Centurion Safety Education

MONTHLY REFRESHER TRAINING
BLOODBORNE PATHOGENS

January – Week 1

BLOODBORNE PATHOGENS

Even though rendering first aid is not part of your job, there is always a chance that you could into contact with potentially infectious materials.

If you do choose to render first aid or could come in contact with blood or body fluids follow these precautions to protect yourself and your co-workers.

UNIVERSAL PRECAUTIONS: PROTECTING YOURSELF FIRST

When dealing with blood or potentially infectious materials, always use **Universal Precautions**.

Universal Precautions mean: Treat all blood and certain body fluids as if they are infectious every time. This way you do not need to know:

- Who the blood belongs to
- How much blood is present
- Whether it "looks clean"

If blood or blood-contaminated fluid is involved, **assume risk and protect yourself**.

Remember:

- Even small or unseen amounts can matter
- **Dried body fluids can contain live pathogens for days**

WHAT ARE BLOODBORNE PATHOGENS?

Bloodborne pathogens are **infectious microorganisms** that may be present in human blood and certain body fluids. Once inside the body, they can cause serious diseases.

Common examples include Hepatitis B (HBV), Hepatitis C (HCV), and Human Immunodeficiency Virus (HIV)

These hazards are often **invisible at the moment of exposure** and may not cause immediate symptoms.

HOW EXPOSURE ACTUALLY HAPPENS

Most people picture needle sticks or large amounts of visible blood, but that is **not** how most exposures occur.

Exposure can happen through:

- Needle sticks or sharps
- Contact with blood or blood-contaminated fluids through:
    - Cuts
    - Scrapes
    - Cracked knuckles
    - Hangnails
    - Eyes, nose, or mouth (mucous membranes)

Important: You do not need to see blood for an exposure to occur.
If blood-contaminated fluid reaches broken skin or mucous membranes, it counts.

Different pathogens behave differently, but they all target the **liver** — an organ that can be damaged **without pain or early warning**.

Exposure does not always result in infection.

However, even small or unnoticed exposures can carry risks. especially when they involve broken skin or mucous membranes. Prompt reporting allows healthcare professionals to assess risk and provide time-sensitive treatment when needed.

PPE FOR UNIVERSAL PRECAUTIONS

Use PPE whenever contact with blood or body fluids is possible:

- Gloves when handling contaminated items
- Eye and face protection if splashing or spraying is possible
- Protective clothing or gowns if clothes could become soiled
- CPR barrier devices to reduce mouth-to-mouth contact

Gloves are disposable. Change them as needed and **wash hands immediately after removal**.

CLEANUP & DISPOSAL

- All disposable items contaminated with blood or body fluids must be:
  - Properly removed
  - Red-bagged
  - Placed in approved biohazard containers
- Contaminated surfaces must be:
  - Secured
  - Cleaned
  - Disinfected immediately
- **Only trained and authorized personnel** may clean or disinfect blood or body fluids

Never eat, drink, smoke, or chew in areas that may be contaminated.

IF AN EXPOSURE OCCURS

If you are exposed to blood or potentially infectious materials:

- Immediately wash the area with soap and warm water
  (Flush eyes with clean water if splashed)
- Notify your supervisor immediately
- Seek medical evaluation — timing matters
- Document the exposure per company procedures
- Reporting protects **you**, not just paperwork.

FIRST AID & EXPOSURE CONTROL

- Provisions for medical attention must be made before work begins
- Only employees with current first-aid certification should render emergency first aid
- First aid kits must be:
  - Known to all employees
  - Easily accessible
  - Stored in weatherproof cases
- Supervisors must inspect kits monthly and replace missing or used items promptly

Hepatitis B = *"The Terminator"* (This One Is Feared):

- Up to **100× more infectious than HIV**
- Can survive in **dried blood on surfaces for at least 7 days**
- Requires only a **very small amount of blood** for exposure
- Can enter through **cuts, eyes, nose, or mouth**
- **Highly effective vaccine available**

Attack Style: Aggressive and efficient. Uses liver cells to replicate and cause inflammation.

