

TRICHLOROETHYLENE (TCE) FACT SHEET

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

Chemical Information

- Colorless liquid with sweet odor and sweet, burning taste.
- Odor resembles chloroform.
- Nonflammable.
- Known carcinogen.
- Toxic by inhalation, ingestion or skin exposure.
- Used as a solvent to remove grease from metal; used in dry-cleaning; can be found in adhesives, paint remover, and spot remover.
- FDA has prohibited use of TCE in food, drugs, and cosmetics.

Hazards Identification

Acute Exposure:

- May cause headaches, dizziness, lung irritation, poor coordination, and difficulty concentrating.
- Ingestion may cause nausea, vomiting, diarrhea, and abdominal pain.
- May cause a skin rash.
- The Environmental Protection Agency (EPA) Acute Exposure Guideline Level 1 (AEGL - 1) for trichloroethylene is 77 ppm for an 8-hour period.

Chronic Exposure:

- May cause nerve, kidney, heart, reproductive system, immune system, and liver damage.
- May cause impaired fetal development in pregnant women.
- May result in hearing loss, memory loss, fatigue, and vomiting.
- May cause kidney and liver cancer, and Non-Hodgkin's Lymphoma.

Stability & Reactivity

- Incompatible with strong caustics and alkalis and with chemically active metals such as barium, lithium, sodium, magnesium, titanium, and beryllium.

Handling & Storage

- TCE should be stored in cans or dark glass bottles to minimize decomposition.
- Storage area should be dry, well ventilated, flame-proof, and shielded from direct sunlight, high-temperature surfaces, or sparks.

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.

