A.I.S.E. CHARTER FOR SUSTAINABLE CLEANING

KPI Reporting Detailed Explanation

Version 2.3 (20 December 2012) "CHARTER UPDATE 2010"

INTRODUCTION

This document compiles the 11 key performance indicators and their specific measuring units and provides the participating companies a detailed reporting guidance.

Companies admitted to the Charter will be asked to fill in – via a protected Charter Extranet – their annual data on all indicators before an indicated deadline. The individual company data will be kept confidential and will be automatically aggregated into the total industry data for the whole Charter area (= EU + Iceland, Liechtenstein, Norway and Switzerland).

The indicators are valid for all A.I.S.E. sectors (household and I&I) but some of the measuring units are specific to either the household or the I&I sector.

Aggregated results and benchmarking possibilities
From one year to the next year it is possible to measure the overall industry trend towards continual improvement. Individual companies are able to benchmark their data with the average aggregated industry data.

GENERAL REPORTING PRINCIPLES

Companies are asked to report a total annual company figure per indicator:
- Multinational companies should report via their European Headquarters or any other designated reporting centre.
- Although the reporting country / countries should be indicated, national sustainability results cannot be provided as companies are supposed to report a single (Charter Area) figure per indicator.
- Companies report their indicators for a 12 month period ending during the Charter reporting year (the calendar year). Normally the 12 month period will be the same as the company's financial year. The KPI reporting window is normally 1 Jan to 15 April immediately following the end of the Charter reporting year.
- The impact of mergers or other changes affecting the size of the company should only be taken into account as from the next, full reporting year.

Working together for a cleaner Europe

Production coverage:
The KPIs distinguish between a company's total production and the production accounted for by the company's sites as covered by the CSP verification (minimum 75% of total production). Most indicators relate to the latter, but not all. Where 100% of production is covered by the CSPs (as is the case for great majority of Charter Ordinary Members) there will be no difference. However companies are requested to be careful to provide the correct basis for their KPI report.

No import / export data required:
- Time-consuming calculations for import and export are not necessary as it is reasonable to assume that the amount of imported products from outside the EU is comparable to the exported one.

Some key economic data required for general information purposes:
- Participating companies are asked to indicate in the introduction part of their annual report their total annual turnover in the A.I.S.E. product areas as well as the countries in which they are operating (*NB: these data will not be considered as indicators but will give an indication of the geographical coverage of the Charter within our industry*).
- Companies are also asked to indicate in which sectors they are active (household, I&I or both) and if they can be considered as a multinational or a national (large, medium or small) company.

INDICATORS

Indicator 1)   PARTICIPATING COMPANIES (All Sectors)

Introduction
The most critical success factor for a voluntary industry initiative such as the Charter is the number of participating companies – large, medium and small, active in the household and / or in the I&I sector. Not only the number of manufacturing sites covered has to be measured but also the total production volumes covered. Baseline-production data are needed for measuring continual improvement on all other indicators.

Measuring units
All Companies should report:
a) **their total number of manufacturing sites in the Charter area;**
b) **the number of manufacturing sites covered by the Charter report;**
c) **their total production, in tonnes in the Charter area;**
d) **the production covered by the KPI report, in tonnes (minimum 75% of c))**
Household companies should report:
e) **their total production (in tonnes)**
    a. **in the Charter Area**
    b. **covered by the KPI report**
f) **the total number of consumer units sold (in million units)**
    a. **in the Charter Area**
    b. **covered by the KPI report**
I&I companies should report:
g) **their total production (in tonnes)**
    a. **in the Charter Area**
    b. **covered by the KPI report**
h) **the total number of units sold (in thousand units)**
    a. **in the Charter Area**
    b. **covered by the KPI report**

