



**HAZARDOUS
MATERIALS
OPERATIONS**

Type _____ protects materials with higher radioactivity levels, including spent nuclear fuel. Size ranges from small hand-held radiography cameras to small drums to heavily shielded steel casts that can weigh more than 125 tons.

B

Chemicals that will cause exposures to have seizures or muscle contractions of the body are called:

Convulsants

This type of intermodal tank carries refrigerated liquefied gases:

Cryogenic intermodal tank

A chemical that causes a substantial proportion of exposures to develop an allergic reaction in normal tissue after repeated exposure is known as a (n):

sensitizer

The item on a pesticide label that gives the concentration in a percentage is the:

active ingredient

The death of 50 % of a group of test animals exposed to it by any route other than inhalation is known as:

lethal dose (LD50).

A product commonly carried in this type of tank is propane.

**high pressure
liquid cargo tank**

The process by which people, equipment, and the environment are subjected to a hazmat is known as:

Exposure

Two ways to verify information obtained from the survey of a HazMat incident is by contacting CHEMTREC and the:

**shipper of the
material**

The ways a container can breach are:

disintegration

runaway cracking

closures opening up

splits and tears

puncture

A Steel cylindrical pressure tank approximately 3 feet in diameter and 8 feet long with convex or concave head is known as a _____ container.

ton

The ability of material to release energy by either by itself or in a combination with other materials is known as:

chemical reactivity.

The ways a container can release their contents are:

detonation

spills/leaks

violent rupture

rapid relief

Highway transportation vehicles including cargo tanks may be identified by shipping papers, company logos, and the manufacturer:

Specification plate

Under which circumstance would it be prudent (a good idea) to withdraw (get out of) from a HazMat incident?

There is nothing that can be done to mitigate the incident.

These packages are rarely used and pose the most hazardous amounts of radiation:

Type C

The communication method used for relaying information on the status of the planned response to the IC is through which chain of command?

Normal

This element of a pesticide label gives steps that if taken, will limit the user from the product's hazards:

Precautionary Statement

When surveying a HazMat incident, which of the following conditions would NOT be considered:

Command Post Size

As a responder you must determine the advantages that you may get from intervention or non- intervention, two factors that help make this decision are the amount and concentration of the material released and the number of _____ in the endangered area.

exposures

Nonflammable, nonpoisonous, compressed gases
are classified as:

2.2

Which heat exchange units used by personnel operating in PPE is the most effective method for controlling body temperatures but has the following disadvantages: adding both weight, and bulk, while requiring an ice supply or a refrigeration unit to cool the water.

water cooled

A material that has an negative effect on aquatic (marine) life is identified as a(n):

marine pollutant

Tech decontamination is normally established in support of emergency responder entry operations at a hazmat incident and will follow local:

organizational procedures (SOP)

Explosive devices that present "a minor explosion hazard", are found in what class / division?

1.4

IMO type 7 and Tube module containers are referred to as _____ containers:

special

If you see visible signs such as, charring, shrinking, and swelling of your PPE suits this indicates that _____ is occurring.

degradation

During a Haz-Mat incident, emergency responders can obtain SDSs from CHEMTREC and

the shipper.

This element of a pesticide label indicates the relative level of severity of the product:

Signal Word

The weakening of the PPE's material by exposure to chemicals is referred to as:

degradation

What Class and Division consists of: "gases that are known to be toxic to humans as to pose a hazard to health during transportation"?

2.3

What would a responder NOT use to adjust the control zones of the HazMat incident:

**NFPA 472
guidelines.**

What of the following Classes/Divisions contain materials: "that can, generally by yielding oxygen, cause or enhances the combustion of other materials"?

5.1

What type of equipment can help responders assess the hazard and determine what protective equipment they should use?

monitoring

The section of the Safety data Sheet that contains information such as permissible exposure limits (PEL) and required PPE is the _____ section.

exposure controls/personal protection

This element of a pesticide label discusses the hazards associated with the product:

Hazard Statement

What are 2 things that WOULD NOT be included in a safety briefing prior to allowing personnel to work at a HazMat incident involving criminal or terrorist activities:

ATF involvement

Medical Monitoring

The zone immediately surrounding the Haz-Mat/WMD incident where adverse effects of the hazard can occur to personnel is the:

Hot Zone

This responder has the authority to alter, suspend or terminate activities at an incident deemed to be unsafe:

Safety Officer

This level of Incident is well within the capabilities
of a fire fighter:

Level I

Which cargo tank has a large un-insulated container for unloading?

