



Equipment Failure Leads to Ethanol Spill - June 2017

What happened?

Around 6:45pm a researcher was working on a BD FACSAria III cell sorter when a connector from the pressurized ethanol tank broke off. The tank sprayed the 70% ethanol solution across the lab as the researcher exited and called UCPD (**123** or 773.802.8181). The tank eventually depressurized and the ethanol mostly evaporated by the time custodians cleaned the residual spill. No exposure or injuries were reported.

What was the cause?

The lab manager indicated that the plastic connectors on the ethanol tanks are known to break and that most likely it was not due to any user misuse. BD Biosciences was aware that these plastic pieces are prone to failure and have been working on an engineering solution.

What were some of the things done well?

- The lab had good housekeeping and clear aisles which allowed for easy evacuation
- The lab has emergency contact information posted inside the lab
- UCPD was appropriately contacted
- Chemical Hygiene Plan and Fire Safety training is current for the lab staff

What are some lessons learned from the incident?

- Replace plastic parts with stainless steel
 - Quick connect fittings from BD on the ethanol tank are available (Part #642882 – 90 degree male and # 642880 – straight female)
 - Connectors for filter from Swagelok (Part #SS-3-HC-7-4)
- While ethanol is not particularly hazardous, equipment failures that result in a release of pressure and hazardous chemicals should be reported to the Office of Research Safety (researchsafety@uchicago.edu or 773.834.2707)
- Safety hazards and emergency procedures for laboratory equipment should be communicated to the users¹.



References and Resources

1. <https://researchsafety.uchicago.edu/page/standard-operating-procedure-templates>