detergents, dish washing detergents, surface cleaners: [www.tei.or.th/greenlabel](http://www.tei.or.th/greenlabel)

### 7.2. Legislation

- Council of the European Communities, Council Directive 76/769/EEC of 27 July 1976 on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations, available at: [http://eur-lex.europa.eu/smartapi/cgi/sga\\_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31976L0769&model=guichett](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31976L0769&model=guichett)
- European Commission Environment Directorate Council, (October 2007), REACH in Brief available at: [http://ec.europa.eu/environment/chemicals/reach/pdf/2007\\_02\\_reach\\_in\\_brief.pdf](http://ec.europa.eu/environment/chemicals/reach/pdf/2007_02_reach_in_brief.pdf)
- European Parliament, Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, available at: [http://eur-lex.europa.eu/smartapi/cgi/sga\\_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=32004R0648&model=guichett](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=32004R0648&model=guichett)
- Globally Harmonised System of Classification and Labelling of Chemicals (GHS): [www.unece.org/trans/danger/publi/ghs/ghs\\_welcome\\_e.html](http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html)

### 7.3. Studies, websites and other information

- Berna J. L. (2001) "Assessment of the environmental relevance of anaerobic biodegradation of surfactants", Tenside, surfactants, detergents vol. 38, no2, pp. 86-93 (27 ref.), available at: [cat.inist.fr/?aModele=afficheN&cpsid=999542](http://cat.inist.fr/?aModele=afficheN&cpsid=999542)
- Chlorine online, "Glossary", available at: [www.eurochlor.org/main/glossary](http://www.eurochlor.org/main/glossary)
- Clement S. (2006) "The Procura<sup>+</sup> Manual 2nd ed.: A guide to cost effective Sustainable Public Procurement". ICLEI, Freiburg, Germany. Downloadable at: [www.procuraplus.org](http://www.procuraplus.org)
- Ecobuy (2007) "How Biodegradable is Your Cleaning Product?" What Goes Around Comes Around Newsletter Issue 4 - June 2007 available at: [www.ecobuy.org.au/director/publications/enewsletters.cfm?itemID=09C7B139E92E8CB1BBEAA0CA065F7C3&articleID=097BE506A163A88FF3569536FDB6FF42](http://www.ecobuy.org.au/director/publications/enewsletters.cfm?itemID=09C7B139E92E8CB1BBEAA0CA065F7C3&articleID=097BE506A163A88FF3569536FDB6FF42)

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- Essential Industries, Inc, (no date) “The Chemistry of Cleaning” Merton, Wisconsin, USA available at: [www.essind.com/Cleaners/GC-chemistry.htm](http://www.essind.com/Cleaners/GC-chemistry.htm)
- European Commission (2007) “Detergent Ingredient Database (DID list)”, available at: [http://ec.europa.eu/environment/ecolabel/product/pg\\_did\\_list\\_en.htm](http://ec.europa.eu/environment/ecolabel/product/pg_did_list_en.htm)
- ICLEI - Local Governments for Sustainability, Procura<sup>+</sup> Campaign: [www.procuraplus.org](http://www.procuraplus.org)
- ICLEI - Local Governments for Sustainability: [www.iclei-europe.org/procurement](http://www.iclei-europe.org/procurement)
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- US Environmental Protection Authority: [www.epa.gov](http://www.epa.gov)
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## *Annex 1 – Differences in approaches between ecolabels*

### *Biodegradability*

- Ecologo states that **the product** must be readily biodegradable (or that **each component** is such). This is determined using any of the six test methods described in the OECD Guidelines for Testing of Chemicals (301 – A-F).
- Green Seal states that **all organic ingredients** must be readily biodegradable using the same definition, but refers to four ISO tests: ISO 9439, ISO 10708, ISO 10707, or ISO 7828 (it seems these are equivalent tests to the OECD ones, and should not cause a major problem), and gives certain specific criteria which must be met within these tests within 28 days. Additionally, FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act (or FIFRA) registered ingredients are automatically accepted.
- The European Ecolabel for All purpose cleaners states that all **surfactants** must be readily biodegradable according to the same OECD tests, and also states limits: 60% biodegradability (mineralisation) within 28 days. It also mentions to EU DID-list which already indicates ready biodegradability. It also refers to a slightly different approach to measuring biodegradability based on dissolved organic carbon, with slightly different limits and also the need for justification of the approach.
- The Nordic Swan states that all **surfactants** must be readily biodegradable according to the same OECD tests, also stating that other appropriate tests may be used. It also refers to the DID-list. It also includes limits for other ingredients in the product for aerobic and anaerobic biodegradability.
- The Thai Ecolabel states that the **product** must be readily biodegradable using the OECD 301B test, or similar. It also refers to a Thai standard.
- MSR guidance states that **surfactants** must meet the ready biodegradability requirements of the OECD 301A-F tests, with a limit of 60% measured as CO<sub>2</sub>/BOD, or 70% measured as DOC.
- The European Ecolabel and Nordic Swan also demand anaerobic degradability

