

# Barge hold explosion

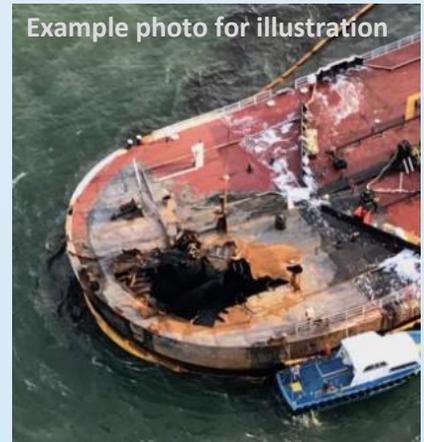
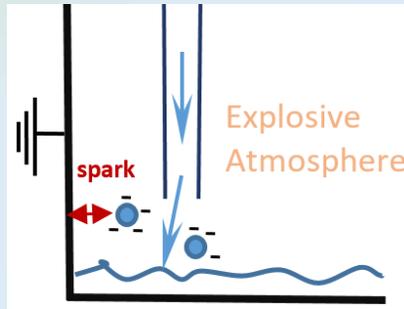
EPSC Learning Sheet , May 2018



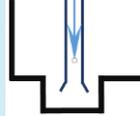
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## What Happened:

While loading kerosene from a refinery into a barge an explosion in the hold took place. Charged droplets after splash loading was the most likely ignition source.



## Aspects:

- Substances with low electrical conductivity and flash points below 20 °C are hazardous, and form explosive atmospheres
- When filling an empty vessel initial loadings speed must be below 1 m/s to avoid charged droplets! The initial pump speed must be part of the signed loading agreement
- Filling pipe design can reduce droplet formation by splash loading 
- The incident happened after low ambient temperature resulting in dry air, that only slowly dissipates electricity
- A connected barge is a process part to be reviewed in a PHA
- While crude tankers are made inert by exhaust gases, the holds in barges contain air and potential explosive mixtures
- Grounding is important but does not avoid the creation of charged droplets that can generate a spark

**Avoid Splash Loading of hydrocarbons**