

Indoor Air Quality Assessment for Tribal Households





California Tribal Epidemiology Center
California Rural Indian Health Board, Inc.

The following survey is an assessment of Tribal household indoor air quality (IAQ).

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Summary

The following survey was requested by Sonoma County Indian Health Project (SCHIP). Acknowledgments go towards and references are cited to the United States Environmental Protection Agency (EPA), EMS Environmental, Inc., and the University of Wisconsin-Madison.

Survey Objectives

Objective 1

To assess overall IAQ status within Tribal-specific households.

Objective 2

To identify levels of certain IAQ indicators as reported by survey respondents.

Objective 3

To evaluate severity of IAQ health symptoms among survey respondents.

References

Survey

Indoor Air Quality (IAQ) Assessment for Tribal Households

ASBESTOS

Asbestos is the name given to a variety of six naturally occurring fibrous minerals. These minerals have been used for decades in thousands of commercial products (insulation, fireproofing materials, cement and wallboard materials, etc.). Asbestos can separate into microscopic-size particles that remain in the air and are easily inhaled. Those consistently exposed to asbestos are at risk for developing several life-threatening diseases, such as asbestosis, lung cancer, and mesothelioma.

1. When was your home built (if you're not sure, please write down "unsure")?

2. If your home was built before 1975, indicate whether any of the following types of materials are present:
 - a. plaster-like or corrugated-paper pipe insulation on hot or cold water pipes
 - b. boiler insulation
 - c. felt-like covering on warm-air duct
 - d. Unsure

TIGHT HOME SYNDROME AND VENTILATION

Depending on the design and format of your home, air can become continuously recirculated. This leads to tight home syndrome, which can be characterized with reference to symptoms of air contamination and ventilation system standards. Inadequate ventilation can cause concentrations of contaminants to increase and can result in high humidity levels. The most common symptoms of tight home syndrome are eye, nose, and throat irritation, headache, fatigue, sneezing, chest tightness, nausea, dizziness, and dermatitis.

3. How many floors does your home have? _____
4. Age of home:

- a. <1 year
 - b. 1-5 years
 - c. 5-25 years
 - d. 25+ years
 - e. Unknown
5. Which weatherization methods are used in the household? (Select all that apply)
- a. Window weatherstripping
 - b. Door weatherstripping
 - c. Wall or ceiling air/vapor retarder
 - d. Caulking
 - e. Unsure
6. Exhaust fans are located in:
- a. Kitchen
 - b. Bathrooms
 - c. Both kitchen and bathrooms
 - d. Neither kitchen nor bathrooms
 - e. Unknown
7. Indicate the frequency of exhaust fan usage in the home:
- a. Regularly (whenever room is occupied)
 - b. Occasionally (only when needed)
 - c. Never

- d. Unsure
8. Is air conditioning present in the household?
- a. Yes
 - b. No
9. Are signs of mold growth visible in any part of the household?
- a. Yes
 - b. No
 - c. Unsure
10. Do you have persistent condensation on windows in the winter?
- a. Yes
 - b. No

CLEANERS, SOLVENTS, AND PESTICIDES

Solvents include a variety of commonly used chemicals such as alcohol, gasoline, and kerosene. Health hazards associated with solvent exposure include toxicity to the nervous system, reproductive damage, liver and kidney damage, respiratory complications, cancer, and dermatitis.

Many pesticides can also pose risks to people. Generally, people are likely to be exposed to only small amounts of a pesticide. The health effects of pesticides depend on the type of pesticide. Some can affect the nervous system, some may irritate the skin or eyes, some may be carcinogenic, and others can affect the endocrine system in the human body.

11. Do you or anyone in the household use any aerosol sprays in the home?
- a. Yes
 - b. No

12. Select the cleaning products you or anyone in the household frequently use (at least once a day):

- a. Oven cleaners
- b. Disinfectants
- c. General-purpose household cleaners
- d. Home cleaners in aerosol spray form
- e. Carpet shampoos
- f. Air fresheners
- g. Dry-cleaning fluids or spot removers
- h. Scouring powders that contain chlorine bleach

13. Do you store any of the following inside your house? (paints, kerosene, pool disinfectants, solvents, lubricating greases or oils)

- a. Yes
- b. No

14. Do you store any of the following inside your house? (pesticides, herbicides, insecticides)

- a. Yes
- b. No

15. Do you frequently use pesticides indoors on pets, house plants, or insects?

- a. Yes
- b. No

16. Have you ever had your home treated for insects or other pests?

- a. Yes

- b. No
- c. Unsure

FORMALDEHYDE

Formaldehyde is a colorless, flammable, strong smelling chemical that is used in building materials. It is also used to produce many household products. When formaldehyde is present in the air at levels exceeding 0.1 ppm, some individuals may experience adverse effects such as watery eyes, burning sensations in the eyes, nose, throat, coughing, nausea, and skin irritation. Formaldehyde is also classified as a human carcinogen by the International Agency for Research on Cancer (IARC).