Hepatitis C = *"Michael Myers"* (The Silent Threat):

- **75–85%** of infections become chronic
- Most people have **no symptoms for years or decades**
- Leading cause of **chronic liver disease and liver transplants**
- **No vaccine available**

Attack Style: Slow, quiet damage. Scar tissue builds over time without warning.

Hepatitis A = *"The Joker"* (Fast & Chaotic):

- Spread through **fecal–oral contact** (dirty hands, contaminated food)
- Symptoms appear **quickly** compared to other hepatitis viruses
- Does **not** usually become chronic
- Highly contagious when hygiene is poor

Attack Style: Sudden liver inflammation that shuts people down fast.

Hepatitis D = *"Venom"* (The Multiplier):

- **Cannot exist without Hepatitis B**
- Causes **more severe disease** when paired with Hep B
- Accelerates liver damage
- Prevented by **Hepatitis B vaccination**

Attack Style: Amplifies damage once another villain opens the door.

Hepatitis E = *"The Penguin"* (Sanitation Specialist):

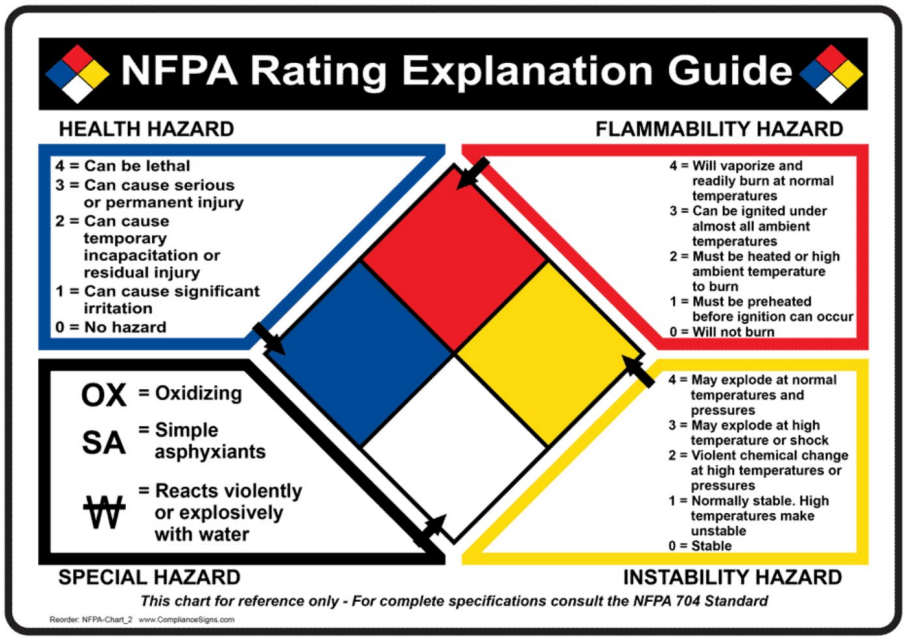
- Spread through **contaminated water or food**
- More common where sanitation is poor
- Usually short-term but can be severe
- Reinforces hygiene as a safety control

Attack Style: Gut-to-liver assault driven by poor sanitation.

Centurion Safety Education

MONTHLY REFRESHER TRAINING
NFPA Fire Diamond

January – Week 2



NFPA 704 Fire Diamond
The NFPA 704 Fire Diamond is a rapid hazard identification system used to communicate the immediate dangers of chemicals during emergencies such as fires, spills, or leaks. It is designed primarily for firefighters and emergency responders, but it also helps workers understand why safety rules, permits, and controls exist on industrial construction sites.

The diamond is meant to be recognized quickly under stress. **It is not a replacement for a Safety Data Sheet (SDS) and it is not a PPE chart.** It answers one critical question: What can go wrong fast if something fails right now?

BLUE = Health "Blue is you, not fire, not boom."
The blue quadrant reflects the severity of health effects to personnel from exposure under emergency conditions.
The blue quadrant describes what a chemical does to the human body if you are exposed during an emergency, including inhalation, skin contact, eye contact, or absorption.

Blue 1 — Minor health effects:
Exposure may cause irritation but no lasting injury. Isopropyl alcohol vapors can irritate the eyes and nose. Diesel fuel on skin can cause dryness or redness. These effects are uncomfortable but typically stop once exposure ends.

