



## Standardized Environmental Questions for Medical Products, Version 1.0

What we buy matters. By selectively choosing the medical products that enter hospital facilities, we can generate demand for inherently safer products and services for patients, workers, and the environment. Products should have a reduced impact on our natural resources, contain safer chemicals, and drive reductions in energy use. We strive for a healthy environment and to do no harm. Purchasing is an effective way for improving the environmental performance of health care products. By using a nationally recognized set of environmental criteria that are important to health care, we are helping to:

- **Encourage manufacturers and suppliers** to reduce the negative environmental and health impacts of their products and services across their lifecycle.
- **Establish a standard** for successfully purchasing environmentally preferable products, thereby encouraging other health care purchasers to adopt.
- **Provide a tool** for educating staff and others on the environmental priorities in health care.
- **Create safer and healthier environments** for our patients, healthcare workers and local and global communities.

Each question asks about a specific environmental attribute that, if considered independent of other attributes, may not necessarily define an environmentally preferable product. Rather, the need will be to evaluate multiple attributes of a product across its entire life cycle. It will also be important to look at other product-specific elements that go beyond these questions, such as source of feed stock, transportation, or additional chemicals of concern.

Medical products, for the purposes of this questionnaire, are defined as selected products used to diagnose, treat or care for patients. This excludes electronic medical products (anything that plugs in or has a battery).

#### **Examples of medical products included:**

- Sheets, textiles, apparel
- Mattresses, positioners
- Draperies, cubical curtains
- Exam gloves
- Pillows
- Underpads, briefs
- Skin prep applicators
- Laboratory products (products not chemicals)
- Enteral feeding administration products (except food)
- Patient care plastic products
- Non-prescription personal care products
- Consumables and non-electronic accessories to electronic devices (ex. Blood pressure cuff, compression sleeve)
- Administration drainage sets, containers and bags

#### **Examples of products excluded:**

- Electronic equipment (that plugs in or has battery)
- Drugs, pharmaceuticals, skin care medicines, skin prep solutions
- Commercial office furniture
- Appliances such as refrigerators
- Cleaning products, disinfectants, sanitizers, detergents, deodorizers
- Personal care products that require physician authorization
- Building materials or plant engineering products (HVAC, modular buildings, storage units, elevators, signs)
- Flooring, paints
- Food and food service ware
- Service contracts, unless for procurement of medical products
- Office supplies, office equipment
- Waste cans, liners

# Standardized Environmental Questions for Medical Products, Version 1.0:

October, 2011

#	Question	Preferred Response	Definition	Rationale
Natural Resources	1. Does this product contain postconsumer recycled content (excluding steel)? (Yes/No) If yes, what percentage by weight?	Yes, highest %	<a href="#">Postconsumer recycled content material</a> is a material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item. <sup>i</sup> Basically, it is the material collected from recycling programs. It is calculated as a percentage of total weight of the product. Steel is excluded from consideration as it commonly contains recycled content. This does not include preconsumer (sometimes referred to as postindustrial) recycled content which are recovered materials obtained from manufacturers. <sup>ii</sup>	Buying recycled-content products ensures that the materials collected in recycling programs will be used again in the manufacture of new products. According to EPA, recommending postconsumer recycled content levels for items will have the most positive impact on reducing the amount of solid waste requiring disposal. <sup>iii</sup> Purchasers should prefer products with the highest postconsumer recycled content that also meet other considerations. Use of postconsumer recycled content supports closing the loop in the recycling process, and, based on <a href="#">EPA's ReCon Tool</a> , helps avoid generating greenhouse gas emissions.
	2. Is this product recyclable? (Yes/No)	Yes	Recyclable, according to the <a href="#">FTC Green Guides</a> , means the product can be collected, separated, or otherwise recovered from the solid waste stream for reuse, or in the manufacture or assembly of another package or product, through an established recycling program. Any claims of recyclability indicates the supplier can demonstrate that at least 60% of the hospitals in the U.S., or in the product distribution area, have access to an established recycling program for this item, or there is an existing take-back program by the vendor of the manufacturer that has been in operation at least one year and covers the indicated percentage of hospitals and will recycle the product.	Recyclable products, those that are recyclable in communities in the U.S., reduce materials going to the waste stream and their associated costs. Although FTC has not finalized definitions to prove this claim, we are utilizing the FTC draft definition for 'substantial majority' to mean at least 60% and adding what it means to the health care community to ensure the needs of facilities who strive to divert materials from their waste stream.

