



DESERT BREEZE

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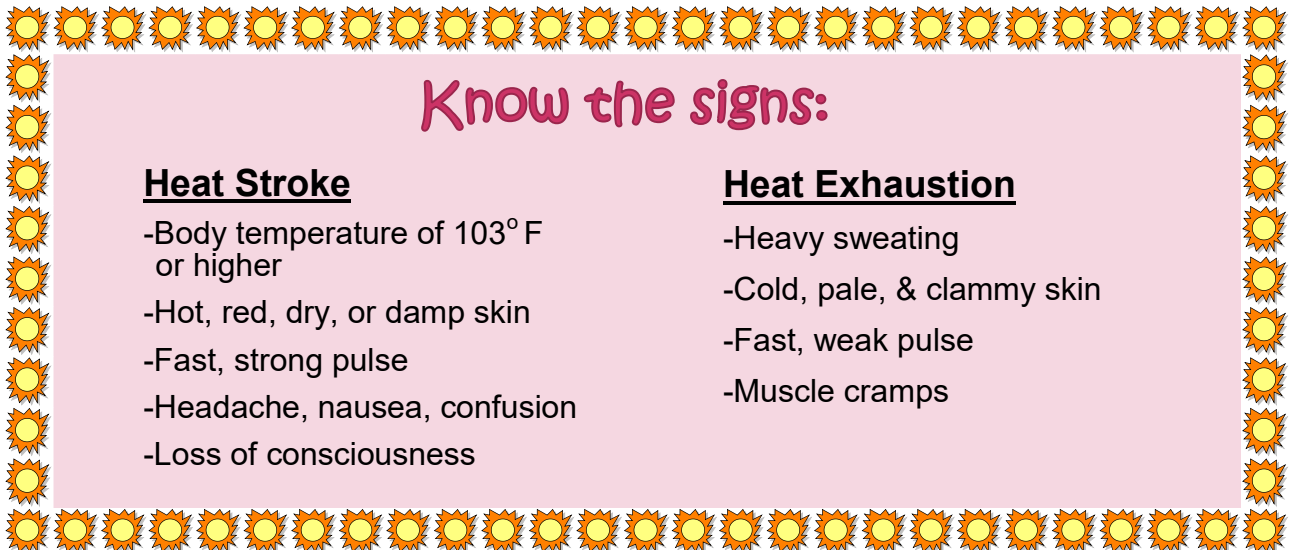
Heat Safety



In 2017, over 7,000 Californians went to the emergency room and 1,100 were hospitalized due to heat related illness, such as heat exhaustion or heat stroke. As the sweltering temperatures arrive in Kern County once again, it is crucial that we keep ourselves safe from the heat. Below are some helpful tips to stay safe & beat the heat:

Tips:

- * Stay indoors where there is air conditioning; fans alone are not enough when temperatures are in the high 90's
- * Plan your outdoor activities during the morning or evening hours; rest frequently in the shade during outdoor activity
- * Wear lightweight, light colored, loose fitting clothing
- * Apply sunscreen of SPF 15 or higher that says "broad spectrum" or "UVA/UVB protection" 30 minutes prior to going outside
- * Avoid alcoholic or very sugary drinks
- * Avoid hot or heavy meals
- * NEVER leave children or pets alone in the car



Know the signs:

Heat Stroke

- Body temperature of 103° F or higher
- Hot, red, dry, or damp skin
- Fast, strong pulse
- Headache, nausea, confusion
- Loss of consciousness

Heat Exhaustion

- Heavy sweating
- Cold, pale, & clammy skin
- Fast, weak pulse
- Muscle cramps

If you or a person you are with show signs of heat exhaustion or heat stroke, you should take the following actions:

- Help lower the person's body temperature using cool cloths or a cool bath
- Move to a shaded, cool area
- Call 911 right away if there are signs of heat stroke

*By: Sam Johnson,
Air Quality Engineer*

Fugitive Dust: District Rule 402

Purpose of Rule 402, Fugitive Dust - Fugitive dust contains varying sizes of respirable particulate matter including those with an aerodynamic diameter of 10 micrometers or less (PM10). PM10 exposure can lead to a variety of health effects and is a regulated air pollutant. The purpose of Rule 402 (Fugitive Dust) is to prevent, reduce, and mitigate ambient concentrations of anthropogenic fugitive dust emissions to an amount sufficient to attain and maintain the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). Controlling fugitive dust when visible emissions are detected may not prevent all PM10 emissions, but will substantially reduce ambient concentrations.

Health Effects of PM10 - Numerous scientific studies have linked both long and short-term PM10 exposure to a variety of health problems. People with heart or lung diseases, children, and the elderly are the most likely to be affected. However, even normally healthy adults can experience temporary symptoms from elevated levels of PM10. Data has shown that an increase in emergency room visits and hospital admissions occur during large fugitive dust events.

Short-term exposures to PM10 (hours or days) can aggravate lung disease, cause asthma attacks, and may also increase susceptibility to respiratory infections. Healthy children and adults have not been reported to suffer serious effects from short term exposures, although they may experience temporary minor irritation when particle levels are elevated. **Long-term** exposures to PM10, such as those experienced by people living in areas with elevated levels of PM10 for many years, can develop problems such as reduced lung function and chronic bronchitis.

Applicability - Provisions of Rule 402 are applicable to specified outdoor fugitive dust producing activities, which include: the handling, storage, and transport of bulk storage piles; construction, demolition, excavation, extraction, and other earthmoving activity, such as land clearing, grubbing, scraping, on-site travel, and any other anthropogenic condition that can contribute to wind erosion.

