

# SmartIAQ Report Test Results

## Prepared for:

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This report offers recommendations so you can make informed decisions about the health, comfort, and safety of your home. Knowing what's in the air you breathe and what you can do about it has never been more important. If you have additional questions, please visit [www.airadviceforhomes.com](http://www.airadviceforhomes.com).

Monitor ID: 35432

Report ID: #3986

Test Period: 10/14/2024 - 10/21/2024

## HEALTH



**ACTION  
RECOMMENDED**

### Particulate Matter Chemical Pollutants Carbon Dioxide

#### Particulate Matter:

Levels elevated

#### Chemical Pollutants:

Levels elevated

#### Carbon Dioxide:

Levels elevated

- Inadequate filtration
- Build-up of chemical pollutants
- Inadequate fresh air introduction

- Clean, replace or upgrade air filter
- Inspect ductwork; seal and clean as necessary
- Inspect/add ventilation and/or VOC reduction system
- Check current system run time for ventilation

## COMFORT



**NO ACTION  
NECESSARY**

### Temperature Relative Humidity

#### Temperature:

Levels are acceptable

#### Relative Humidity:

Levels are acceptable

- None
- No action necessary

## SAFETY



**NO ACTION  
NECESSARY**

### Carbon Monoxide

#### Carbon Monoxide:

Levels are acceptable

- None
- No action necessary

## WHAT WE TEST

## WHAT WE FOUND

## POSSIBLE CAUSES

## RECOMMENDED ACTION

## THE ENVIRONMENT

The outdoor environment plays a key role in what happens indoors. The most familiar example is how outdoor temperature and relative humidity can affect indoor comfort. The building envelope is the first defense against outdoor temperature extremes. A “tight” building envelope can insure a comfortable indoor environment despite challenging outdoor conditions.

A less obvious example of how outdoor conditions can affect the indoors is air pollution, like smog, pollen, and wildfire smoke. A “tight” building envelope can block pollutants out. However, without the appropriate controls, a tight building also can trap pollutants indoors. The key to a safe indoor environment is to control pollutants in the home, whether those pollutants came from outside or were generated within the home.

Source:  
[www.epa.gov](http://www.epa.gov)  
[www.ashrae.com](http://www.ashrae.com)

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## OUTDOOR WEATHER

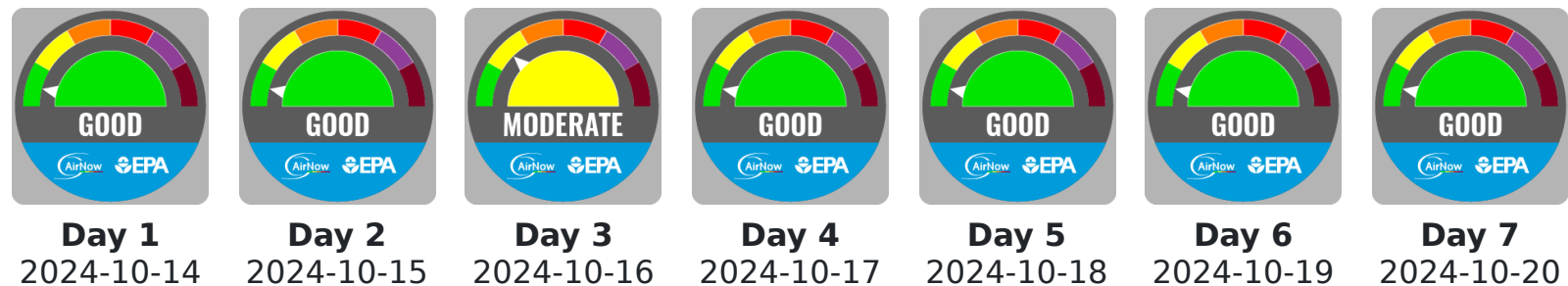


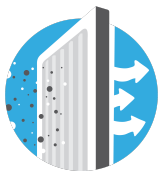
## OUTDOOR PARTICULATE MATTER



## YOUR OUTDOOR RATING

The Air Quality Index (AQI) is provided by the EPA. This daily rating considers five outdoor pollutants including particles and ozone. Visit [www.airnow.gov/aqi](http://www.airnow.gov/aqi) to learn more about AQI.





# HEALTH: PARTICULATE MATTER

## TEST RESULTS

**What We Found:** Particle levels were between 11-34 ug/m<sup>3</sup> for a day or more.

**ACTION  
RECOMMENDED**

### Why is action recommended?

Particle levels are generally a cause for concern when daily average levels are above 10 ug/m<sup>3</sup>.