	3.	Does the product's primary packaging contain postconsumer recycled content? (Yes/No) If yes, what percentage?	Yes, highest %	<p>The primary packaging surrounds the product. For example the paper wrap surrounding a roll of toilet paper is primary packaging. (Secondary packaging surrounds a group of products, such as the box containing rolls of toilet paper.)</p> <p><a href="#">Postconsumer recycled content material</a> is a material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item.<sup>iv</sup> Basically, it is the material collected from recycling programs. It is calculated as a percentage of the total weight of the product.</p>	<p>Buying recycled-content products ensures that the materials collected in recycling programs will be used again in the manufacture of new products. According to EPA, recommending postconsumer recycled content levels for items will have the most positive impact on reducing the amount of solid waste requiring disposal.<sup>v</sup> Purchasers should prefer products with the highest postconsumer recycled content that also meet other considerations. Use of postconsumer recycled content is fundamental to closing the loop in the recycling process, using fewer natural resources, and based on <a href="#">EPA's ReCon Tool</a>, can reduce greenhouse gas emissions. There are exceptions to the use of postconsumer recycled content in sterile barrier packaging (ISO 11607-1).</p>
	4.	Is this product packaged without polystyrene? (Yes/No)	Yes	<p>Polystyrene (CAS 9003-53-6) is a plastic polymer from the monomer styrene. It comes in many forms: sheet, expanded or extruded foam, or as oriented polystyrene. What is commonly known as Styrofoam™ refers only to the extruded form of polystyrene. Packaging refers to all materials (primary, secondary, etc) used to transport and protect a product from damage. <a href="#">Alternatives</a> to polystyrene packaging are available.</p>	<p>Also referred to as 'PS' with the SPI (Society of the Plastics Industry) resin code 6, polystyrene is difficult for hospitals to recycle and there are alternatives. Polystyrene is made with styrene.<sup>vi</sup> The International Agency for Research on Cancer (IARC) classifies styrene as a possible carcinogen.<sup>vii</sup> Foam blowing agents (called hydrochlorofluorocarbons, HCFCs) used to make polystyrene foam are compounds that have an ozone depletion potential<sup>viii</sup>.</p>
	5.	Is this product sold as a multi-use product or device (not single patient use)? (Yes/No)	Yes, with exceptions	<p>A multi-use product or device is sold as a product that can be used on more than one patient. In <a href="#">Sec 201 [21 U.S.C. 321]</a>, the FDA defines the term "single-use device" to mean a device that is intended for one use, or on a single patient during a single procedure. This question does <u>not</u> include products that can be reprocessed.</p>	<p>Products that can be used more than once reduce waste (and associated costs) and conserve natural resources. There are <a href="#">case studies</a> that demonstrate the cost and environmental benefits of multi-use devices. There are exceptions; not all medical products should be multi-use.</p>

