



CERT Basic Training

Unit 6: Fire Safety and Utility Controls



FEMA

Unit Objectives



1. Explain the role CERTs play in fire safety and response, including the CERT size-up process and minimum safety precautions
2. Extinguish a small fire using a fire extinguisher
3. Identify and reduce potential fire, utility, and hazardous materials hazards at home and in the community



Role of CERTs



- CERTs play very important role in fire safety by:
 - Extinguishing small fires
 - Preventing additional fires by removing fuel sources
 - Shutting off utilities
 - Assisting with evacuations, when necessary



CERT Priorities



- Rescuer safety is number one priority
 - Always work with a buddy
 - Always wear safety equipment

CERT Goal:

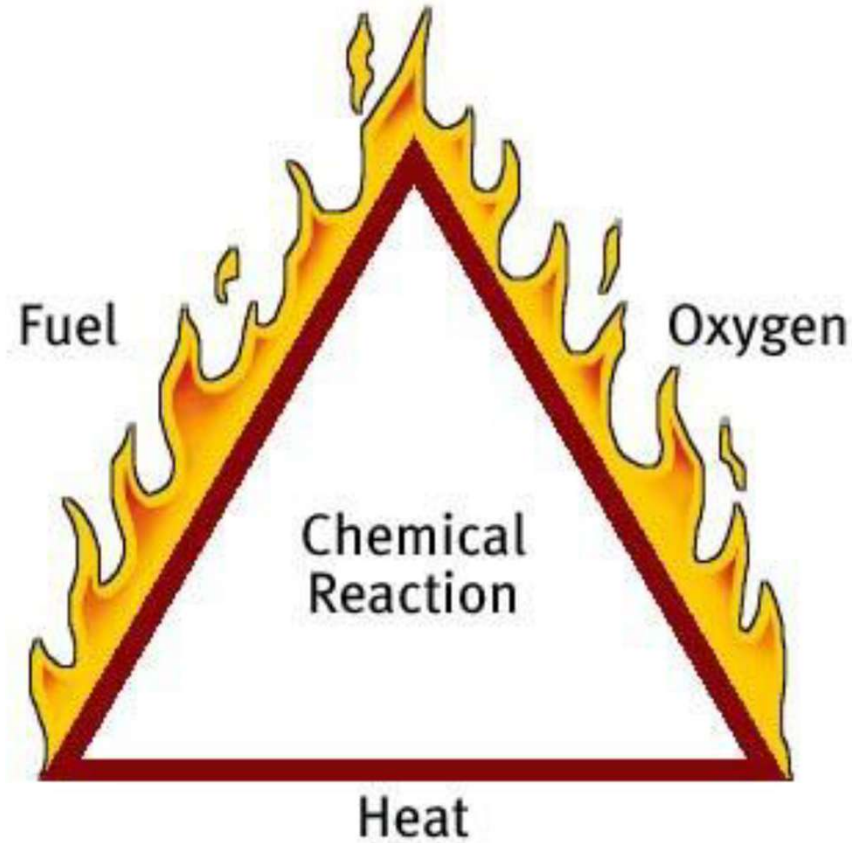
Do the greatest good for the greatest number



The Speed of Fire



The Fire Triangle



Classes of Fire



- Class A: Ordinary combustibles
- Class B: Flammable and combustible liquids
- Class C: Energized electrical equipment
- Class D: Combustible metals
- Class K: Cooking oils

CERT Fire Size-up



- Helps CERT volunteers decide:
 - Whether to attempt to suppress a fire
 - A plan of action
- Answers these questions:
 - Do my buddy and I have the right equipment?
 - Are there other hazards?
 - Is the building structurally damaged?
 - Can my buddy and I escape?
 - Can my buddy and I fight the fire safely?

Remember: The safety of individual CERT volunteers is always the top priority

PM 6-4



Firefighting Resources



- Local fire department
- Fire alarm system
- Sprinkler systems
- Portable fire extinguishers
- Interior wet standpipes



PM 6-7

Fire Extinguishers



- Water
- Dry chemical
- Carbon dioxide
- Specialized



PM 6-7

Extinguisher Rating/Labeling



- Labels show types of fires for which that extinguisher is used
 - Class A fire ratings: 1A to 40A
 - Class B fire ratings: 1B to 640B
- Higher number on label = greater amount of extinguishing agent

Sample Label



Fire Extinguisher Disposal



- Completely discharged? Place it in your regular household trash bag.
- Still full/charged, but expired? Bring to San Mateo County Household Hazardous Waste Program.
- **WARNING:** Fire extinguishers that are not completely empty are considered hazardous material and should never be thrown in the trash. The contents in the cylinder are under pressure and could cause a dangerous explosion.

