

# Ruptured Hose

EPSC Learning Sheet - Feb 2022



## What Happened:

Phosgene was unloaded from 1-ton cylinders through a flexible hose (PTFE braided with stainless steel) to a chemical process.



Under the label, the hose braiding corroded. The weak hose ruptured, spraying a nearby operator with Phosgene.

**Process Safety Fundamental:**  
**Verify the condition of flexible hoses**



## Aspects:

- Phosgene permeates through PTFE causing high HCl concentrations under the label that fully corroded the stainless-steel braiding. Avoid permeating plastics and assure braiding material is resistant (SS-316 is incompatible with HCl).
- Inspect hoses according a PM schedule and replace in time.
- When deviations like corrosion are observed (see photo), take appropriate action on all similar hoses.
- Hoses full of liquid Phosgene could be blocked in, causing increased pressure during temperature rise. Discuss this hazard in PHA studies and explain this to operators.
- Use fixed piping (avoid hoses) for very toxic chemicals.

**Avoid flexible hoses with very toxic chemicals**