

US EPA ARCHIVE DOCUMENT

Appendix D

Volume-to-Weight Conversion Table

The volume-to-weight conversion table presented on the following pages is a compilation of several sources. Materials converted from volume to weight include paper (high-grade and other), glass, plastic, metals, organics, and other materials (e.g., tires and oil).

It is important to note that although the weight (density) figures presented here are useful for determining rough estimates, they will not be as useful when precise measurements are required. Differences in the way a material is handled, processed, or in the amount of moisture present can make substantial differences in the amount a particular material weighs per specified volume. Because of these differences, it will be important to actually sort and weigh materials in your program whenever precise measurements are needed (e.g., recycling contract agreements).

| Category | Material (u/c = uncompactd/ compactd & baled) | Volume | Estimated Weight (in pounds) |
|------------------|-----------------------------------------------------|---------------------|------------------------------------|
| High-Grade Paper | <i>Computer Paper:</i> | | |
| | Uncompactd, stackd | 1 cu. yd. | 655 |
| | Compactd/bald | 1 cu. yd. | 1,310 |
| | 1 case | 2800 sheets | 42 |
| | <i>White Ledger:</i> | | |
| | (u)stackd/(c)stackd | 1 cu. yd. | 375465/755-925 |
| | (u)crumpld/(c)crumpld | 1 cu. yd. | 11 0205/325 |
| | Ream of 20# bond; 8-1/2 x 11 | 1 ream = 500 sheets | 5 |
| | Ream of 20# bond; 8-1/2 x 14 | 1 ream= 500 sheets | 6.4 |
| | White ledger pads | 1 case= 72 pads | 38 |
| | <i>Tab Cards:</i> | | |
| | Uncompactd | 1 cu. yd. | 605 |
| | Compactd/bald | 1 cu. yd. | 1,215-1,350 |

| Category | Material (u/c = uncompacted/ compacted & baled) | Volume | Estimated Weight (in pounds) |
|-----------------|--------------------------------------------------------------|--------------------|----------------------------------------|
| Other Paper | Cardboard (Corrugated): | | |
| | Uncompacted | 1 cu. yd. | 50-150 |
| | Compacted | 1 cu. yd. | 300-500 |
| | Baled | 1 cu. yd. | 7001,100 |
| | Newspaper: | | |
| | Uncompacted | 1 cu. yd. | 360-505 |
| | Compacted/baled | 1 cu. yd. | 7201,000 |
| | 12" stack | — | 35 |
| | Miscellaneous Paper: | | |
| | Yellow legal pads | 1case=72pads | 38 |
| | Colored message pads | 1 carton= 144 pads | 22 |
| | Self-carbon forms; 8-1/2 x 11 | 1 ream= 500 sheets | 50 |
| | Mixed Ledger/Office Paper: | | |
| | Flat (u/c) | 1 cu. yd. | 380/755 |
| | Crumpled (u/c) | 1 cu. yd. | 110205/610 |
| G ass | Refillable Whole Bottles: | | |
| | Refillable beer bottles | 1 case= 24 bottles | 14 |
| | Refillable soft drink bottles | 1 case= 24 bottles | 22 |
| | 8 oz. glass container | 1 case= 24 bottles | 12 |
| | Bottles: | | |
| | Whole | 1 cu. yd | 500-700 |
| | Semi-crushed | 1 cu. yd. | 1,0001,800 |
| | Crushed (mechanically) | 1 cu. yd. | 1,800-2,700 |
| | Uncrushed to manually broken | 55gallon drum | 300 |

| Category | Material (u/c = uncompacted/ compacted & baled) | Volume | Estimated weight (in pounds) |
|-----------------------------------------|-------------------------------------------------------|---------------------------------------|------------------------------------|
| Plastic | PET (Soda Bottles): | | |
| | Whole bottles, uncompacted | 1 cu. yd. | 30-40 |
| | Whole bottles, compacted | 1cu. yd. | 515 |
| | Whole bottles, uncompacted | gaylord | 40-53 |
| | Baled | 30" x 62" | 500-550 |
| | Granulated | gaylord | 700-750 |
| | 8 bottles (2-liter size) | | 1 |
| | HDPE(Dairy): | | |
| | Whole, uncompacted | 1 cu. yd. | 24 |
| | Whole, compacted | 1 cu. yd. | 270 |
| | Baled | 32" x 60" | 400-500 |
| | HDPE(Mixed): | | |
| | Baled | 32" x 60" | 900 |
| | Granulated | semi-load | 42,000 |
| | <i>Odd Plastic:</i> | | |
| | Uncompacted | 1 cu. yd. | 50 |
| | Compacted/baled | 1 cu. yd. | 400-700 |
| | <i>Mixed PET and HDPE (Dairy):</i> | | |
| | Whole, uncompacted | 1 cu. yd. | 32 |
| | Metals | <i>Aluminum (Cans):</i> | |
| Whole | | 1 cu. yd. | 50-75 |
| Compacted (manually) | | 1 cu. yd. | 250-430 |
| Uncompacted | | 1 full grocery bag 1 case= 24 cans | 1.5 0.9 |
| <i>Ferrous (tin-coated steel cans):</i> | | | |
| Whole | | 1 cu. yd. | 150 |
| Flattened | | 1 cu. yd. | 850 |
| Whole | | 1 case= 6 cans | 22 |

| Category | Material (u/o = uncompacted/ Compacted & baled) | Volume | Estimated weight (in pounds) |
|-----------------|-------------------------------------------------------|----------------|---------------------------------|
| Organics | <i>Yard trmming*:</i> | | |
| | Leaves (uncompacted) | 1 cu. yd. | 200-250 |
| | Leaves (compacted) | 1 cu. yd. | 300-450 |
| | Leaves, vacuumed | 1 cu. yd. | 350 |
| | Grass clippings (uncompacted) | 1 cu. yd. | 350-450 |
| | Grass clippings (compacted) | 1 cu. yd. | 550-1,500 |
| | Finished compost | 1 cu. yd. | 600 |
| | Scrap wood: | | |
| | Pallets | | 30-100 (40 avg.) |
| | Wood chips | 1 cu. yd. | 500 |
| | <i>Food Waste:</i> | | |
| | Solid/liquid fats | 55-gallon drum | 400-410 |
| Other Materials | <i>Tires:</i> | | |
| | Car | 1 tire | 12-20 |
| | Truck | 1 tire | 60-100 |
| | <i>Oil (Used Motor Oil)</i> | 1 gallon | 7 |

*Density of yard trimmings is highly variable depending on moisture content.

Conversion Table Sources

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Conversion factors are adapted from information in: "Recycling is Everybody's Business", Morris County Municipal Utilities Authority, April 1989 and "Recycling Manual: Oneida and Herkimer Counties Solid Waste Management Project", William F. Cosulich Associates, 1988.