

## CHAPTER 9 NUCLEAR BIOLOGICAL CHEMICAL

**9-1 GENERAL:** CMTC does not currently replicate nuclear or biological weapons on the battlefield. The OPFOR will employ chemical weapons IAW OPFOR Doctrine (FM 7-100 series) during its conduct of operations.

**9-2 PURPOSE:** This chapter addresses chemical agent use, casualty assessment, reconnaissance, decontamination, smoke operations, CDE, chemical attacks and special considerations for aviation.

### 9-3 CHEMICAL AGENTS:

a. **OPFOR CAPABILITIES:** The OPFOR maintains an inventory of both non-persistent (AC and CK Blood) and persistent agents (H series blister and V series nerve agents).

b. **REPLICATION:** CMTC replicates both non-persistent and persistent agents with CS gas.

c. **DELIVERY MEANS:** Air or artillery delivered NBC agents are employed IAW threat doctrine.

d. **NON-PERSISTENT HAZARD:** The IS system determines the path of the downwind hazard using real world weather data.

#### 1. CHEMICAL DOWNWIND

**MESSAGES:** HICON G3 will provide rotational units the Chemical Downwind Message (CDMs) every six hours based on actual weather conditions.

2. Actual attack area for a non-persistent agent is a 1 kilometer square, the agent spreads IAW the weather and wind conditions. SAWE notifies vehicles equipped with MILES II as they come into contact with the chemical hazard.

3. O/Cs provide a signature with a CS grenade. Additional CS grenades will be used to provide a signature to BLUFOR as the chemical cloud moves downwind.

e. **PERSISTENT HAZARD:** Persistent strikes have an attack area of a 500m radius circle. There is no downwind hazard associated with persistent chemical strikes. SAWE notifies all vehicles equipped with MILES II as they come into contact with the chemical hazard. O/Cs provide a signature using CS grenades.

#### f. CHEMICAL AGENT USE:

1. Fire Markers or O/Cs replicate chemical attacks at the point of impact with CS grenades and air or ground burst simulators, and smoke.

2. The following list defines exposure to a chemical hazard:

(a) Activation of the M8A1 Chemical Agent Alarm, (nerve agents only).  
(b) M22 ACAAs Chemical Agent Alarm (nerve & blister only)  
(c) Positive M256 Detector Kit reading.

(d) Casualty assessment of unprotected personnel.  
(e) Unit's employment of NBC protective measures upon receipt of a NBC 3 report.

(f) Employment of CS.

#### g. NON-PERSISTENT AGENTS:

1. Non-persistent agents present a vapor hazard only.  
2. The attack area is a 1 square kilometer area, regardless of wind speed.  
3. BLUFOR NBC personnel will calculate the downwind hazard of a non-persistent chemical agent IAW the procedures outlined in FM 3-3.

#### h. PERSISTENT AGENTS:

1. Persistent agents present a vapor and contact hazard in the attack area. A contact hazard is also present anywhere contaminated vehicles and/or personnel travel.  
2. The hazard area is a 500-meter radius circle, regardless of wind speed or delivery means.  
3. Vehicles and personnel do not become clear until decontamination operations have been completed IAW applicable FMs. See para 9-5.

### 9-4 CASUALTY ASSESSMENT:

a. **GENERAL:** CMTC assesses chemical casualties based on the tactical situation and the BLUFOR reaction to a chemical hazard.

b. **CASUALTY TYPES:** The chemical casualty levels are RTD, W (wounded), L or LU (Litter or Litter Unconscious), and KIA.

c. **UNPROTECTED PERSONNEL:** Unprotected personnel in the attack area during a persistent or non-persistent chemical strike become casualties. Individual operating around vehicles must take the appropriate protective measures or they will be assessed as an NBC casualty. Personnel within one meter (an arms length) of a contaminated vehicle without their protective mask on will be assessed an individuals not in MOPP-4 touching a contaminated vehicle will be assessed.

e. **PROTECTED PERSONNEL:** Do not become chemical agent casualties in a persistent chemical attack, the soldiers and

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vehicles do become contaminated (“protected contaminated”). Protected contaminated soldiers and vehicles risk spreading contamination across the battlefield.

f. **CONSTRAINT ON RTDs:** If a soldier receives a NBC RTD, that soldier may not assist his/her unit in any way for one hour.

g. **EVACUATION OF CHEMICAL CASUALTIES:**

1. The condition of all chemical agent casualties will worsen if not rendered the proper self or buddy aid within doctrinal timelines. If the casualty dies due to lack of proper care, the medical O/C will assess the casualty as Died of Wounds (DOW).

