

AMMONIA FACT SHEET

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

Chemical Information

- One of the most commonly released toxic chemicals in North Carolina.
- Most often released through volatilization (vapor).
- Colorless gas with a distinct odor.
- Combustible.
- Soluble in water, alcohol, & ether.
- Lighter than air, liquefied under pressure.
- Occurs naturally but also produced by human activity.
- Used to make fertilizer for farm crops, lawns, and plants.

Hazards Identification

Acute Exposure:

- Exposure most commonly occurs when individuals inhale the gas.
- Exposure to high levels can cause irritation and serious burns on the skin and in the mouth, throat, lungs, and eyes.
- Exposure to ammonia at high levels can cause death.
- Contact with liquid ammonia can cause frostbite.

- Contact with liquid ammonia in the eyes can cause burns and blindness.
- Other common symptoms include headache, shortness of breath, & vomiting.
- The Environmental Protection Agency (EPA) Acute Exposure Guideline Level 1 (AEGl - 1) for ammonia is 30 ppm for an 8-hour period.

Chronic Exposure:

- Repeated exposure can cause asthma like symptoms and lead to lung damage.
- May cause chronic irritation of the respiratory tract.
- Chronic cough, asthma, and lung fibrosis have been reported.

Stability & Reactivity

- Reacts with strong oxidizers, acids, halogens (including chlorine bleach), and salts of silver, zinc, copper, and other heavy metals.
- Corrosive to copper and galvanized surfaces.

Handling & Storage

- Anhydrous ammonia is stored and shipped in pressurized containers and labeled "Nonflammable Compressed Gas."
- Aqueous ammonia is stored in steel drums.

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.

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