

Formula B.

Sodium Arsenate (65%)	8
Lead Nitrate	18

"If the sodium arsenate employed is 50 per cent. strength, use 10½ ounces instead of 8. Of the pure crystallized salt 14 ounces would be required to furnish the same amount of arsenic oxide as would be furnished by the given amounts of the 50 and 65 per cent. grades if they actually contained these per cents. In only one technical sample examined, however, was the arsenic oxide content over 45 per cent. The formulas are based on lead acetate containing 60 per cent. of lead oxide and lead nitrate containing 66 per cent. of lead oxide.

"*Dissolve each salt separately* in from 1 to 2 gallons of water* (they dissolve more readily in hot water), using wooden vessels. After solution has taken place, pour slowly about three-fourths of the lead acetate or nitrate into the sodium arsenate. Mix thoroughly and test the mixture by dipping into it a strip of potassium iodide test paper,† which will turn a bright yellow if lead is in excess. If the paper does not turn yellow, add more of the lead acetate slowly, stirring constantly, and test from time to time. When the solution turns the paper yellow sufficient lead salt is present, but if it should occur that the paper does not turn yellow after all the lead salt has been added dissolve a little more and add until an excess is indicated. The great advantage of this test is that it is not necessary to filter the solution or wait for it to settle.

"If the paper is not at hand, the test may be made by adding a few drops of a solution of potassium iodide, when, if lead is in excess, the instant the drops touch the solution a bright yellow compound, lead iodide, will be formed.

"It is very essential that the lead salt be added in *slight excess*, but a large excess should be avoided.

"If the material has been carefully prepared with a good grade of chemicals it will not be necessary to filter and wash the lead arsenate formed, though it would be a safe precaution to allow the lead arsenate to settle, then decant the clear solution and discard it. Approximately 1 pound of actual lead arsenate will be obtained by using the amounts of chemicals specified, which is equivalent to practically 2 pounds of commercial lead arsenate in the paste form. It may be made up to 40 gallons with water if a formula is being used which calls for 2 pounds of commercial lead arsenate to 40 gallons, or if a stronger application is desired add less water.

*The solution of lead acetate may have a milky appearance. This will be no objection, and it need not be filtered.

†If potassium iodide test paper cannot be obtained, it may be prepared by dissolving a few crystals of potassium iodide in about a teaspoonful of water and saturating filter paper or blotting paper with this solution. After the paper has dried, cut into strips and keep dry until needed.