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Trace quantities of flammables can cause an event like this!

Flammables in a vessel vapor space is a hazard present in many facilities. In most cases, it is associated with handling flammable liquids; control systems include inert gas (e.g., nitrogen) padding, electrical grounding, hot work permit procedures, etc.

But, a flammable vapor space can also develop in vessels which contain only TRACE amounts of flammable materials! Here are a few of the ways this could occur:

- A reaction involving a chemical with trace quantities of a flammable material; when the main component is consumed in the reaction, these small quantities accumulate in the vessel's vapor space, or
- A liquid containing small quantities of soluble or entrained flammable impurities flows through a vessel, the flammable material is released and trapped in the vapor space, or
- Adsorption of a liquid which contains trace quantities of a non absorbed flammable impurity which can be left to accumulate in the vapor space.

Important Items to Look for to Identify this Hazard

- a stagnant vessel vapor space, and
- trace amounts of flammable chemicals which could be released from the liquid.



What To Do If You Have This Hazard

- treat the vessel as if it held a flammable material
- install a purging flow in the vapor space to maintain a flammable concentration less than 25% of the lower explosive limit