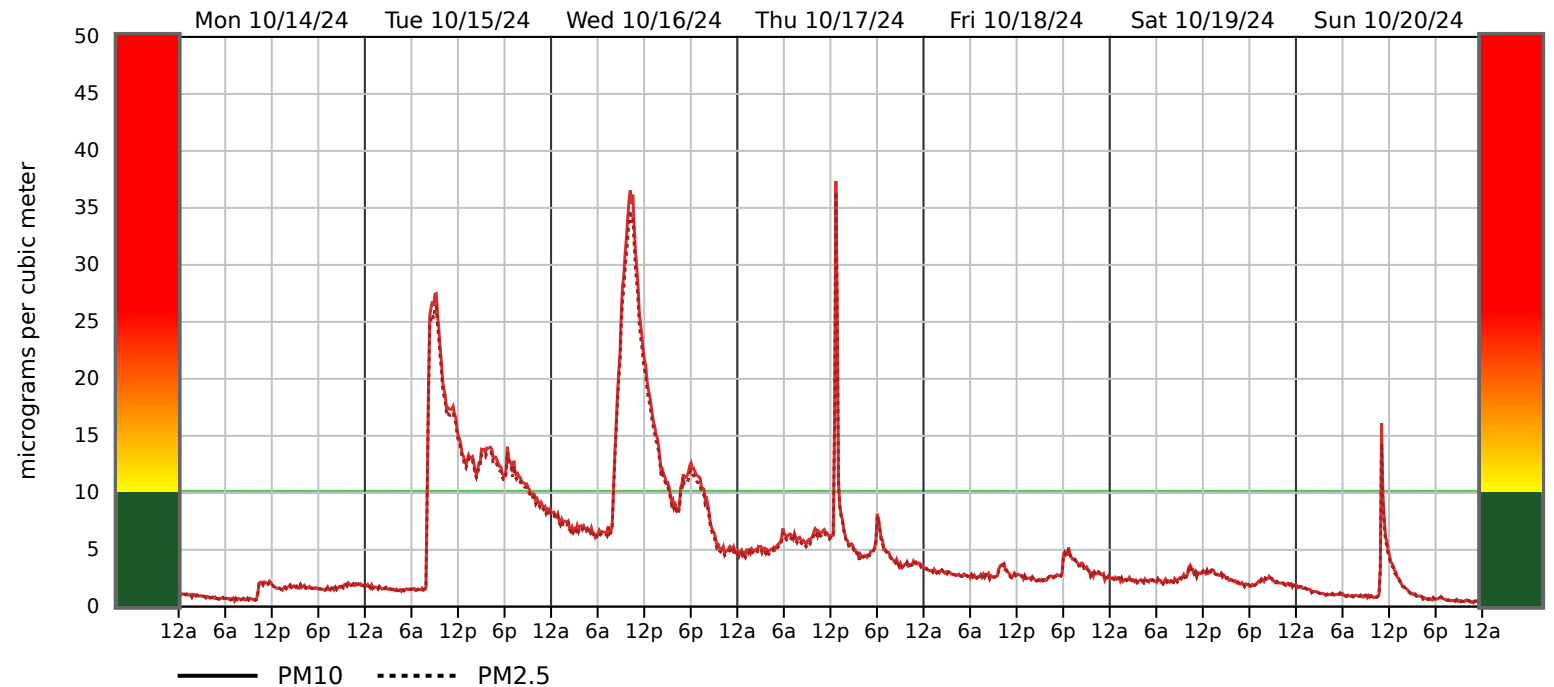
Particulate matter is known to trigger asthma and allergy symptoms. At levels above 35 ug/m<sup>3</sup>, it can harm normally healthy adults by causing emphysema and diminished lung capacity. Children, the elderly, and pregnant women are more susceptible.

#### Source:

American Lung Association  
Environmental Protection Agency (EPA)  
Indoor Air Quality Association (IAQA)

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Highest Daily Average: **11.9 ug/m<sup>3</sup>**    Highest Hourly Average: **35.1 ug/m<sup>3</sup>**    Overall Average: **5.0 ug/m<sup>3</sup>**

## ABOUT PARTICULATE MATTER

Particulate matter is always present in your home's air. It can build up to unhealthy levels due to activities in the home, the presence of excessive sources, and heating & cooling system issues.

Sources: Pets, dirt on shoes, burning candles, smoking, open windows (outside pollen, spores, etc.), dust mites, many common household activities, including cooking and cleaning.

Possible heating & cooling issues: Leaky, dirty, or poorly designed ductwork, inadequate filtration, no filtration at all.

## RECOMMENDED ACTION

There are many steps you can take to control sources of particulate matter. You can:

- Clean, replace or upgrade air filter
- Upgrade thermostat to operate HVAC system fan on a schedule
- Inspect ductwork; seal and clean as necessary
- Use range exhaust fan when cooking





