

### Reference Materials

The jurisdictional entity in which the rescue personnel serves must have access to the most current editions of the following training manuals:

#### NFPA

*1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications*

#### Training Completion

Applicant must:

- i. complete 'Courage to be Safe' coursework; and
- ii. complete and report all required objectives from the SFFMA HazMat Awareness & Operations curriculum.

Previously issued certifications are "grandfathered" to the Hazardous Materials Awareness & Operations as follows:

- i. Firefighter I training completion with an effective date prior to January 1, 2020.

The Austin office will issue an Eligibility Endorsement letter stating that the trainee is qualified to take the Board-approved examination.

#### Full Hazardous Materials Awareness & Operations Certification

Applicant must successfully complete the required Board-approved written examination.

Previously issued certifications are "grandfathered" to the Firefighter II level as follows:

- a. Firefighter I certifications with an effective date prior to January 1, 2020.

The Austin office will:

- a. issue a full Hazardous Materials Awareness & Operations certificate and shoulder patch; and
- b. maintain a permanent record of the certification.

#### Curriculum for HazMat Awareness & Operations

1-1.01 Trainee shall identify the organizational structure of the fire department and his/her role in it.

##### **NFPA 1001 5.1.1**

#### *Hazardous Materials Awareness*

HMA-01.01 Trainee shall define the following terms:

##### **NFPA 1072 4.2.1**

- A. hazardous materials
- B. WMD

HMA-01.02 Trainee shall identify basic hazards associated with classes and divisions.

##### **NFPA 1072 4.2.1**

HMA-01.03 Trainee shall identify indicators to the presence of hazardous materials including

##### **NFPA 1072 4.2.1**

- A. Container shapes
- B. NFPA 704 Markings
- C. Globally harmonized systems (GHS) markings,
- D. Placards
- E. Labels
- F. Pipeline markings
- G. Other transportation markings
- H. Shipping papers with emergency response information
- I. Other indicators

- HMA-01.04 Trainee shall access information from the Emergency Response Guidebook (ERG) current edition using:  
**NFPA 1072 4.2.1**  
A. Name of the material  
B. UN/NA Identification number  
C. Placard applied  
D. Container identification charts
- HMA-01.05 Trainee shall identify types of hazard information available from the following:  
**NFPA 1072 4.2.1**  
A. ERG  
B. Safety Data Sheets  
C. Shipping papers with emergency response information  
D. Other approved reference sources
- HMA-01.06 Trainee shall recognize indicators to the presence of hazardous materials/WMD.  
**NFPA 1072 4.2.1**
- HMA-01.07 Trainee shall identify hazardous materials/WMD by:  
**NFPA 1072 4.2.1**  
A. Name  
B. UN/NA identification number  
C. Placard applied  
D. Container identification charts
- HMA-02.01 Trainee shall use of the ERG, SDS, shipping papers with emergency response information, and other approved reference sources to:  
**NFPA 1072 4.3.1**  
A. Identify precautions to be taken to protect responders and the public.  
B. Policies and procedures for isolating the hazard area and denying entry.  
C. The purpose of and methods for isolating the hazard area and denying entry.
- HMA-02.02 Trainee shall recognize precautions for protecting responders and the public.  
**NFPA 1072 4.3.1**
- HMA-02.03 Trainee shall identify isolation area.  
**NFPA 1072 4.3.1**
- HMA-02.04 Trainee shall demonstrate denying entry.  
**NFPA 1072 4.3.1**
- HMA-02.05 Trainee shall demonstrate avoiding minimizing hazards.  
**NFPA 1072 4.3.1**
- HMA-03.01 Trainee shall identify policies and procedures for:  
**NFPA 1072 4.4.1**  
A. Notification  
B. Reporting  
C. Communications
- HMA-03.02 Trainee shall identify types of approved communications equipment.  
**NFPA 1072 4.4.1**
- HMA-03.03 Trainee shall describe operations of that communications equipment.  
**NFPA 1072 4.4.1**
- HMA-03.04 Trainee shall demonstrate operation of approved communications equipment.

NFPA 1072 4.4.1

HMA-03.05 Trainee shall conduct communication in accordance with policies and procedures.

