Chemical Agents Instructor

LOS ANGELES COUNTY SHERIFF'S DEPARTMENT

WEAPONS TRAINING UNIT

CHEMICAL AGENT INSTRUCTOR PROGRAM

24 HOURS

EXPANDED COURSE OUTLINE

LEARNING NEED

Chemical agent instructors must know chemical agent terminology, Penal Code sections regarding chemical agents, chemical agents used by law enforcement and chemical agent color coding. (Classroom instruction)

LEARNING OBJECTIVE

1. Chemical Agents
    a. State the statutory requirements for the possession and use of chemical agents.
        i. 17240(a) P.C. Defines tear gas.
        ii. 17250(a) (b) P.C. Defines chemical agent devices.
        iii. 22810 P.C. Defines who may possess chemical agents.
        iv. 13514 P.C. Defines who may instruct chemical agent training.

    b. Chemical agents used by law enforcement.
        i. O/C - Oleoresin Capsicum
        ii. C/N - Chloroacetophenone
        iii. C/S - Otho-chlorobenzylidene-molononitrile
        iv. H/C - Hexachlorethane (Smoke)

    c. Color Codes (Law Enforcement)
        i. O/C - May vary
        ii. C/N - Red
        iii. C/S - Blue
        iv. H/C - Yellow

LEARNING NEED

Chemical agent instructors must be able to identify and explain different types of chemical agent devices and how various devices can be deployed and their contents disseminated. (Classroom)

LEARNNING OBJECTIVES

1. Chemical Agent Devices
    a. Hand held
        i. Aerosol sprays (O/C, Freeze + P etc.)
        ii. Foggers

    b. Hand thrown pyrotechnic devices

        i. C/N
        ii. C/S
        iii. H/C (smoke)

    b. Weapon launched devices
        i. C/N
        ii. C/S

    c. Chemical agent weapons
        i. 37mm launcher
        ii. 12 ga. Shotgun with canister attachment
        iii. Launching cartridges

LEARNING NEED

Chemical agent instructors must be able to identify the components of chemical agent devices as well as the chemical make up of the particular agent inside. (Classroom instruction)

LEARNING OBJECTIVE

1. Device components
    a. Hand held aerosol canister
        i. Main body (canister) containing chemical agent
        ii. Cap
        iii. Nozzle
        iv. Trigger or activator
        v. Safety mechanism

    b. Hand tossed chemical agent grenades
        i. Main body containing chemical agent
        ii. Emission grove or port on main body
        iii. Fuse body
        iv. Pull ring attached to pin
        v. Fuse lever

vi. Hinge pin
vii. Spring
viii. Delay cartridge
ix. Striker
x. Detonator

c. Weapon specific (launched) devices
   i. Main body or cartridge containing chemical agent
   ii. Projectile containing chemical agent
   iii. Primer

d. Launching cartridge
   i. Body or hull containing propellant
   ii. Base
   iii. Primer

2. Chemical make up
   a. O/C
      i. Active agent, cayenne pepper
      ii. In some cases mixed with C/S (Freeze +P)
      iii. Carrier (water)
      iv. Ultraviolet dye for L.E. identification

   b. C/N
      i. Two types of C/N. Solid used in grenades and projectiles and liquid used in aerosol devices and projectiles
      ii. Solid form is a while crystalline substance resembling salt or sugar. It is one to ten microns in size.
      iii. C/N is an organic compound
      iv. One in one thousand people are allergic to C/N

   c. C/S
      i. White crystalline solid resembling talcum powder. It is one to ten microns in size.
      ii. Particles are smaller in size than C/N in its pure form
      iii. Particles are heavier than air
      iv. C/S is a synthetic compound
      v. One in ten thousand people are allergic to C/S

   d. H/C (SMOKE)

i. Two chemical types
ii. Hexachlorethane, a solid that when deployed appears as a burning smoke
iii. Titanium tetrachloride, in liquid form, when deployed appears as smoke. (commonly used in aerial writing)

LEARNING NEED

Chemical agent instructors must be able to explain and demonstrate when to effectively and safely deploy chemical agents. They must also be able to describe physical and environmental conditions that may affect the deployment. (Classroom instruction)

LEARNING OBJECTIVE

1. Environmental conditions
    a. Weather
        i. Wind
            1. Speed and direction
        ii. Rain
        iii. Temperature

2. Physical conditions
    a. Location
        i. Indoor (inside a structure)
        ii. Outdoors
        iii. Outdoors but surrounded by perimeter walls
        iv. Avenue of escape
            1. Indoors
            2. Outdoors
    b. Crowd
        i. Size (number of people)
        ii. Density

LEARNING NEED

The chemical agent instructor must know and be able to explain the physical and psychological effects of chemical agents when disseminated. (Classroom instruction)