Blue 2 — Moderate or temporary injury:
Exposure can cause noticeable injury or illness that may require medical attention but is usually reversible. Xylene or toluene vapors affect the central nervous system, causing dizziness, headaches, and nausea. Mild acids or bases can damage skin or eyes enough to require flushing or treatment without permanent injury. Low concentrations of carbon monoxide reduce oxygen delivery in the body, leading to headaches, fatigue, and nausea.

Blue 4 — Severe or life-threatening:
Very small exposures can be fatal or cause permanent injury. Hydrogen sulfide (H_2S) rapidly paralyzes the respiratory system, causing sudden loss of consciousness without warning. High concentrations of anhydrous ammonia chemically burn lung tissue, leading to respiratory failure. Hydrogen cyanide prevents the body from using oxygen at the cellular level, causing rapid collapse and death.

RED = Flammability "Red means spread."
The red quadrant indicates how readily a material will burn under fire conditions. The red quadrant describes how easily a material ignites and how fast fire spreads once ignition occurs.

Red 2 — Burns when heated:
Diesel fuel, hydraulic oil, and fuel oil do not readily form ignitable vapors at normal temperatures but will burn once sufficiently heated, feeding and spreading fire.

Red 3 — Easily ignited:
Acetone, MEK, xylene, and toluene produce vapors that ignite readily at normal temperatures, allowing fire to spread quickly through vapor clouds.

Red 4 — Extremely flammable:
Hydrogen, acetylene, ethylene, and gasoline vapors form explosive mixtures with air and require only a small ignition source to create rapid fire spread.

YELLOW — Reactivity / Instability "Yellow = boom."

The yellow quadrant indicates the potential for violent chemical reaction or rapid energy release due to instability, shock, heat, pressure, or incompatible materials. The yellow quadrant describes stored chemical or physical energy and answers the question: Can this material violently release energy if something changes?

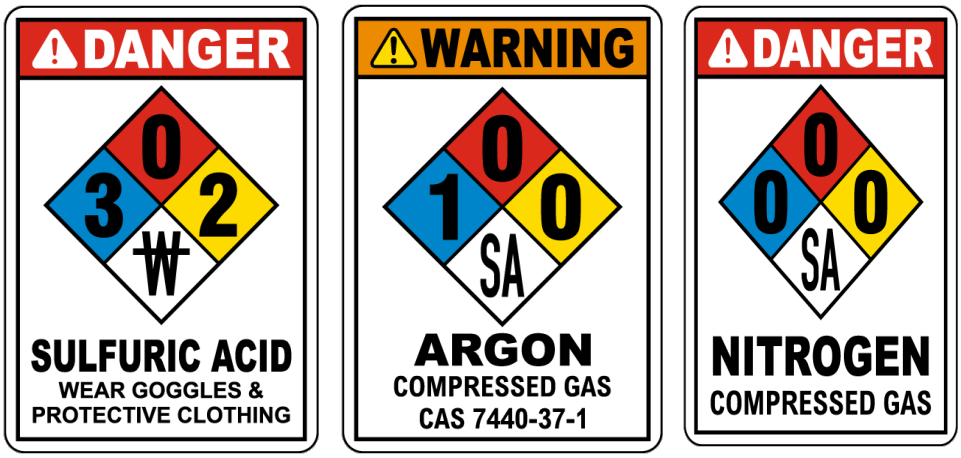
Yellow 1 — Slightly unstable:
Compressed gases are normally stable, but if exposed to heat, internal pressure increases and cylinders can rupture, releasing stored energy violently.

Yellow 2 — Reactive under certain conditions:
Concentrated hydrogen peroxide can rapidly decompose if contaminated or overheated, releasing oxygen and heat at the same time. Nitric acid reacts aggressively with metals and organic materials, producing heat and toxic gases that can accelerate reactions quickly.

Yellow 4— Extreme instability:
Acetylene is chemically unstable under pressure and can decompose violently even without oxygen present. Organic peroxides can self-react over time, releasing large amounts of energy. Dry picric acid crystals are highly sensitive to shock and friction and can detonate unexpectedly.

WHITE — Special Hazards "White means weird — read it."

