



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

THE UNDER SECRETARY OF DEFENSE  
3010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3010

DEC - 3 2008

MEMORANDUM FOR SECRETARY OF THE ARMY  
SECRETARY OF THE NAVY  
SECRETARY OF THE AIR FORCE  
UNDER SECRETARY OF DEFENSE (COMPTROLLER)  
DEPUTY UNDER SECRETARY OF DEFENSE  
FOR ACQUISITION AND TECHNOLOGY  
DEPUTY UNDER SECRETARY OF DEFENSE  
FOR LOGISTICS AND MATERIAL READINESS  
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING  
ASSISTANT SECRETARY OF DEFENSE (NETWORKS  
AND INFORMATION INTEGRATION)  
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE  
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Reducing Toxic and Hazardous Chemicals under Executive Order (EO)  
13423, *Strengthening Federal Environmental, Energy and Transportation  
Management*

The Department of Defense (DoD) has implemented policies and programs to manage and reduce its toxic and hazardous chemicals use over the last decade. In accordance with the *DoD Agency-Level Toxic and Hazardous Chemicals Reduction Plan* (the Plan) submitted to the Office of the Federal Environmental Executive (OFEE), DoD conducted an analysis that revealed further opportunities for improving DoD chemical management and lifecycle costs. The plan must be implemented by January 9, 2009. To comply, each Service will:

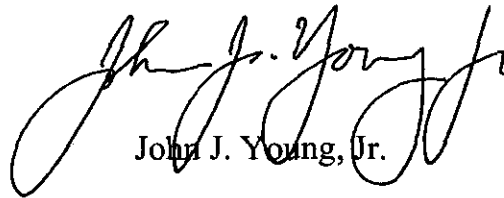
- Identify a minimum of three toxic/hazardous chemicals for reduction, potential elimination, or replacement by less toxic/hazardous chemicals, using the EO 13423 Implementing Instructions' criteria of March 29, 2007, in Attachment A.
- Establish current-usage "baselines" for the identified chemicals from best-available information sources, in order to develop future-usage benchmarks, in keeping with the intent of the Plan.
- Report to the DoD Environmental, Energy and Transportation Executive Committee the planned reductions of current usages and estimated required resources. Additional guidance is provided in Attachment B.



As DoD's supply chain integrator and manager of many of the Services' hazardous materials, the Defense Logistics Agency will assist the Services in their efforts to comply with the Plan. Areas of opportunities exist in product specification review/revision, product substitution possibilities, and introduction of green products.

The purchase of Electronic Product Environmental Assessment Tool registered products is required by EO 13423 and the DoD Electronic Stewardship Plan. Draft OFEE guidance of July 1, 2008, is included as a reduction strategy in Attachment C.

The above measures will be adopted in appropriate DoD policy. My point of contact is Dr. Carole LeBlanc at 703-604-1934.



John J. Young, Jr.

Attachments:  
As stated

**Attachment A.**

**EO 13423 Implementing Instructions Criteria  
for the Selection of Toxic and Hazardous Chemicals  
to Reduce or Eliminate**

1. Quantity of the chemical or material in use by the agency
2. Human and/or environmental toxicity of the chemical
3. Potential for human and/or environmental exposure to the chemical or material
4. Potential harm to the environment associated with the use or release of the chemical or material, including impacts to air quality, surface water, groundwater, soils/land, and climate systems
5. Persistence of the chemical in the environment
6. Availability of controls to manage identifiable risks
7. Impacts on mission capability and business costs
8. Existing environmental hazard lists such as priority chemicals identified by EPA's Resource Conservation Challenge, and any agency-specific toxic or hazardous chemicals lists, [www.epa.gov/epaoswer/osw/conserve/priorities/chemical.htm](http://www.epa.gov/epaoswer/osw/conserve/priorities/chemical.htm)
9. The available substitutes for ODSs identified by EPA's Significant New Alternatives Policy Program, [www.epa.gov/ozone/snap/index.html](http://www.epa.gov/ozone/snap/index.html)
10. Contaminants identified by the U.S. Geological Survey as part of its National Reconnaissance of Emerging Contaminants, <http://toxics.usgs.gov/regional/contaminants.html>
11. Where appropriate, regional- and watershed-based environmental improvement efforts such as the Chesapeake Bay Prioritized Chemicals of Concern Program, the Great Lakes Bi-national Strategy or local watershed efforts.

