

# Fact Sheet: “Hydrogen Chloride”



## What is “Hydrogen Chloride”?

Hydrogen Chloride, or “HCl”, is a chemical compound made up of hydrogen and chlorine. It is a by-product of the process used by Hemlock Semiconductor Operations in the manufacture of polycrystalline silicon metal for the semiconductor and solar cell industries. It is recovered and shipped to the Midland I-Park where it is used in the manufacture of various compounds.

Hydrogen Chloride is a colorless gas, but if accidentally released to the atmosphere, it may form a visible, fog-like cloud. When mixed with water, including moisture in the air, it will form hydrochloric acid, a corrosive compound.

Hydrogen Chloride is non-flammable.

Hydrogen Chloride has a sharp disagreeable odor, even at low concentrations

## Effects of exposure & first aid

The effects listed below are possible effects of exposure to Hydrogen Chloride gas or hydrochloric acid. The actual effects will depend on the duration of exposure, the severity of exposure (concentration) and the particular individual (e.g., age, physical condition, etc.).

	Possible effects	What to do
<b>Eyes</b>	Irritation; slight to severe pain and watering; slight to severe burns	Hold eyes open and immediately flush with cool or lukewarm water for 15 minutes. Seek immediate medical attention.
<b>Skin</b>	Slight irritation to severe burns	Immediately flush skin with cool or lukewarm water for 15 minutes, seek immediate medical attention.
<b>Inhalation</b>	Slight irritation to severe burns to the respiratory tract	Seek fresh air and immediate medical attention.
<b>Oral</b>	Slight irritation to severe burns to the mouth and/or throat	Seek immediate medical attention. Do not induce vomiting.

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### Shelter-in-place procedures

In case of an airborne release of Hydrogen Chloride, individuals should follow “shelter-in-place” procedures outlined below. Properly followed, these procedures safely protect people and animals until the hazard has passed.

1. Take shelter inside the nearest building.
2. Close and securely latch all doors and windows.
3. Turn off all fans, air conditioners, furnaces and pilot lights.
4. Put out fires in fireplaces or wood stoves. Close all dampers.
5. Go to an interior room located on the ground or upper level. **Do not go to basement areas** (vapors are heavier than air). Use duct tape, plastic sheeting, or towels to seal doors and windows.
6. If you are in a vehicle, safely stop the vehicle and shut off the engine. Close all doors, windows and vents and turn off the fan.
7. Stay inside and wait for the “all clear”. Listen to local television or radio for further instructions.

### After the “All Clear”

**People** who experience any irritation or other medical problems as a result of exposure should seek immediate medical attention.

**People, including children, and pets** can go outside. As a precaution, normal bathing with soap and water is recommended.

**Building** windows, dampers and vents should be opened to air out the building. Heating or air conditioning systems can be safely used.

**Fruits and vegetables** from gardens should be washed thoroughly before eating.

**Trees shrubs and lawns** near the release may eventually discolor or show other effects of exposure. Thorough rinsing of exposed surfaces with water may minimize these effects.

**Rivers, streams, ponds and swimming pools** should be unaffected.

### More information?

Contact Hemlock Semiconductor Operations with any questions or concerns. Ask for VP Manufacturing, VP Engagement & Advocacy, or EHSS Manager.

#### **Hemlock Semiconductor Operations**

P.O. Box 80

Hemlock, Michigan 48626

**(989) 301-5000**

**[www.hscpoly.com](http://www.hscpoly.com)**