Reporting Guidelines

- The data to be reported here are necessary for the calculation of the other indicators. The Extranet reporting system automatically calculates the performance ratios on the other KPI's by linking the production data to the data to be reported on the other KPI's;
- Only the part of business 'in the control of the company' should be reported, not the manufacturing sites controlled by third parties; a 50/50 joint venture is not in the control of the company for this purpose unless both owners are members of the Charter, in which case double counting should be avoided;
- Only the part of the business in the Charter Area (EU + Iceland, Liechtenstein, Norway and Switzerland) should be reported;
- If the Charter report covers all sites and the whole production is in the Charter area the same numbers have to be filled in under a-b) and c-d);
- For the purpose of the Charter KPI reporting the data only applies to A.I.S.E. product categories as in **annex I**;
- The production data should be reported with the water content as the finished product might also contain water.
- The reporting unit for household companies is 'million consumer units'. A consumer unit is the unit of final consumption. The following items are considered as 1 consumer unit:
  a) A re-fill is one consumer unit even though it may fill more than one original package.

  b) A pack containing multiple individual doses not intended for individual re-sale

  The following items are NOT considered as 1 consumer unit:

  a) A twin-pack promotion would count as two consumer units.

  b) A multi-pack is counted as however many units are in the pack.

- I&I companies should only report the total number of units sold for products used in the subsectors Building care, Kitchen & catering hygiene and Professional laundry!

Indicator 2)   CHEMICALS SAFETY EVALUATION (Household and I&I Sector)

Introduction (household sector only)
Chemical substances are the main ingredients of detergents and cleaning products. The safety of these chemicals is crucial for consumer / customer confidence and the overall, societal reputation of the industry. Through participation in initiatives such as HERA, chemical substances in use by the industry are risk assessed and the detergent / cleaning products volume covered by risk assessment can be measured as well.

Safety of I&I products is currently ensured by risk management measures taken on the basis of comprehensive set of specific regulations addressing occupational exposure and workers protection, as well as ingredients safety data sheets; the I&I sector of A.I.S.E. is reviewing HERA risk assessments for potential extension to I&I exposure conditions.

Measuring units
Companies should report
a) **the total amount of chemical raw materials used, in tonnes;**
b) **the total amount of chemical raw materials covered by HERA risk assessments, in tonnes.**

Reporting guidelines
- Companies are not asked to sum up individual chemicals covered. The updated list of chemicals (CAS numbers) covered by the HERA Risk Assessments can be found on the HERA website: www.heraproject.com (click on ''risk assessments''); In the future, the risk assessment will have to be consistent with the REACH Regulation and the REACH-related manuals.
- Water is here not considered as a raw material. As a consequence only the 100% active basis of the chemical ingredients – thus without the water content – should be reported.

Introduction (I&I sector only)

The experience shows that manual product dosing frequently leads to reduced product use efficiency, either by overdosing (spoiling) or under-dosing (repeating the cleaning operation to get the job done). Therefore, producers promote and offer increasingly dosing devices to deliver appropriate product dosage. Furthermore, in terms of handling safety, manual dosing might cause more risk of direct exposure to products (skin, eyes, inhalation) than using dosing devices.

This indicator aims at reflecting the evolution of use of dosing devices or systems by the customers to optimise (usually minimise) the products use and further increase safety at work.

Measuring Unit
Companies should report:
The total amount of products in weight (tonnes) produced by the company and per year for use under controlled dosing.

Reporting Guidelines
- Depending on the application, dosing control ranges from using devices as simple as dosing caps or elementary mechanical dosing pumps to programming of completely automated ingredients injection at the different phases of a cleaning process (e.g. big laundries). These products (in liquid or solid form) are used either as such or diluted in the dosing control system.
- The compiled quantities are those that are delivered to the customers, not their equivalent after possible dilution.

Indicator 3)   OCCUPATIONAL HEALTH AND SAFETY (All Sectors)

Introduction
Occupational injuries can have outcomes with varying degrees of severity. Injuries, which are considered as 'serious enough to require time off work for treatment and/or to recover' are called 'Lost Time Accidents'.

Benchmarking studies amongst A.I.S.E members in the past have revealed that this measure is already widely used. Indeed, lost time accidents, which require more than three days off work, are formally reportable to national health & safety regulators in many EU States.