**Attachment B.**

**Green Procurement Programs (GPPs) and Alternative Chemicals**

Joint Strike Fighter (JSF) Hazardous Material Screening Tool:	Contact David.Asiello@osd.mil or (703) 571-9068
OSD Comparative Report on Services' Chemical Ranking Systems:	Contact Carole.LeBlanc@osd.mil or (703) 604-1934
DoD GPP <a href="http://www.acq.osd.mil/dpap/Docs/policy/greenprocurement/GPP%20Strategy%2009082004.doc">www.acq.osd.mil/dpap/Docs/policy/greenprocurement/GPP Strategy 09082004.doc</a> Defense Technical Information Center (DTIC), Service GPPs searchable <a href="http://www.dtic.mil">www.dtic.mil</a> Defense Logistics Agency (DLA) Green Procurement Report (GPR) <a href="http://www.dlis.dla.mil/erlsgpr">www.dlis.dla.mil/erlsgpr</a> Federal Acquisition Regulation (FAR) – Affirmative Procurement Programs: Contracting for Environmentally Preferable Products and Processes <a href="http://acquisition.gov/far/current/html/Subpart%2023_7.html">http://acquisition.gov/far/current/html/Subpart%2023_7.html</a> Office of the Federal Environmental Executive (OFEE) Green Purchasing <a href="http://www.ofee.gov/gp/gp.asp">www.ofee.gov/gp/gp.asp</a> General Services Administration (GSA) Environmental Initiatives <a href="http://www.gsa.gov/Portal/gsa/ep/home.do?tabId=10">www.gsa.gov/Portal/gsa/ep/home.do?tabId=10</a> Joint Service Solvent Substitution (JS3) Database <a href="https://js3.ctc.com">https://js3.ctc.com</a> Joint Group on Pollution Prevention (JG-PP) Projects <a href="http://www.jgpp.com/projects/projects_index.html">www.jgpp.com/projects/projects_index.html</a>	Strategic Environmental Research & Development Program <a href="http://www.serdp.org">www.serdp.org</a> Environmental Security Technology Certification Program <a href="http://www.estcp.org">www.estcp.org</a> Advanced Surface Engineering Technologies for a Sustainable Defense, ASETSD Defense formerly the Hard Chrome Alternatives Team (HCAT) runs a public website at <a href="http://www.hazmat-alternatives.com">www.hazmat-alternatives.com</a> and a pass-worded site at <a href="http://www.materialoptions.com">www.materialoptions.com</a> EPA Environmentally Preferable Purchasing (EPP) <a href="http://www.epa.gov/epp/pubs/products/index.htm">www.epa.gov/epp/pubs/products/index.htm</a> EPA Design for the Environment (DfE) <a href="http://www.epa.gov/dfe">www.epa.gov/dfe</a> USDA Biobased Products <a href="http://www.biobased.oce.usda.gov">www.biobased.oce.usda.gov</a> Green Seal (U.S. non-profit organization) <a href="http://www.greenseal.org">www.greenseal.org</a>

**Worksheet for Implementing EO 13423 Chemical Reductions\***

The Services are to inform the DoD Environmental, Energy and Transportation Executive Committee whether a planned reduction is expected to be within budgeted resources, or requires reprogramming.

SERVICE:						
Identification of Chemicals Due to OSD by January 9, 2009 (minimum of three)	Chemical Name and CAS Number, if applicable	Family (F) or Type (T) or Not applicable (N/A)	Baseline/year (approx. pounds, gallons, etc. used) <sup>1</sup>	As of (approx. dates)	Based on Est. Total Usage OR Est. <sup>2</sup> Intensity-specific Usage (please describe)	<sup>3</sup> Reduction Goals
Toxic/Hazardous Chemical 1						
Reasons for Selection:						
Toxic/Hazardous Chemical 2						
Reasons for Selection:						
Toxic/Hazardous Chemical 3						
Reasons for Selection:						
<sup>1</sup> May require the monitoring of credit card/local purchases for accurate record keeping.						
<sup>2</sup> Could reflect the substantial use of a chemical in a particular application, for which better data are available.						
<sup>3</sup> Realistic But Meaningful Reduction Goals Due to OSD by January 9, 2009 (may be reported as percentages).						

