

Process Safety Incident of the Week

Deadly Chemical Explosion at BASF

(<http://accidentsoilandgas.blogspot.com/2013/04/v-behaviorurldefaultvmlo.html>)

At BASF's Germany site in Ludwigshafen, a huge chemical explosion occurred killing three people and injured about 20 others. The explosion and the fire happened along the pipelines that connect BASF's harbor to the Rhine River. Maintenance was being done on the pipelines, which carried ethylene and propylene. It started with a fire on Monday October 17, 2016, around 11:30am. The emergency response team immediately responded and started to perform emergency operations. During the initiation of the safety measures, an explosion occurred. It took firefighters 10 hours to extinguish the fire. The explosion caused BASF to shut down 20 facilities. The explosion led to multiple fires at multiple points down the pipeline, damaging further product and supply lines.



Lessons Learned

After further investigation of the cause of the explosion, it was concluded that the source of ignition came from a cut in a nearby pipeline that contained flammable gases. A contractor cutting the wrong pipeline caused it. It is proposed the flammable gas leaked out and ignited due to the sparks produced from the grinding of pipelines going on around it. This mistake is something that could be prevented by properly planning maintenance work ahead and consulting other BASF employees before starting the work. There were also multiple pipelines making it more difficult to ensure the correct line was being cut. We learn how important the idea of line labeling is in order to be able to distinguish the correct pipe that should be getting work done on which can prevent any possible mistakes.