

# Fact Sheet



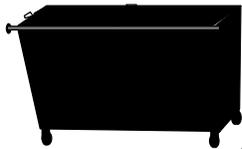
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY • ENVIRONMENTAL ASSISTANCE DIVISION • 1-800-662-9278

## Reducing Corrugated Cardboard Waste

*Old corrugated containers (OCC) are one of the most commonly found materials in commercial and industrial waste streams. It is also one of the easiest materials to reduce at the source, reuse, and recycle. OCC collection systems are relatively simple to establish. OCC is readily identifiable, is often available in large pieces, and has a ready market. Reducing OCC waste is often a company's first waste reduction program.*

### REDUCING CORRUGATED CARDBOARD WASTE CAN SAVE YOU MONEY

Because corrugated cardboard is so bulky, you can dramatically reduce waste collection, hauling, and disposal costs by removing it from the waste stream. Eliminating old corrugated containers (OCC) will enable you to reduce the number of waste dumpsters, the size of the waste dumpsters, and the number of pickups needed. If you pay by volume or pickup, this will save you money.



### CORRUGATED CARDBOARD FACTS\*



- Current OCC consumption in Michigan is estimated to be almost 800,000 tons per year. If totally disposed by "dumping," one year's use of OCC will require almost 3,000,000 cubic yards of landfill space.

*\*1994 data from the American Forestry and Paper Association.*

- About 65 percent of OCC generated in the United States is currently recycled.

### TYPES OF CORRUGATED CARDBOARD THAT CAN BE RECYCLED

The term "cardboard" is typically defined as the corrugated container board used mostly for packing and storage boxes. The term excludes paperboard, which is commonly used in cereal boxes, shoe boxes, and backing for legal pads. Both cardboard and paperboard can be recycled. Paperboard, however, has a very limited recycling market at this time.

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Environmental Assistance Center

1-800-662-9278

March 1998 • #8907B

AUTHORITY: PA 451 OF 1994 TOTAL COPIES: 500  
TOTAL COST: \$122.05 COST PER COPY: \$.24  
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## CONTAMINANTS TO AVOID

Most cardboard buyers restrict the levels of allowable contamination and will pay substantially less for contaminated loads of cardboard. Contaminants are items that interfere with the remanufacturing process and must be pulled out of the cardboard by the generator, the hauler, the broker, or the mill.

- Polystyrene foam, wood, plastic, metal, and other non-soluble materials are significant contaminants and should be avoided.
- Waxed cardboard, used for shipment of some food products, *cannot* be recycled and must be separated from non-wax cardboard.



- Old newspapers and office paper wastes are considered contaminants if present in large quantities.

- Wet cardboard can be recycled if it is not allowed to decompose and the buyer agrees to accept the elevated moisture level.

Cardboard buyers will often allow *small* volumes of certain types of materials such as plastic packaging tape, carton staples, adhesive labels, glue bindings, and kraft paper tape.

## REDUCING OCC AT THE SOURCE

You can reduce the amount of cardboard generated by:

### • Using Reusable Containers

Most cardboard is used for one-way, one-time packaging. Many companies are reducing the cardboard they handle by substituting the cardboard containers received from suppliers and shipping to customers with plastic, wooden, or metal reusable containers.

Reusable containers are more durable and have a much longer useful life than cardboard containers, and reduce waste disposal expenses and cardboard packaging. Additionally, returnable containers can be designed to protect contained supplies and parts without added spacers, reinforcements, and protective covers. Further, many reusable containers are designed for stacking and nesting to save storage space.

### • Backhauling Cardboard Containers

Many businesses backhaul cardboard (along with the associated stiffeners, fillers, and liners) to suppliers and from customers. Backhauled cardboard and packaging can then be reused or recycled. This reduces waste for suppliers and customers alike, improves truck utilization, and reduces the costs of purchasing new packaging materials.