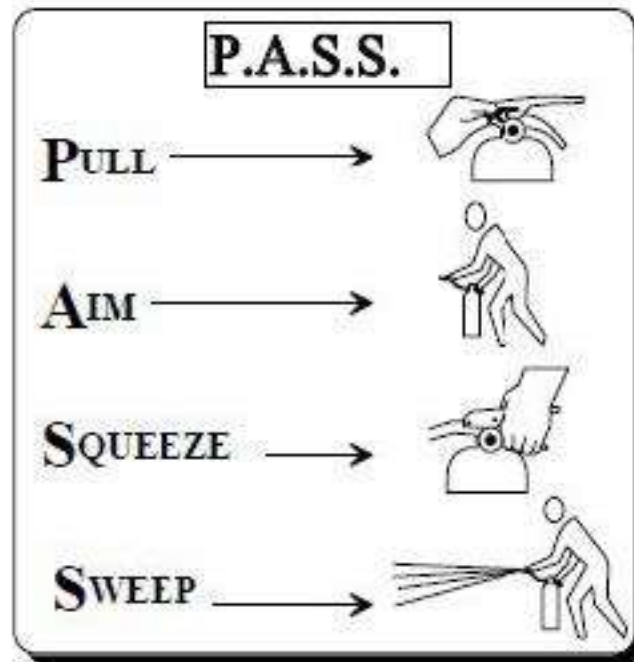
Fire Suppression Safety



Safety of individual CERT members is top priority



P.A.S.S.



Test the extinguisher after pulling the pin

Interior Wet Standpipes



- Usually found in commercial buildings or apartments
- CERT volunteers should not operate



Fire Suppression Do's



- Get everyone out of the building
- Call 9-1-1
- Consider using your fire extinguisher

If your clothing is on fire

Stop, Drop, and Roll



Fire Suppression Don't's



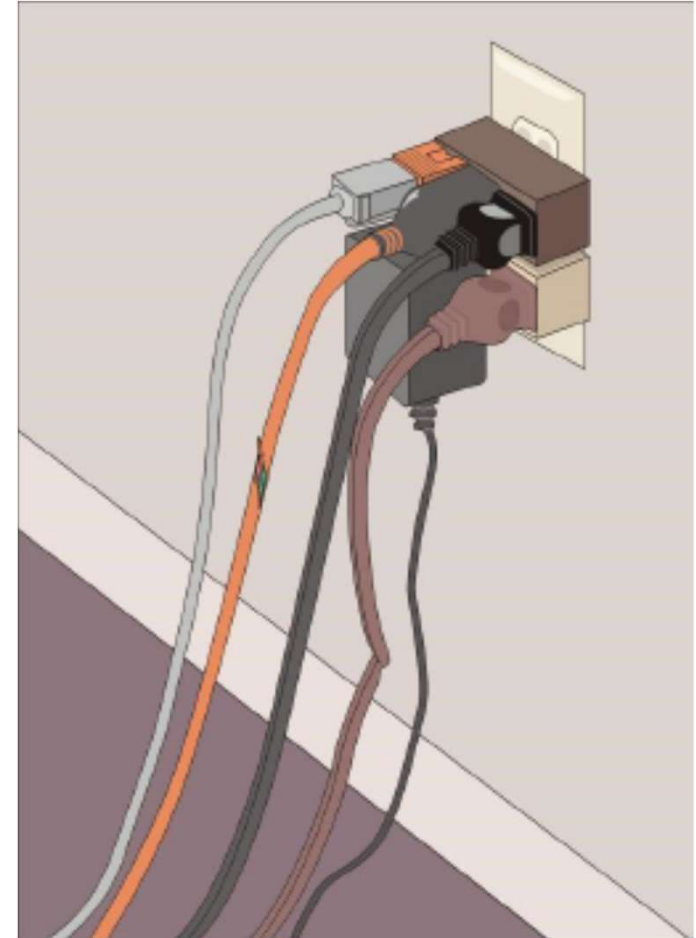
- Don't get too close
- Don't try to fight a fire alone
- Don't try to suppress large fires
- Don't enter smoke-filled areas



Reducing Electrical Hazards



- Avoid the “electrical octopus”
- Don’t run cords under carpets
- Check for and replace broken or frayed cords
- Maintain appliances



