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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 → VX
  - A + BB → 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