Backhauling is particularly popular among food store chains. After supplies are delivered, baled and loose OCC is hauled from the distribution store to centralized warehouses where the cardboard is prepared for sale.

**•Purchasing Supplies and Parts in Bulk Quantities**

Significant cardboard savings can be realized by purchasing in bulk instead of small, individual packages.

**REUSING CARDBOARD**

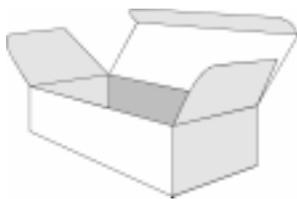
Many businesses recognize the reuse value of cardboard boxes and keep them in circulation in a number of ways:

**•Donate or Sell Cardboard Containers**

There are numerous opportunities to donate or sell cardboard boxes to other firms and non-profit organizations. Most boxes can be given away and there is a significant market for “gaylord” boxes in many areas. Gaylord boxes are standard industrial strength containers (typically 4' x 4' x 4') used to transport and store bulk materials.

**•Distribute Cardboard Boxes Within the Business**

Businesses frequently give copy paper boxes, office supply boxes, and other smaller cardboard containers to employees, who use the boxes for



moving, wrapping gifts, etc. Also, boxes may be used within the business to store and ship recyclable

materials, such as office paper, plastic, and glass.

**RECYCLING CARDBOARD**



Recycling cardboard is commonly the first waste reduction activity implemented by businesses. Cardboard recycling can be implemented in the office, mail room, inventory room, shipping/receiving area, kitchen, and manufacturing area.

**•Getting Started**

First, it is necessary to determine how much cardboard is generated and can be recycled. Looking at your waste records, your cardboard purchases, and composition of waste in your dumpsters should give you a sound starting point.

**•Determine the Recycling Market for Cardboard**

After determining how much cardboard will be available for recycling, you should talk to local and area-wide cardboard buyers to determine the level and price of recycling services available. It is important to know the following:

*Location and capacity of each potential buyer,*

*Current and past prices paid per ton by the buyer for cardboard,*

*Minimum and maximum quantities acceptable for pickup,*

*Whether the buyer will pick up loose sheets or will require compacting or baling,*

*Price differentials for different levels of service,*

*Whether the buyer will furnish collection containers without charge, and*

*Contamination restrictions.*

Names and addresses of some cardboard buyers are available from the **Department of Environmental Quality, Environmental Assistance Division at 1-800-662-9278.**

Locate others by looking in the Yellow Pages and by calling those you know that currently recycle their cardboard.



**•Collection**

Cardboard collection is commonly a two-step process. First, staff of each operation who generate cardboard boxes must remove any contaminants, flatten the boxes, and place them in designated bins. Second, custodial or maintenance staff must regularly service these bins by transporting the cardboard to a designated processing/shipping area.

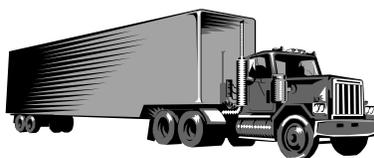
**•Processing**

Many businesses use a compactor or baler to reduce the volume of recycled cardboard, reduce the storage space requirements, and to command a higher market price. Compactors and balers are available in many sizes and may be leased or purchased from vendors and waste haulers.

Smaller businesses that cannot justify on-site compaction or baling may consider joint processing with other business neighbors.

**•Shipping**

The shipping requirements for cardboard will depend upon the volume and condition of the cardboard, the distance to the buyer, and the buyer's needs. Generally, the greater the volume, the more frequent the collection, and the larger the vehicle required.



CONDITION	TRUCKING ALTERNATIVES
Flattened and strapped to pallets	Box truck, semi-trailer
Flattened and stacked loose	Flatbed or box truck, compactor truck, semi-trailer
Placed loose or compacted in dumpster	Compactor truck
Placed loose or compacted in roll-off	Roll-off truck
Baled	Flatbed or box truck, or semi-trailer

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