PM 6-14

Electrical Emergencies



- Know where power shutoffs are
 - Appliances
 - Circuit breakers
 - Fuses
- Post shutoff directions next to all utilities
- Know procedures for turning power back on after the fire

Shutoff Procedures



- Circuit box with shutoff
- Fuse box with shutoff

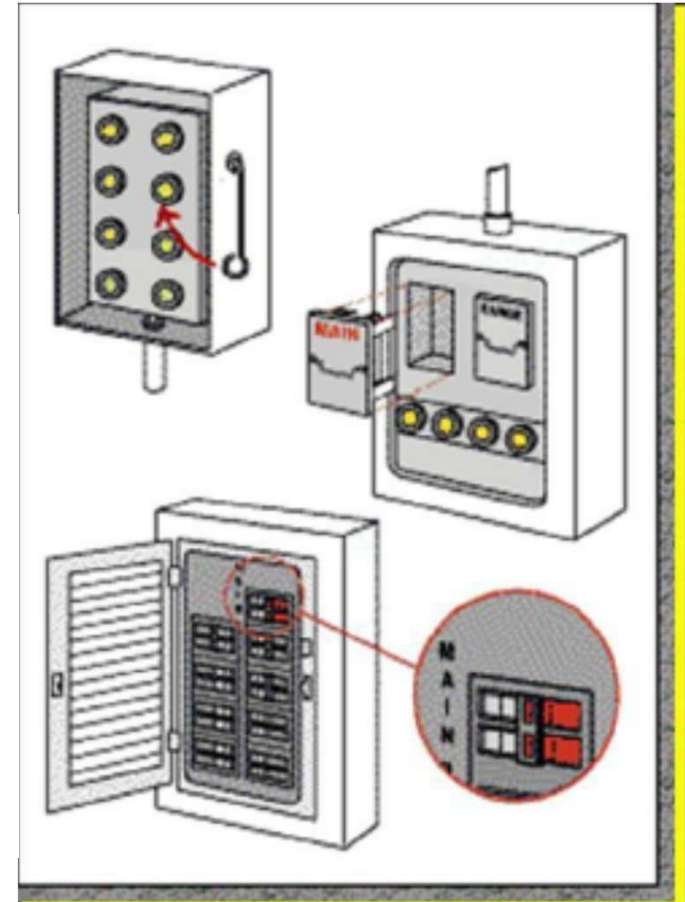
Turn off the electricity when

- your home is threatened by fire or flood
- arcing or burning occurs
- you smell burned insulation
- plugs or switches are hot or blackened

