

US EPA ARCHIVE DOCUMENT



## Waste Sort

***Use this worksheet if you need a more detailed profile of the amounts and types of waste generated at your facility than a records review or facility walk-through can provide.***

This worksheet provides step-by-step instructions for sorting, weighing, and recording data on the waste your company generates.

Two different types of sampling methods can be used during a waste sort. The first method is to collect and sort all the waste generated during the day. This is the most practical method for smaller companies. The second method is to use a representative sample of approximately 50 pounds of waste from each collection container (i.e., dumpster) at the company. This is more appropriate for larger companies.

If you elect to analyze a representative sample, be sure your sorting sample is truly representative. Waste generation and waste components can vary significantly from day to day, season to season, and year to year. In addition, periodic events such as holiday parties and special orders can affect your company's waste stream. If you suspect that the waste sample being sorted is not truly representative of your company's waste-generating practices, consult with your trash collection or operations manager for input on the accuracy of the data. Make a note on this worksheet of any results you believe are not accurate. When sorting a sample, you will still need to weigh or estimate one day's worth of waste in order to extrapolate annual estimates for each waste category.

Determine the size and location of the area in which you will sort the waste. For smaller companies, it might be easiest to sort the sample in a large indoor room after business hours. If large quantities of waste will be sorted, a large, flat area such as a parking garage or shipping and receiving area is preferable. It is advisable to sort in a sheltered area to provide cover from adverse weather. Be sure to consider health and safety issues as well. All members of the waste reduction team should wear protective clothing (such as leather or thick rubber gloves, heavy-duty shoes, safety glasses, and coveralls), and precautions should be taken to ensure that the waste does not come in contact with food or drink.

You will need several containers for holding the sorted wastes and a scale for weighing the samples. The size of the containers depends on the amount of waste to be sorted. Office wastebaskets might work well for small sorts. For larger companies, 30- to 50-gallon plastic containers, garbage cans, or large corrugated cardboard boxes will be needed. If there are no large scales at your facility, they often can be rented. In addition, you also will need shovels or pushbrooms, a clipboard, labels, pens, and a first aid kit.

A three- or four-person waste reduction team in a small- to medium-size facility can probably complete the sorting and weighing in a few hours. Waste sorts at a larger facility will take longer, depending on the size of the team and the amount of waste to be sorted.

# D Waste Sort Instructions

## 1 Beginning the Waste Sort

- A.** Assemble the waste sample to be sorted, using either one day's worth of waste or an otherwise representative sample of waste from your facility.
- B.** Weigh the empty containers that the sorted wastes will be placed into and record these weights on a label on each container.
- C.** Sort the waste sample by major component (paper, plastics, glass, metal, compostable organics, other),
- D.** If needed, further sort each major waste component into more specific component subcategories (e.g., glass into clear, green, amber, or other),
- E.** Place the sorted materials into separate labeled containers.

## 2 Calculating Net Component Weights

- A.** Weigh each filled waste container and subtract the weight of the container (from I-B) to obtain the net component weight. Record the net component weight on the spaces provided on the Waste Sort Form, if you did not sort these waste components into component subcategories, proceed to Step 2-C.
- B.** If you sorted the waste components into component subcategories, add their net weights and record the total waste component weight on the Waste Sort Form.
- C.** Add all the total waste component weight figures to determine the total sample weight and record this total on the Waste Sort Form,

## 3 Calculating Percent of Total Sample Weight

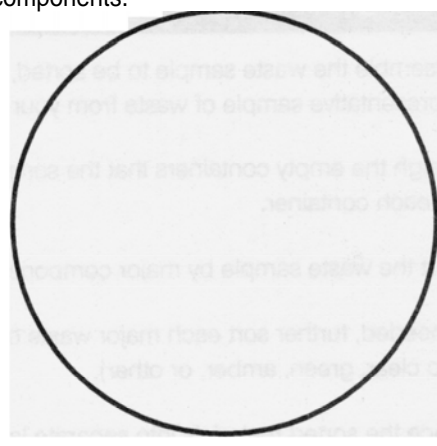
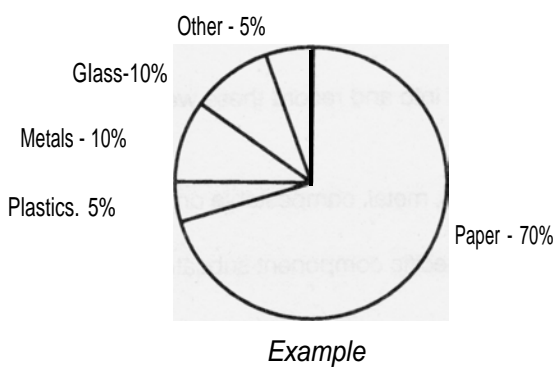
- A.** Use the following formula and the figures recorded in the Net Component Weight column of the Waste Sort Form to compute the percentage each waste component constitutes the total weight of the sample. Repeat the calculation for each waste component under consideration and record the results in the Percent of Total Sample Weight column on the Waste Sort Form. (Note: If you sorted the waste components into component subcategories, you also may choose to calculate the percentage of the sample occupied by each waste component subcategory, depending on the level of information you are interested in,)