- \*Toxic/hazardous chemicals can be identified for reduction by, for example,
- (1) Specific chemical name and CAS (Chemical Abstract Service) Number
  - (2) Chemical family (for instance, those products containing hexavalent chromium) or
  - (3) Chemical type (i.e., those products with significant global warming potentials, but may not otherwise be related).

**IMPORTANT**

Hazardous Materials (HAZMAT) Pharmacies and improved ERP (Enterprise Resource Planning) systems may be critical in establishing current baselines and future benchmarks affordably and accurately. In particular, standardized Product Hazard Data (PHD) and Hazardous Process Authorizations (HPA) are key enablers of hazardous materials tracking and control. Otherwise, it may be too resource-intensive to maintain 24/7 awareness of HAZMAT usage.

## Guidance For Federal Agencies: How to Use EPEAT to Meet Your E.O. 13423 Toxic and Hazardous Chemicals and Materials Reduction Goals

### Purpose

This document provides guidance for federal agencies that choose to include the purchase of Electronic Product Environmental Assessment Tool (EPEAT) registered products as a strategy for achieving the toxic and hazardous chemicals and materials reduction goals of Executive Order (E.O.) 13423, "Strengthening Federal Environmental, Energy, and Transportation Management." Use of this guidance is **not required** for any federal agency or facility.

### Background Information

E.O. 13423 and the March 2007 E.O. Implementing Instructions established the following goals and requirements for electronic stewardship and toxic and hazardous chemicals and materials reduction:

- Section 2(e) of E.O. 13423 requires Federal agencies to "ensure that the agency (i) reduces the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of by the agency..." Section 3(a) of the E.O. requires Federal agencies to "implement within the agency sustainable practices for... (vi) reduction or elimination of acquisition and use of toxic or hazardous chemicals...."
- Section 2(h) of E.O. 13423 requires that "In implementing the policy set forth in section 1 of this order, the head of each agency shall (h) ensure that the agency (i) when acquiring an electronic product to meet its requirements, meets at least 95 percent of those requirements with an Electronic Product Environmental Assessment Tool (EPEAT)-registered electronic product, unless there is no EPEAT standard for such product."
- Section VIII.A of the E.O. Implementing Instructions specify that "No later than January 24, 2008, each agency, at all appropriate organizational levels including appropriate facilities, organizations, and acquisition activities, shall develop *written goals* and *support actions* to identify and reduce the release and use of toxic and hazardous chemicals and materials, including toxic chemicals, hazardous substances, ozone-depleting substances (ODSs), and other pollutants that may result in significant harm to human health or the environment."
- Section XII of the E.O. Implementing Instructions specify that "by May 1, 2007, each agency shall develop and submit to OFEE a plan to implement electronics stewardship practices for all eligible owned or leased electronic equipment in support of the goals in section 2(h) of the E.O. The plan shall: (1) Address the three life-cycle phases for electronics assets: acquisition, operations and maintenance, and end-of life. (2) Be developed and implemented in coordination with the energy, environmental, information technology, acquisition, financial and property officers, and facility managers and maintenance personnel, within each agency. (3) Address how the agency will: (i) Acquire 95 percent of its electronic products as Electronic Product Environmental Assessment

## Guidance For Federal Agencies: How to Use EPEAT to Meet Your E.O. 13423 Toxic and Hazardous Chemicals and Materials Reduction Goals

Tool (EPEAT)-registered (for products for which there are EPEAT standards). a. Agencies will ensure applicable IT contracts incorporate appropriate language for the procurement of EPEAT-registered equipment, and address any future FAR clauses related to EPEAT. b. Agencies will strive to purchase to EPEAT Silver rated electronic products or higher if available.”

Federal agencies may address these sections of the E.O. and Implementing Instructions by 1) purchasing EPEAT-registered electronic equipment; and 2) including the purchase of EPEAT-registered equipment as a strategy for reducing their acquisition, use, and disposal of toxic and hazardous chemicals and materials, in their chemical management plan.

