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A World Free Of Chemical Weapons And Beyond

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THE CHALLENGES OF ELIMINATING SYRIA'S CHEMICAL WEAPONS AT SEA

Syria's declaration

◎ **Infrastructure**

- 18 CW Production Facilities (including fixed filling facilities)
- 12 CW Storage Facilities
- 8 mobile filling units
- 3 CW-related facilities (probably a test and evaluation site and laboratories)

◎ **1,230 unfilled chemical munitions**

◎ **Chemicals (1,335 metric tonnes)**

- Agent and precursors: 1,045 MT
- Raw materials: 290 MT

Syria's chemical warfare agents

◎ Sarin precursors

- DF (methylphosphonyl difluoride)
- Isopropanol (isopropyl alcohol)

◎ V-agent precursors

- Sodium-o-ethyl methyl phosphonothionate
(OPCW code: A)
- N (2-chloroethyl)-N-ethyl propan 2 amine (solution 23-64%)
(OPCW code: B)
- N (2-chloroethyl)-N-isopropyl propan 2 amine (solution 23-64%)
(OPCW code: BB)
- N (2-chloroethyl)-N-isopropyl propan 2 amine (salt)
(OPCW code: BB salt)

- $A + B \rightarrow VX$
- $A + BB \rightarrow VM$

◎ Mustard agent

Elimination of warfare capacity

- ◎ **Empty munitions destroyed**
- ◎ **Facilities and equipment rendered inoperable**
 - Full destruction still to be completed
- ◎ **At present, Syria can no longer**
 - Produce precursor chemicals or warfare agents
 - Mix precursor chemicals
 - Deliver chemical munitions

Elimination and destruction operations

◎ **Syria must destroy**

- Isopropanol
- Mustard agent remnants in original containers

◎ **Operations on US vessel *Cape Ray***

- Hydrolysis (Mustard agent)
- Neutralisation (nerve agent precursors)
- Toxicity of reaction mass equivalent to low-toxic industrial waste
- Extensive on-board safety precautions
 - Personnel
 - Environmental risk mitigation
 - Fully self-contained process on ship
- Multinational naval protection of *Cape Ray*

◎ **Effluents and raw materials to be commercially incinerated**

- Two companies selected by OPCW in Finland and USA
- UK has offered to destroy part (150 MT) of the Priority 1 chemicals
- Germany will destroy effluent of mustard agent

Delays in moving CW out of Syria

◎ War situation

- Syria has always claimed major security problems, not fully accepted by Western powers
- Lately, rebel rocket attacks against Latakia port
 - Have not seen independently confirmed reports of attacks against CW convoys, although claimed by Syria

◎ Breakdown of Syrian society

- Government only controls area of 70km radius around Damascus → capital is no longer centre of Syria
- Economy, political control now fragmented: in hands of local warlords
- Syrian government now not interested in dialogue → increases significance of local power brokers
- Affects ability to establish local cease fires
 - Usually interest based (mostly access to resources, such as food and water)
 - Rebel forces have no interest in CW removal; on the contrary, they oppose it because of international legitimacy disarmament bestows on government

◎ Breakdown of US-Russian dialogue

- No pressure on Syrian government to seek accommodation with insurgents
- Crimea crisis:
 - NATO termination of Russian role in protection of *Cape Ray* in Mediterranean
 - Russia may begin opposing Western interests (Syria' CW; Iran's nuclear programme, etc.)

Public outreach

◎ **Global public**

- Information on the CWC and elimination & destruction processes
 - One major briefing of global environmental groups
- Political support for proposed options (UNSC; OPCW decision-making organs)
- Mobilising financial support for the operations

◎ **Mediterranean coastal states**

- **Urgent need for** active engagement and debate with politicians, opinion shapers and local constituencies on the elimination process, as well as the safety and (environmental) security issues

◎ **States where effluents will be destroyed**

- **Urgent need for** information briefings on transport, storage and final destruction processes for local communities



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