UNDERSTANDING THE CARBON MONOXIDE RISK IN YOUR SCHOOL

AN INTERACTIVE RESOURCE FOR BOARDS, STUDENT LEADERS, FACULTY & STAFF

"Know Your CO" because alerting & saving others may fall on you

CarbonMonoxideInSchools.org

CARBON MONOXIDE SYMPTOMS

- **STARTS AS**: Slight headache, nausea, vomiting, fatigue, flu-like symptoms
- **MOVES TO**: Throbbing headache, drowsiness, confusion, fast heart rate
- **LEADS TO**: Convulsions, unconsciousness, brain damage, heart and lung failure, death

WHAT YOU NEED TO DO QUICKLY

If you notice the start of, or a progression of, symptoms above affecting one or multiple people, or if you're experiencing them yourself, **get yourself and others out of the building into fresh air immediately.**

Do not wait on alarm to sound, as there may be an alarm malfunction or no detector on site.

Call 911 and tell them you believe people have been exposed to carbon monoxide at your school.

Follow your school's planned emergency evacuation procedures, **regardless of inclement weather**. With CO exposure, it is imperative you remove people from the building into fresh air as soon as possible.

KNOW YOUR CO: FAST FACTS FOR SCHOOLS

FACT 1: A building does not need a fuel-fired system to have a CO exposure incident.
While boilers, furnaces and HVAC systems are the #1 source of CO incidents in schools, they're not the only source. Emergency CO-related incidents in schools are caused by things like snow- or nest-blocked vents, propane-powered cleaning equipment, idling vehicles and improperly ventilated construction areas using gas-powered equipment.

FACT 2: Most educators and faculty nationwide are not required to complete carbon monoxide awareness, prevention or situational training.
If there is no installed detection, or if detection devices are malfunctioning, front line staff are the ONLY ones who can recognize a CO issue as it's occurring. Teachers will see changes in children's normal behavior and will be the first to see a "group" symptom emerging and where it's happening. It is imperative they know what they're looking for, how to respond, and who to alert when it comes to CO.

FACT 3: A majority of U.S. schools and daycares do not have CO detection on site.
It has been proven that if school's aren't required to do it, they often don't. Budget constraints, aging buildings and equipment, and increasing demands of curriculum and training often mean that the CO conversation is left to maintenance personnel and risk managers. However, many staff, parents and community members who occupy the building are under the impression their health and life safety are being protected – when it's not.

FACT 4: Not all CO detection devices are created equal, and most new building code recommendations are the bare minimum for life safety in CO emergencies.
There are key differences between carbon monoxide monitors, stand-alone alarms and integrated detection systems. When it comes to children's safety, you want to invest in the devices that will protect their development – not just save their life. What a school should be using for CO protection based on its unique size, age, systems and layout is often far greater than the minimum recommendations for safety made by code councils, local code or state law. It is imperative to understand the unique needs of your school and its occupants – and install detection devices accordingly.

FACT 5: Children are at higher risk than adults when exposed to carbon monoxide and experience more long-term side effects. We need to prevent injury, not just death.
Due to their age and current stage of development, children will respond to CO exposure differently than the adults in the room with them. Children have higher metabolism and breathe faster, meaning they will be inhaling and distributing carbon monoxide more often. Their developing minds are still in the growth stage, and exposure to poisonous toxin can change neurological response and organ development for the long term. Younger children, in particular, are unable to communicate physical issues being experience, and it is not abnormal for them to appear drowsy and fussy.

MY CARBON MONOXIDE TRAINING: HOW PREPARED AM I?

- [ ] I have received training on and understand how to identify symptoms of carbon monoxide
- [ ] I know where the CO Detection Zones in my school are located, and how alert systems in those zones will respond to CO detection *if working properly*
- [ ] I am comfortable with the current status of and the steps my school is taking to address CO risk, training, prevention and protection of myself and others
- [ ] I understand the CO "sources and spreaders" that are on the grounds of my school, located in or around its buildings & property
- [ ] I understand who I should reach out to should I have additional questions about CO training, prevention and protection for myself and my school
- [ ] I understand my school's emergency plan and procedures as it relates to CO specifically *and feel comfortable with it*

CO PREVENTION IN MY SCHOOL: HOW PREPARED ARE WE?

Our CO alerting and detection system is:

- [ ] Hardwired + automatically alerts emergency services
- [ ] High-sensitivity plug-in detectors w/ battery backup
- [ ] Low-sensitivity plug in detectors w/ battery backup
- [ ] None. Reliant on staff to see issue

Our school has CO Detection Zones in the following locations:

- [ ] Our hardwired system can alert to an issue anywhere within building (and for those structures not hardwired, we have a plug-in alerting system installed)
- [ ] We have plug-in alerting systems in **every** gathering space (such as lobbies, gymnasiums, cafeterias and classrooms), as well as remote and high-risk locations
- [ ] We have plug-in alerting systems **only in certain high-risk for CO locations**
- [ ] Our school has not outlined any CO detection zones

CO SOURCES + SPREADERS IN MY SCHOOL: HOW ARE WE AT RISK?

- [ ] We have a fuel or oil fired heating system (furnace, boiler, HVAC units, rooftop or ground mounted makeup air units)
- [ ] We have permanent or portable emergency generators within or immediately surrounding the bldg
- [ ] We have fuel-fired kitchen equipment such as ranges, ovens, steamers, braisers and dishwashers
- [ ] We have fuel-fired hot water heaters or gas dryers on site
- [ ] We have a propane or charcoal grill we use near the building
- [ ] We have a ventilation system that brings in air from the outside for distribution inside our school and its attached/unattached buildings.
- [ ] Construction crews, city maintenance or road crews using fuel-fired equipment conduct projects in our building or on our property, or just outside of our property regardless of whether or not people are in our building
- [ ] We have lab, shop or class-specific equipment such as: gas outlets (science rooms), torches (welding/maintenance), gas fired kilns (art room), or stationary/ portable engines (shop)
- [ ] We conduct maintenance or cleaning operations on site that use propane or gas-powered floor cleaners/polishers, lift trucks, or conduct school buses/ vehicle maintenance in structures that are attached/unattached
- [ ] We allow vehicles to idle in close proximity to school – school buses, car pick up line, delivery vehicles
- [ ] We use or allow portable fuel-burning space heaters in our classrooms, gathering spaces or unattached buildings
- [ ] Landscaping crews or property maintenance crews often use fuel-fired equipment on our school grounds regardless of whether or not people are in our buildings (such as mowers, weed eaters, pressure washers, etc.)

OUR CURRENT INSPECTION FREQUENCY OF CO-PRODUCING EQUIPMENT:

- [ ] Monthly // equipment:
- [ ] Quarterly // equipment:
- [ ] Annually // equipment: