

# US WILL DESTROY SYRIAN CHEMICAL WEAPON PRECURSORS AT SEA

After the debacle of floating prisons used for interrogation that included torture, the US now is set to embark on a more noble mission at sea. Hundreds of tons of precursors to chemical weapons being surrendered by Syria will now be destroyed at sea, in part because no nation would agree to being the site for destruction of the chemicals.

Sadly, part of the reasoning behind the refusal to house the destruction can be seen in today's press coverage of the announcement of destruction at sea. Headlines at the Washington Post, BBC, Los Angeles Times and ABC (this is just a quick representative sample, there are many others) all contain some variation on "US to Destroy Syrian Chemical Weapons at Sea". However, if we read further, we find this tidbit buried in the BBC story:

It is believed that the chemicals, all but 30 tonnes of which take the form of precursors – two or more of which have to be mixed to create the lethal agents – have been gathered in several marshalling areas by the Syrian army and amount to more than 600 tonnes. The other 30 tonnes consist of mustard gas.

The headlines would have us believe that it is intact nerve agents such as sarin that are being destroyed in this process. The reality is that by the numbers cited here by BBC, more than 95% of the material is precursor material where at least two different components must first be mixed together to produce the active nerve agent. Only the 30 tons of mustard gas included in the overall collection of over 600 tons of

material requires no processing to be a recognized chemical weapon. It would seem likely that nations have bowed out of serving as sites for destruction of the material because their citizens believe, based on sloppy reporting in the press, that the material to be destroyed is 100% active nerve agent.

The original announcement that the US would destroy the precursors was made by OPCW on November 30:

In a statement to the OPCW Executive Council on Friday 29 November 2013, Director-General Ahmet Üzümcü announced that the United States has offered to contribute a destruction technology, full operational support and financing to neutralise Syria's priority chemicals, which are to be removed from the country by 31 December.

The Director-General stated that the neutralisation operations will be conducted on a U.S. vessel at sea using hydrolysis. Currently a suitable naval vessel is undergoing modifications to support the operations and to accommodate verification activities by the OPCW.

Joby Warrick reports in his article in the Post that an unidentified country has stepped up to gather the materials from a Syrian port and hand them off to the US ship when it is ready:

Defense officials said another country – whose identity has not been disclosed – had agreed to pick up the toxic cargo at Syria's Latakia port and transfer the chemicals to the Cape Ray outside Syrian territorial waters. No U.S. personnel would be dispatched to Syria for the operation, they said.

David Cloud in the Los Angeles Times has more details on the Cape Ray and how it is being

outfitted for this project:

The Pentagon is outfitting a 647-foot cargo ship with high-tech equipment in an effort to safely destroy hundreds of tons of lethal chemical weapons agents that were collected in Syria after a deadly gas attack this summer sparked an international outcry.

Two specially developed hydrolysis machines, which use water or bleach to neutralize the chemicals that produce nerve gases, have been installed aboard the Cape Ray at the U.S. naval base in Norfolk, Va., officials said Thursday.

The system should be able to eliminate Syria's VX and sarin stockpiles and chemical components in 45 to 90 days, the officials said. No chemicals will be dumped at sea.

The chemical processing of the precursors is well-known and has been used extensively in the past. The BBC article informs us that the total waste produced at the end will be about 7 million liters. It will be only mildly toxic and will be disposed of by a contractor using established procedures for ordinary industrial chemical waste, which is what the end product will be.

It appears that despite calls by alarmists that "boots on the ground" would be needed to safeguard Syria's chemical weapons as they are gathered and moved out for destruction, the process continues safely and without incident even though Syria's civil war continues to rage. I had believed that an overall extended ceasefire was needed for this to be accomplished, but it appears instead that more localized short-term ceasefires have done the job, at least for getting to the current state of affairs where the precursors are said to have been gathered into just a few locations. Let us hope that the final transportation of this cargo

to the port and its removal also will proceed without incident.

As a postscript, it can be noted that at least for sarin, only one of the two precursors needs to be handled as a "priority chemical" (to use the OPCW terminology). As can be seen in this OPCW background document, one of the two components for binary production of sarin is isopropanol, which we know and safely use as rubbing alcohol. The methylphosphoryldifluoride will need to be handled carefully as it is shipped off for destruction, but isopropanol will not be transported alongside it. Any hijacking of the cargo would still need a large supply of isopropanol and specialized mixing equipment (Syria's was destroyed in the first step of this process by OPCW) in order to make sarin.