

Reference Concentration (RfC) for Inhalation

What are they?

RfC is a concentration of a toxin in the air that is unlikely to cause non-cancer health problems, even if a person breathes air with that concentration for an entire lifetime. It is usually measured in mg/m^3 or $\mu\text{g}/\text{m}^3$.

How are they used?

RfCs are not legally binding, but they can be used as a guide for assessing risk. RfCs are also not as widely monitored and enforced as the NAAQS.

How are they determined?

RfCs are usually based on tests on laboratory animals. Sometimes they are based on human health studies from accidental exposure.

How are they related to human health?

Air contamination below RfCs is unlikely to cause health problems, even in the most sensitive people. As contamination goes higher above the RfC, the more likely it is to cause problems.

RfCs are only set for *non-cancer* effects. If an air toxin is a carcinogen, there is no 'safe' level. See *Cancer Slope Factor*.



For More

epa.gov/iris/subst

Except for NAAQS, states regulate air quality more directly than the EPA. California lists their RfCs (calling them Reference Exposure Levels, or RELs) at:

oehha.ca.gov/air/allrels.html

Use these, or your own state's standards if the EPA lists no RfC.