# HEALTH: CHEMICAL POLLUTANTS

## TEST RESULTS

**What We Found:** Chemical pollutant levels were between 501-3000 ug/m3 for a day or more.

**ACTION  
RECOMMENDED**

### Why is action recommended?

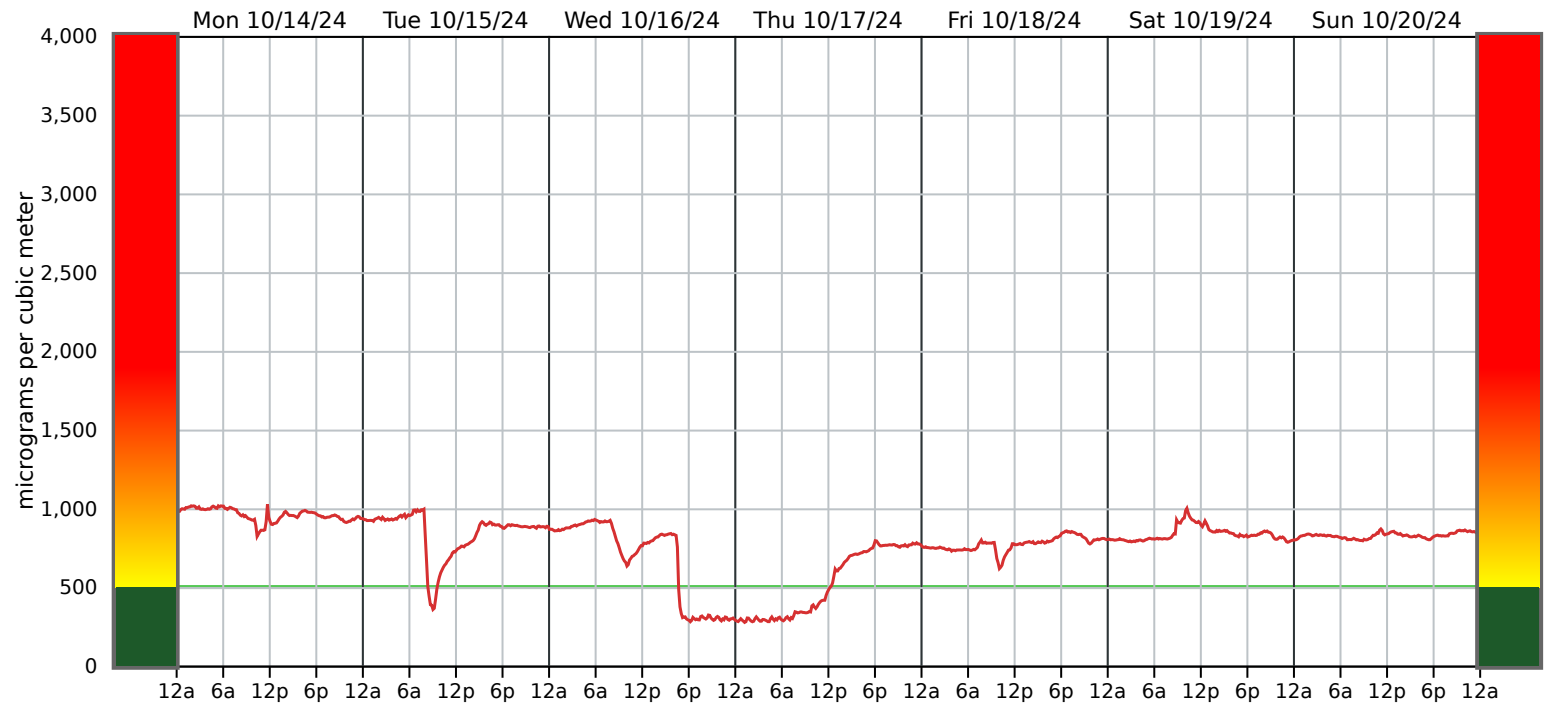
Chemical pollutants are generally a cause for concern when daily average levels are above 500 ug/m3.

Chemical pollutants are known to trigger asthma and allergy symptoms. At moderate levels, eyes and nasal passages can be irritated. Some people can experience nausea and headaches. At very high levels, they can even affect normally healthy adults by overworking the liver and kidneys. Children, the elderly, and pregnant women are more susceptible.

#### Source:

International WELL Building Institute (IWBI)  
Leadership in Energy & Environmental Design  
Environmental Protection Agency at Research Triangle Park (EPA-RTP).

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Highest Daily Average: **959 ug/m3** Highest Hourly Average: **1010 ug/m3** Overall Average: **776 ug/m3**

## ABOUT CHEMICAL POLLUTANTS

Levels can build up in your home's air due to usage of chemical products and heating/cooling system issues.

Sources: Off-gassing from building materials, carpeting, furniture and other synthetic materials, fuel fumes, scented products and air fresheners, personal care products, many household products such as paint, glue, and plastics.

Possible heating & cooling issues: Lack of fresh air introduced into home (either inadequate mechanical ventilation or none present), no chemical pollutant removal equipment.

## RECOMMENDED ACTION

There are many steps you can take to control sources of chemical pollutants. You can:

- Inspect/add ventilation and/or VOC reduction system
- Install carbon filtration system
- Minimize use of VOC sources such as air fresheners and store chemicals outside



# HEALTH: CARBON DIOXIDE

## TEST RESULTS

**What We Found:** Carbon dioxide levels were between 751-999 ppm for a day or more.

**ACTION  
RECOMMENDED**

### Why is action recommended?

Carbon dioxide levels are generally a cause for concern when daily average levels are above 750 ppm for sensitive individuals.

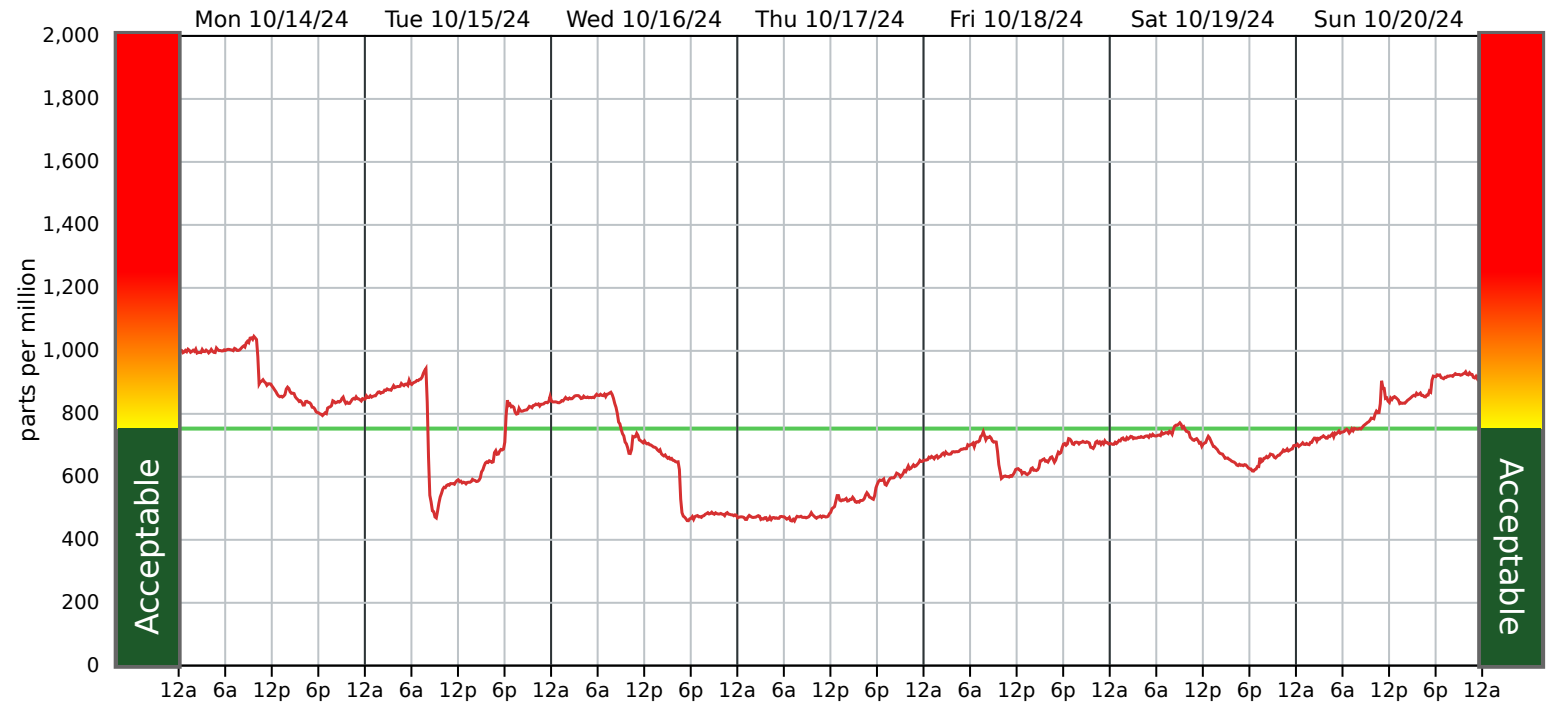
Carbon dioxide can quickly build up inside homes when people are present, causing air to feel 'stale.' If you have ever noticed persistent smells and/or wanted to crack a window in a room to get fresh air, you have experienced stale air.