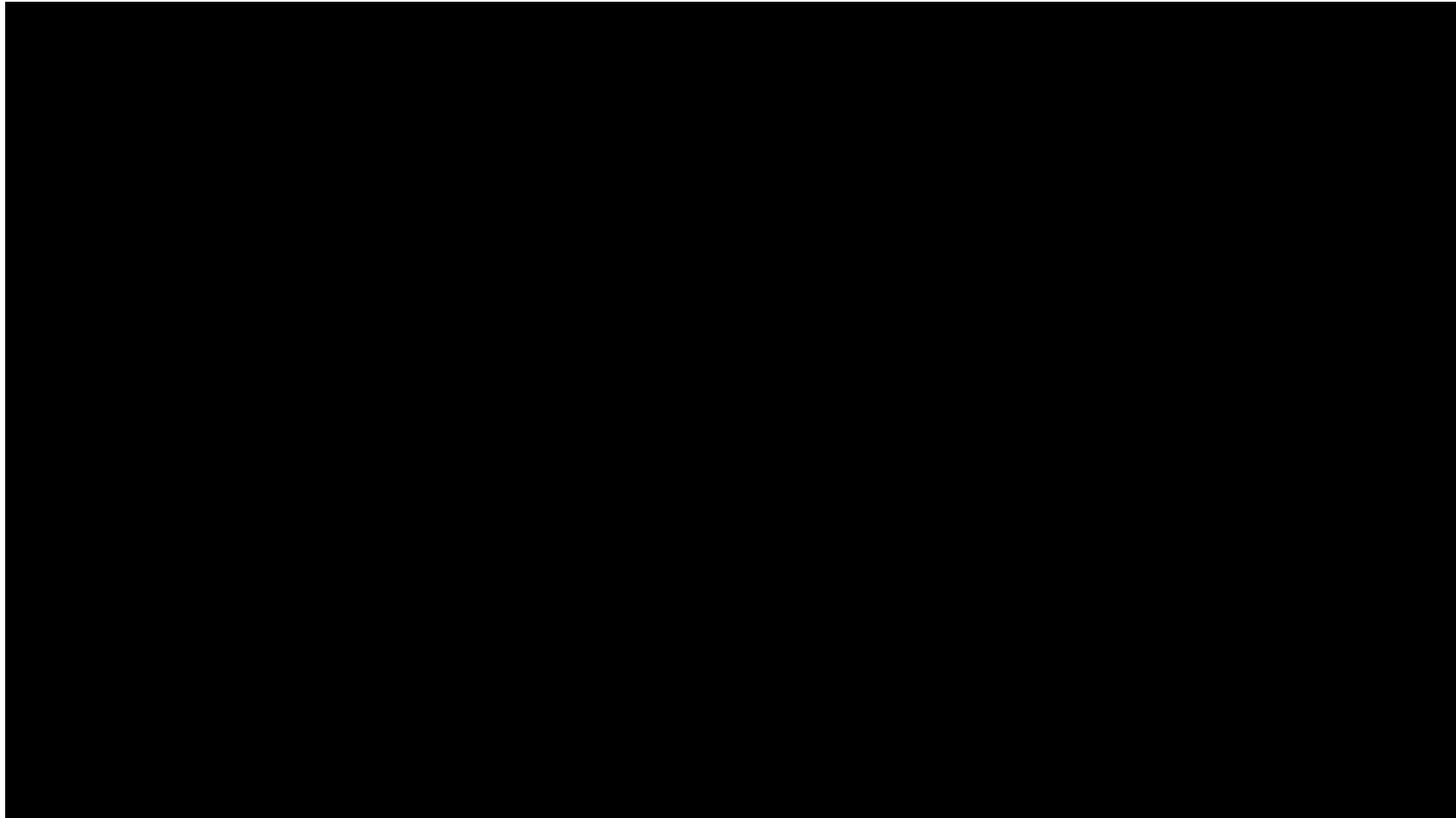
Label all circuits and learn how to turn them off

You can safely turn the electricity back on

Treat all downed lines as lethal hazards



Electrical Emergencies



Natural Gas Hazards



- Asphyxiant
 - Displaces oxygen in the body
- Explosive
 - Can readily ignite under the right conditions



Natural Gas Hazard Awareness

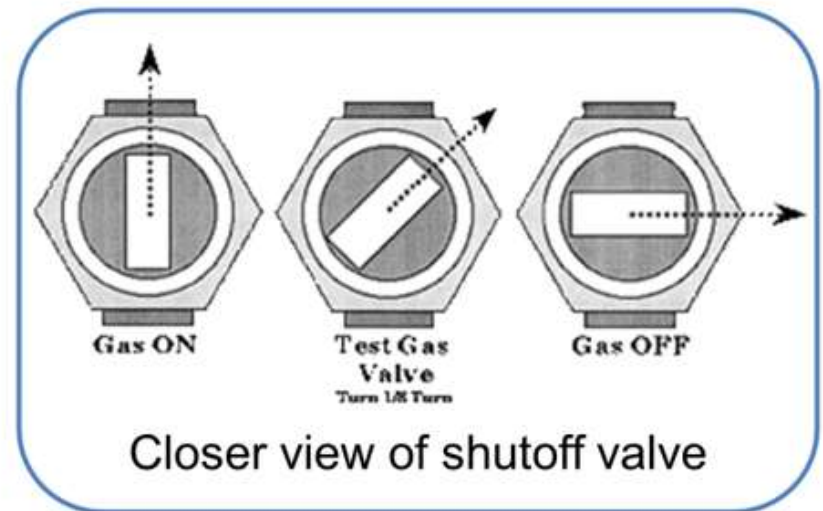
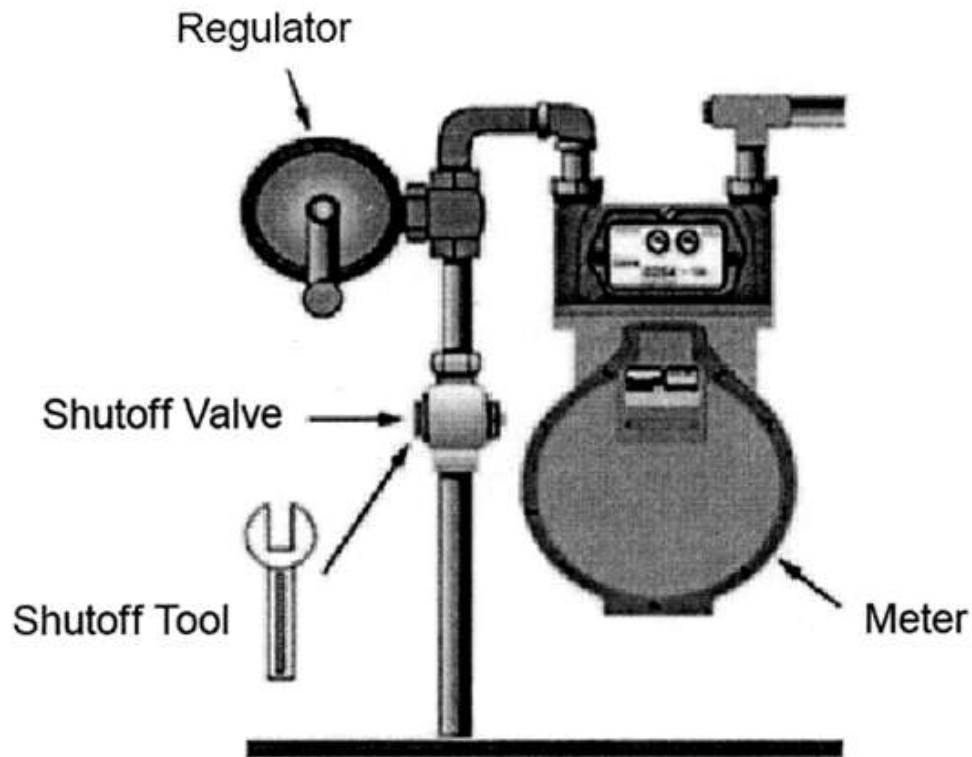