NFPA 1072 4.4.1

*Hazardous Materials Operations*

HMO-01.01 Trainee shall define the following terms:

NFPA 1072 5.2.1

A. hazard classes

B. hazard divisions

HMO-01.02 Trainee shall identify types of containers.

NFPA 1072 5.2.1

HMO-01.03 Trainee shall identify container identification markings.

NFPA 1072 5.2.1

HMO-01.04 Trainee shall identify piping and pipeline markings and contacting information.

NFPA 1072 5.2.1

HMO-01.05 Trainee shall identify types of information to be collected during the hazardous materials/WMD incident survey.

NFPA 1072 5.2.1

HMO-01.06 Trainee shall identify availability of shipping papers in transportation.

NFPA 1072 5.2.1

HMO-01.07 Trainee shall identify Safety Data Sheets (SDS) at facilities.

NFPA 1072 5.2.1

HMO-01.08 Trainee shall identify types of hazard information available from and how-to contact:

NFPA 1072 5.2.1/5.3.1

A. CHEMTREC

B. CANUTEC

C. SETIQ

D. Governmental Authorities

E. Manufactures

F. Shippers

G. Carriers (e.g., Highway, Rail, Water, Air, Pipeline)

HMO-01.09 Trainee shall communicate with carrier representatives to reduce impact of a release.

NFPA 1072 5.2.1

HMO-01.10 Trainee shall identify basic physical and chemical properties

NFPA 1072 5.2.1

- A. Boiling Point
- B. Chemical reactivity
- C. Corrosivity (pH)
- D. Flammable Range (LFL, UFL)
- E. Explosive Range (LEL, UEL)
- F. Flash Point
- G. Ignition Temperature (Autoignition)
- H. Particle Size
- I. Persistence
- J. Physical State (Solid, Liquid, Gas)
- K. Radiation (Ionizing, Nonionizing)
- L. Specific Gravity
- M. Toxic Products of Combustion
- N. Vapor Density
- O. Vapor Pressure
- P. Water Solubility

HMO-01.11 Trainee shall demonstrate how to identify the behavior of a material, and its container, based on the material's physical and chemical properties and the hazards associated with the identified behavior.

NFPA 1072 5.2.1

HMO-01.12 Trainee shall identify examples of potential criminal and terrorist targets.

NFPA 1072 5.2.1

HMO-01.13 Trainee shall identify Indications of possible criminal or terrorist activity for each of the following:

NFPA 1072 5.2.1

- A. Chemical agents
- B. Biological agents
- C. Radiological agents
- D. Illicit laboratories (e.g., clandestine laboratories, weapons labs, ricin labs)
- E. Explosives

HMO-01.14 Trainee shall identify additional hazards associated with terrorist or criminal activities such as secondary devices.

NFPA 1072 5.2.1

HMO-01.15 Trainee shall describe how to determine the likely harm and outcomes associated with the identified behavior and the surrounding conditions.

NFPA 1072 5.2.1

*Identify Action Options*

HMO-02.01 Trainee shall identify policies and procedures for Hazardous Materials/WMD incident operations.

NFPA 1072 5.3.1

HMO-02.02 Trainee shall identify basic components of an Incident Action Plan (IAP).

NFPA 1072 5.3.1

HMO-02.03 Trainee shall identify modes of operations:

NFPA 1072 5.3.1

A. Offensive

B. Defensive

C. Nonintervention

HMO-02.04 Trainee shall identify types of response objectives.

NFPA 1072 5.3.1

HMO-02.05 Trainee shall identify resources, objectives, and action options based on the scope of the problem and available resources.

NFPA 1072 5.3.1

HMO-02.06 Trainee shall identify types of actions options.

NFPA 1072 5.3.1

HMO-02.07 Trainee shall identify types of response information available from:

NFPA 1072 5.3.1

A. Emergency Response Guidebook (ERG)

B. Safety Data Sheets (SDS)

C. Shipping papers with emergency response information

HMO-02.08 Trainee shall identify safety procedures.

NFPA 1072 5.3.1

HMO-02.09 Trainee shall identify risk analysis concepts.

NFPA 1072 5.3.1

HMO-02.10 Trainee shall identify the purpose, advantages, limitations, and uses of PPE to determine if PPE is suitable for incident conditions.

NFPA 1072 5.3.1

HMO-02.11 Trainee shall identify whether approved PPE is suitable for the incident conditions.

