A Little Knowledge is a Dangerous Thing – Unexpected Reaction Case Studies
Make the Case for Technical Discipline

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Abstract

The old saying, “what you don’t know can’t hurt you,” implies that ignorance is bliss. “A little knowledge is a dangerous thing,” may be closer to the truth; however, it is not the little that we know that is dangerous, but the large amount that is not known. By design, the processes used in the chemical industry are reactive, and the intended reaction receives much scrutiny during the design process. Unfortunately, there are other reactions that can occur, often unexpectedly, and possibly with severe consequences. The lessons we learn from these reactions must lead to the improvement of our process development and technology management processes and the culture that shapes those processes, a culture of Technical Discipline.

Technical Discipline, analogous to Operating Discipline in the manufacturing organization, is a culture committed to fully identifying and characterizing chemical and reaction hazards, then ensuring those hazards are properly documented and communicated to create a permanent knowledge and understanding of those hazards within the organization operating that process.

A culture of Technical Discipline will reveal reactive hazards that might otherwise remain unknown until being unveiled in a dramatic and unexpected fashion. Until you fully identify and characterize the hazards of the materials you handle in your processes... what you don’t know can hurt you.