- Install natural gas detector
- Install carbon monoxide detector in home
- Test batteries for natural gas and carbon monoxide detectors every month
 - Change batteries every six months
- Locate and label gas shutoffs
 - Have proper non-sparking tool

Natural Gas Hazard Awareness



Where is your gas meter?



Gas Shutoff



Utilities: Natural Gas

SHUT OFF THE GAS IF YOU



Smell
Gas



Hear
Hissing
Sounds



See the
Gas Meter
Wheels Spinning

Or if the building has collapsed (But only if it is **SAFE** to do so)

Once you turn off the gas, **DO NOT** turn it back on!

Gas Shutoff



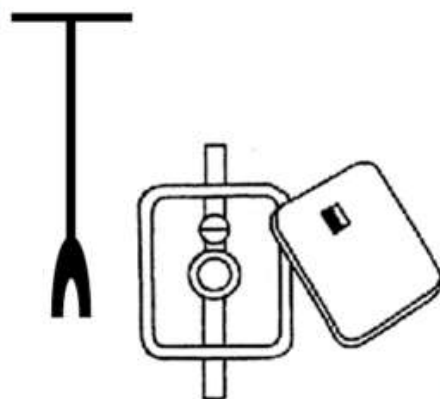
- Locate and label gas shutoff valves
- If not automatic, know procedures for shutting off gas



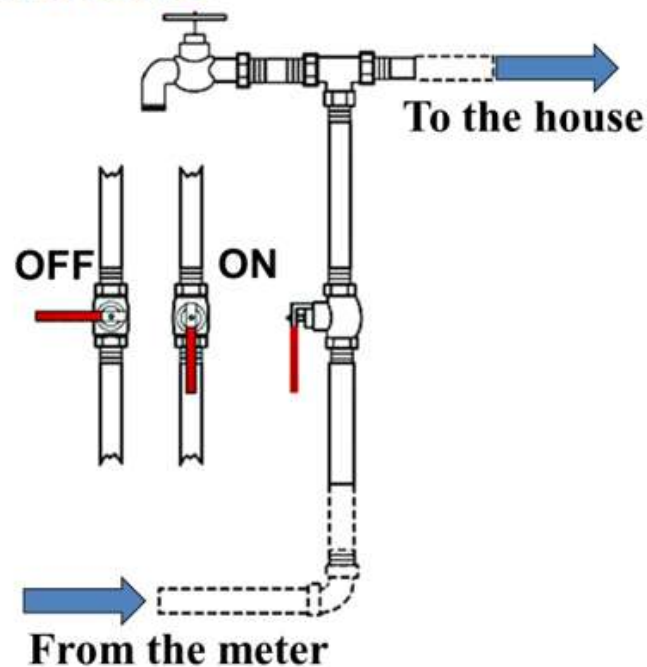
Water Shutoffs



Residential Water Shutoffs



Water meter shutoff at the street
and shutoff tool



Shutoff in front of the house

Sewage



After an earthquake, sewer lines may be damaged.
If in doubt, DO NOT flush!