Requirements - Pursuant to Rule 402, any person (or business) is required to stabilize all disturbed surfaces and limit visible dust emissions to be no more than 20% opacity. Additionally, fugitive dust emissions from any active operation shall not remain visible in the atmosphere beyond the property line of the emission source. The owner or operator of a "disturbed" site is also required to implement at least one reasonably available control measure or bulk material control measure order to mitigate fugitive dust emissions.



Fugitive Dust Emission Control Plan - All large operations are required to submit a fugitive dust emission control plan to the District, and receive approval prior to the start of any earthmoving activity. A large operation is any site involving 10 or more contiguous acres of disturbed surface area, any earthmoving activity exceeding a daily volume of 10,000 cubic yards, or relocating more than 2,500 cubic yards, per day, of bulk materials at least three days in a year.

A complete copy of Rule 402, along with all other District rules can be downloaded from the "Rules" tab of the District's website: www.kernair.org.

*By: Jeremiah Cravens,
Senior Air Quality Specialist*

POLLUTANT OF THE QUARTER:

Methyl bromide, CH₃Br, also known as Bromomethane is a colorless, odorless, and non-flammable gas, fumigant, and ozone depleting chemical. The boiling point is 38.41°F, and the molar mass is 94.94 g/mol. It is classified as a Volatile Organic Compound (VOC) and a Toxic Air Contaminant (TAC) by the State of California. Methyl bromide is produced naturally and synthetically. Natural sources include the oceans and biomass burning – wild-fires, for example.

In the mid-1990s about 15 million pounds of methyl bromide were used annually in California. Methyl bromide was commonly used for pest and fungicide control for agricultural products. Injected into the soil and covered with plastic tarps promptly, estimates range from 50 – 95 percent of the methyl bromide would still eventually enter the atmosphere. Notable examples of agricultural uses included the fumigation of the soil for strawberries and almonds. The benefit to the farmers was realized as significantly improved crop yields. Unfortunately, between the earth and the atmosphere is where the people (also known as receptors) are. Efforts to assess the risk to people, and to mitigate those risks also date from the 90s.

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Burning Waste

Burning household waste adversely affects the community's health and the environment. Today's trash contains plastics, metals, and synthetic materials that create dangerous chemicals when burned. These chemicals include dioxins, benzene, and other compounds known to cause respiratory ailments, stress human immune systems, and are potentially carcinogenic. Children face a greater risk than adults; they inhale more air per pound of body mass, thus absorb a proportionately larger concentration of toxins. Youth are more susceptible to damage from heavy metals found in smoke because their nervous systems are not fully developed.

To protect community health, the Air Resources Board approved an Airborne Toxic Control Measure to reduce air emissions of dioxins and other toxic substances from outdoor residential waste burning. As of January 1, 2004, no household trash or garbage may be burned outdoors at residences. Dry, natural vegetation, grown on the property, may still be burned outdoors in open piles as hazard reduction, with the proper notification. However, burn barrels are **not** allowed for burning waste, including vegetation, at residences. District Rule 416 "Open Burning" prohibits burning of refuse or other material in an open outdoor fire. The table below outlines some of the dangers from burning various household waste.

By: Gary Ray, Air Quality Administrative Manager

Waste	What is Produced	Why it is BAD
PVC-Polyvinyl Chloride (#3 bottles, pipes, vinyl tubing, toys...)	Dioxins & Hydrochloric Acid	Acid—Damages Respiratory Tract Dioxins— cause cancer, immune dysfunction, reproductive effects
Styrofoam (cups, egg cartons, packaging "peanuts") Plastic forks/spoons	Benzene, Chlorinated Furans, Dioxins, & Styrene (all are known carcinogens)	Styrene gas will damage mucous membranes. High concentrations can lead to death.
Colored cardboard, magazines, paper	Heavy Metals (from synthetic inks)	Heavy metals have been linked to birth defects, liver and kidney damage, & loss of coordination.
Particle board, fiberboard, plywood	Formaldehyde Resins	Respiration Problems. Hinders liver & kidney function
Adhesives, finishes, sealants	Polyurethanes produce hydrogen cyanide when burned	High concentrations of hydrogen cyanide will cause death in less than one hour
Anything Burning	Particulate Matter	Causes asthma, bronchitis, & emphysema

METHYL BROMIDE

The Montreal Protocol on Substances that Deplete the Ozone Layer (often referred to as the Montreal Protocol), an international treaty opened for signature in 1987; and signed by 196 nations and the European Union, phased out the production and use of certain Ozone Depleting Substances. The timetable for the Montreal Protocol phase out, was 50% by 2001, 70% by 2003, and 100% by 2005. As far as international treaties go, this is the one that both set and raised the bar.

For certain limited applications like quarantine and pre-shipment, methyl bromide remains approved for use. An example of quarantine use is the fumigation of logs to control wood-boring pests. An example of pre-shipment use is the fumigation of nuts immediately before export.

*By: Brenton Smith,
Air Quality Specialist*



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Kyle Blades (Councilman, Ridgecrest)
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Board of Directors usually meet once every two months starting in January. The location, along with the Meeting Agenda, can be located on the District website www.kernair.org, under the “Board” tab.

Air Pollution Control Officer

Glen E. Stephens, P.E.

Hearing Board Members

Doris Lora
Chris Ellis
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For news updates and other information, please visit the Eastern Kern APCD website at www.kernair.org

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