San Joaquin Valley Unified Air Pollution Control District

1990 E Gettysburg Ave
Fresno, CA 93726

Car accident
Home accident
Fire
Poisoning

Estimated statewide risk
from ambient air
Lightning risk level

1 in 10
1 in 100
1 in 1,000
1 in 10,000
1 in 1,000,000

PUTTING RISK INTO PERSPECTIVE

combined with cancer risk factors
and reference exposure levels to
determine the non-cancer and
cancer risk to the affected public.
The uncertainty arises from lack of site-
specific data necessitating the
use of assumptions, which are
designed to be conservative. The
actual cancer risk may be much
less than the calculated risks.

For more information, call the
San Joaquin Valley Unified Air
Pollution Control District at (559)
230-6000.

PUTTING RISK INTO PERSPECTIVE

combined with cancer risk factors

It must be noted that the calculated cancer risk involves a great
detail of uncertainty. The uncer-
nainty arises from lack of site-
specific data necessitating the
use of assumptions, which are
designed to be conservative. The
actual cancer risk may be much
less than the calculated risks.

For more information, call the
San Joaquin Valley Unified Air
Pollution Control District at (559)
230-6000.

What is a Health Risk
Assessment?

combined with cancer risk factors

A health risk assessment is a document that describes the possible health effects that may result from exposure to air toxic chemicals. Health risk assessments are used to determine the possible health effects that may result from exposure to normal, day-to-day air toxic emissions and if a particular chemical poses a significant risk to human health. The health risk assessment also considers additional information such as weather, terrain, and the distance from the facility to the nearest residence or worksite locations.

Risk assessments help scientists and regulators identify serious health hazards and determine realistic goals for reducing exposure to air toxics so that there is no significant health threat to the public. To that end, the San Joaquin Valley Air Pollution Control District has set its action level to 100 in one million and the level of significance to 10 in one million.

Air toxics are chemicals that are emitted into the air from a variety of sources. These toxic chemicals have been shown by scientists and other research experts to cause harmful health effects in some exposed persons. Sources of air toxics include industry, business, agriculture, vehicles, household products, wood stoves, barbecues, and more. Whether air toxics have a harmful effect on an individual’s health depends upon a number of factors, including the concentration of toxics in the air, the length of exposure and the distance persons are located from the source.

Exposure assessment estimates the extent of public exposure to each substance for which potential cancer risk or acute and chronic non-cancer effects will be evaluated. This involves the amount of emissions, modeling emission transport, evaluation on the environment, identification of exposed organs, identification of the exposed populations, and estimation of short-term and long-term exposure levels.

Dose-response assessment is the process of characterizing the relationship between exposure to a chemical and the number of adverse health effects in the exposed populations. Dose-response data developed from animal or human studies are used to develop acute and chronic non-cancer reference exposure levels. The acute and chronic reference exposure levels are defined as the concentration at which no non-cancer adverse health effects are anticipated.

Risk characterization is the last step in the risk assessment process where modeled concentrations and public exposure information, which are determined through exposure assessment, are characterized for potential cancer or is associated with other types of adverse health effects.