Measuring unit
Companies should report
a) **The total number of accidents**
b) **Total employees' hours worked (in 1,000 man-hours)**

Reporting guidelines
- Companies should report the number of employee lost time accidents recorded during the year, where the time off work is equal to or greater than one days absence (excluding the day on which the accident occurred),
- Total employees' hours worked is expressed per 1,000 man-hours worked by all employees in the sites covered by the Charter report;

The result is the accident frequency rate:

Accident Frequency Rate = $\dfrac{\text{Number of lost time accidents}}{\text{Total Employees' Hours Worked}}$ x 100

Indicator 4)   CONSUMER AND CUSTOMER SAFETY (Household and I&I sector)

Introduction
Companies have made over the years significant progress in offering consumers / customers easier access to their Client Services. Phone lines (toll-free) and more recently e-mails are typical channels used for this purpose.

Consumers have responded positively and incoming calls are increasing as a proof of the interest of consumers for more information. The possibility to have direct access to manufacturers is a signal for consumers of the openness of companies and of their willingness to respond to consumers' inquiries. Calls span over a very wide range of topics, from products to promotions, from complaints to testimonials, from search for advice to job applications.

This channel also provides the opportunity to cover safety related topics and this allows manufacturers to monitor the real and perceived safety profile of their products in the market, the subject of this indicator.

Industrial & Institutional products deliveries are already accompanied by information and usage & safety instructions, at the minimum through a Product Safety Data Sheet and labelling on pack. This information is given for all new products delivery and often even for all deliveries. Therefore there is no real margin for a significant increase or improvement to be achieved.

As a service to their customers, I&I suppliers also provide training for safe use of products and for systems / machines set-up optimisation. The complexity of these trainings depends on the type of application and their frequency varies from supplier to supplier and from customer to customer, the rotation of personnel being often important at customer level.

This indicator will also show the commitment of the I&I sector to maintain and further improve the level of safety awareness of users at customers level.

Measuring units (Household sector only)
Companies should report:
a) **Names of all countries where a telephone or online care line service is indicated on pack as available in the country;**
b) **Names *of all countries where products are on the market;***
c) **Total number of consumer contacts;**
d) **The percentage of safety-related contacts within the total number of consumer contacts, classifying these contacts into two groups:**
   a. **Calls reporting real or perceived health problems, reported as being linked to the use of the product (e.g. exposure to skin or eyes or oral exposure);**
   b. **Inquiries (e.g. general or more specific questions related to the safety of the product, such as the presence of a certain ingredient, to which the consumer is allergic).**

Reporting Guidelines
- Companies commit to gradually set up care lines via a free phone number and/or e-mail. A care line service includes any of the following:
   o a company phone number;
   o a free-phone service;
   o an e-mail address;
   o an address for letters;
   o an online response service.
- Companies commit to record the total number of consumer contacts
- Companies commit to record the total number of "safety-related" consumer contacts according to the following classification:
   o Calls related to real or perceived health problems, reported as being linked to the use of the product (e.g. exposure to skin or eyes or oral exposure);
   o Inquiries (e.g. general or more specific questions related to the safety of the product, such as the presence of a certain ingredient, to which the consumer is allergic).

Measuring unit (Industrial & Institutional Sector only)
Companies should report
e) **The recorded number of equivalent customer-persons trained in sessions by companies (partly or totally) devoted to safe handling and use of products and systems (equipment), whatever the application (the evolution of this number will be explained taking into consideration market evolution and societal factors).**

Indicator 5)   CONSUMER AND USER INFORMATION (Household and I&I sector)

I.   Safe use and best use information for consumer products (household only)

Introduction
The provision of appropriate information on how to use products can have positive impacts on the performance of a product, and hence the end results, whilst minimising the environmental impact and ensuring safety for consumers.

The advent of the Charter provides the opportunity to introduce small, but important improvements to the information provided to consumers via on-pack labelling and other communication tools have significant benefits in the everyday usage of Charter products by consumers.

Companies which are members of the Charter are encouraged to use the maximum number of relevant messages for each product category. Companies which additionally claim ASP status for specific products must use Safe Use phrases and pictograms for these products s appropriate. The following set of rules applies:

- 1 and 2: the pictograms should be applicable to all product categories, and the associated phrases used in addition as directed in the rules.

- 3 and 4: the pictograms should be used on products that are likely to come into prolonged contact with skin, for example hand dish wash and hand wash laundry products, at companies' discretion based on knowledge of their own specific products. The associated phrases should be used in addition as directed in the rules.