17. Have composition wood products such as particleboard, furniture, or cabinets been used extensively in home construction in the last two years?

- a. Yes
- b. No
- c. Unsure

18. Has new carpeting been installed in the home in the last two years?

- a. Yes
- b. No
- c. Unsure

19. Have new drapes, rugs, or upholstery been installed in the home in the last two years?

- a. Yes
- b. No
- c. Unsure

COMBUSTION SOURCES AND CARBON MONOXIDE

Carbon monoxide (CO) is given off whenever fuel or other carbon-based materials are burned (combusted). CO inhalation can cause headache, dizziness vomiting, and nausea. If CO levels are high enough, unconsciousness or even death can occur. Consistent exposure to moderate levels of CO over long periods of time has also been linked with an increased risk of heart disease.

20. Do you have a frequent smoker (smokes more than one pack per day) in the home?

- a. Yes
- b. No

21. Do you use a gas stove or oven for cooking?

- a. Yes
- b. No

22. Do you have a gas water heater?

- a. Yes
- b. No
- c. Unknown

23. Which of the following is your primary or backup (supplementary) heating system?
(Please select all that apply)

- a. Fireplace
- b. Oil, wood, electric, coal, or gas furnace or boiler
- c. Wood stove or furnace
- d. Unvented gas or kerosene space heater

24. Where does your clothes dryer exhaust to?

- a. Indoors
- b. Outdoors

c. Unsure

HOUSE DUST AND BIOLOGICAL CONTAMINANTS

25. Would you describe your home as unusually dusty?

a. Yes

b. No

c. Unsure

26. Is dust or dirt staining walls, ceilings, furniture, or draperies in your household?

a. Yes

b. No

c. Unsure

27. Do you ever use a humidifier or vaporizer in the house?

a. Yes

b. No

28. Do you ever use a dehumidifier in the house?

a. Yes

b. No

29. Indicate whether your home has any of the following water problems:

a. Leaky roof

b. Wet basement

c. Leaky Pipes

d. Other, describe: _____

30. Do any furry pets live indoors?

a. Yes

b. No

SMOKE AND FIRE

31. In the past 5 years, has your household ever been in near proximity to a major wildfire?

a. Yes

b. No

c. Unsure

32. Have you or members of your household ever have to evacuate your home due to a wildfire threat?

a. Yes

b. No

33. Do you feel like the outside air quality immediately surrounding your household remains negatively affected by this year's wildfire season?

a. Yes

b. No

c. Unsure

34. Do you feel like the indoor air quality in your household has been negatively affected by this year's wildfire season?

a. Yes

b. No

c. Unsure

35. Do you currently have a portable air cleaner operating in your household?

a. Yes

b. No

IAQ SYMPTOMS

36. Please indicate the following health symptoms experienced by you or any members of the household in the past 30 days (select all that apply):

a. Nausea

b. Eye irritation (can include burning or stinging eyes)

c. Respiratory irritation/problems (can include but not limited to coughing, chest congestion, wheezing, shortness of breath, difficulty breathing, pain when breathing)

d. Nasal congestion/runny nose

e. Dizziness

f. Headache

37. If you have experienced any of the symptoms listed above, do they usually occur throughout the house or in a specific room in the house?

a. Throughout the house

b. In a specific room

c. Unsure

38. At what time of day do these symptoms usually occur?

a. Morning

- b. Afternoon
- c. Night

39. When do health symptoms occur, ow when are they the worst?

- a. Spring
- b. Summer
- c. Fall
- d. Winter
- e. Year-round
- f. Unsure

RADON (SELF-ASSESSMENT)

Radon is a gas that naturally forms when radioactive metals break down in rocks, soil, and groundwater. People can be exposed to radon primarily from breathing it in the air that comes through cracks and gaps in homes. When you breathe in radon, radioactive particles from the gas can get trapped in your lungs. Over time, consistent exposure can increase the risk of lung cancer. Radon is the second leading cause of lung cancer after cigarette smoking.

An affordable radon test kit can be purchased from a hardware store or you can order one by calling **1-800-SOS-RADON** (1-800-767-7236). Set up the testing device to check the air for radon. Please note that if your water comes from a well, you need to test it for radon as well. Well water can carry radon gas into the home.

If Your Radon Level is...	Action Needed
>4 pCi/L	Contact a licensed professional to install a radon reduction system
2 pCi/L – 4pCi/L	Consider installing a radon reduction system
<2 pCi/L	No action needed



--- END OF ASSESSMENT ---

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