

TOLUENE FACT SHEET

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

Chemical Information

- Clear, colorless liquid with a distinctive odor.
- Flammable and dangerous fire risk.
- Toxic through inhalation and ingestion.
- Occurs naturally in crude oil and produced during making of gasoline.
- Used in making paint, paint thinners, fingernail polish, lacquers, adhesives, and rubber and in some printing and leather tanning processes.

Hazards Identification

Acute Exposure:

- Can cause irritation to eyes, nose, and skin.
- Can cause weakness, exhaustion, confusion, dizziness, and headache.
- High concentration may cause loss of coordination and unconsciousness.
- May cause dilated pupils, anxiety, insomnia, and liver and kidney damage.

Chronic Exposure:

- Exposures at less than 200 ppm have been associated with headache, fatigue, and nausea.
- Repeated exposures at 200 to 500 ppm have been associated with loss of coordination, memory loss, and loss of appetite.
- Chronic maternal exposure at high concentrations may cause birth defects.
- The Environmental Protection Agency (EPA) Acute Exposure Guideline Level 1 (AEGL - 1) for toluene is 67 ppm for an 8-hour period.

Stability & Reactivity

- Incompatible with strong oxidizers.
- Reacts with nitrogen oxides to form nitrotoluene, nitrobenzene and nitrophenol.
- Reacts with halogens to form halogenated products.

Handling & Storage

- Should be stored outdoors and separate from oxidizing materials.

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.