### *Bioaccumulation*

- Ecologo states that it shall not be formulated or manufactured with **ingredients** which are bioaccumulating. It has a complicated definition of bioaccumulation: A substance is bioaccumulating if it has a Bioconcentration Factor (BCF) of over 100 or a log BCF of over 2 according to several tests:
  - Code of Federal Regulation 40CFR797.1520
  - ASTM<sup>39</sup> E-1022-84 Standard Practice for conducting bioconcentration test with fishes and salt-water bi-valve mollusk
  - OECD Guidelines for Testing Chemicals 305C, Bioaccumulation: Degree of Bioconcentration in Fish
- Ecologo also exempts ingredients which:
  - Are readily biodegradable
  - Have a water solubility greater than 1500 mg/L when tested using a method consistent with ASTM E1148-87, Standard Test Method for Measurement of Aqueous Solubility
  - Have an octanol-water partition coefficient of log P less than 3 using the OECD 117 or 107 tests

<sup>39</sup> ASTM is an international standards organisation, originally called American Society for Testing and Materials

- The European Ecolabel states that biocides that are classified with R50-53 or R51-53 may not be bioaccumulating defined as having a log Pow equal to or greater than 3 (unless the BCF is less than 100). No specific test is stated. Biocides are also only allowed as preservatives.
- The Nordic Swan also restricts biocides only with the same limit values for log Pow and BCF. It also refers to OECD 107 and 117 for the log Pow value, and OECD 305 A-E for BCF
- MSR uses the same approach as the European Ecolabel and Nordic Swan
- Bioaccumulation is not mentioned by the Green Seal or the Thai Ecolabel

### *Hazardous/harmful classification*

Many different approaches are used here:

- The Ecologo restricts products (apart from certain exceptions) which are classified as:
- Harmful or irritant (according to the US Federal Hazardous Substances Act (16 CFR Part 1500), or Part 1 and 2 of the Canadian Consumer Chemicals and Containers Regulations of the Hazardous Products Act).
- (For institutional/industrial settings) Hazardous (according to the US Federal Hazardous Substances Act (16 CFR Part 1500), or Class D or E of the Canadian Controlled Products Regulations (SOR/88-66) of the Hazardous Products Act). (includes **chemicals** which are classified as) carcinogenic (included in the International Agency for Research on Cancer (IARC) in groups 1, 2A and 2B) (includes **chemicals** which are classified as) endocrine disruptors (i.e. chemicals identified by the European Union as priority for research).
- Have limited effects on aquatic life based on whole formulation short-term sensitivity toxicity testing of the recommended dose – here a variety of limit values and testing approaches are included in an Annex.
- With a flash point less than 61 degrees (in undiluted form), based on an ASTM test.
- The European Ecolabel restricts **ingredients** which have been given an R-phrase covering carcinogenic, mutagenic, harmful to reproduction, harmful to the aquatic environment and some others, also sensitisation to a degree. It also calculates the toxicity to aquatic organisms using the critical dilution volume toxicity (CDV Tox)
- The Nordic Swan uses both hazard symbols and the risk-phrases for **products**, and **ingredients** which are carcinogenic, mutagenic, reproduction toxic, sensitising, or harmful to the aquatic environment (for the last one certain limit values are acceptable). It also calculates the toxicity to aquatic organisms using a similar critical dilution volume approach as the European Ecolabel. It also restricts substances considered by the EU as potential endocrine disruptors.
- The Green Seal restricts **undiluted products** which are toxic, giving specific limit values and testing methods rather than referring to classification. Also **ingredients** shall not be classified as carcinogenic or reproductive toxic referring to the IARC and certain US Acts/bodies. **Undiluted products** shall not be skin sensitizing according to OECD test 406 (other tests also accepted). **Undiluted products** must not be corrosive to the skin and eyes according to the Human Skin Construct Systems and the bovine opacity and permeability test (BCOP), other tests also accepted. **Undiluted products** must not be combustible using an American open cup test or ISO closed cup test, or an ASTM test. It also has **product as used** restrictions on aquatic toxicity with a specific limit value with an ISO and CFR test mentioned.
- MSR also restricts **substances** classified as toxic, very toxic, carcinogenic, mutagenic, reproduction toxic, environmentally dangerous, or allergenic, giving the specific risk