LEARNING OBJECTIVE

1. Physical affects
    a. O/C (Oleoresin Capsicum)
        i. Tearing agent
            1. Severe twitching of the face
            2. Involuntary closure of the eyes

ii. Inflammatory agent
1. Respiratory inflammation for two to five minutes
2. Coughing
3. Gagging sensation
4. Shortness of breath
5. Burning and redness on the skin for up to 45 minutes (even longer if pores are open)
6. Temporary loss of upper body muscle control
7. Temporary paralysis of the larynx

b. C/N (Cloroacetophone)
i. Lachrymator (tearing agent)
1. Profuse tearing
2. Involuntary closure of the eyes
3. Slight irritation in the nose and throat
4. Tightness in chest
5. Burning sensation on moist body parts
6. One in one thousand people are allergic to C/N

c. C/S (Orthochlorobenzalmalononitril)
i. Lachrymator
1. Profuse tearing
2. Involuntary closure of the eyes
3. Heavy mucus flow

ii. Irritant
1. Irritation in the nose and throat
2. Salivation
3. Burning sensation on moist body parts
4. Coughing and tightness in the chest
5. Panic

d. H/C (Hexachlorethane) Smoke
i. Obscures vision

2. Psychological affects
a. O/C
i. Shortness of breath
ii. Panic

b. C/N
i. Tightness in chest
ii. Shortness of breath
iii. Possible panic

c. C/S

i. Tightness in chest
ii. Shortness of breath
iii. Panic

d. H/C (Smoke)
i. Disorientation
ii. Fear of chemical agent being used

LEARNING NEED

Chemical agent instructors must be able to explain and demonstrate decontamination and first aid procedures when or after a person(s) is exposed to chemical agents. (Classroom instruction)

LEARNING OBJECTIVE

1. Decontamination (Personal)
   a. O/C
      i. Vacate area of dissemination
      ii. Treat affected body parts with fresh air and cleanse with soap and water
      iii. Change clothing
      iv. Launder contaminated clothing separate from other clothing
   b. C/N
      i. Vacate contaminated area
      ii. Treat affected body parts with fresh air
      iii. Change clothing
      iv. Launder contaminated clothing separate from other clothing
   c. C/S
      i. Vacate contaminated area
      ii. Treat affected body parts with fresh air
      iii. Change clothing
      iv. Launder contaminated clothing separate from other clothing
   d. H/C
      i. Vacate area for fresh air
      ii. Launder clothing due to odor
2. Decontamination (Indoor)
   a. O/C
      i. Aerate structure
      ii. Open windows
      iii. Use fans
   b. C/N
      i. Aerate structure

ii. Heat structure causing particles to become airborne
iii. Vacuum everything exposed

c. C/S
i. Aerate structure one to two hours (Use fans)
ii. Close and heat structure for one hour
iii. Ventilate one hour and vacuum

d. H/C
i. Aerate structure by opening doors and windows and use fans

3. Decontamination (Outdoor)
a. O/C
i. Fresh air
ii. Hose down with area water if needed

b. C/N
i. Fresh air
ii. Large amounts of residue can be hosed down with water

c. C/S
i. Fresh air
ii. Large amounts of residue can be hosed down with water

d. H/C
i. Fresh air

4. First Aid
a. O/C
i. Fresh air (face into wind or use fan)
ii. Cool, clean water
iii. Ice
iv. Non oil based soap and water
v. Seek medical treatment if symptoms persist

b. C/N
i. Stay calm
ii. Fresh air (face into wind or use fan)
iii. In severe cases rinse with a solution of 2% baking soda and water
iv. Seek medical treatment if symptoms persist

c. C/S
i. Stay calm
ii. Fresh air (face into wind or use fan)
iii. In severe cases rinse with a solution of 5% baking soda and water
iv. Avoid greases and salves
v. Seek medical treatment if symptoms persist

d. H/C
    i. Fresh air
    ii. Supplemental oxygen
    iii. Seek medical treatment if symptoms persist

LEARNING NEED

Chemical agent instructors must be able to explain proper maintenance and storage procedures with regards to chemical agents. (Classroom instruction)

LEARNING OBJECTIVE

1. Storage facility
    a. O/C, C/N, C/S, H/C
        i. Restricted access
        ii. Temperature controlled between 65-80 degrees
        iii. Humidity controlled between 30-50 %
        iv. Munitions remain packed in original packing until needed
        v. Segregate inventory by agent and munitions type
        vi. Store munitions on rack or shelves not on floor
        vii. Facility should be fire proof with no windows
        viii. Humidity and heat are the biggest threat to the integrity of chemical agent devices as they induce deterioration of primers, delay elements, propelling charges, detonators and bursting charges

