**HYDROGEN CHLORIDE FACT SHEET**

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

**Chemical Information**
- Hydrogen chloride is a colorless or slightly yellow, corrosive gas.
- Has a strong irritating odor.
- Non-flammable
- Used in cleaning, metal pickling, electroplating metals and tanning leather.
- Can be formed from the burning of plastics.

**Regulatory Standards**
- The Occupational Safety & Health Administration (OSHA) set the PEL for hydrogen chloride exposures in the workplace at 7 mg/m³ calculated as an 8-hour time-weighted average.

**Hazards Identification**

**Acute Exposure:**

**Inhalation**
- Low levels of exposure can cause throat irritation.
- High levels of exposure can cause rapid breathing, narrowing of the bronchioles, blue coloring of the skin, and accumulation of fluid in the lungs.
- In extreme cases, swelling and spasm of the throat can occur resulting in suffocation.
- Depending upon the concentration of hydrogen chloride, mild irritation to severe burns can occur to eyes and skin.

**Ingestion**
- Swallowing concentrated hydrogen chloride will cause severe corrosive injury to the lips, mouth, throat, esophagus and stomach.

**Chronic Exposure:**
- Long term exposure to low level can cause respiratory problems, eye and skin irritation, and discoloration of teeth.
- May result in the development of reactive airways dysfunction syndrome (RADS), a type of asthma caused by irritating and corrosive substances.

**Stability & Reactivity**
- Forms hydrochloric acid when combined with water.
- Hydrochloric acid is highly corrosive to most metals (copper, brass, zinc, etc.)
- Forms flammable hydrogen gas when reacting with metals.
- Reacts quickly with hydroxides, amines, and alkalis, forming chlorine gas.

**Handling & Storage**
- Store in a cool, dry, well-ventilated location.
Glossary

**PEL** - The Occupational Health and Safety Administration defines Permissible Exposure Levels (PELs) as threshold levels for the workplace that are applicable to exposure periods of eight hours.

**Time weighted average (TWA)** - The maximum average exposure to a hazardous contaminant to which workers may be exposed without experiencing significant adverse health effects over said period.