

Table 6.2 SUBSTANCES THAT SOFTEN OR LIQUIFY WHEN MIXED

Acetanilide
Acetophenetidin
Aminopyrine
Antipyrine
Aspirin
Benzocaine
Beta-naphthol
Camphor
Chloral hydrate
Lidocaine
Menthol
Phenacetin
Phenol
Phenyl salicylate
Prilocaine
Resorcinol
Salicylic acid
Thymol

mixture and repeating this until all of the diluent is incorporated. Some pharmacists add an inert colored powder to the diluent before mixing to permit visual inspection of the mixing process.

Powders may also be mixed by passing them through sifters like those used in the kitchen to sift flour. Sifting results in a light, fluffy product. This process is not acceptable for the incorporation of potent drugs into a diluent powder.

Another method of mixing powders is tumbling the powder in a rotating chamber. Special small-scale and large-scale motorized powder blenders mix powders by tumbling them (Figs. 6.2 to 6.5). Mixing by this process is thorough but time consuming. Such blenders are widely employed in industry, as are mixers that use motorized blades to blend powders in a large vessel.

Segregation is an undesirable separation of the different components of the blend. Segregation may occur by sifting or percolation, air entrapment (fluidization), and particle entrapment (dusting). Fine particles tend to



FIGURE 6.2 Industrial-size solid-state processor or twin shell blender used to mix solid particles. (Courtesy of Abbott Laboratories.)

sift or percolate through coarse particles and end up at the bottom of the container and actually “lift” the larger particles to the surface. Fine, aerated powders with differences in particle size or density may result in a striation pattern and may occur during powder transfer. Dusting occurs when the finer, lighter



FIGURE 6.3 Ribbon blender used for mixing powders and preparing granulations. (Courtesy of Littleford Day.)