2. Maintenance
    a. O/C, CN, C/S, H/C
        i. Check for exterior damage to devices
        ii. Check for leakage
        iii. Check for residue
        iv. Check expiration dates
        v. Disposal of any defective or outdated munitions and devices
            1. Use outdated munitions for training purposes
            2. Properly dispose of any defective devices and munitions (Department policies may vary depending on agency)

LEARNING NEED

Chemical agent instructors must know the components of a gas and understand how they work. They must also know how to properly don a gas mask and to check it for a proper fit. The instructor must be able to demonstrate this procedure as well. The instructor must also be able to explain how to properly store and maintain a gas mask. (Classroom instruction)

LEARNING OBJECTIVE

1. Gas mask
    a. Types
        i. Canister filter
        ii. Cheek filter
    b. Inspection
        i. Mask body
        ii. Lens(s)
        iii. Straps
        iv. Filter(s) and intake ports
        v. Exhalation port
        vi. Drinking tube
    c. Donning
        i. Proper fit (size)
        ii. Proper seal
        iii. Strap adjustment
    d. Clearing
        i. After contamination during use
    e. Cleaning
        i. After use
    f. Storage
        i. Short term and long term

LEARNING NEED

Chemical agent instructors must know federal and state regulations with regards to possession and deployment of chemical agents. Law Enforcement Officers must know the policies of their respective departments as they may vary. (Classroom instruction)

LEARNING OBJECTIVE

1. Department Policy (L.A.S.D.)
    a. Field Operations
        i. Authorized devices
        ii. Deployment
        iii. Storage and maintenance
    b. Custody Division
        i. Authorized devices
        ii. Deployment
        iii. Storage and maintenance

c. Specialized units (SEB)
    i. Authorized devices

LEARNING NEED

Chemical agent instructors must be able to demonstrate how to safely and effectively deploy chemical agent devices. (Practical application exercise conducted on All Purpose Range and will have a ratio of one instructor for one student)

LEARNING OBJECTIVE

1. Practical application exercise. Deployment of live devices.
    a. Swab test of all students to detect any allergic reactions to agents being used. (C/S, C/N)
    b. Students will throw various hand tossed devices to experience and understand the proper procedure when deploying them.
        i. 514 C/S grenade
        ii. 515 C/S grenade
        iii. 519 C/S grenade
        iv. 520 C/S grenade
        v. 555 C/S grenade
    c. Students will use the 37mm chemical agent launcher to become familiar with its operation and effectiveness.
        i. Launch various devices such as the 501 Muzzle Blast
    d. Students will use shotgun with canister launching attachment to become familiar with its operation and effectiveness.
        i. Launch various devices such as the 555 Burning Grenade
    e. Students will experience chemical agent exposure in an open area without the use of a gas mask to become familiar with its characteristics and effects.
    f. Students will deploy O/C using hand held spray canister to learn proper techniques.

LEARNING NEED

Chemical agent instructors and law enforcement officers must be able to function and operate in a chemical agent environment with and without a gas mask.

(Practical exercise conducted in facility gas house and on the All Purpose Range and will have a ratio of one instructor for two students)

LEARNING OBJECTIVE

1. Exposure to chemical agents practical application exercises
    a. Exposure to C/S with gas mask

i. Inside a closed facility
ii. Outside in open air

b. Exposure to C/S without gas mask
   i. Inside a closed facility
   ii. Outside in open air

c. Exposure to O/C
   i. Inside a closed facility
   ii. Direct application (spray) to student outdoors

LEARNING NEED

Students participating in this course of instruction will be required to take and pass a written exam prior to certification as a Chemical Agent Instructor. (Classroom)

LEARNING OBJECTIVE

1. Written test
   a. Multiple choice exam
      i. Chemical agent types
      ii. Color coding
      iii. Chemical agent device types
      iv. Chemical agent device components
      v. Physical effects of chemical agents
      vi. Decontamination
      vii. First aid
      viii. Storage of chemical agents
      ix. Gas mask

LEARNING NEED

Every chemical weapons instructor should understand and be able to apply adult learning concepts to aid in the training of students. (Classroom instruction)

LEARNING OBJECTIVE

1. Adult Learning Concepts
   a. Bloom’s Taxonomy
      i. Consider what level of learning you want to provide
      ii. Evaluate the material you are presenting

b. Four modalities of learning
    i. Visual learner
    ii. Auditory learner
    iii. Tactile learner
    iv. Kinesthetic learner

c. Have the ability to apply teaching techniques that appeal to all the different learning styles
    i. Converger
    ii. Diverger
    iii. Assimilator
    iv. Accommodator

d. Ask open ended questions