- 5 to 8: the pictograms should be used as appropriate at the discretion of the company. For items 6.a and 6.b, the most appropriate message should be used recognising that they are designed for a normal or a refill pack respectively. The associated phrases should be used in addition as directed in the rules.

This information should be grouped in a "Safe Use advice box" to draw consumers' attention.

A.I.S.E. expects companies to apply a stepwise approach: initially both pictograms and sentences will be shown with the objective to move to pictograms only when A.I.S.E. has evidence of consumer comprehension. The commitment to show these sensible advice phrases applies to all products either non-classified or classified by the Dangerous Preparations Directive. A.I.S.E. will provide appropriate guidance to avoid duplication and/or confusion for classified products.

Best use information

Companies which are members of the Charter are encouraged to provide Best Use information wherever possible and practicable, either on pack or in related communications. Examples are contained in Annex II. Companies which additionally claim ASP status for specific products must use defined Best Use information on pack as provided for in the relevant category ASP rules. This on-pack Best Use information for ASP products will include as a minimum a reference to **www.cleanright.eu**

Measuring Units

Companies should report:

a) Safe Use advice:
- Number of consumer product units sold in the Charter Area, using two icons/sentences (normally # 1 and 2), expressed as millions of units (m.u.);
- Number of consumer product units sold in the Charter Area carrying more than two icons/sentences, expressed as millions of units (m.u.).

b) Best Use advice:
- Number of consumer product units sold in the Charter Area carrying relevant best use advice (existing A.I.S.E. best use advices for a number of product categories, professional graphic files and guidelines are available on www.aise.eu/end_user_info

Reporting guidelines
- Reporting should deal with the safe use icons (accompanied by a safety phrase). Safety phrases alone should not be counted for this indicator.
- Only the original A.I.S.E. safety icons may be counted for this KPI, not company-specific icons

II.   Proper and safe use of I&I products (I&I sector only)

In order to facilitate the communication with the users in the I&I sector, A.I.S.E. developed pictograms for two important activity sub-sectors: Building care and Kitchen & catering hygiene. This indicator aims at demonstrating the wide use of these pictograms.

Measuring Units

Companies should report:

a) the total number of units sold (in thousand units) for products used in the two sub-sectors (see reporting guidelines)

b) the number of units sold (in thousand units) showing one or more A.I.S.E. pictograms.

Reporting guidelines
- Reporting deals with the number of units sold for Building care and Kitchen & catering hygiene only

Indicator 6)   POORLY BIODEGRADABLE ORGANICS (PBO's) USED (All Sectors)

Introduction
Poorly biodegradable organic compounds (PBO's) have been in the public's attention over the past decades as a potential long-term environmental issue. The Charter PBO Indicator is intended to call companies' attention to reducing these substances whenever the reduction would bring environmental benefit and would be technically feasible.

Measuring Unit
Companies should report:
a) **the purchased quantities of chemicals (according to the Charter PBO-list) in weight (tonnes)**

Reporting guidelines
*   Definition of the Poorly Biodegradable Organics:
    Substances/materials that are neither readily nor inherently biodegradable[1] have been included in the Charter PBO List (see **annex III**) and the Charter reporting should be based on this List. A few of the chemical groups listed may include biodegradable elements which can be exempted from PBO allocation provided it is justified by appropriate data. It is likely that the List will not contain all chemicals[2] used by companies participating to the Charter. If a known PBO not covered by the Charter PBO List is used by a company this substance/material should also be reported against the PBO key performance indicator.
*   All products produced and sold to the consumer and/or I&I cleaning applications should be considered when the PBO's are reported.
*   Please report on the active substance without water included.

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[1] Organic substances are considered PBO if their biodegradability is below 70% in an inherent biodegradability test system (SCAS or Zahn-Wellens test). This threshold is *a priori* exceeded by readily biodegradable substances.

[2] Substances not appearing on the PBO list, but for which there are test data or a structural indication that they are likely not to be inherently biodegradable should be considered as PBOs.