#### Source:

American Society of Heating Refrigeration and Air Conditioning Engineers  
Indoor Air Quality Association

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Highest Daily Average: **914 ppm** Highest Hourly Average: **1034 ppm** Overall Average: **721 ppm**

## ABOUT CARBON DIOXIDE

Elevated carbon dioxide levels can occur in the home due to source causes, home heating & cooling system issues, or both.

Sources: 'Tight' (well weatherized and energy-efficient) home construction without adequate ventilation, common human & household activity (breathing, and burning candles, gas, wood, or other combustion).

Possible heating & cooling issues: Lack of supplied fresh air (no ventilation), malfunctioning ventilation, ventilation shut off by occupant, HVAC equipment needs repair or service.

## RECOMMENDED ACTION

There are many steps you can take to control carbon dioxide levels. You can:

- Check current system run time for ventilation
- Add ventilation device
- Inspect gas and wood-burning appliances for proper ventilation





# COMFORT: TEMPERATURE

## TEST RESULTS

**What We Found:** The temperature level was acceptable.

**NO ACTION  
NECESSARY**

### Why is no action necessary?

Comfortable temperatures fall within the range of 73F and 77F. In addition temperatures are most comfortable when steady, with fluctuations less than 1-1/2 degrees.

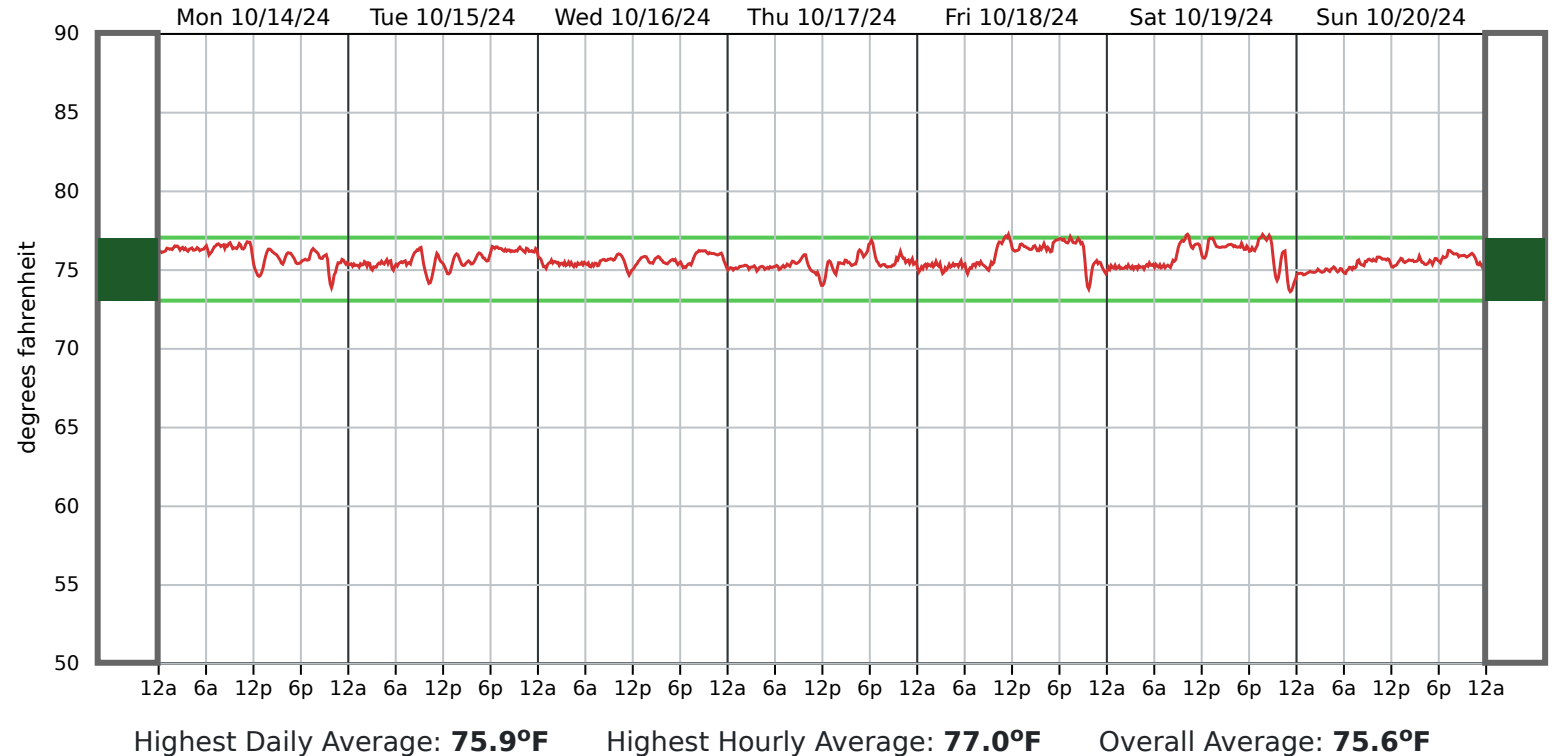
Ideally, temperature should be constant between all areas of the home. People experience a chilling or 'goose bump' sensation when temperatures are uneven and when air blows quickly across the surface of the skin.