$$\frac{\text{Net component weight}}{\text{Total sample weight}} \times 100 =$$

%
Percent of Total Sample Weight

# D Waste sort Instructions

B. Use the data listed in the Percent of Total Sample Weight column on the Waste Sort Form to create a pie chart to help compare the percentages of the different waste components.



## 4 Calculating Weight of Waste Generated Annually

A. If you sorted one day's worth of waste, calculate the weight of waste generated for each waste component using the following formula

$$\frac{\text{Net component weight}}{\text{Number of working days per year}} = \frac{\text{Weight of waste Generated Annually}}{\text{Number of working days per year}}$$

B. If you sorted a representative sample, first weigh or estimate all of the waste generated by your company that day. Calculate the amount of waste generated annually for each waste component using the following formulas:

$$\frac{\text{Total component weight generated/day}}{\text{Total sample weight (all components)}} = \text{Multiplier}$$

$$\text{Net component weight} \times \text{Multiplier} \times \text{Number of work days per year} = \text{Weight of waste Generated Annually}$$

C. Repeat the appropriate calculation for each waste component under consideration and record the figures in the Weight of Waste Generated Annually column on the Waste Sort Form. (Note: If you sorted the waste components into component subcategories, you may choose to calculate the amount of waste generated annually by each waste component subcategory, depending on the level of detail you are interested in obtaining.)

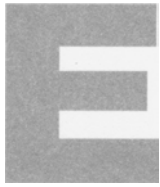
# D Waste sort Form

Date of waste Sort	<b>Department:</b>
Source of Sample (if different from department)	
<b>Sample Collected Over:</b> <input type="checkbox"/> One Day <input type="checkbox"/> Two Days	
<input type="checkbox"/> Other Technique (specify) _____	
<b>Sample Collected:</b> <input type="checkbox"/> All Waste at Source <input type="checkbox"/> Representative Sample (specify weight) _____	
Team Members Conducting Waste Sort: _____	
Factors Affecting Representativeness of Sort: _____	

Waste Component	Net Component Weight	Percent of Total Sample Weight (all components)	Weight of Waste Generated Annually
High-Grade			
Low-Grade			
Computer Printout			
Newsprint			
Corrugated Cardboard			
Magazines/Glossy			
Other			
Total Component Weight			
PET(1)			
HDPE (2)			
PVC (3)			
LDPE (4)			
Polypropylene (5)			
Polystyrene (6)			
Other (7)			
Total Component Weight			

# D Waste Sort Form

Waste Component		Net Material weight	Percent of Total samples	Weight of waste <b>Generated Annually</b>
<b>Glass</b>	Clear			
	Green			
	Amber			
	Other			
	Total Component Weight			
<b>Metal</b>	Aluminum			
	Other Non-Ferrous Metal			
	Tin-Coated Steel			
	Other Ferrous Metal			
	Bi-Metal			
	Other			
	Total Component Weight			
<b>Compostable Organics</b>	Yard Trimmings			
	Food Scraps			
	Scrap Wood			
	Other			
	Other			
	Other			
	Total Component Weight			
<b>Other</b>	Textiles			
	Rubber			
	Leather			
	Inorganic (e.g., ceramics, mixed materials)			
	Copier Toner Cartridges			
	Other			
	Total Component Weight			
<b>Totals</b>				



## Identifying Potential Waste Reduction Options

***Use this worksheet to list and screen the potential waste reduction options that have emerged from your waste assessment.***

This worksheet enables to list all the potential waste prevention, recycling, composting and purchasing options that might be feasible for your waste reduction program. Information needed to fill out this worksheet will come from your records review, facility walk-through, and waste sort, as well as from your general working knowledge about your company and its operations. At this point, the team might want to meet to discuss the results of the waste assessment and to brainstorm potential options for the program.

Once you have listed the potential options, use this worksheet help you quickly identify those options that are most feasible based on economic, operational, and other criteria. This process serves to screen out those ideas that are least feasible, enabling you to concentrate on a select set of options for further analysis in Worksheet F.