Chemicals

6.	Is this product free of intentionally added polyvinyl chloride (PVC)? (Yes/No)	Yes	Polyvinyl chloride (PVC) shall be defined as a plastic polymer used in a wide array of products. It is the <a href="#">third</a> most widely produced plastic. Intentionally added means a substance is deliberately added in the production of the product.	Production and incineration of PVC releases dioxins and other harmful chemicals. Dioxins are widely distributed throughout the environment in low concentrations and are persistent, bioaccumulative and toxic (PBT). Dioxins are potent toxicants with many health impacts even at low exposure levels.
7.	Is this product free of intentionally added phthalates: DEHP, BBP, DnHP, DIDP, and DBP? (Yes/No) If no, please specify the phthalate(s)	Yes	Phthalates are esters of phthalic acid mainly used as plasticizers (substances added to plastics to increase their flexibility, transparency, durability, and longevity). They are used primarily to soften polyvinyl chloride (PVC). Di-2-ethyl hexyl phthalate (DEHP) CAS 117-81-7, Benzylbutylphthalate (BBP) CAS 85-68-7, Di-n-hexyl phthalate (DnHP) CAS 84-75-3, Di-isodecyl phthalate (DIDP) CAS 68515-49-1 or 26761-40-0, Dibutyl phthalate (DBP) CAS 84-74-2	People can be exposed through the use of products containing these chemicals. In 2002, the FDA issued <a href="#">a Public Health Notification</a> for PVC devices containing DEHP. DEHP is also listed as a carcinogen on the Prop 65 list. The <a href="#">National Research Council</a> has also noted the importance of looking at cumulative exposure from multiple phthalates. These five phthalates are listed as reproductive toxicants by Prop 65.
8.	Is this product free of intentionally added Bisphenol A (BPA) or BPA derived plastics (such as polycarbonate plastic and resins)? (Yes/No)	Yes	Bis(4-hydroxyphenyl)propane, or Bisphenol A (BPA), is an organic compound used to make polycarbonate plastic, epoxy resins and for other applications. Polycarbonate plastic is derived from BPA. Resin derived from BPA is used to line metal food containers and in thermal paper for impact printing purposes. Intentionally added means a substance is deliberately added in the production of the product.	People can be exposed through the use of products containing these chemicals. BPA is one of the highest volume chemicals produced worldwide. Laboratory studies have shown widespread health effects, at least in part through endocrine disruption mechanisms. The <a href="#">National Toxicology Program</a> has some concern for the effects on the brain, behavior, and prostate gland in fetuses, infants, and children at current human exposures to Bisphenol A.
9.	Does this product contain less than 1000 ppm halogenated organic flame retardants by weight of homogenous material? (Yes/No)	Yes	Halogenated organic flame retardants are intended to inhibit ignition and the spread of flames. Halogenated chemicals are chemicals that contain bromine, chlorine, fluorine or iodine bonded to a carbon atom. Homogeneous means uniform composition throughout, such as individual types of plastics or paper. Homogenous material, as defined by RoHS, is a unit that cannot be mechanically disjointed into single materials, or any material that is not mechanically divisible (disassembled, cut or ground) into separate material constituents. Mechanically disjointed means the materials can be, in principle, separated by mechanical actions such as unscrewing, cutting, crushing, grinding and abrasive processes. <sup>ix</sup> <a href="#">Guidance for suppliers</a> on testing is available.	Halogenated organic flame retardants and/or their breakdown products tend to be persistent bioaccumulative and toxic (PBT) in the environment. They are widely found in the environment and in humans with Americans having some of the highest levels of them in their bodies. Some halogenated organic flame retardants are carcinogenic. These compounds are used in foams (for furniture and mattresses), textiles, paints and coatings, electronics, and plastics in health care. Alternatives exist that reduce the concern for environmental and human health effects. The European Union has a ban on some brominated flame retardants. In Europe, the Restriction of Hazardous Substances Directive ( <a href="#">RoHS</a> ) restricts the use of PBDE's and PBB's in electronic equipment.

	10.	Is this product free of intentionally added mercury? (Yes/No)	Yes	Mercury is a naturally occurring element that is found in air, water and soil. It exists in several forms: elemental or metallic mercury, inorganic mercury compounds, and organic mercury compounds. Intentionally added means a substance is deliberately added in the production of the product.	Medical facilities use a large variety of mercury-containing equipment and products. <sup>x</sup> Mercury is persistent bioaccumulative and toxic (PBT) and is found in thermometers, sphygmomanometers, dental amalgam, lab reagents, cleaners, electrical switches, and other scientific apparatus. Mercury is a potent neurotoxicant that can affect the brain, spinal cord, and peripheral nerves. It is also toxic to the kidneys. Efforts in health care are intended to reduce exposure to patients and staff, address workplace safety, and safely handle products at the end of life.
	11.	Is this product free of intentionally added latex? (Yes/No)	Yes	Latex is natural rubber latex that comes from a liquid found in tropical rubber trees. Intentionally added means a substance is deliberately added in the production of the product.	Liquid latex is processed to make many medical and dental supplies, including gloves, blood pressure cuffs, urinary catheters, dental dams and material used to fill root canals, as well as tourniquets and equipment for resuscitation. Non-latex substitutes (synthetic latex) can be found for all of these latex-containing items. The protein in rubber can cause an allergic reaction in some people. This <a href="#">reaction</a> can range from sneezing to anaphylactic shock, which is a serious condition that requires immediate medical attention.
	12.	Will this product be classified (on its own or when aggregated) as non-hazardous waste according to <a href="#">EPA's RCRA</a> when disposed? (under 40 CFR 261.31-33)? (Yes/No)	Yes	<a href="#">Hazardous wastes</a> are those determined by EPA to be hazardous including those classified as hazardous and if products exhibit one of the four characteristics (defined in 40 CFR Part 261.21-24). Hazardous wastes are divided into <a href="#">listed</a> wastes, <a href="#">characteristic</a> wastes, <a href="#">universal wastes</a> , and mixed wastes. Specific procedures determine how <a href="#">waste is identified</a> , classified, listed, and delisted. The Resource Conservation and Control Act (RCRA) mandates strict controls over disposal of hazardous waste. These listed wastes are divided into three categories: K-list, F-list, and the P and U-Lists. Characteristic wastes include wastes that exhibit ignitability, corrosivity, reactivity or toxicity. Universal wastes include batteries, pesticides, mercury-containing products and lamps. Examples include computer equipment, lead-containing products, and applicable cleaning chemicals.	Purchasers should know when products may become hazardous waste at the end of product use so that facilities can comply with EPA and RCRA regulations regarding the handling of hazardous waste or to seek alternatives during the procurement process. Reducing hazardous waste generation lessens the environmental impact and the expenses associated with disposal. Suppliers should seek alternative technologies to the greatest extent possible. Many state regulations may be more stringent than federal requirements. Consult the <a href="#">HERC State Hazardous Waste Locator</a> to find more information on an individual state's hazardous waste regulations. For more information on EPA listed wastes: <a href="http://www.epa.gov/osw/hazard/wastetypes/index.htm">http://www.epa.gov/osw/hazard/wastetypes/index.htm</a> .