Sewage: Alternate Toilet Options



How to use a dry toilet bowl or 5 gallon bucket with a lid



- Line dry toilet bowl or bucket with 2 heavy duty trash bags
- Use only for solid human waste
- Use kitty litter or shredded newspaper for absorbency
- Keep closed when not in use
- Place full bags in a trash can labeled “human waste” and store well away from human activity
- Urinate in a *separate bucket* and dispose away from human activity where it will not affect waterways
- Practice good hygiene

L.I.E.S.



- Always read labels
- Use L.I.E.S. storage procedures
 - (Limit, Isolate, Eliminate, Separate)



Household Hazardous Waste



- HHW (Household Hazardous Waste) includes products that are toxic, corrosive, flammable, or reactive, such as batteries, paint, solvents, fertilizers, and pesticides.
- Check the label: Products marked Caution, Warning, Danger, or Poison should be treated as hazardous waste.
- Make an appointment for free and safe HHW disposal through San Mateo County's HHW Program.

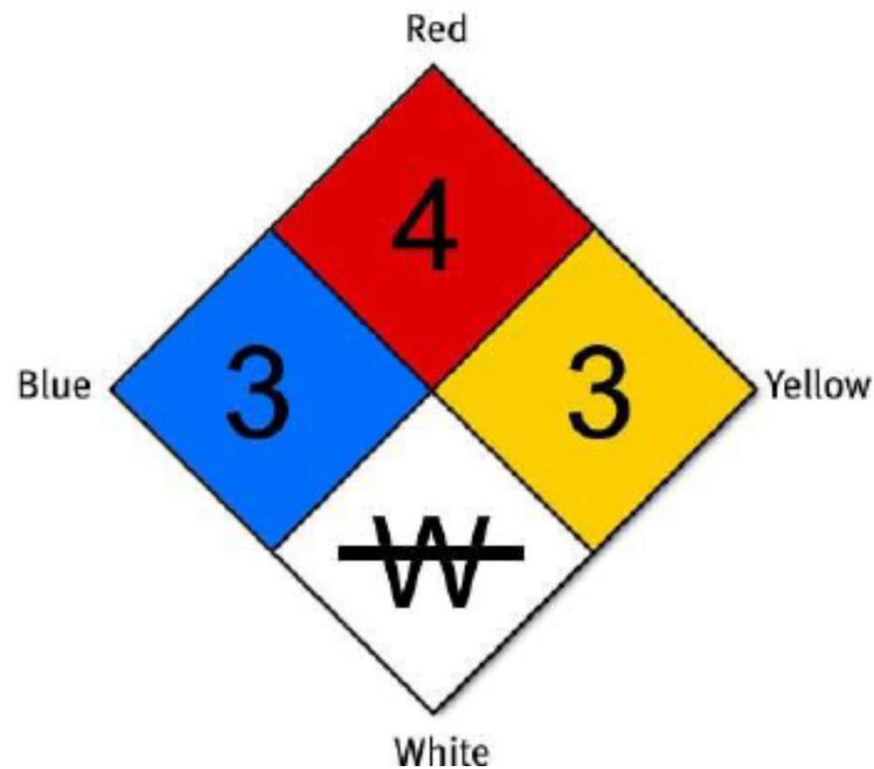


Hazardous Materials



- Corrode other materials
- Explode or are easily ignited
- React strongly with water
- Are unstable when exposed to heat or shock
- Are otherwise toxic to humans, animals, or the environment through absorption, inhalation, injection, or ingestion