#### Source:

American Society of Heating, Refrigeration and Air Conditioning Engineers

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## ABOUT TEMPERATURE

Fluctuating and/or low and high temperatures can occur due to structural causes and/or home heating & cooling system issues.

Structural causes: Poor insulation, inadequate weatherization (for example, poorly sealed windows and doors create drafts).

Possible heating & cooling issues: Thermostat poorly located (in an area where air supply falsely influences readings), uneven heating or cooling from room to room due to imbalanced ductwork or inadequate or poorly sized equipment.

## RECOMMENDED ACTION

None -- no action necessary. For more information on indoor air quality, see:

- [www.airadviceforhomes.com](http://www.airadviceforhomes.com)



# COMFORT: RELATIVE HUMIDITY

## TEST RESULTS

**What We Found:** The relative humidity levels were between 40-55%.

**NO ACTION NECESSARY**

### Why is no action necessary?

Comfortable relative humidity levels fall within the range of 40% to 55%.

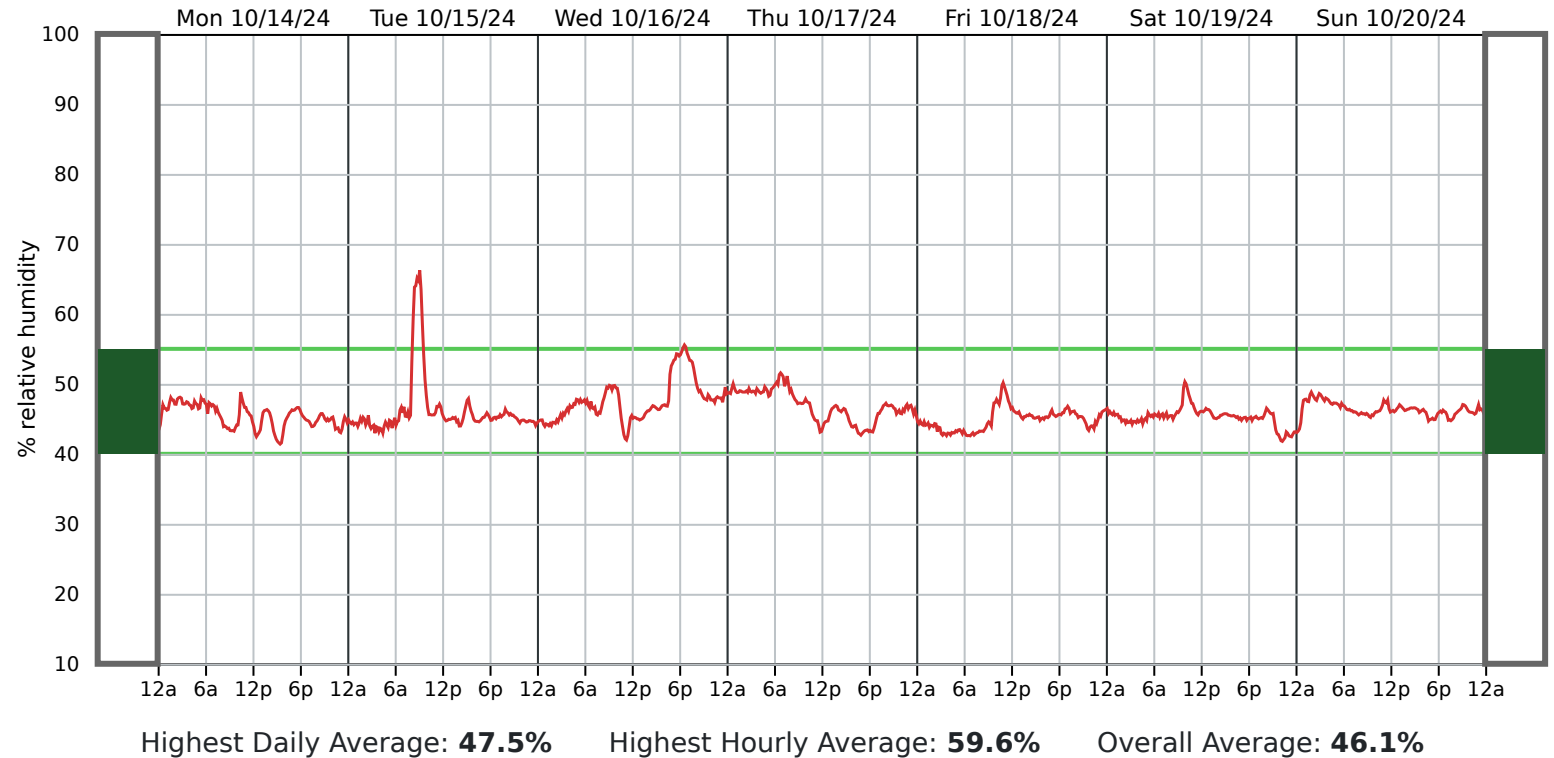
The amount of moisture in the air influences both health and comfort. When air is too dry in the winter, people typically feel colder. Also, respiratory passages can become irritated and prone to infection.