Indicators 7, 8 and 9: CONSUMED ENERGY AND CO-2 EMITTED, CONSUMED WATER, WASTE (TOTAL AND HAZARDOUS) (All Sectors)

Introduction
Environmental emissions to air, water and land are measured in variety of ways within industry. Of all these measures it is recognised that waste (both hazardous and non hazardous) which is sent off-site for disposal by landfill, incineration etc., and which is not recycled, has a significant environmental aspect for most of the companies within the A.I.S.E. It is further recognised that the consumption of energy e.g. gas, oil, electricity and water by the companies that comprise the A.I.S.E also has a significant environmental impact.

Benchmarking studies amongst A.I.S.E members in the past have revealed that these measures are already widely used and are often included in external reports on company environmental performance and sustainability.
The Measuring Units for the Indicators defined in the Environmental Pillar are:

Indicator 7)   CONSUMED ENERGY AND CO-2 EMITTED
Companies should report
a) **the amount of energy consumed per annum expressed in GJ of energy .**

Reporting guidelines
- Include all fuels used on the site e.g. gas, oil, electricity etc.;
- Do not include electricity that is generated on site – enter instead the energy value of the fuel that is used for its generation.
- Where steam or electricity is produced on site, but some of it is sold to an adjacent site or third party facility or operation, subtract the amount sold from the total energy reported;
- The energy content (also known as calorific value) of each fuel should be known locally but default values are provided below.

Typical Energy Contents of Fuels		
Fuel	Units	Energy Content (GJ per tonne or m^3)
Coal	Tonnes	29.30
Heavy fuel oil	Tonnes	41.35
Light fuel oil	Tonnes	43.00
Gas	M^3	0.0366
Liquid Petroleum Gas	Tonnes	46.00
Steam / Hot Water purchased externally	Tonnes	2.75
Wood	Tonnes	15.30

Note: Energy contents of fuels from (ESU-ETHZ, 1994; supplemented by APME, 1993; Baehr, 1989; SAEFL-132, 1991)

b) **The amount of CO_2 emitted per annum expressed in tonnes of CO_2.**

Reporting guidelines
- This calculation should be done with reference to the amount of energy consumed and the composition of the energy mix.
- In particular for smaller companies: contact your fuel/energy provider(s) for details of the composition of the fuel/energy consumed i.e. kilograms of CO_2 per GJ.
- The conversion calculation method can also be derived from the GHG Protocol Calculation Tools of the World Business Council for Sustainable Development (www.ghgprotocol.org)

Indicator 8)   CONSUMED WATER

Measuring unit
Companies should report:
a) the amount of water (potable and non potable) consumed per annum expressed in m^3 of water.

Reporting guidelines:
- This information is generally available on the quarterly invoice from the water supplier or in the case of on site water sources e.g. wells, can be measured using a meter.
- Water added directly in the products is to be included in this indicator.

Indicator 9)   WASTE – Off Site, For Disposal (Total Waste - Hazardous plus Non Hazardous)

Measuring unit
Companies should report
a) the total amount of waste (hazardous and non hazardous) sent off site per annum expressed in tonnes;
b) of which the amount of hazardous waste sent off-site per annum in tonnes.

Reporting guidelines:
- Waste that is reused or recycled on site should not be included as it has not left the site;
- Waste that is stored on site should not be reported until it leaves the site;
- The classification of waste as either hazardous or non-hazardous should be based on the local legislation for the reported country / countries.

Indicator 10) PACKAGING USED (All Sectors – Industrial and Institutional Sector)

Introduction
The consumption of packaging, in particular for consumer goods is regarded by society as an important environmental performance indicator for the industry. Therefore the A.I.S.E. will report the packaging ratio, expressed as the total amount of packaging (tonnes) related to total amount of products (tonnes) put on the market.

The A.I.S.E. Industrial & Institutional sector delivers a significant amount of their products in refillable "big" containers (drums, IBCs, tank truck loads). Consequently, the amount of products delivered in refillable bulk containers per year will be reported exclusively by the A.I.S.E. Industrial & Institutional sector.

