A solid can be dispensed from its reagent jar directly into a vessel or onto a weighing boat or creased piece of paper. If a solid is to be transferred into a vessel containing a narrow mouth (such as a round bottomed flask), a "powder funnel" or wide-mouth funnel can be used (Figure 1.15a). Alternatively, the solid can be nudged off a creased piece of paper in portions using a spatula (Figures 1.15 b+c).

![Figure 1.15: a) Transferring a solid using a powder funnel, b+c) Transferring a solid using a creased piece of glossy paper.](image)

If the solid is the limiting reagent in a chemical reaction, it should ideally be dispensed from the reagent jar directly into the vessel (Figure 1.16a). However, if using a weighing boat, residue should be rinsed off with the solvent that will be used in the reaction (only if the boat is unreactive to the solvent) in order to transfer the reagent in its entirety.

Residue clinging to ground glass joints should also be dislodged with a KimWipe or rinsed into the flask with solvent to prevent joints from sticking, and to make sure the entire reagent makes it to the reaction vessel.

Certain solid compounds (e.g. \(\text{KOH}\), \(\text{K}_2\text{CO}_3\), \(\text{CaCl}_2\)) are sticky or hygroscopic (readily absorb water from the air), and these reagents should be dispensed onto glossy weighing paper (used in Figure 1.15b). This weighing paper has a wax coating so that sticky reagents more easily slide off its surface.

For transfer into vessels with very narrow mouths (e.g. NMR tubes), it is sometimes easier to dissolve solids in their eventual solvent and transfer a solution via pipette (Figures 1.16 b+c).

![Figure 1.16: a) Students transferring solid onto balances, b+c) Pipetting a solution into a narrow glass tube (NMR tube).](image)

Contributor

- Lisa Nichols (Butte Community College). Organic Chemistry Laboratory Techniques is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. Complete text is available online.