#### Source:

American Society of Heating, Refrigeration and Air Conditioning Engineers  
Health Canada  
Washington Department of Health

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## ABOUT RELATIVE HUMIDITY

Structural causes: Standing water in basement or other areas, leaky pipes/faucets, inadequate ventilation in winter (causes moisture build-up inside), and home is under “negative pressure” (pulls dry or moist air in from outside).

Possible heating & cooling system issues: No or inadequate humidification, no or inadequate ventilation, improperly sized cooling system (prevents dehumidification), HVAC equipment needs repair (condensate drain or coil malfunctioning).

## RECOMMENDED ACTION

None -- no action necessary. For more information on indoor air quality, see:

- [www.airadviceforhomes.com](http://www.airadviceforhomes.com)



# SAFETY: CARBON MONOXIDE

## TEST RESULTS

**What We Found:** Carbon Monoxide levels were below 5 ppm.

**NO ACTION  
NECESSARY**

### Why is no action necessary?

Carbon monoxide levels are a cause for concern when average levels are above 5 ppm (8-hour average). When levels (8-hour average) are above 20 ppm, immediate action should be considered.

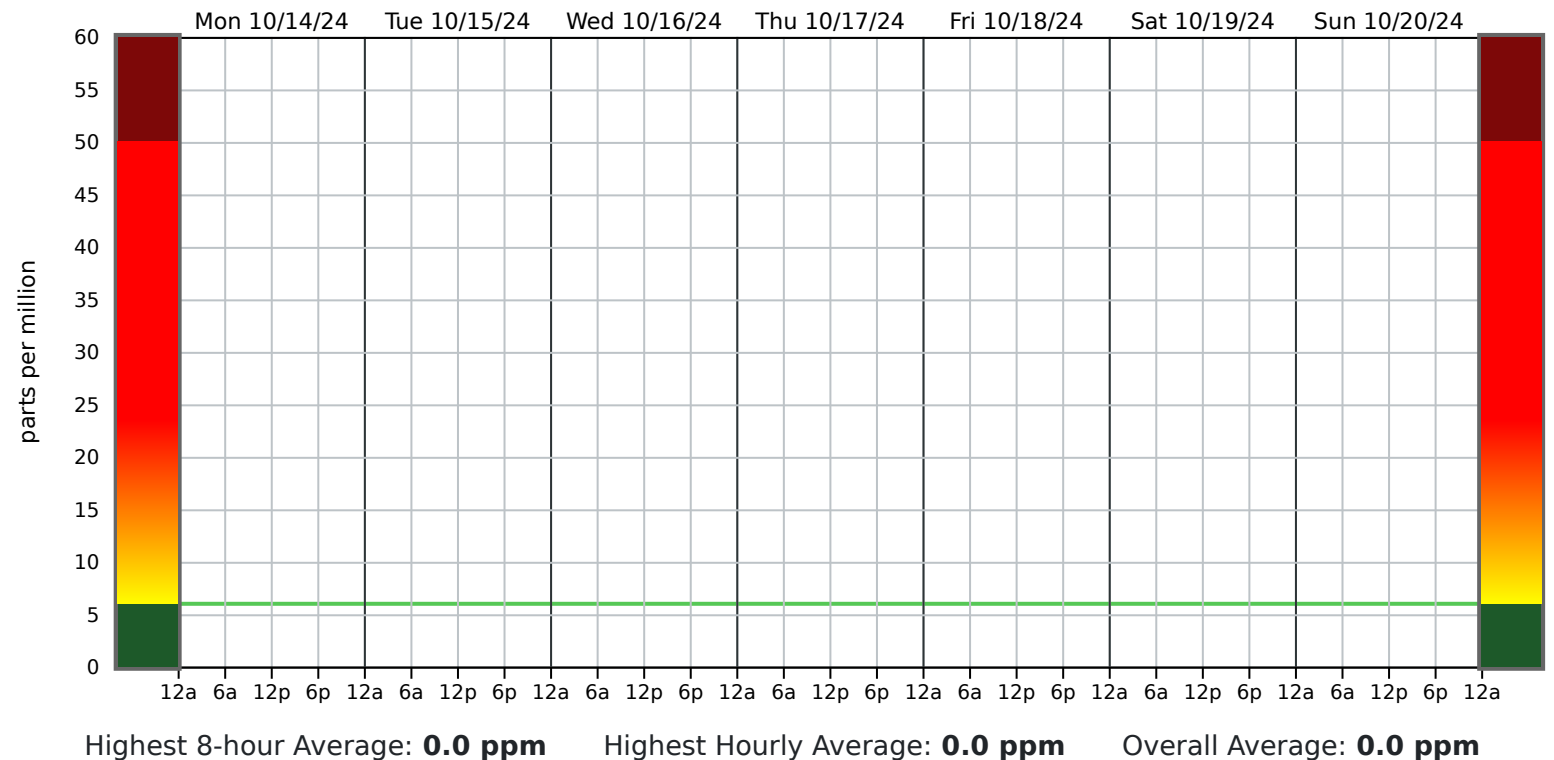
Carbon monoxide is a colorless, odorless, poisonous gas produced by combustion. When people are exposed to relatively low levels (for an 8 hour period or more), it can cause head-aches and nausea. At relatively high levels it can cause memory problems and ultimately death.