### **How to Calculate Amount of Reduced Toxic and Hazardous Chemicals and Materials in EPEAT-Registered Products**

All EPEAT-registered products must meet the European Restrictions on Hazardous Substances (RoHS) Directive, which provides specific threshold amounts of certain hazardous substances in electronic products. The Directive addresses cadmium, mercury, lead, hexavalent chromium, and certain brominated flame retardants.

EPEAT also has other required and optional criteria related to environmentally sensitive materials (see table below). “R” indicates which criteria are required, and “O” is next to optional criteria which an EPEAT Silver or Gold registered product may meet:

#### **EPEAT – IEEE 1680 Standard – Section related to Hazardous or Toxic Substances**




##### **4.1 Reduction/elimination of environmentally sensitive materials**

- R 4.1.1.1 Compliance with provisions of European RoHS Directive upon its effective date
- O 4.1.2.1 Elimination of intentionally added cadmium
- R 4.1.3.1 Reporting on amount of mercury used in light sources (mg)
- O 4.1.3.2 Low threshold for amount of mercury used in light sources
- O 4.1.3.3 Elimination of intentionally added mercury used in light sources
- O 4.1.4.1 Elimination of intentionally added lead in certain applications
- O 4.1.5.1 Elimination of intentionally added hexavalent chromium
- R 4.1.6.1 Elimination of intentionally added SCCP flame retardants and plasticizers in certain applications
- O 4.1.6.2 Large plastic parts free of certain flame retardants classified under European Council Directive 67/548/EEC
- O 4.1.7.1 Batteries free of lead, cadmium and mercury
- O 4.1.8.1 Large plastic parts free of PVC

## Guidance For Federal Agencies: How to Use EPEAT to Meet Your E.O. 13423 Toxic and Hazardous Chemicals and Materials Reduction Goals

To determine whether or not products you purchase meet each of the optional criteria listed above, search the EPEAT Registry at <http://www.epeat.net/Search.aspx>. Enter the product information (Type, Manufacturer, Rating) and click the “Search” button. Select the correct product from the Search results, and view the Optional criteria on the Product Detail page:

### Product Detail

 [Printer-friendly](#)  
  [Export to CSV](#)  
  [Export to EXCEL](#)

#### Product Information

**Product Type:** Desktops  
**Product:** OptiPlex 745 Energy Smart MT  
**Manufacturer:** Dell, Inc.  
**URL:** [http://www.dell.com/content/products/category.aspx/optix\\_energy?c=us&l=en&s=biz](http://www.dell.com/content/products/category.aspx/optix_energy?c=us&l=en&s=biz)  
**Rating:** **EPEAT GOLD™**  
**Listing Date:** 5/1/2007  
**Monitor Type:**  
**Monitor Size:**  
**Product Status:**  Active

**Exceptions:** 1. Certain exceptional configurations may fall outside E-star 4.0 requirements. Please specify E-star 4.0 compliance when ordering.

IEEE 1680-2006 Criteria Category Summary	Optional Points
4.1 <u>Reduction/elimination of environmentally sensitive materials</u>	5/5
4.2 <u>Materials selection</u>	0/3
4.3 <u>Design for end of life</u>	5/5
4.4 <u>Product longevity/life cycle extension</u>	2/2
4.5 <u>Energy conservation</u>	1/2

EPEAT-registered products have less toxic and hazardous chemicals and materials, when compared to conventional electronic products that do not meet the RoHS directive. These reductions can be easily measured and reported.

### Calculating Reductions in Toxic and Hazardous Chemical and Materials

The Electronics Environmental Benefits Calculator (EEBC) can be used to calculate the specific toxic and hazardous chemicals and materials reductions that are the result of the acquisition of EPEAT-registered products meeting the following criteria:

- 4.1.1.1 (Required of all products)
- 4.1.3.1 (Required of all flat panel video display devices)
- 4.1.3.2 (Optional for flat panel video display devices)
- 4.1.3.3 (Optional for flat panel video display devices)

Guidance For Federal Agencies:  
How to Use EPEAT to Meet Your E.O. 13423 Toxic and  
Hazardous Chemicals and Materials Reduction Goals