The white quadrant identifies special hazard information that alters standard firefighting, spill response, or rescue procedures. The white quadrant uses symbols instead of numbers to flag special hazards that override normal assumptions and change emergency response actions.



W — Water Reactive:
Materials that react dangerously with water, producing heat or flammable gas. Examples include sodium metal and calcium carbide. Water can make these situations much worse.

OX — Oxidizer:
Materials that do not burn themselves but feed fires by releasing oxygen or another oxidizing agent. Examples include oxygen cylinders, concentrated hydrogen peroxide, and nitrates. Fires burn hotter and faster in their presence.

SA — Simple Asphyxiant:
Materials that displace oxygen without being toxic themselves. Nitrogen, argon, and carbon dioxide can silently reduce oxygen levels in confined or low-lying areas, leading to collapse without warning.

Color tells you the type of danger. Number tells you how fast and how severe it becomes.
The NFPA Fire Diamond explains why safety rules exist, not just what the rules are. If you see a high number or a white symbol, stop, ask questions, and follow posted controls and permits.

MONTHLY REFRESHER TRAINING
GHS (Globally Harmonized System)

January – Week 3

GHS is the standard that makes chemical hazard communication consistent. It's the reason chemical labels use the same core elements (product identifier, signal word, hazard statements, pictograms, and precautionary statements), and it's why Safety Data Sheets follow a predictable layout so you can quickly find PPE, safe handling, spill response, and first aid information. In short: GHS is the common language; labels and SDS are how we use it in the field. If you can read one GHS label, you can read them all and that's the point.

When a coach recruits a player, they don't just look at a jersey number and say "seems fine." They want the full scouting report: strengths, weaknesses, injury history, what situation the player is dangerous in, and what game plan keeps the team safe.

A Safety Data Sheet (SDS) is the recruiting report for a chemical:

- The label is a quick highlight clip.
- The SDS is the full film + combine numbers + coaching notes.

And just like football: if you don't have the report, you don't put that player on the field.

So, on site: No label + no SDS access = no work. Stop the task, notify your supervisor, and get the SDS before use. SDS must be readily accessible during the shift—no hunting, no guessing. That's not being dramatic. That's how people keep their eyes, lungs, and skin.

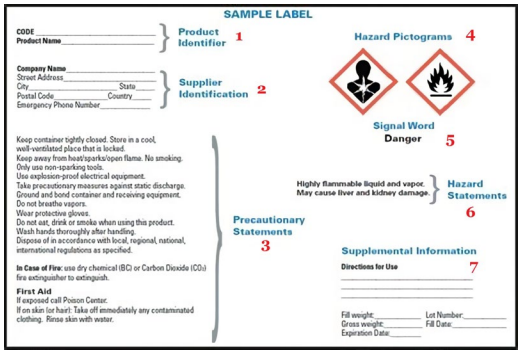
RIGHT-TO-KNOW

You have the right to know:

- What chemical you're using
- What hazards it brings
- What PPE and controls keep you safe
- What to do if something goes wrong

CHEMICAL LABELS (Manufacturer Labels)

Chemical labels are the labels that come from the manufacturer and are on the original container (jug, pail, drum, tote). These labels are your first line of information before you ever open the SDS.



CHEMICAL LABELS MUST HAVE FIVE THINGS

Think of the chemical label like a player's recruiting card. If any of these are missing, you don't know who you're dealing with:

1) **Product Identifier**: Gives the name of the chemical (and may include part numbers or other identifiers). Example: "ABC Degreaser 4000." If you can't identify it, you can't pull the correct SDS.

2) **Supplier Information**: Name, address, and telephone number of the manufacturer or supplier. This tells you who the product came from and who to contact for more info.

3) **Precautionary Statements**: What we need to do to stay safe (prevention, response, storage, disposal). Examples: "Wear protective gloves/eye protection," "Keep away from heat/sparks," "IF IN EYES: Rinse cautiously…."

4) **Hazard Pictograms**: Symbols that instantly identify the kind of hazard the chemical poses. (We covered these heavily last month—use them as a quick visual cue.)

5) **Signal Word**: Tells you the hazard level: DANGER (more severe) or WARNING (less severe). Sometimes there is no signal word, but that does not mean hazard-free.