Measuring unit (All Sectors)
Companies should report
a) the total amount of packaging material in weight (tonnes) purchased[5] per year

Reporting Guidelines
- Companies are requested to report the total packaging material purchased at Charter Area level; this should be one number; i.e. not split by material (plastic, paper, etc.) or by industry sector (Household, I&I).
- Only packaging that is actually filled by the companies themselves should be considered;
- The submission will include tonnage coming from primary, secondary and tertiary packaging up to a nominal quantity of 25 kg/l of the primary pack **but no pallets** and **no refillable bulk containers**;
- Included are regular packs and promotional packs, e.g. boxes, bags, bottle, aerosol cans etc.;
- Special items such as trigger sprays and measuring devices are only included if they are an integral part of the pack (for example a closure that functions as a dosing device).
- Refillable containers will be included only if sold filled (i.e. newly purchased);
- No data will be generated on display material in general and on separate dosing devices.

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[5] The choice of data sources is left at the discretion of the reporting companies providing the reported data cover the packaging materials quantity as defined in the guidelines.

<u>Analysis of the reported data</u>
The evolution of the aggregated (Charter Area) data might need to be explained. In case of substantial external influences beyond our control, the explanation will include references to explanation factors[3] reflecting the respective external elements influencing the market. The explanation will highlight the efforts our industry makes to optimise packaging material use and - to the degree possible - to counterbalance the potential growth caused by external factors.

Measuring Unit (Industrial & Institutional Sector only)
Companies should report
b) the use of refillable containers: total amount in weight (tonnes) of products delivered in refillable containers per year.

Reporting Guidelines
- The reported amounts should be grouped at Charter Area level and should include all products delivered in refillable containers of more than 25 kg or litre. This includes also tank-truck loads.

Indicator 11) PRODUCTS WITH ASP STATUS

The main new feature in the Charter 2010 package which differentiates it from Charter 2005 is the creation of the "Product Dimension". It is a voluntary extension available to Charter members, and does not affect existing Charter rights. The Product Dimension extends the Charter's scope so that a differentiated logo on pack may be used which signifies not only that the manufacturer is committed to certain sustainability processes at the manufacturing level (as under Charter 2005), but also that the product itself meets certain advanced sustainability criteria created for each A.I.S.E. product category, whether in the household or in the industrial & institutional cleaning sector; those are called the Advanced Sustainability Profiles (ASP). To distinguish products which meet the category ASP a special version of the Charter Logo is introduced.
This KPI aims at tracking progress of the Advanced Sustainability Profiles (ASP). It deals with the number of products placed on the market by each Charter Member which have ASP status. The KPI is reported for Household products and I&I products separately in the following units:

Measuring Unit (Household Sector only)

- Number of Household products placed on the market which carry the ASP logo (see KPI 1 for the definition of consumer unit)

Measuring Unit (Industrial & Institutional Sector only)

- Number of I&I products placed on the market which have ASP status, expressed in units sold (in thousand units) in the subsectors Building care, Kitchen & catering hygiene and Professional laundry

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[3] An appropriate A.I.S.E. Task Force will monitor the Explanation Factors. They could be for example the evolution of demographic indicators (influencing the total market), the trend towards smaller and more numerous households (leading to smaller pack sizes), the general trend to more convenience in life (more convenient package executions and product forms, dispensing features or pre-dosed products), the progress in recovery systems achievements, currencies fluctuations, and feedstock materials' market evolution. These would be applied retrospectively on a yearly basis as appropriate.

ANNEX I

A.I.S.E. Category Products

- Soaps
    - Hard soaps (soaps, excluded from the Cosmetics Directive (i.e. not intended for the body))

- Household Laundry Products
    - Fabric washing (powders, tablets and liquids), fabric softeners, auxiliary products

- Household Dishwash Products
    - Hand wash, machine wash, auxiliary products

- Hard Surface Household Cleaners
    - All purpose cleaners, scouring cleaners, window cleaners, toilet bowl cleaners, speciality products

- Domestic Bleach Products
    - Hypochlorite-based products, other bleach products

- Domestic Maintenance Products
    - Wood, leather, household metals, maintenance, insecticides, disinfectants, room deodorisers, specialist application products, other specialities

- Industrial & Institutional Products
    - Industrial hygiene (e.g. food & beverage industry)
    - Professional laundry
    - Kitchen & Catering
    - General Surfaces (hospital hygiene, offices, public places, etc.)
    - Others (industrial metal cleaning, car & truck wash, process water treatment)