Acquisition information for three different EPEAT-registered products can be entered into the EEBC on Tab 3a "User input\_Purchasing." The following data may be entered on Tab 3a:

- Product ID (optional): Enter an identifier that will be used for this product in the EEBC. If no ID is entered, the EEBC will list the product as "no user ID given."
- Product type (required): Select one product type - Computer Processing unit; Cathode ray tube monitor; Liquid crystal display; or Notebook computer.
- Number of products (optional): Enter the number of products purchased, leased or acquired under seat management. If no number is entered, a default of one is used.
- EPEAT Registered (required): Select Yes/No, whether the product is EPEAT-registered.
- EPEAT Registration tier (required): Select the EPEAT registration tier of the product (Bronze, Silver, or Gold). This entry is only available if EPEAT Registered is selected as "Yes." If "Do not know" is selected, a default of Bronze is used.

No further information is required to calculate the benefits of the purchase of EPEAT-registered products, however, more specific information about the optional criteria that each entered product meets *may* be entered into the EEBC on Tab 3c "Alt user input-Purchasing." Data entry in this Tab is not required, and if no data is entered in Tab 3c, the EEBC will use default assumptions for which optional criteria the entered product meets, based on the entered EPEAT registration tier in Tab 3a. The following data, related to hazardous substances, may be entered on Tab 3c, under "Reduced Toxicity" for each entered product (1 through 3):

- RoHS compliance: *Do NOT check Yes/No here*, the EEBC will use the data entered in Tab 3a.
- Hg declaration, enter # of lamps with Hg: Enter number of lamps, declared by the manufacturer for required criteria 4.1.3.1.
- Maximum average Hg content per lamp, in milligrams: Enter the average mercury content per lamp, declared by the manufacturer for required criteria 4.1.3.1.
- Max average of 3 mg Hg/lamp: Check the box if the manufacturer declared the product as meeting optional criteria 4.1.3.2.
- Hg-free lamps: Check the box if the manufacturer declared the product as meeting optional criteria 4.1.3.3.

After data entry is completed, the environmental benefits that are the result of the acquisition of the entered EPEAT-registered products are displayed in the EEBC on Tab 5a "RESULTS-savings." The savings specific to reduced toxic substances are listed by criteria, under "PURCHASING, Reduced Toxicity," for the total of all of the entered products, and for the breakdown for each of the entered products.

As an example, assume that a federal agency purchased the following EPEAT-registered equipment:

- 10,000 Gold-registered computer desktops
- 10,000 Gold-registered liquid crystal display (LCD) monitors



Guidance For Federal Agencies:  
How to Use EPEAT to Meet Your E.O. 13423 Toxic and  
Hazardous Chemicals and Materials Reduction Goals

This data may be entered in Tab 3a in the EEBC:

<b>PURCHASING INFORMATION:</b>	
<b>USER INPUT</b>	<b>Input data or click answer</b>
<b>Product 1</b> Enter a product ID, if desired	<b>Computers</b>
Choose one	<input checked="" type="radio"/> Computer Processing unit (CPU) <input type="radio"/> Cathode ray tube monitor (CRT) <input type="radio"/> Liquid crystal display (LCD) <input type="radio"/> Notebook computer
12 Number of products purchased	10000
14 Is the product EPEAT registered?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not applicable
15 If yes, which EPEAT registration tier?	<input type="radio"/> Bronze <input type="radio"/> Silver <input checked="" type="radio"/> Gold <input type="radio"/> Do not know
17 Initial cost per unit (US\$) (Optional)	
<b>Product 2</b> Enter a product ID, if desired	<b>Monitors</b>
Choose one	<input type="radio"/> Computer processing unit (CPU) <input type="radio"/> Cathode ray tube monitor (CRT) <input checked="" type="radio"/> Liquid crystal display (LCD) <input type="radio"/> Notebook computer
23 Number of products purchased	10000
25 Is the product EPEAT registered?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not applicable
26 If yes, which EPEAT registration tier?	<input type="radio"/> Bronze <input type="radio"/> Silver <input checked="" type="radio"/> Gold <input type="radio"/> Do not know
28 Initial cost per unit (US\$) (Optional)	
<b>Product 3</b> Enter a product ID, if desired	
	<input type="radio"/> Computer processing unit (CPU)

