Staples’ Commitment to Make an Orderly Transition to Safer Chemicals, Materials and Products

Roger McFadden,
Vice President, Senior Scientist,
Staples, Inc.
Chemicals are a key element of materials, products and processes in our supply chains

- The introduction of new chemicals over the past few decades has provided significant value to product designers.

- New chemicals have helped improve the quality, efficiency and convenience in our workplaces, homes and communities.
BUT.... all chemicals are **not** created equal

- Different hazard traits
- Different human health & eco-toxicity endpoints
- Different exposure routes
- Different degradation & combustion by-products
- Different pollution potential
Effective “chemicals in products” policy
Helps safeguard our organization and brand

• Eliminates or reduces risk to brand.

• Creates shared value for consumer, community and company.

• Rewards suppliers for innovative solutions.

• Helps protect human health

• Helps protect natural and built environment both now and in the future.
Staples is Committed to Finding Safer Alternatives and Announces a “Race to the Top” Initiative

- **Staples** announced a new corporate strategy to drive sustainability innovation in product manufacturing, packaging and distribution by challenging its key suppliers to join it in a "Race to The Top."

- Staples calls on suppliers to compete not only in terms of product quality, cost and features, but in finding innovative solutions for product manufacturing, packaging, and distribution which reduce impacts on the planet.

- Staples is committed to collaborating with its suppliers and chemical makers to identify, specify, use and offer safer alternatives.
Staples Chemical Policy
Primary Objective

Staples seeks to offer customers and organizations of all sizes products that are inherently safer for human and environmental health and that address environmental impacts throughout their lifecycle.
Overarching Goals of Staples Chemicals Policy

- Respond to customer and consumer demand for safer chemicals, materials and products.
- Be proactive and ask suppliers to be more transparent about chemicals in products.
- Avoid product based pollution.
- Avoid hazard at product design stage.
- Promote products that are made using green chemistry principles.
- Make an orderly transition to safer materials.
Staples’ Strategy and Policy for Transitioning to Safer Chemicals

• Endorsed the BizNGO Principles for Safer Chemicals.

• Announced Staples “Race to the Top” Chemicals Management Strategy

• Developed and published a Staples “Bad Actors” RSL.

• Prepared a Staples “Chemicals in Products” Policy currently being implemented
Staples Chemicals Policy

Key Elements

• Requests product chemistry and hazard endpoint data from suppliers;

• Prioritizes chemicals of high concern for elimination;

• Creates collaboration with suppliers to:
  • Avoid chemicals of concern
  • Substitute safer alternatives

• Develops a scorecard with suppliers to measure progress and evaluate results.
We challenge our suppliers to take a precautionary approach and be guided by the following principle:

When there is credible evidence that a chemical in a product may result in harm to human and/or environmental health, we should strive to eliminate the chemical and replace it with a quality, affordable, safer and more sustainable alternative.
We challenge our suppliers to consider *chemicals of high concern* in products to be:

- Pollutants
- Contaminants
- Defects
We challenge our suppliers to consider direct and indirect chemical exposure to vulnerable sub-populations including:

- Children
- Women of Child-Bearing Age
- Workers
We challenge our suppliers to consider life cycle impacts of chemicals including harmful by-products of:

Degradation

and

Combustion
We challenge our suppliers to consider life-cycle cost of a product containing chemicals of concern including:

- Initial cost of the product
- Cost of handling and use
- Cost of recycling or disposal
BizNGO Principles for Safer Chemicals

Endorse and Implement

Principles for Safer Chemicals

Demand for products made from greener chemicals is growing rapidly. Consumers, investors and governments want chemicals that have low to no toxicity and degrade into innocuous substances in the environment. Leading businesses are seeking to capture those emerging market opportunities by redesigning their products and catalyzing change in their supply chains.

To advance an economy where the production and use of chemicals are healthy for humans, as well as for our global environment and its non-human inhabitants, responsible companies and their supply chains should adopt and implement the following four principles for safer chemicals:

1. **Know and disclose product chemistry.** Manufacturers will identify the substances associated with and used in a product across its lifecycle and will increase access to the transparency of the chemical constituents in their products, including the public disclosure of chemicals of high concern. Buyers will request product chemistry data from their suppliers.

2. **Assess and avoid hazards.** Manufacturers will determine the hazard characteristics of chemical constituents and formulations in their products, use chemicals with inherently low hazard potential, prioritize chemicals of high concern for elimination, minimize exposure when hazards cannot be prevented, and redesign products and processes to avoid the use and/or generation of hazardous chemicals. Buyers will work with their suppliers to achieve this principle.