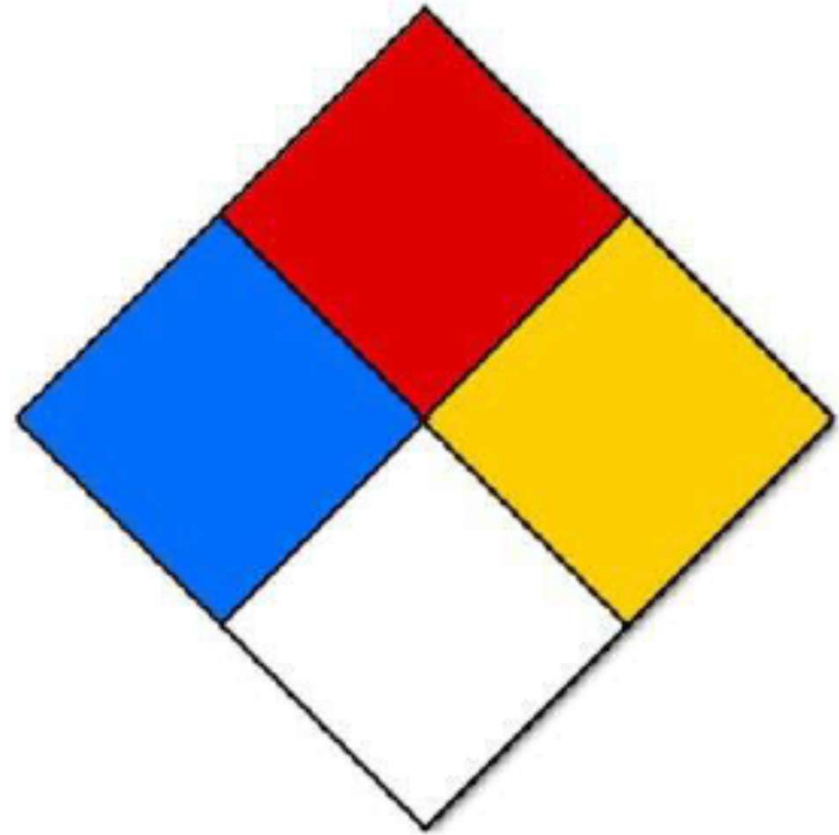
Identifying Stored Hazardous Materials



The White Quadrant



- NFPA 704 Diamond
White Quadrant:
 - W: Shows unusual reactivity with water
 - OX: Possesses oxidizing properties



STOP!