	13.	Does this product contain carcinogens or reproductive toxicants, as listed under the California Safe Drinking Water and Toxic Enforcement Act of 1986, Proposition 65, below Prop 65 <a href="#">Safe harbor levels?</a> (Yes/No)	Yes	California's Prop 65, The <a href="#">Safe Drinking Water and Toxic Enforcement Act</a> , enacted in 1986, requires the state to publish a <a href="#">list of chemicals</a> known to cause cancer or reproductive harm. Prop 65 applies to suppliers who sell products in the state if their products exceed safe harbor levels established in Prop 65. Safe harbor levels establish thresholds for no significant risk levels (NSRLs) for carcinogens and maximum allowable dose levels (MADLs) for chemicals that cause reproductive toxicity.	The California Proposition 65 list is an authoritative government list of carcinogens <i>and</i> reproductive toxicants that health care facilities may wish to avoid. All suppliers who do business in California must comply with this law. As such, this <a href="#">law</a> already applies to many suppliers in the health care sector. Since this list is updated at least once a year, suppliers must provide up-to-date information for procurement contracts.
--	-----	---	-----	---	--

## Environmental Attributes for Future Consideration

As part of the process of developing environmental questions and medical product attributes, we considered attributes that have long-standing recognition as attributes of concern, ( e.g., mercury) as well as those more recently recognized as attributes of concern, such as (e.g., Bisphenol A). A number of other medical product attributes of potential concern were reviewed but not included in the Standardized Environmental Questions for Medical Products, Version 1. We are including below the information on these other attributes that will be considered in future versions of this document. We welcome feedback on these attributes. Send your comments and suggestions to: [GSC@practicegreenhealth.org](mailto:GSC@practicegreenhealth.org)

<p><b>All Ingredients Known</b></p>	<p>Your company knows all the intentionally added chemicals and materials in this product.</p>	<p>Leading companies are identifying all intentionally added ingredients in their products, and byproducts of concern. Many companies are also sharing this data through the supply chain. Knowing information on material ingredients will allow immediate action on any newly identified toxic or environmentally problematic material.</p>	<p>Patients and staff can be intentionally or unintentionally exposed to chemicals and materials in products. Preference may be given for companies who are taking steps to know the full ingredients in the products they sell to health care. Many leading companies are seeking and providing chemical ingredient information throughout the supply chain.</p>
<p><b>All Ingredients Tested</b></p>	<p>Each chemical or material ingredient in this product has had basic toxicity screening (based on a screening regime like SIDS or equivalent).</p>	<p>Many industrial chemicals are not fully tested for their effects on health and the environment. There are data gaps in the information. This means that health care systems may use chemicals that have not been fully evaluated for their health and environmental impacts. SIDS (the screening information data set) is an internationally recognized set of toxicity screening tests to help determine the toxicity of high production volume chemicals. The US EPA's High Production Volume Chemicals Program uses the SIDS set of tests to provide screening level information for HPV chemicals. For the SIDS manual, see <a href="http://www.oecd.org/dataoecd/13/18/36045056.pdf">http://www.oecd.org/dataoecd/13/18/36045056.pdf</a></p>	<p>Many chemicals in commerce have inadequate toxicity testing. Purchasers are seeking products that contain only chemicals tested for environmental and human health concerns. EPA considers the OECD/SIDS testing program to be <a href="#">an integral part</a> of the U.S. domestic chemical testing program. EPA continues to strongly encourage members of the U.S. chemical industry to continue its testing and data sharing efforts under this international collaborative program.</p>