NFPA 1072 5.3.1

HMO-02.12 Trainee shall identify difference between exposure and contamination.

NFPA 1072 5.3.1

HMO-02.13 Trainee shall identify contamination types including sources and hazards of carcinogens at incident scenes.

NFPA 1072 5.3.1

HMO-02.14 Trainee shall identify routes of exposure.

NFPA 1072 5.3.1/5.5.1

HMO-02.15 Trainee shall identify types of decontamination.

NFPA 1072 5.3.1/5.5.1

A. Emergency

B. Mass

C. Technical

HMO-02.16 Trainee shall identify the purpose, advantages, and limitations of emergency decontamination.

NFPA 1072 5.3.1/5.5.1

HMO-02.17 Trainee shall identify emergency decontamination needs based on the scope of the problem.

NFPA 1072 5.3.1

HMO-02.18 Trainee shall identify procedures, tools and equipment for performing emergency decontamination.

NFPA 1072 5.3.1/5.5.1

#### *Action Plan Implementation*

HMO-03.01 Trainee shall identify scene control procedures.

NFPA 1072 5.4.1

HMO-03.02 Trainee shall demonstrate how to establish and maintain scene control.

NFPA 1072 5.4.1

HMO-03.03 Trainee shall identify procedures for protective actions, including evacuation and sheltering-in-place.

NFPA 1072 5.4.1

HMO-03.04 Trainee shall identify procedures for ensuring coordinated communications between responders and to the public.

NFPA 1072 5.4.1

HMO-03.05 Trainee shall identify evidence recognition and preservation procedures.

NFPA 1072 5.4.1

HMO-03.06 Trainee shall demonstrate how to recognize and preserve evidence.

NFPA 1072 5.4.1

HMO-03.07 Trainee shall identify incident command organization.

NFPA 1072 5.4.1

HMO-03.08 Trainee shall identify purpose, importance, benefits, and organization of incident command at hazardous materials/WMD incidents.

NFPA 1072 5.4.1

HMO-03.09 Trainee shall identify policies and procedures for implementing incident command at hazardous materials/WMD incidents.

NFPA 1072 5.4.1

HMO-03.10 Trainee shall identify capabilities, limitations, inspection, donning, working in, and going through decontamination while wearing and doffing approved PPE.

NFPA 1072 5.4.1

HMO-03.11 Trainee shall demonstrate how to inspect, don, work in, and go through decontamination while wear and doffing approved PPE.

NFPA 1072 5.4.1

HMO-03.12 Trainee shall identify signs and symptoms of thermal stress.

NFPA 1072 5.4.1

HMO-03.13 Trainee shall identify safety precautions when working at hazardous materials/WMD incidents.

NFPA 1072 5.4.1

HMO-03.14 Trainee shall identify purpose, advantages, and limitations of cross decontamination.

NFPA 1072 5.4.1

HMO-03.15 Trainee shall identify the need for cross decontamination in the field based on the tasks performed and contamination received, including sources and hazardous of carcinogens at in incident scenes.

NFPA 1072 5.4.1

HMO-03.16 Trainee shall identify cross decontamination procedures for personnel, tools, equipment, and PPE.

NFPA 1072 5.4.1

- HMO-03.17 Trainee shall demonstrate conducting cross decontamination of contaminated personnel, tools, equipment, and PPE in the field.  
NFPA 1072 5.4.1
- HMO-03.18 Trainee shall identify cleaning, disinfecting, and inspecting tools, equipment, and PPE.  
NFPA 1072 5.4.1
- HMO-04.01 Trainee shall define the following terms:  
NFPA 1072 5.5.1
- A. Contamination
  - B. Cross Contamination
  - C. Exposure
- HMO-04.02 Trainee shall identify contamination types.  
NFPA 1072 5.5.1
- HMO 04.03 Trainee shall identify policies and procedures for performing emergency decontamination.  
NFPA 1072 5.5.1
- HMO 04.04 Trainee shall demonstrate selecting an emergency decontamination method.  
NFPA 1072 5.5.1
- HMO 04.05 Trainee shall demonstrate setting up emergency decontamination in a safe area.  
NFPA 1072 5.5.1
- A. Use PPE in proper manner
  - B. Implement emergency decontamination
  - C. Prevent spread of contamination
  - D. Avoid hazards during emergency decontamination
- HMO 04.06 Trainee shall identify hazard avoidance for emergency decontamination.  
NFPA 1072 5.5.1
- Progress Evaluation and Reporting*
- HMO 05.01 Trainee shall identify the components of progress reports.  
NFPA 1072 5.6.1
- HMO 05.02 Trainee shall identify policies and procedures for evaluating and reporting progress.  
NFPA 1072 5.6.1
- HMO 05.03 Trainee shall demonstrate use of approved communication tools and equipment.  
NFPA 1072 5.6.1
- HMO 05.04 Trainee shall determine incident status using approved communications tools and equipment and