Dry bulk cargo tank

Which Cargo tank is often coated with a black, tar-like material to protect the surface from the contents?

Corrosive cargo tank

What tank has a permanently attached, sloped roof with weak seems?

Cone roof tank (non pressure)

What is the capacity of a Floating roof tank? (with or without geodesic dome)

1,000,000 gallons

At what temperature are cryogenic tank cars refrigerated at?

-130 degrees F

What is the pressure range for the IM 101?

25.4-100 PSI

What is the pressure range for tube modules?

3,000-5,000 psi

What is the capacity of a horizontal tank?

20,000 gallons

What is the working pressure of ALL non pressure facility tanks?

0-0.5 psi

A sphere can hold up to how many gallons of product?

600,000 gallons

What type of drum has no noticeable openings?

**Open head (chime
ring)**

Which container has an inner containment vessel made of glass, plastic or metal surrounded by packing material of polyethylene, rubber, vermiculite, or wood?

Type A Radioactive

What type of radioactive material container transports spent nuclear fuel rods?

Type B

"X" indicates a tank car is not owned by the railroad. True or False

True

Does the NFPA symbol Identify the product?

No

A radioactive placard with two red vertical bars is what level of hazard?

medium

What are the ways to verify information?

- ERG
- Chemtrec
- Shipper
- Electronic databases

Prilled ammonium nitrate is in what hazard class and division?

1.5

What are two methods for contacting the shipper or manufacturer?

- Chemtrec
- MSDS or Shipping
papers

What are resources for determining the size of the endangered area?

- ERG
- Chemtrec
- Plume dispersion models

What resources are available for determining the concentrations of a released material

- Technical assistance
- Dispersion modeling programs
- Monitoring equipment

What is the first step when determining the number of exposures that could be saved?

- First- determine the total number of exposures
- Second- determine the number of exposures already lost
- Third- estimate the effectiveness of the chosen action plan

What provides the highest level of respiratory protection?

SCBA

What component of the SCBA provides the user with uncontaminated positive pressure air?

**Face piece assembly
(mask)**

What are the limitations of the Supplied Air Respirator (SAR)?

- Impairs mobility
- 300 feet hose limit
- Tangled/twisted hose
- Must enter and leave at the same point

What are the components of the SCBA?

- Face piece
- Backpack and harness assembly
- Cylinder assembly
- Regulator assembly controls

What are the advantages of the closed circuit SCBA?

- Longer operating time (up to 4 hours)
- Warning signal when 20-25 Percent of oxygen remains
- Protects wearer from CO₂ breakthrough

Which types of respiratory protection can not be used in IDLH conditions.

- Air Purifying Respirator (APR)
- Particulate respirator

What is the highest level of respiratory and skin protection?

Level A

What high temperature protective clothing is designed for total flame environments?

Fire-entry suits

In order to use Level C protection what level must the oxygen be at?

19.5 percent

What is the weakening or destruction of a material, caused by rubbing against rough surfaces, or leaning/brushing against sharp objects?

Physical degradation

What is the movement of a chemical through the suit's closures, cracks or tears?

Penetration

What is the most effective method for controlling body core temperatures?

Water cooled

Which cooling method requires an ice source at the scene?

Ice cooled

Pre entry medical monitoring should be completed within how many hours?

1 Hour

Maintenance, testing, inspection, storage, and documentation procedures should be conducted according to who's specification?

Manufacturers

Which method of cooling requires a large quantity of breathable air?

Air cooled

What can be used to determine the location of the control zones at hazardous materials incidents?

- ERG
- CHEMTREC/CANUTEC/SETIQ
- Personal Observations

When establishing scene control through control zones, responders must realize that control zones are STATIC. True or False

FALSE

The process of moving people at risk from a threatened area to safety.

Evacuation

Directing people to seek immediate shelter inside a building or to remain inside a building in the hot zone or the warm zone

Sheltering in-place protection

One of the primary responsibilities of Hazmat responders is to collect evidence at hazardous materials incidents involving suspected criminal or terrorist acts. True or false

False

All of the following are elements of the Incident Management System, Except?

- Finance/Administration**
- Intelligence**
- Logistics**
- Operations**
- Planning**

Which of the following safety precautions must be observed when approaching and working at hazardous materials incidents.

- Approach from Uphill & Downwind
- Approach from Downhill & Downwind
- Approach from Uphill & Upwind
- Approach from Downhill & Upwind
- It doesn't matter, just get there as fast as you can