2. Casualties that are Chemical KIA due to persistent agents continue to present a contact hazard until decontaminated. These personnel may only re-enter the replacement system once the unit has conducted appropriate mass burial procedures and provided the necessary equipment.

3. Casualties that are Chemical KIA due to non-persistent agents do not spread contamination and do not require decontamination.

**9-5 CHEMICAL DECONTAMINATION:**

a. **GENERAL:** All personnel and equipment contaminated must complete decontamination operations.

b. **DECON REQUIRED:**

1. **Non persistent agents:** All BLUFOR units contaminated with a non-persistent agent are not required to undergo decontamination and MOPP Gear Exchange to reduce MOPP level.

2. **Persistent Agents:** Contaminated vehicles, equipment and personnel will remain contaminated until proper decontamination procedures are taken. Continued use of contaminated vehicles or equipment is authorized only if the crews assume the proper MOPP level.

3. Complete decontamination is achieved through immediate decontamination within 1 hour of becoming contaminated followed by operational decontamination within 6 hours of becoming contaminated.

4. If the unit fails to complete immediate decontamination but start the operational decontamination within the six-hour period they must include the weather factoring (see table 9-1). Units must be in MOPP IV when operating vehicles until after the weathering time expires. If the unit fails to complete operational

decontamination within the prescribed time then thorough decontamination must be completed.

<b>Table 9-1 Weathering After Operational Decon</b>	
<b>Daily Mean Surface Air Temperature</b>	<b>Duration of Agent</b>
<b>Less than 97 deg F</b>	<b>4 hrs / 3 hrs CARC surface</b>
<b>Greater than 97 deg F</b>	<b>3 hrs / 2 hrs CARC surface</b>

c. **EFFECT OF CHANGE OF MISSION:**

Change of mission has no effect on the requirement for decontamination.

d. **CONDUCT OF THE DECON:**

1. Water replicates decontaminating solution 2 (DS-2). Fill decontamination equipment from any source prior to entering the maneuver area. Once in the maneuver area fill decontamination equipment only from containers (unit supplied) labeled as containing DS-2.

2. Talc or sand (unit supplied) replicates Super Tropical Bleach (STB). Use STB for “dry” decontamination only (shuffle pit, individual gear decontamination). To use STB slurry mix, the decontamination platoon must transport the appropriate number of containers of STB to the decontamination site.

3. A card with “MOPP GEAR EXCHANGE” replicates a soldier’s individual chemical equipment package (ICE Pack) for MOPP Gear Exchange.

4. The FSB logistics personnel will draw the MOPP GEAR EXCHANGE cards and issue them through normal supply channels. Task Force supply personnel will issue the MOPP GEAR EXCHANGE cards to the individual companies on a one-card per soldier basis.

5. When ready to don new MOPP Gear, BLUFOR soldiers will give the MOPP GEAR EXCHANGE card to an O/C at the MOPP Gear Exchange site and re-don their existing MOPP Gear.

6. Once an element completes MOPP Gear Exchange, the O/C responsible for that element will instruct that element to move 1 km from the MOPP Gear Exchange site and conduct unmasking procedures. If the element conducts unmasking procedures with a M256 Kit, issue the element an “all clear (T-400)” M256 kit. Allow the soldiers to go “all clear” upon successful execution of unmasking

procedures. Turn all expended MOPP Gear Exchange cards over to the Chemical O/C.

