

gave a process for its manufacture direct from phosphorus, and it was stated as being safe, economical and expeditious. In his paper Prof. Markoe gave quite full details as to the mode of manipulation, and at the time arranged the apparatus on the table; he also drew it on a blackboard, so that it could not well be misunderstood. In the synopsis of the paper, as published in the *Druggists' Circular*, all the main points were given, the proportions of ingredients, arrangement of apparatus, and the direction to control the rapidity of the process by keeping the jar immersed partly in water, so that the funnels should not become heated.

As we learn that Dr. W. H. Pile, of Philadelphia, has met with an accident in attempting to use the process, and, as it has been stated to be dangerous, the writer has made inquiry as to the cause of the accident, and also has made some experiments with the process himself. In addition to this, a recent letter from Prof. Markoe gives some information, which is incorporated in this note.

Prof. Markoe's paper stated that the water, phosphorus, and nitric acid were to be put into a flask or jar, and then a small quantity of bromine or hydrobromic acid were to be added *by drops*, when the funnels were to be placed in position, and the jar surrounded by water (if necessary), to moderate the action.

In the accident alluded to, this form of apparatus was not used, and the bromine was added at once! The action was so rapid that an explosion took place, and Dr. Pile was injured.

In order that this may not happen to any of your readers I shall repeat the directions, which ensure *perfect safety* in making this preparation.

(Of course, in handling phosphorus, it is to be supposed that your readers know that it is always to be done *with caution*, to prevent its combustion.)

In the process given previously, the quantity of water used was comparatively small, but it is enough, if the phosphorus be kept under its surface. Experiments by Prof. Markoe and myself have proved that it can be made with perfect safety with the proportions originally given. In order, however, to prevent inexperienced manipulators from accident, it is proposed to increase the quantity of water used. The glass flask should have a wide neck, but a stone jar is to be preferred, and should be of *double* the capacity of all the materials added together.

Into the flask (or stone jar) put the following:

Water.....	12	tro	ounces.
Phosphorus	2	"	"
Nitric acid, sp. gr., 1.42	12	"	"
Iodine.....	10	grains,	
Bromine.....	40	to 60	grains.

The water and phosphorus are placed in the jar, then the