phrases

- The Thai label does not cover this

### **VOCs**

- Ecologo sets restrictions on quantities of VOC content in both the diluted and concentrated product, with a number of test methods described. There are different limits for different products:
  - not contain more than 1% by weight in the diluted product (3% for window cleaners, degreasers, 5% for industrial cleaners)
  - not contain more than 12% by weight in the concentrated product (25% for window cleaners, degreasers, industrial cleaners, bathroom cleaners)
- Green Seal uses the California Air Resources Board Method 310 as the testing system, and limits VOCs in the product as used as follows (same as Ecologo – no limits for the concentrated product):
  - 1% by weight for general purpose cleaners and bathroom cleaners
  - 3% by weight for glass cleaners
- The European Ecolabel restricts the VOC content to 10% by weight for all purpose, window and sanitary cleaners for the product as sold
- The Nordic Swan does not cover this aspect – in general most VOCs would be classified according to one of the restricted R-phrases so a specific ban may not be necessary
- The Thai ecolabel limits VOCs to 25% by weight.

### **Phosphorus/phosphates/phosphonates**

- The European Ecolabel for all purpose, window and sanitary cleaners limits the total quantity of elemental phosphorus in the product, covering all phosphorus containing ingredients such as phosphates and phosphonates:
  - 0.02 g/functional unit for all purpose
  - 1g/100g of product for sanitary cleaners
  - 0 for window cleaners
- For the Nordic Swan, again it is for all phosphorus containing ingredients. There may also not be any phosphonates:
  - 0.5g/litre in-use solution for diluted products
  - 0.05g/litre in-use solution for concentrate
- For the Green Seal, the product as used cannot contain more than 0.5% by weight of total phosphorus. No further description is given
- For the Ecologo – builders may not contain any quantity of phosphates
- The Thai Ecolabel bans phosphonates used as builders, and limits phosphorus to 0.5% by weight

### **Packaging**

- Ecologo demands the product (packaging):
  - is a concentrate, or if inappropriate, that they are sold in bulk
  - is not packaged in chlorinated packaging materials
  - that efforts have been made to include post-consumer recycled content
  - is not manufactured with propellants

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- is not sold as a disposable wipe product
- Green Seal demands that primary packaging shall be recyclable or that manufacturers provide for the returning and refilling of packaging. Products must be a concentrate.
- The European Ecolabel demands that :
  - plastic materials are labelled in line with European legislation
  - that the packaging shall be easily separable into monomaterial parts. Other specific requirements for other types of cleaning products
- The Nordic Swan demands the appropriate labelling of plastic parts, no plastics containing chlorinated materials such as PVC, and has a specific weight/utility ratio for the quantity of packaging
- The Thai ecolabel has restrictions on the amount of heavy metal used in printing on packaging, and appropriate labelling of plastic parts
- MSR states no PVC shall be used, and that plastic materials are appropriately marked, and that clear dosage instructions are included

## Other restricted substances

Ecologo	Green Seal	European Ecolabel	Nordic Swan	Thai Ecolabel	MSR
PH (not lower than 3.0, not higher than 11.0) Some exceptions				Sulphuric and Sulphonic acid	
Aromatic solvents				A number of solvents are restricted	Aromatic solvents
Halogenated solvents				A number of solvents are restricted	Halogenated solvents only upto 0.2% by weight
Certain ethylene glycol ethers and their acetates					
APEO surfactants	APEOs	APEOs	APEOs	APEOs	APEOs
EDTA and NTA and their salts		EDTA, NTA	EDTA, DTPA, NTA and phosphonates	Phosphonates and NTA	EDTA limited to 0.2% by weight
Ozone depleting potential of zero	Ozone depleting compounds				
No ingredients for changing the scent		Fragrances must have been manufactured according to IFRA norms	Fragrances must have been manufactured according to IFRA norms		Fragrances must have been manufactured according to IFRA norms
Only food grade dyes of		Dyes must be permitted by	Either approved by		

