



**Minnesota
Pollution
Control
Agency**

Good Operating Practices

Hazardous Waste Division Fact Sheet #2.61

Good operating practices are good business practices!

Good operating practices generate less waste by making existing processes more efficient.

Good operating practices are common sense measures that apply to the human side of business rather than the technological side. Therefore, they can be used in all areas of production.

Since good operating practices are often easy and inexpensive to implement, they are practical for businesses of all sizes.

In addition to generating less waste, good operating practices often have health and safety benefits for employees, the general public, and the environment.

Good operating practices include:

- *improved inventory management*
- *waste segregation*
- *improved production scheduling*
- *preventive maintenance*
- *spill and leak prevention*
- *employee training and education*
- *employee participation in planning*
- *materials usage, handling, and storage*

- *clear labeling*

The Importance of Employee Participation & Training

Successful waste reduction activities need support from all employees, including top management and production personnel.

Less waste is generated if employees are trained to operate equipment and handle materials safely and correctly. Occupational and safety hazardous are reduced as well.

Employees should be made aware of the costs and environmental issues related to hazardous waste generation and disposal. One way to do this is to post these costs and any waste reduction savings on bulletin boards throughout the company.

Waste reduction usually happens in production processes. Explain how waste is generated by each process so employees understand that they share the responsibility for waste generation. Employees that are well-informed can make valuable waste reduction suggestions.

Incentive programs can be useful in encouraging employees to participate in waste reduction activities. These incentives might be in the form of money, gifts, or certificates of recognition.

Ideas for Improving Operating Practices

Painting/Coating Industries

Implement coating practices that help prevent bad finishes. Parts that are rejected because of a bad finish may need to be stripped and repainted. By preventing the generation of bad finishes you can increase productivity and reduce the amount of waste generated by the additional stripping and repainting. Some helpful ideas:

- Inspect parts before painting to insure that they are clean, dry, and dust-free.
- Maintain all application equipment in working order.
- Dedicate equipment to one color wherever possible. This practice can prevent cross-contamination of colors and resulting bad finishes. It can also eliminate equipment cleaning between color changes, and reduce cleaning waste amounts.
- Train employees to properly operate spray guns. This practice can reduce finishing materials usage, waste generated from overspray, and air emissions. It can also improve product quality.

Parts Cleaning/Solvent Degreasing Operations

Remove sludge from solvent tanks frequently. Stripped paint and other contaminants can dissolve in the solvent and reduce its ability to clean. Although the sludge must be managed as a hazardous waste, the solvent will last longer and less waste will be generated in the long run.

Limit the number of different solvents used for the same purpose. In doing so, you may find that the volume of solvent waste generated is great enough to make solvent recycling an option worth considering.

Pre-clean parts mechanically by baking, blasting, brushing, scraping, or wiping. Solvents will last longer so purchasing and disposal costs will be reduced.

Equipment Cleaning

Equipment may be cleaned to:

- prevent product contamination and maintain product quality
- maintain the operating efficiency of equipment
- allow for inspection and repair of equipment
- improve the appearance of equipment

Look for ways to reduce equipment cleaning frequency:

- Is it possible to prevent deposits from forming on equipment, and eliminate the need for cleaning altogether?
- Is it necessary to clean equipment between every batch? Re-examine the effects of cross-contamination on product quality to determine if some cleaning steps can be eliminated.
- Dedicate equipment to one product as much as possible. If one mix tank is used consistently for the same product, the need to clean the tank between batches could be reduced or even eliminated.

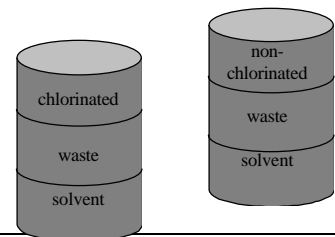
When cleaning is necessary, equipment should be cleaned immediately after use to prevent deposits from hardening. When deposits are allowed to harden, larger amounts of solvents are required for cleaning, and larger quantities of solvent waste are generated.

Reduce the amount of material clinging to equipment before cleaning. This can be accomplished by allowing sufficient drain time or by using rubber wipers to mechanically scrape deposits off the sides of mix tanks.

The Importance of Good Labeling Practices

Good labeling practices can help prevent overstocking of materials and the resulting disposal of expired materials.

- Highlight expiration dates so they are easier to see.
- Write the date a material is received on its container. This will help employees identify and use materials on a first-in/first-out basis.
- Wastes that are to be recycled and reused are less likely to become contaminated with other materials (and rendered useless) if the collection containers are clearly labeled.



For more information on good operating practices and other wastes reduction techniques, please call:

Minnesota Pollution Control Agency
(612) 296-6300
(800) 657-3864 toll free in MN

Minnesota Technical Assistance Program (MnTAP)
(612) 627-4646
(800) 247-0015 toll free in MN

Ask for waste reduction information

We appreciate your comments on this and other MPCA publications.