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Inventory Control Pollution Prevention

What is Inventory Control?

Inventory includes raw materials, component parts, work in process, finished goods, packing and packaging materials, and general supplies. Inventory control concerns when to replenish and by how much. A good inventory control system at your business can help improve your customer service and operating efficiency, by ensuring *what* is needed *when* it is needed, without stressing operating capital.

Good inventory control measures are also important to help you reduce waste management costs. Inventory control issues facing hazardous waste generators are unused products and expired products that require disposal. Hazardous waste inspectors sometimes find half-filled containers of unused or unlabeled products at a facility. This may cause the company to spend money on analytical tests to characterize waste, disposal and if the product has leaked onto the ground, clean-up and closure.

Whether a business is small or large, your company can benefit by adopting best management practices for inven-

tory control. This fact sheet focuses on strategies that can help you reduce unnecessary waste management costs.

Inventory Control Systems

There are two types of control systems. Various combinations of these systems are used in developing inventory control procedures.

- 1) **The two-bin system** (sometimes called the min-max system) involves the use of two bins, either physically or on paper. The first bin supplies current demand and the second satisfies demand during the replenishment period.
- 2) **The reorder-cycle system**, or cyclical-review system, consists of ordering at fixed regular intervals.

Inventory Control Strategies

Inventory control strategies that businesses put in place can help prevent pollution or significantly reduce the amount of waste generated. The basics of an inventory control program include:

- tracking materials

- minimizing inventory
- maintaining storage conditions
- setting inventory limits
- reducing the number of similar products used
- substituting non-hazardous materials where possible
- contacting suppliers regarding using a product past the expiration date
- using a waste exchange to provide overstocked or unwanted materials to another organization.

Tracking Materials

Tracking materials used can reduce the amount of waste generated. Inspect deliveries and return any unacceptable materials to the supplier. Label and date new materials as they are received. Keep records of material usage. Inventory materials at least once each year and consider using a computer software program to track your inventory. Use the oldest stock first to keep materials from spoiling (first-in, first-out or FIFO).

Minimize Your Inventory

Keep the amount of materials purchased to a minimum because disposing of unused material can be costly. Order smaller containers of materials that are used occasionally to reduce disposal of unused material. Implement a "just-in-time" inventory system, meaning that orders are placed on a regular basis, and purchases are made only to replenish what has been sold since the last order. A "just-in-time" system immediately moves inventory from receiving to use. Order smaller

What is Pollution Prevention?

Pollution prevention (P2) is the use of source reduction techniques to reduce risk to public health, safety, welfare and the environment and, as a second preference, the use of environmentally sound recycling to achieve these same goals. P2 addresses all types of waste and environmental releases to the air, water and land.



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containers of materials that are used occasionally to reduce disposal of unused material. Purchase materials in reusable or recyclable containers.

Maintain Storage Conditions

Maintaining appropriate storage conditions can extend the life of materials, prevent spills and leaks and prevent materials from getting mixed together. Maintain proper temperature and humidity in storage areas. Make sure storage areas are covered and secure. Rainwater can contaminate uncovered materials and heat and sunlight can degrade certain materials. Maintain legible labels on all containers and segregate materials by chemical compatibility. Store incompatible materials in separate storage areas. Inspect storage areas routinely to spot spills and leaks. Set inventory limits for storing materials. Storing more hazardous materials increases the risk of spills, fires and exposures from releases.

Material Substitution

Work with suppliers and manufacturers to determine if non-hazardous products exist that can perform as well as the more hazardous products currently being used. Reduce the number of similar products used. For example, if several types of solvents are used, evaluate if fewer can be used and still get the job done. Taking these steps may reduce the amount of hazardous waste generated.

Other Strategies

Contact suppliers or manufacturers to determine if materials can be used beyond their expiration date. Many products can be used beyond these dates with no noticeable performance reduction. Some suppliers also will take back excess, off-spec or expired

products which will reduce the need for disposal. Use waste exchanges for overstock or unwanted materials. The Ohio Materials Exchange (OMEx) maintains and distributes listings of materials available and materials wanted from participants/businesses. OMEx can be reached at: www.aor-omex.org/omex/

Benefits of Inventory Control

The benefits of inventory control include:

- reducing disposal costs of unused materials
- saving money on analytical tests to determine how unknown materials should be disposed
- reducing money tied up in unused inventory
- generating less hazardous waste.

P2 Success Story

Custom Print, Inc., a printer in Arlington, Virginia, with 30 employees inventoried its chemicals and reduced the number of onsite chemicals by 70 percent, from more than 80 to 24. It eliminated different chemicals that were being purchased for the same task, identified chemicals that could perform multiple tasks and asked vendors to pick up unused samples each time new ones were dropped off which eliminated half-used bottles. These measures saved the company \$5,000 per year.

Attached List of P2 Suggestions

The attached list provides suggestions to help you reduce the amount of hazardous waste you generate. Contact your inspector at the appropriate District Office or Ohio EPA's Office of Compliance Assistance and Pollution Prevention (OCAPP) at 800-329-7518 for more information.

Resources

An Organizational Guide to Pollution Prevention, United States EPA (U.S. EPA), www.epa.state.oh.us/opp/Organizational%20Guide%20to%20P2.pdf.

Ohio EPA, OCAPP Web Site, www.epa.state.oh.us/ocapp/ocapp.html

Ohio Pollution Prevention and Waste Minimization Planning Guidance Manual, Ohio EPA, www.epa.state.oh.us/opp/guide/p2pbg.html .

U.S. EPA's Pollution Prevention Facility Guide, www.epa.state.oh.us/opp/P2Facguide.pdf.

Can You Profit From Improved Inventory Control?, AutoInc. Magazine, Vol. 44, No. 3, March 1996, taken from www.asashop.org/autoinc/march/invntctr.htm .

Inventory Control Checklist, Pollution Prevention Institute, Kansas State University, www.sbeap.org/ppi/publications/inventory_control_checklist_replace.pdf.

P2 Good Housekeeping Techniques fact sheet, Arizona Department of Environmental Quality, www.azdeq.gov/environ/waste/p2/download/goodweb.pdf .