3. **Commit to continuous improvement.** Establish corporate governance structures, policies and practices that create a framework for the regular review of product and process chemistry, and that promote the use of chemicals, processes, and products with inherently lower hazard potential.

4. **Support public policies and industry standards that advance the implementation of the above three principles, ensure that comprehensive hazard data are available for chemicals on the market, take action to eliminate or reduce known hazards, and promote a greener economy, including support for green chemistry research and education.**

These principles are key features of an effective strategy for promoting, developing and using chemicals that are environmentally preferable across their entire lifecycle.

1. There are seven of the 12 Principles of Green Chemistry defined by Paul Anastas and John Warner in Green Chemistry: Theory and Practice. 12 Principles of Green Chemistry: Theory and Practice. 1. Diverse and Inclusive. 2. Use the Least Hazardous Substances and/or Processes. 3. Prevent Waste from Occurring. 4. Use Green Solvents and Auxiliary Agents. 5. Design for Energy Efficiency. 6. Use Renewable Energy Resources. 7. Design with a Sense of Place. 8. Enhance Safety. 9. Prevent Pollution. 10. Reduce Human Exposure. 11. Use Manufacturing Processes that Enhance Safety. 12. Design for Disassembly. 2. "Chemicals of high concern" include substances listed in the following categories: 1. nanomaterials, 2. endocrine disruptors, and 3. PBTs (环境中常见的), which are persistent, bioaccumulative and toxic. PBT is a general term used in many jurisdictions such as the United States, the European Union, and Japan, but is not a single legal term. An example of a PBT substance is perchloroethylene, an intermediate used in dry cleaning processes. 3. "Reducing chemical toxicity and exposure."
Green Screen for Safer Chemicals: Comparative Hazard Assessment Tool

A Decision Making Tool to Help Companies Identify Safer Chemical
# Health Product Declaration

Better way to communicate chemical information

<table>
<thead>
<tr>
<th>1) Product Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name &amp; IDs</td>
</tr>
<tr>
<td>Manufacturer</td>
</tr>
<tr>
<td>Description</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2) Product Contents Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure level</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS RN</th>
<th>%</th>
<th>Health Hazard Warnings</th>
<th>RC</th>
<th>Nano</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Phenyl Glycidyl Ether</td>
<td>122-60-1</td>
<td>55%</td>
<td>Cancer and Male reproductive toxicity (CA Prop 65) R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic environment (EC Risk)</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>3. Bis(2-(dimethyl(amino)ethyl) ether</td>
<td>3033-82-3</td>
<td>8%</td>
<td>No warnings found</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>4. Polyethylene</td>
<td>9002-88-4</td>
<td>7%</td>
<td>No warnings found</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>5. Trade secret</td>
<td>Not disclosed</td>
<td>3%</td>
<td>Category 1 Evidence of endocrine disruption activity (EC Endocrine) Very toxic to aquatic organisms and possible risk of impaired fertility (EC Risk)</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>6. Acme Zap-It Antimicrobial</td>
<td>Content not disclosed</td>
<td>3%</td>
<td>Not available</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>7. Silver</td>
<td>7440-22-4</td>
<td>2%</td>
<td>No warnings found</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>8. Distillate Fuel Oils, Light</td>
<td>13463-41-7</td>
<td>1%</td>
<td>No warnings found</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

All known residuals disclosed to: Lowest requirements (ideal), X 100 ppm, 1000 ppm As required on MSDS Not disclosed

| 9. Formaldehyde | 50-00-0 | <1000 ppm | Group 1: Agent is carcinogenic to humans (IARC) and other cancer warnings (see notes) Generally accepted estrogen (AOEC) R23: Toxic by inhalation and R24: Toxic in contact with skin and R25: Toxic if swallowed and R34: Causes burns and R43: May cause sensitization by skin contact (EC Risk) | N | N |

The manufacturer affirms that all known material contents were screened for chemicals of concern and health warning listings using: Pharos Chemical and Material Library from the Healthy Building Network Screen tiring date: June 6, 2011

Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/prioritylists

RC = Recycled Content, PC = Post Consumer, PI = Post industrial, Nano = comprised of nanoscale particles or nanotechnology

Total Volatile Organic Compound Content (TVOC) Material VOC Regulatory VOC Total VOC incl. EPA exempt compounds

50 g/l 30 g/l 60 g/l
Managing Chemical Risk
Lessons Learned

• Knowing is better than not knowing.

• Action is better than inaction.

• Eliminating chemical hazard is better than managing exposure.

• Transparency/disclosure is better than vagueness or obscurity.

• Orderly proactive transition is better than abrupt reaction.
Thank You!

Roger McFadden,
Vice President, Senior Scientist,
Staples, Inc.

roger.mcfadden@staples.com