<p><b>Biobased Content</b></p>	<p>This product contains biobased content (based on ASTM Standard D6866). Please indicate the percentage.</p>	<p>Biobased content is determined based on the amount of biobased carbon in the material or product as a percent of weight (mass) of the total organic carbon in the material.<sup>xi</sup> <a href="#">ASTM Standard D6866, Standard Test Methods for Determining the Biobased Content of Solid Liquid and Gaseous Samples Using Radiocarbon Analysis</a>, is a standard test method for determining the percentage of biobased content of solid, liquid, and gaseous samples that came from renewable materials by measuring the amount of carbon-14. <a href="#">Biobased products</a> are defined as commercial or industrial products (other than food or feed) that are composed in whole, or in significant part, of biological products, renewable agricultural materials (including plant, animal, and marine materials), or forestry materials.</p>	<p>Biobased materials help to reduce the use of petroleum based materials. Executive Order 13101 and the Farm Security and Rural Investment Act of 2002 mandate that the federal government give preference to biobased products in their procurement efforts. The USDA is in charge of the oversight and implementation of this program.</p> <p>Biobased content may only be a percentage of the product; therefore, it is important to know all ingredients and associated environmental attributes.</p>
--------------------------------	---	---	--

This document can be found at: [www.practicegreenhealth.org/gsc](http://www.practicegreenhealth.org/gsc)

We, the undersigned organizations, recognize and are committed to help positively change the health care industry’s environmental footprint. We invite all health care purchasing decision-makers, purchasers, providers, suppliers and manufacturers to invest in the research, design, production, purchase and use of environmentally safer products, to challenge our business strategies, and to adopt sustainable initiatives that will significantly contribute to the health of patients, health care workers, communities and the environment. We ask for support from hospitals, health care systems, and other stakeholders to commit to using these questions as part of greening the supply chain.



**Comments and Suggestions**

Practice Greenhealth welcomes comments on this document as well as suggestions for future versions.

Send your comments and suggestions to: [GSC@practicegreenhealth.org](mailto:GSC@practicegreenhealth.org).

---

<sup>i</sup> Glossary, Comprehensive Procurement Guidelines, U.S. Environmental Protection Agency, <http://www.epa.gov/epawaste/conserve/tools/cpg/glossary.htm> viewed September 2011

<sup>ii</sup> Reusable Vocabulary, U.S. EPA, <http://www.epa.gov/osw/wycd/catbook/you.htm> viewed September, 2011

<sup>iii</sup> Background Document for the Final Comprehensive Procurement Guideline (CPG) III and Final Recovered Materials Advisory Notice (RMAN) III, U.S. EPA, September 1999, EPA530-R-00-002

<sup>iv</sup> Glossary, Comprehensive Procurement Guidelines, U.S. Environmental Protection Agency, <http://www.epa.gov/epawaste/conserve/tools/cpg/glossary.htm> viewed September 2011

<sup>v</sup> Background Document for the Final Comprehensive Procurement Guideline (CPG) III and Final Recovered Materials Advisory Notice (RMAN) III, U.S. EPA, September 1999, EPA530-R-00-002

<sup>vi</sup> U.S. Environmental Protection Agency, "Air Toxics- Styrene," <http://www.epa.gov/ttnatw01/hlthef/styrene.html>, website viewed June 2011

<sup>vii</sup> Ibid

<sup>viii</sup> *Phaseout of HCFCs*, Ozone Layer Depletion, U.S. EPA, <http://www.epa.gov/ozone/title6/phaseout/classtwo.html> viewed September 2011

<sup>ix</sup> RoHS Producer Support Booklet, National Measurement Office, 2010, pg 6, <http://www.bis.gov.uk/assets/bispartners/nmo/docs/rohs/support-literature/producer-support-booklet.pdf>

<sup>x</sup> EPA: Information for Health Care Providers, <http://www.epa.gov/hg/healthcare.htm#facilities>, viewed August 30, 2011

<sup>xi</sup> USDA Biobased Affirmative Procurement Program Report, U.S. Department of Agriculture, May 2008, p 7



**PRACTICE  
Greenhealth**

**12355 Sunrise Valley Drive, Suite 608**

**Reston, Virginia 20191**

**Ph: 888-688-3332**

**[www.practicegreenhealth.org](http://www.practicegreenhealth.org)**

© 2011 Practice Greenhealth