communicate that status of assigned tasks.

NFPA 1072 5.6.1

HMO 05.05 Trainee shall identify signs indicating improving, static, or deteriorating conditions based on the objectives of the action plan.

NFPA 1072 5.6.1

HMO 05.06 Trainee shall identify circumstances under which it would be prudent to withdraw from a hazardous materials/WMD incident.

NFPA 1072 5.6.1

### *Personal Protective Equipment*

HMO 06.01 Trainee shall identify policies and procedures for PPE selection and use.

NFPA 1072 5.6.1

HMO 06.02 Trainee, when selecting and using PPE, shall identify importance of working under the guidance of a:

NFPA 1072 5.6.1

- A. hazardous materials technician;
- B. Allied professional;
- C. Emergency Response Plan;
- D. Standard Operating Guidelines

HMO 06.03 Trainee shall identify the capabilities and limitations of and specialized donning, doffing, and usage procedures for approved PPE.

NFPA 1072 5.6.1

HMO 06.04 Trainee shall identify the components of an incident action plan (IAP).

NFPA 1072 5.6.1

HMO 06.05 Trainee shall identify the procedures for decontamination, inspection, maintenance, and storage of approved PPE.

NFPA 1072 5.6.1

HMO 06.06 Trainee shall identify process for being decontaminated while wearing PPE.

NFPA 1072 5.6.1

HMO 06.07 Trainee shall identify procedures for reporting and documenting the use of PPE.

NFPA 1072 5.6.1

### *Product Control*

HMO 07.01 Trainee shall identify types of PPE and the hazards for which they are used.

NFPA 1072 6.6.1

HMO 07.02 Trainee shall demonstrate selecting and using PPE.

NFPA 1072 6.6.1

HMO 07.03 Trainee shall identify the importance of working under the guidance of a:

NFPA 1072 6.6.1

- A. hazardous materials technician;
- B. Allied professional;
- C. Emergency Response Plan;
- D. Standard Operating Guidelines

HMO 07.04 Trainee shall define the following:

NFPA 1072 6.6.1

- A. Control
- B. Confinement
- C. Containment
- D. Extinguishment

HMO 07.05 Trainee shall identify policies and procedures.

NFPA 1072 6.6.1

HMO 07.06 Trainee shall identify Product Control Methods for controlling a release with limited risk of personal exposure.

NFPA 1072 6.6.1

HMO 07.07 Trainee shall select and perform product control techniques to confine/contain the release with limited risk of personnel exposure using approved control agents and equipment on a release involving hazardous materials/WMD.

NFPA 1072 6.6.1

HMO 07.08 Trainee shall identify safety precautions associated with each product control method.

NFPA 1072 6.6.1

HMO 07.09 Trainee shall identify the location and operation of the remote/emergency shutoff devices in cargo tanks and intermodal tanks in transportation and containers at facilities that contain flammable liquids and flammable gases.

NFPA 1072 6.6.1

HMO 07.10 Trainee shall demonstrate using remote control valves and emergency shutoffs devices on cargo tanks and intermodal tanks in transportation and containers at fixed facilities.

NFPA 1072 6.6.1

HMO 07.11 Trainee shall identify the characteristics and applicability of approved product control agents.

NFPA 1072 6.6.1

HMO 07.12 Trainee shall perform product control techniques.

NFPA 1072 6.6.1

HMO 07.13 Trainee shall identify use of approved tools and equipment.

NFPA 1072 6.6.1

HMO 07.14 Trainee shall identify the requirements for reporting and documenting product control operations.

NFPA 1072 6.6.1