ANNEX II

End User Information

A.I.S.E. best use advices for a number of product categories, professional graphic files and guidelines are available on www.aise.eu/end_user_info

ANNEX III

Poorly Biodegradable Organics (PBO) in products subject to the A.I.S.E. Charter

Below is a list of major chemical groups or chemicals representing product ingredients that are considered to fulfil the criteria for PBO, i.e. being neither readily nor inherently biodegradable*. A few of these chemical groups may also include biodegradable elements which can be exempted from PBO assignment provided it is justified by concrete data. It is inevitable this list will not contain all chemicals used by A.I.S.E. member companies or associations. If a known PBO not covered by the list below is in use this should also be reported against the PBO key performance indicator within the A.I.S.E. Charter for Sustainable Development.

*Organic substances are considered PBO if their biodegradability is below 70% in an inherent biodegradability test system (SCAS or Zahn-Wellens test). This threshold is *a priori* exceeded by readily biodegradable substances.
Substances not appearing on the PBO list, but for which there is a structural indication that they are likely not inherently biodegradable, or for which data are available showing lack of inherent biodegradability, should be considered as PBOs.

PBO Chemicals/Chemical Classes	Examples include
Polymers:	
Polycarboxylates	sodium polyacrylate acrylic acid homopolymer acrylic acid/laurylmethacrylate copolymer maleic acid/acrylic acid copolymer
Carboxmethyl cellulose and other cellulose derivatives	carboxymethylcellulose (CMC) hydroxymethyl cellulose sodium carboxymethylcellulose cellulose, carboxymethylether, sodium salt
Polystyrene latex	polymerised styrene monomer (= polystyrene) polystyrene latex
Polysiloxane polymers (silicones)	polydimethylsiloxanes polydimethyl cyclosiloxanes silicone derivatives
High Molecular Weight Polyethylene Glycols (MW > 4 000)	
Polyvinyl pyrrolidone (PVP) and related polymers	2-pyrrolidinone, 1-ethenyl-, homopolymer polyvinylpyrrolidone (PVP) poly (N-vinyl-2-pyrrolidone)-poly (N-vinyl-imidazol) poly 4-vinylpyridine-N-oxide
Nonionic terephthalate polymers (soil release polymers)	polyesters (soil release polymers) bis-(poly-ethoxylated) poly-(1,2 polypropylene terephthalate) diethoxylated poly (1,2 propylene terephthalate)
EO/PO block polymers (Except representatives shown to be outside PBO definition, e.g. EO-PO based surfactant should not be specified here as they are readily biodegradable)	
Other homo- and co-polymers (Except representatives shown to be outside PBO definition, e.g. readily biodegradable substance)	
Paraffins	paraffin waxes paraffin derivatives
Substance groups and individual substances:	
Fluorescent whitening agents (Optical brighteners)	dimorpholino type optical brighteners disulphostyryl biphenyl type optical brighteners disodium 4,4'-bis ((4-anilino-6-morpholino-1,3,5-triazin-2-yl)amino)stilbene-2,2'-disulphonate disodium 2,2'-((1,1'-biphenyl)-4,4'-diyldivinylene)bis(benzenesulphonate)
Dyes and pigments	al-phthalocyanine compound zinc phtalocyanine sulphonate
Phosphonates (acid and salts)	amino-tris(methylene phosphonic acid) tetrasodium (1-hydroxyethylene bisphosphonate) diethylenetriamine penta (methylenephosphonic acid)
Perfumes	
Preservatives (Except representatives shown to be outside PBO definition, e.g. readily biodegradable substance)	
Imidazolinium derivatives (Except readily biodegradable derivatives)	

PBO Chemicals/Chemical Classes	Examples include
Benzotriazole and derivatives	
EDTA (acid and salts)	
Butyl hydroxytoluene (BHT)	
Organic chlorine bleaches	Sodium dichloroisocyanurate, trichloroisocyanuric acid
Fluorosurfactants	Perfluro-octanes (PFOS/PFOA), fluorotelemetric chemistry.