#### Source:

US Environmental Protection Agency (EPA)  
World Health Organization (WHO)  
Indoor Air Quality Association (IAQA)

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## ABOUT CARBON MONOXIDE

Elevated carbon monoxide levels in the home are a cause for concern. They can occur due to source causes, home heating & cooling system issues, or both.

Sources: Fireplaces, cooking, combustion appliances (water heater, gas dryer, stove), vehicles running in attached garage.

Possible heating & cooling system issues: Cracked heat exchanger on furnace, leaking chimney or vent, inadequate exhausting of a combustion appliance (water heater, gas dryer, stove).

## RECOMMENDED ACTION

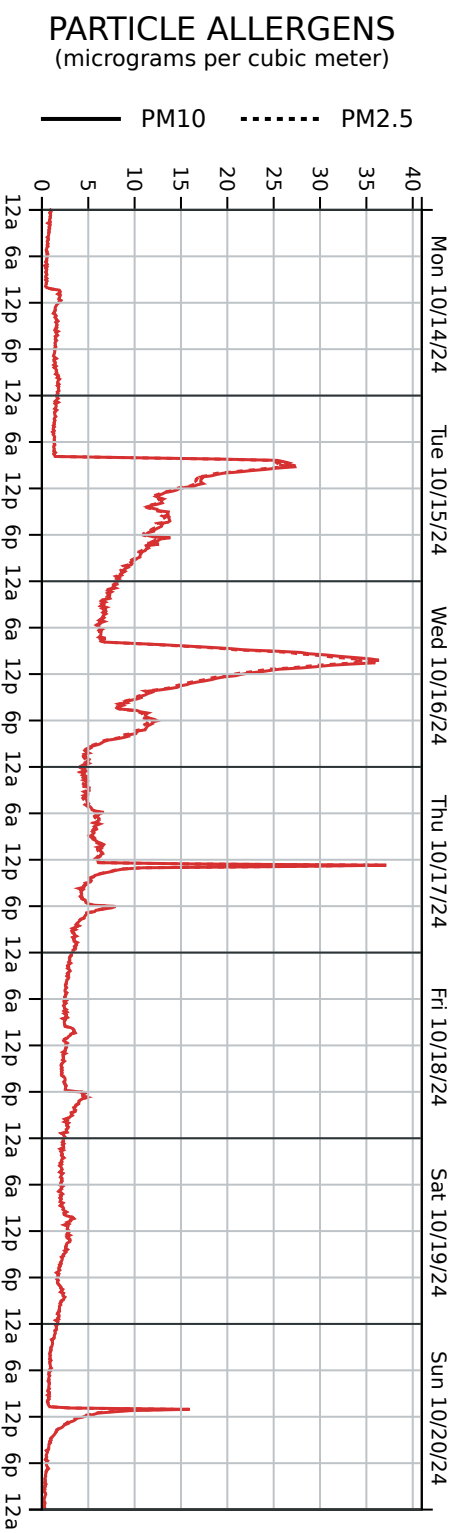
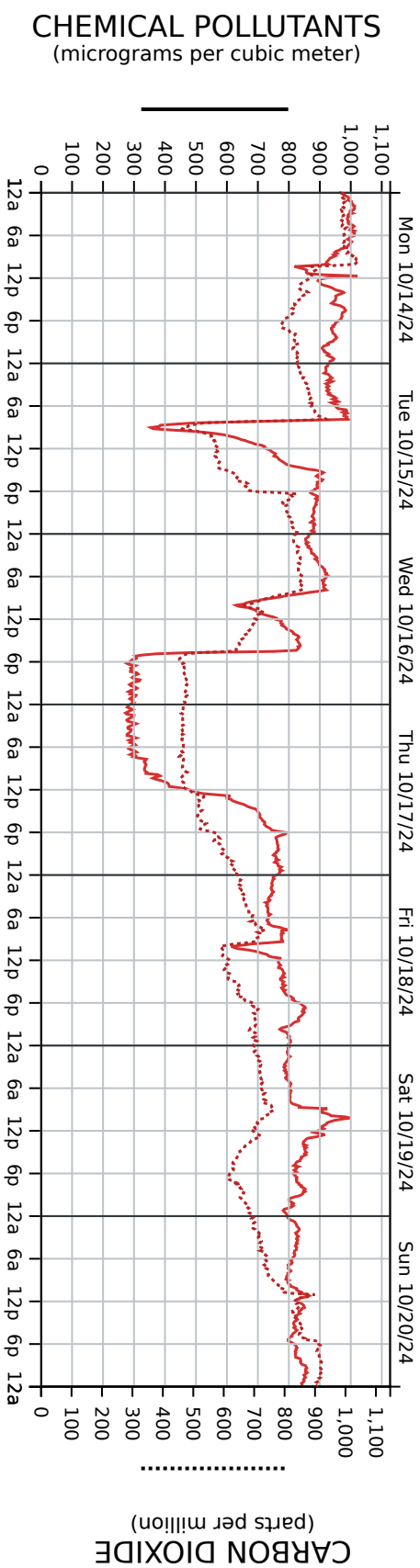
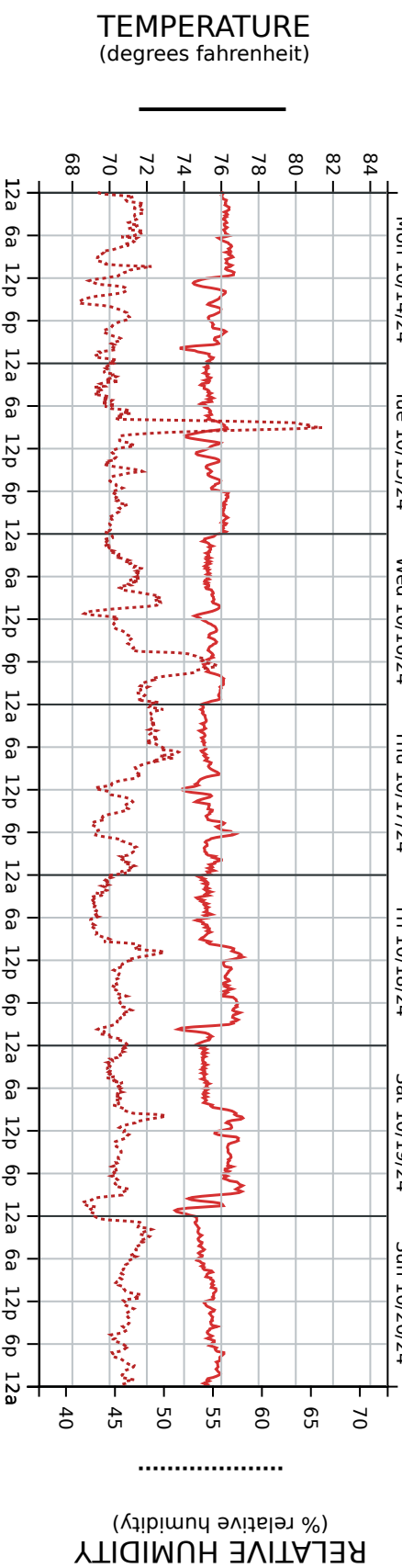
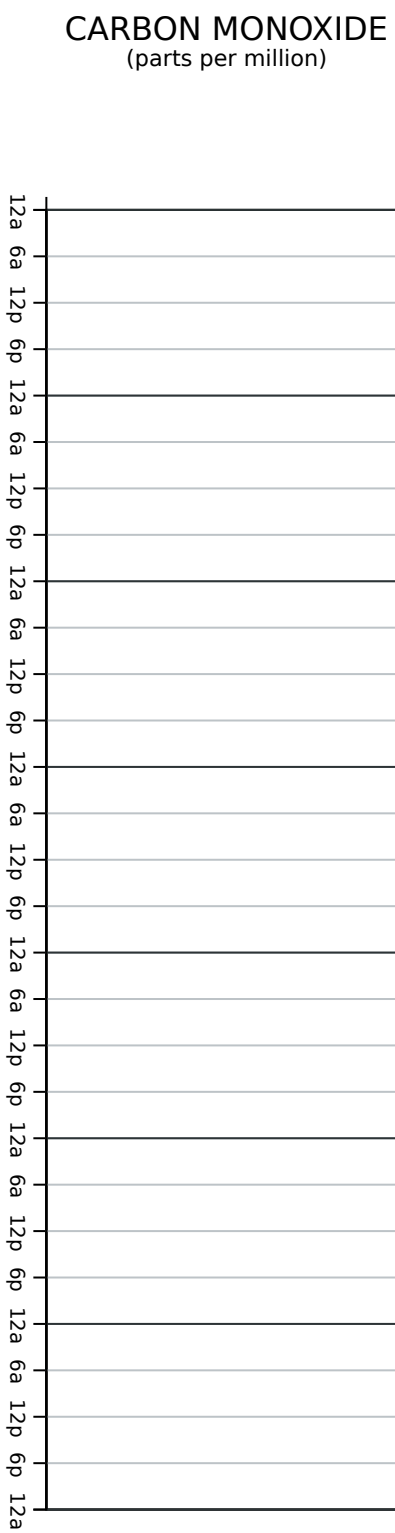
None -- no action necessary. For more information on indoor air quality, see:

