A174 Methamphetamine Via High Temperature Dry Cook: Thirty Second Meth

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After attending this presentation, attendees will understand a new manufacturing process for methamphetamine (meth), as well as the overall process, by-products, impurities, hazards and dangers, and yield.

This presentation will impact the forensic science community by presenting a new variation of meth manufacturing, as well as the hazards and dangers of these clandestine laboratories.

The chemicals and procedures used by the clandestine laboratory operator have evolved through the years. These changes typically have been made in response to the availability of precursors and chemical reagents used in the clandestine manufacture of many drugs including methamphetamine. Methamphetamine has been synthesized from phenyl-2-propane (P2P) since the 1970's. Once phenyl-2-propane was controlled in 1980 and became very difficult to obtain, the clandestine laboratory operator adapted by synthesizing the P2P from an easier to obtain precursor, such as phenylacetic acid or benzyl cyanide.

In 1982, a new clandestine method to manufacture methamphetamine was encountered. This method very quickly replaced the P2P method with no controls over the precursor or reagents. Over time, as controls were implemented, the clandestine laboratory operator adapted. Initially the synthesis was done using ephedrine, hydriodic acid, and red phosphorus. Pseudoephedrine quickly became the precursor of choice when ephedrine became regulated. Hydriodic acid was manufactured from iodine and red phosphorus. Hypophosphorous acid was first substituted for red phosphorus, and later by phosphorous acid. In each case, the manufacturing process involved adding water or using a

reagent that contained water, producing an aqueous liquid mixture which was then heated in some cases to reflux temperatures.

The latest variation of the method now involves the manufacture of methamphetamine caused by heating a mixture of pseudoephedrine, red phosphorus and iodine, typically in a "closed" glass vessel, to a very high temperature with a propane torch. The cook has been dubbed by various names including "Flask to Glass Meth," "Volcano Meth," "Quick Meth," or "Thirty Second Meth;" however, a better description or name is "High Temp Dry Cook." This technique is very notable in that there is no water added to the cook. The combination of the pseudoephedrine, iodine, and red phosphorus produces a dark colored solid mixture. Information obtained from clandestine "cooks" suggests that although the process can be very dangerous, methamphetamine is produced. To assess the veracity of these claims, many time-controlled, trial "cooks" have been performed. These tests demonstrate that the solid mixture melts and vaporizes during the reaction and methamphetamine is produced within five seconds. Phenyl-2-propane and amphetamine are also produced during the cooking process, as well as the major impurity propylbenzene. After the short cooking process, "when clear or white vapors are obtained," water is added and the reaction is processed in the typical clandestine laboratory manner by basifying with sodium hydroxide and extracting with organic solvents such as camp type fuels or ether. The organic layer is then "gassed" with hydrogen chloride gas and the methamphetamine HCl is filtered using common items such as coffee filters. The finished product contains methamphetamine HCl as well as some amphetamine HCl. Yields of methamphetamine HCl are about 50%. However, a lot of the cooks fail because of heating the mixture too long. In some cases, a piece of a magnesium fire starter is also added "to make the reaction hotter." All the aspects of manufacturing methamphetamine via a high temperature dry cook, including the overall process, byproducts, impurities, and yields will be discussed.

Thirty Second Meth, High Temperature Dry Cook, Clandestine Manufacture

 ** Presenting Author*