

# Case involving exposure to hydrogen chloride gas produced due to incorrect disposal of reagent used in semiconductor component manufacturing plant



## [Location of accident]

Cleanroom at semiconductor component manufacturing plant, where gallium arsenide wafers were manufactured.

## [Cause of accident]

The washing process before the film formation process used a solution M, consisting of a mixture of sulfuric acid, hydrogen peroxide, and distilled water. The marking process used a solution N, consisting of a mixture of phosphoric acid and hydrochloric acid. Solutions M and N are normally processed separately, but hydrogen chloride gas was generated after solution N was accidentally poured into a plastic tank used to recover solution M.

## [Damage/injuries]

The hydrogen chloride gas emitted from the plastic tank as white vapor spread throughout the cleanroom. Three workers in the room reported eye pain and received medical attention.

## Extract from [Preventive measures]

[3] The plastic tanks used to recover waste liquids must be properly capped or appropriate exhaust systems provided to ensure that any chemical vapor does not leak into work areas.



## Riken Keiki Recommendations

We recommend installing alarm systems to promptly detect toxic gas leaks in locations subject to chemical vapor leaks — for example, rooms in which waste liquid containers are kept.