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no more than 0.1% by weight undiluted		cosmetic and foodstuff directives	foodstuffs regulations or not bioaccumulating		
No toxic metals (incl. Arsenic, cadmium, chromium, lead, silver and mercury)	Heavy metals (incl. Arsenic, cadmium, chromium, lead, mercury, cobalt, nickel, selenium)		Silver nanoparticles	Limits to certain heavy metals (arsenic, lead, cadmium, chromium, mercury, selenium, nickel)	
	DBP (Dibutyl phthalate)				
	Optical brighteners				
		Nitromusks and polycyclic musks (long list)	Nitromusks and polycyclic musks (long list – similar but not the same as EU Ecolabel)		Musk xylene and musk ketone have a limit set by the cosmetics directive
		Quaternary ammonium salts which are not readily biodegradable	Quaternary ammonium salts which are not readily biodegradable		
			Enzymes must not be present in aerosols. In others they must be liquid or in the form of granulate that does not release dust		
			Retroactive chloro-compounds such as sodium hypochloride		Compounds with an active chlorine content above 0.1% must not be used
			Chloro-organic compounds		
			Benzalconium chloride		
			Linear alkylbenzene sulphonates (LAS)		
			Perfluorinated substances and polyperfluorinated alkylated substances		

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			(PFAS)		
			Methyldibromo Glutaronitrile (MG)		
				Dimethylsilicon copolymers	
				Fatty acid salts or di/triethanolamin e	
				Branched carboxylic acids and alcohols and PEG esters	
				Quaternary protein hydrolsate	
					Perborates and inorganic boric acids

## SUSTAINABLE UNITED NATIONS

Sustainable United Nations (SUN) is a UNEP initiative that provides support to UN and other organisations to reduce their greenhouse gas emissions and improve their sustainability overall.

SUN was established in response to the call from UN Secretary General Ban Ki-Moon at the World Environment Day 2007 (5 June), to all UN agencies, funds and programmes to reduce their carbon footprints and “go green”. This call was echoed in October 2007 in a decision of the UN Chief Executives Board (CEB/2007/2, annex II) to adopt the UN Climate Neutral Strategy, which commits all UN organisations to move towards climate neutrality. Within this context, SUN is working with the UN Environment Management Group – the UN body coordinating common environmental work within UN – to provide guidance, and develop tools and models for emission reduction within organisations.



**Sustainable  
United Nations**

## ICLEI - LOCAL GOVERNMENTS FOR SUSTAINABILITY

ICLEI – Local Governments for Sustainability is an international association of local governments and national and regional local government organisations founded in 1990. ICLEI currently has 1,200 members worldwide and almost 200 in Europe. Since 1996, ICLEI’s Sustainable Procurement team has been providing professional information, advice, networking opportunities, training and tools to public authorities wanting to implement high quality, cost effective sustainable procurement practices ([www.iclei-europe.org/procurement](http://www.iclei-europe.org/procurement)).





**For more information**

**UNEP DTIE  
Sustainable Consumption and  
Production Branch**

15 Rue de Milan  
75441 Paris CEDEX 09, France  
Tel: +33 1 4437 1450  
Fax: +33 1 4437 1474  
E-mail: [sustainable.un@unep.org](mailto:sustainable.un@unep.org)  
[www.unep.org/sun](http://www.unep.org/sun)

**About the Sustainable Procurement Guidelines**

The UN operates to achieve the goals of peace, equality, sustainable development and respect for human rights. The way the UN manages its operations and procures products and services should reflect these goals.

Ensuring lowest environmental and most positive social impact of procurement does not only build on the international community commitments. It also manages the reputational risks associated with labour exploitation or environmental damage in the supply chain; it gives a strong signal to the market and encourages the innovative production of cleaner and more ethical products enhancing an economy based on social and environmental responsibility.

These guidelines are designed to assist UN procurers and requisitioners in their choice to include sustainability considerations in their procurement work. They are built on the recognition that market situations are different from one country to another and thus provide advice based on research made about availability of more sustainable products in world regions. Overall, the guidelines provide a comprehensive overview of the specific factors affecting the sustainability of a given product category and suggest a language and specific criteria to include sustainability in tenders.

Guidelines are specifically provided for the areas of:

- IT equipment
- Cleaning
- Furniture
- Stationary
- Vehicles
- Cafeterias, Food and Kitchen equipment.
- Freight Forwarding
- Generators and Batteries
- Carbon Credits

They are available at: [www.greeningtheblue.org](http://www.greeningtheblue.org) and [www.ungm.org](http://www.ungm.org)