6) **Hazard Statement**: Describes what kind of harm the chemical can cause. Examples: "Causes serious eye damage," "Flammable liquid and vapor," "May cause respiratory irritation."

7) **Supplemental Information**: Additional information the manufacturer includes to clarify hazards or safe use. It may not appear on every label, but when it does, treat it as important guidance (and it should not contradict the required label elements).

SIGNAL WORDS

Signal words are part of the chemical label—we're zooming in because it's the fastest severity clue at a glance. We aren't diving deep on pictograms this month, but we ARE hitting signal words because they tell you severity at a glance:

- **DANGER = higher severity / more immediate risk** Hazard statement example: "Causes severe skin burns and eye damage." Plain language: One splash can do real damage fast. Treat it like a "no-mistakes" chemical: correct gloves, eye/face protection, and controlled handling.
- **WARNING = lower severity / still hazardous** Hazard statement example: "Causes skin irritation. May cause respiratory irritation." Plain language: It might not melt your skin, but it can still mess you up—especially with repeated exposure or in a tight space. Follow PPE and ventilation guidance.
- **No signal word does NOT mean hazard-free** Hazard statement example: "May cause mild eye irritation." (or the label may still include precautionary statements even without a signal word) Plain language: It's not hazard-free. It can still irritate eyes/skin, and the SDS may still require gloves or glasses depending on the task.

Field example: A product that causes long-term skin irritation might not scream "Danger," but if you use it daily with no gloves, your hands will pay the price. Signal words help, but the SDS is the real scouting report.
Now that we can read the label, the SDS is where we go for the full game plan—PPE, storage, and what not to mix.

CONTAINER LABELS (Workplace / Secondary Containers)

Container labels (also called workplace labels or secondary container labels) are the labels we add when a chemical is transferred into another container: spray bottles, cups, buckets, smaller jugs, etc. This is where most unknown chemical problems start—aka the "mystery bottle."

Secondary container rule (spray bottles, cups, buckets)

If a container will be used:
Per our site HazCom labeling procedure, secondary containers must be labeled as described below.

- by more than one person,
- across multiple shifts, or
- it's not under the direct control of the person who filled it…

It needs a workplace label with at least:

- Product name/identifier
- Basic hazard info (including signal word if applicable)

Translation: If it doesn't have a jersey/name, nobody knows who's on the field.

SDS "SCOUTING REPORT" — Quick Preview (Week 4 goes deeper)

You don't need to memorize section numbers. SDS have a standard format (16 total), and next week we'll use them like a playbook. For now, here are the five titles you'll use most often:

1. Identification — "Who is this player?" (What is it called? What's it used for? Who makes it?)
2. Hazard(s) Identification — "What's their play style?" (Burns? Irritation? Dizziness? Toxic? Corrosive?)
3. Exposure Controls / Personal Protection — "What gear do we require?" (What PPE? What ventilation? Any exposure limits?)
4. Handling and Storage — "What's the coaching plan?" (How to use/store it safely; what conditions to avoid.)
5. Stability and Reactivity — "What matchups go bad?" (What should it NOT contact? What triggers a reaction: heat, mixing, acids/bases, oxidizers?)

Centurion Safety Education

ONTHLY REFRESHER TRAINING
Safety Data Sheets (SDS)

January – Week 4

A Safety Data Sheet (SDS) is the official "instruction manual" for a chemical. It explains the hazards, the required controls (PPE/ventilation), what to do in an emergency, and what not to mix it with.

The big advantage: SDS are standardized. No matter who makes the chemical, the SDS follows the same basic format so workers can find information quickly, especially during a spill, splash, or exposure.

OSHA requires employees to know:
How to read and understand hazard labels
Understand Safety Data Sheets
SDS must be available for every chemical used in the workplace.
Every container used to store a chemical must be labeled.

On site:

- SDS must be available for every chemical used in the workplace.
- Every container used to store a chemical must be labeled.
- Employees must know how to read hazard labels and how to use an SDS to work safely.

The Sixteen Sections

1. Identification
2. Hazard(s) identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and Storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

SDS "Hot Buttons"

You don't need to memorize section numbers. Match the situation to the title, then run the correct play.