**9-6 CHEMICAL RECONNAISSANCE:**

a. Units will conduct chemical reconnaissance operations as close as possible to doctrine, while avoiding damage to the M-93 FOX vehicle's sensitive equipment.

b. Reconnaissance or survey missions are not valid unless the unit performing the mission is accompanied by an OC.

c. Marking of contaminated areas should be IAW the Rotational Unit's SOP and doctrine.

**d. M9 PAPER:**

1. Units may use 2" white masking tape to replicate M9 Paper.

2. When fielded, O/Cs will provide BLUFOR units with a GTA card displaying the effects of chemical agent contamination on their M9 paper to assist in agent identification.

**9-7 SMOKE OPERATIONS:**

a. **RESTRICTIONS:** O/Cs are the only authorized users of CS while conducting training in the box. The shaded areas along the boundary of the maneuver area depicted on the map of CMTC define the limits of smoke and CS grenade use. Generally, no one may use smoke or CS within 1.5 km of the CMTC-Hohenburg border or within 1 km of any other CMTC border. CS is not authorized in any MRA or LTA.

**b. SAFETY:**

1. Rotational Units will immediately notify the nearest OC and their higher headquarters if an M43A1, M22 chemical agent detector unit or a chemical agent monitor (CAM) is damaged. These devices have radioactive sources that are potentially hazardous if the detector cell is damaged. This report will be passed through unit channels to EXCON. EXCON will forward information to the CMTC Safety office and CMTC Environmental Office.

2. All personnel entering HC smoke will don their protective mask IAW Safety Of Use message dated 191615Z JAN 90.

3. Rotational Units will ensure they have no players in the maneuver area with a medical condition (allergy, pregnancy, asthma, etc.) that would put them at risk if exposed to CS or other chemical training agents. OCs will not provide advance warning of chemical events.

**c. FLAME FIELD EXPEDIENTS:**

CMTC prohibits the use of actual exploding Flame Field Expedients (FFE), but BLUFOR may

construct simulated FFEs using training demolitions; NOT Demolitions Effects Simulators (DES).

1. Water simulates fuel and sand (unit provided) simulates thickener.

2. O/Cs simulate ignition of FFEs with a hand grenade simulator.

3. O/Cs will observe all FFE emplacements, ignite the FFEs, and assess casualties and vehicles as appropriate.

**9-8 CHEMICAL DEFENSE EQUIPMENT (CDE):**

**a. DEPLOYMENT REQUIREMENTS:**

Units will deploy to CMTC with all organic CDE assets. The only CDE not required while deployed to CMTC are contingency stock items. Units are given credit for using their organizational NBC equipment if the items are present, operational, and employed in a doctrinally correct manner.

b. **PAPER CDE:** All units are credited with a second BDO/CPOG as long the soldier has the paper BDO/CPOG issued from the unit's supply channels with the words "MOPP Gear Exchange", and the unit has the required haul capacity.

**9-9 SPECIAL CONSIDERATIONS:**

**a. M256 CHEMICAL AGENT**

**DETECTOR KIT:** Simulator replaces the actual M256A1 kit. When ready to perform detection, BLUFOR personnel must exchange their detector kit with one from an O/C. BLUFOR personnel will not use their own detector kit.

**b. NERVE AGENT ANTIDOTE KIT**

**(NAAK-1):**

1. A card with a picture depicting an Atropine Injector and a Pralidoxime Chloride Injector replicates the NAAK-1.

2. The FSB medical company will draw the NAAK-1s and issue them to battalion aid stations through Class VIII channels. The battalion aid stations will issue the NAAK-1s to the companies in the Task Force at a basis of three NAAK-1s per soldier.

3. When employing the NAAK-1 soldiers will describe the proper procedure for self or buddy aid using the NAAK-1 to an O/C.

4. Soldiers place the expended NAAK-1 and CANA card(s) in the left breast pocket of the treated soldier's MOPP jacket. If the treated soldier requires further medical care, the medical O/C will retrieve the expended NAAK-1 and CANA card(s) from that soldier. Otherwise, the O/C covering down on that soldier's element will retrieve the card(s). Turn

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all expended NAAK-1 and CANA cards over to the Chemical O/C.