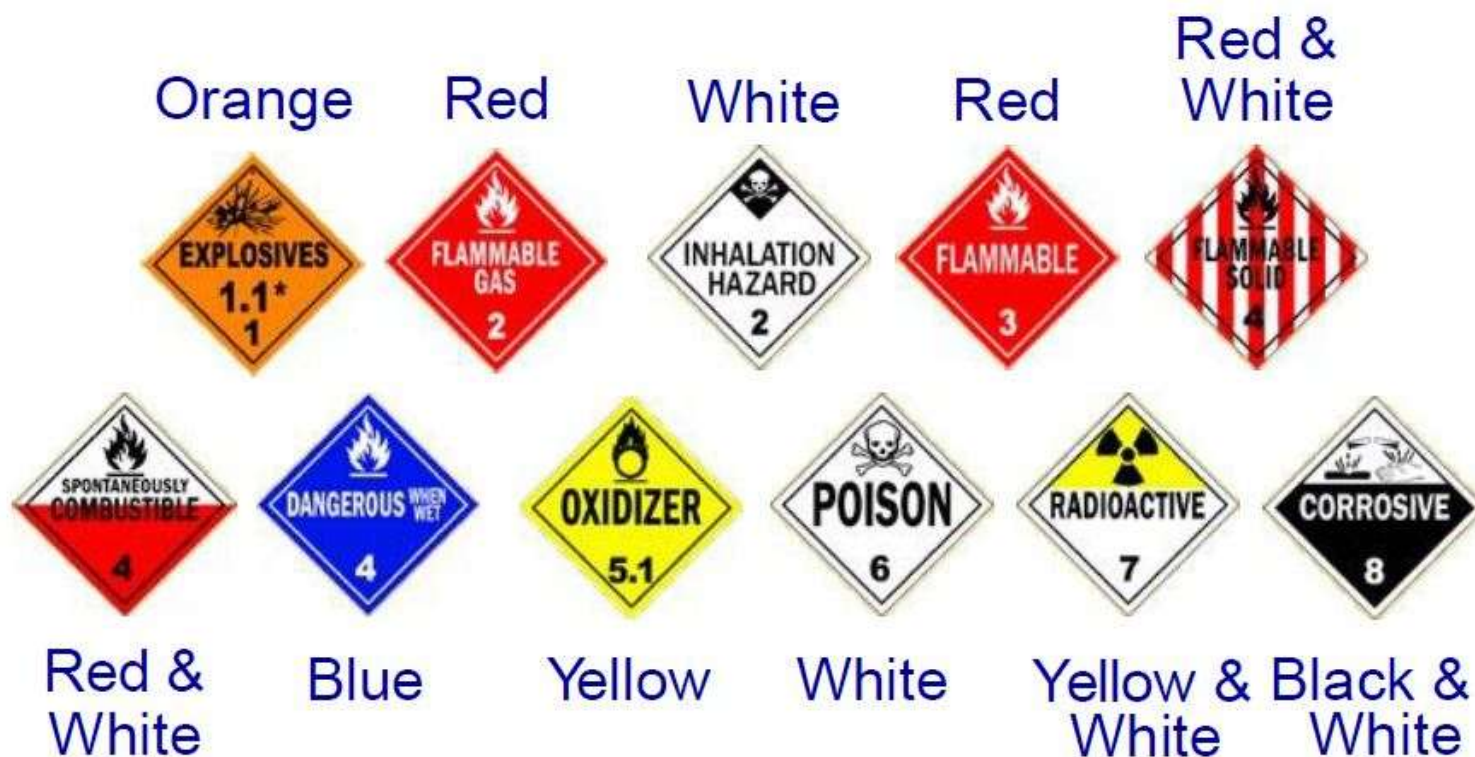
Global Harmonized System



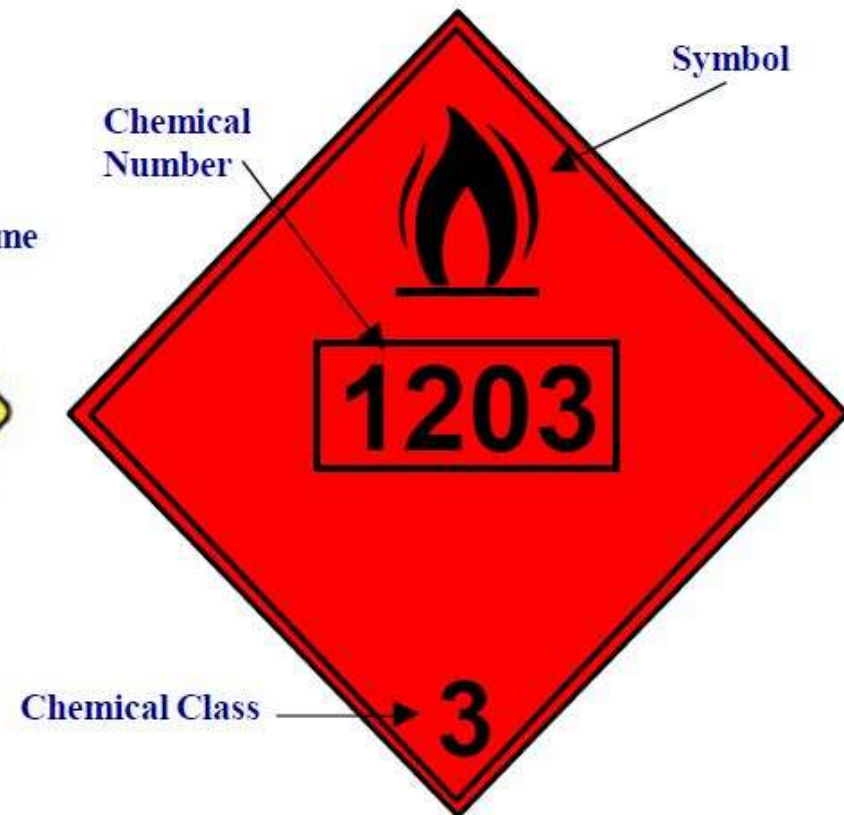
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration toxicity	• Flammable • Pyrophoric • Self-Heating • Self-Flammable Gas • Self-Reactives • Organic Peroxides	• Irritants (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Harsh Irritant • Respiratory Tract Irritant • Hazardous to ozone layer (non-mandatory)
• Gases Under Pressure	• Skin Corrosion/Burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
• Oxidizers	• Environmental Toxicity	• Acute Toxicity (fatal or toxic)

PM 6-20

HazMats in Transit



UN and NA Placards



Greater Than 1?



Remember:

All hazardous material placards are a stop sign for CERT volunteers!

Exercise 6.1



- Practice using a portable fire extinguisher to suppress a small fire
- Apply teamwork to fire suppression

Unit Summary



- You should know:
 - Keys to effective fire suppression
 - Classes of fire and types of fire extinguishers
 - P.A.S.S.
 - How to identify hazardous materials

Always follow the safety rules established for CERTs. Personal safety comes first!



Homework Assignment



- Read unit to be covered in next session
- Bring necessary supplies to next session
- Wear appropriate clothes to next session