1) First-Aid Measures — Someone got exposed.

Use when: splash to eyes/skin, breathing irritation, ingestion, symptoms after use.
Look here for: rinse time, immediate actions, symptoms to watch for, and when medical attention is needed.
Example (common mistake): Eye splash and someone says, "Just blink it out."
Correct move: eyewash + First-Aid Measures. Some products require extended flushing—seconds don't cut it.

2) Fire-Fighting Measures — Heat or flame is involved.

Use when: fire near product, product is burning, hot work nearby, overheating container. Look here for: what extinguishing media to use/avoid, special hazards, and protective equipment considerations. Example (why "fire is fire" is wrong):

- Electrical involvement: water can conduct electricity and increase risk.
- Flammable liquids: the wrong approach can spread a burning liquid.
- Some products produce toxic smoke when heated.

Correct move: notify → isolate → SDS → Fire-Fighting Measures → site emergency procedure.

3) Accidental Release Measures — Spill or leak.

Use when: any spill, leak, broken container, unknown liquid found.
Look here for: containment, cleanup method, PPE, ventilation needs, and "don't do this" warnings.
Example of classic bad instinct: "Mop it up and rinse it down the drain."
Correct move: Accidental Release Measures + site waste rules. Disposal isn't a guess.

IF there is an exposure, spill, fire involvement, or unknown reaction → THEN:
1) STOP the task
2) ISOLATE the area (keep others out, control access)
3) NOTIFY supervision / follow site emergency communication procedure
4) PULL THE SDS — no guessing
5) Use SDS section titles below to choose the correct response
6) REPORT & DOCUMENT per site procedure

Reminder: The NFPA diamond can give a fast heads-up. The SDS gives the instructions (response steps, PPE, hazards).

4) Stability and Reactivity — Reacting, fuming, or mixing risk.

Use when: strong odor appears, smoking/fizzing, heat, bubbling, or two products were used back-to-back.
Look here for: incompatibles and conditions to avoid (heat, mixing, acids/bases, oxidizers, moisture, etc.).
Example: Two cleaners were used back-to-back and now there's a sharp, choking odor and coughing.
Correct move: back out → isolate → notify → SDS → Stability and Reactivity.
Do not "fix it" by adding another chemical.

5) Exposure Controls / Personal Protection — What do we wear / what controls do we need?

Use when: before cleanup, before re-entry, before starting a task, or when conditions change.
Look here for: PPE, ventilation needs, exposure limits, and safe work practices.
Remember: cleanup is a chemical task, not "just housekeeping."

Mixing/Sequence Hazards

Most chemical incidents aren't caused by one "bad product." They happen when two normal products are used back-to-back and create a new hazard.

If you're about to use Product B after Product A, you're in: Stability and Reactivity (and often Handling and Storage).
Common mixing/sequence hazards

- Bleach + acids can release chlorine gas.
- Bleach + ammonia-type cleaners can create chloramine vapors.

These vapors can irritate or injure your eyes, throat, and lungs. Treat burning eyes, coughing, chest tightness, wheezing, or breathing trouble as an exposure and not "just a smell."

RED FLAGS BOX — Treat it like an exposure

If any of these happen after chemical use (especially after back-to-back products):
• Burning/watering eyes
• Sharp, choking odor
• Coughing, wheezing, chest tightness
• Dizziness/headache in a tight area

Action: back out → fresh air → notify → pull SDS → First-Aid Measures + Stability and Reactivity → follow site emergency procedure.

Game-Day Scenarios

Scenario 1: "Small spill" in a tight area
A few ounces spill. Strong odor. People want to "just absorb it."
Correct play: STOP → isolate → notify → SDS → Accidental Release Measures → confirm PPE in Exposure Controls / Personal Protection → clean/dispose per procedure.

Scenario 2: "I'm fine" eye splash
A drop splashes near the face/eye. Worker says, "I'm good."
Correct play: SDS → First-Aid Measures → flush per guidance → report/document. No waiting.

Scenario 3: "Fire is fire"
Small flame near a solvent wipe station. Someone reaches for a hose.
Correct play: notify → isolate → SDS → Fire-Fighting Measures → follow site emergency response. Don't assume water is the answer.