- [www.airadviceforhomes.com](http://www.airadviceforhomes.com)



# COMBINED TEST RESULTS

Primary Monitor ID: 35432



Listed below are the parameters that were used to run your Indoor Air Quality report. These parameters were used to formulate specific recommendations based upon your unique air quality test results.

## GENERAL INFORMATION

Room Monitor Placed In: Dining Room

Sq. Ft. of Living Space: 2589

Year Building Built: 2021

Number of Bedrooms: 2

Attached Garage: Yes

Sensitive Population: Yes

## SYSTEM INFORMATION

Occupied Temperature Setting: 75

Type of Thermostat: Digital-Programmable

Fresh Air Intake: Yes

Type of Heating System: Heat Pump

Heating Fuel Type: Electric

Heating System Age: 1

Heating System Size (BTUs/KW): 20

AFUE: 100

Type of Cooling System: Central

Cooling System Age: 1

Cooling System Size (BTUs/KW): 60000

SEER: 20

Duct Work Sealed (if Forced Air): Yes

Duct Work Clean (if Forced Air): Yes

Carbon Monoxide (CO) Detector: No

## FILTRATION

Type of Air Filtration: 1"

PCO/VOC Reduction: Yes

In-room HEPA Filter(s): Yes

## VENTILATION

ERV/HRV: No

Fan to Outside in All Bathrooms: Yes

Stove Exhaust Fan to Outdoors: Yes

## PURIFICATION

In-room Purifier(s): Yes

## HUMIDIFICATION

Central Humidifier: No

Central Dehumidifier: No

In-room Humidifier(s): No

In-room Dehumidifier(s): No

## POSSIBLE POLLUTANTS

Anyone Smokes in Home/Garage: No

Candles/Incense: No

Wood Burning Appliance(s): No

Gas Appliance(s): Not specified

Air Freshener(s): Yes

Recent Remodeling/New Furniture: Yes

Pets in Home: No