

BENZENE FACT SHEET

North Carolina Division of Public Health • Occupational and Environmental Epidemiology Branch

Chemical Information

- 17th highest-volume chemical in the U.S.
- Colorless to light yellow liquid.
- Sweet odor.
- Highly toxic.
- Flammable and dangerous fire risk.
- Formed from natural processes and human activities. Natural sources include: volcanoes and forest fires; a natural part of gasoline, cigarette smoke and crude oil.
- Known to be a human carcinogen.
- Used to make other chemicals which are used to make plastics, resins, and nylon; some types of rubbers, lubricants, detergents, drugs, and pesticides.

Hazards Identification

Acute Exposure:

- Mildly irritating to skin, eyes, and respiratory tract.
- Inhalation may cause headache, drowsiness, lightheadedness, dizziness, confusion, nausea, and blurred vision.
- Exposure to high concentrations may cause convulsions, staggering gait, and unconsciousness.
- Can cause skin irritation and can dry out skin after prolonged or repeated contact with the liquid.
- Can irritate the stomach, causing vomiting and diarrhea when ingested.
- High concentrations of benzene vapor can cause eye irritation and visual blurring.
- The Environmental Protection Agency (EPA) Acute Exposure Guideline Level 1 (AEGL - 1) for formaldehyde is 9 ppm for an 8-hour period.

Chronic Exposure:

- May cause anemia, alterations to the immune system, and leukemia.

Stability & Reactivity

- Reacts violently with iodine pentafluoride.
- Reacts explosively with bromine pentafluoride, chlorine, chlorine trifluoride, diborane, nitric acid, nitril perchlorate, oxygen (liquid), ozone, and silver perchlorate.

Handling & Storage

- Store in well closed containers in a cool place.
- Store away from fire.

Glossary

The Environmental Protection Agency (EPA) defines Acute Exposure Guideline Levels (AEGLs) as threshold exposure limits for the general public that are applicable to emergency exposure periods ranging from 10 minutes to 8 hours. The three AEGLs are defined as follows:

AEGL-1 – airborne concentration of a substance at which the general population could experience notable discomfort, irritation or certain asymptomatic non-sensory effects.

AEGL-2 – airborne concentration of a substance at which the general population could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

AEGL-3 – airborne concentration of a substance at which the general population could experience life threatening health effects or death.

